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# STATE AND LOCAL TAXATION AND ECONOMIC GROWTH: LESSONS FOR FEDERAL TAX REFORM

## A STUDY

prepared for the use of the

## JOINT ECONOMIC COMMITTEE
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## LETTER OF TRANSMITTAL

December 1995

*To the Members of the Joint Economic Committee:*

I am pleased to transmit to you this study entitled, "State and Local Taxation and Economic Growth: Lessons for Federal Tax Reform" prepared by Dr. Richard Vedder, Distinguished Professor of Economics at Ohio University, and John M. Olin Visiting Professor at the Center for the Study of American Business at Washington University for the Joint Economic Committee. The study examines the relationship between the level of state tax burdens and the resulting effects on the economic vitality of those states.

According to the study, "The experiences of the states and their localities tell us that taxes matter, and, indeed they matter a great deal. While governments cannot control the sunshine, the availability of natural resources..., they *can* control the taxes that they levy. State and local governments that have maintained low taxes have grown faster than jurisdictions that have relatively high tax burdens."

These findings provide a clear lesson for the national economic policy debate. That lesson is: lower tax burdens at all levels are an important ingredient in providing an environment of climbing incomes and secure futures for America's workers.

*Connie Mack, Chairman*
*Joint Economic Committee*

# EXECUTIVE SUMMARY

The experience of the states over the past third of a century provides a unique laboratory for investigating the effects of tax policy on economic growth. States vary widely in the method and magnitude by which they raise revenues, and this paper examines the resulting effects on economic well-being within states.

Through a comprehensive statistical analysis, this study concludes that higher state and local taxes had a distinct and significant negative effect on personal income growth over the period extending from 1960 to 1993. That is, when state and local taxes were raised, personal income growth slowed markedly. By the same token, states with lower taxes enjoyed substantially higher personal income growth.

Key findings include:

- Relatively low-tax states grew nearly one-third faster than high-tax states. This difference in growth rates translates into higher income of about $2,300 per person or $9,000 for a family of four for people living in low-tax states compared to those living in high-tax states.
- On average, an increase in state and local tax burdens equal to one percent of personal income lowered income growth by over three and a half percent. Since states raised tax burdens by an average of nearly two percent of personal income over this period, an average family of four lost almost $2,900 in income.
- Income taxes have a particularly adverse impact on income growth. Had a representative state kept its level of income taxation at the same share of personal income over the course of this study, personal income in that state would be over 30 percent greater today.
- Flat-rate income taxes are significantly more favorable to economic growth than progressive taxes. Personal income in flat-rate income tax states grew about 25 percent faster than did personal income in states with a progressive rate structure.

# STATE AND LOCAL TAXATION AND ECONOMIC GROWTH: LESSONS FOR FEDERAL TAX REFORM

Taxes influence human economic behavior. While there is virtual unanimous agreement on this point among professional economists, disagreement exists over the extent and nature to which behavior is impacted by taxation. Most modern scholars, however, accept the proposition that taxation can impact on economic performance. Much of the evidence supporting that perspective relates to the fact that the United States has 50 individual states, each with its own tax structure and fiscal policy. There are 50 different observations of the impact that taxes have on economic growth, job creation, business formations, or other measures of economic performance.

## Need for Study

Accordingly, there is a need to reassess the evidence flowing from the 50 "laboratories" provided by the fiscal experience of the states. Does the evidence support the view of "supply side" and other market-oriented economists that taxes have an important bearing on the economic performance of states, or is their impact relatively modest? Does it matter what type of taxes are levied? What does the literature suggest about the tax-economic performance relationship? These are a few of the questions that this study will address.

## Relationship to the Federal Tax Debate

As important as state and local taxation is, however, it is dwarfed in magnitude by the federal tax system. Accordingly, the revision of the federal tax system that many Americans advocate is clearly the dominant public finance consideration of our times. However, the wealth of knowledge we have from the 50

"laboratories" at the state level can help guide us in revising the federal tax system.

**Preview of Findings**

Looking at the evidence from the state and local fiscal experience over the past several decades, the following conclusions seem warranted:

- The economic performance of states is negatively related to the overall amount of taxation: higher taxes mean lower growth, lower taxes mean higher growth;
- Income taxes are particularly debilitating in terms of economic performance relative to other forms of revenue;
- States, however, can significantly improve their economic performance by moving from a progressive to a flat rate income tax;
- Sales taxes are more benign in their impact on economic performance than income taxes;
- Federal grants in aid to state and local governments seem to have few if any positive economic effects on the area receiving funds.

In terms of policy implications at the federal level, to the extent improving economic performance is a goal, the state and local evidence supports moving to a relatively low marginal rate broad based income tax. The evidence supports flat tax proposals over ones that maintain significant rate progressivity. A low flat rate tax should increase the rate of economic growth, increasing incomes and job opportunities for Americans, and reduce the relative burden of government on the American people without reducing essential public services. While superfically the evidence also seems to support a move towards a national sales tax, closer examination reveals problems that make that approach to federal tax reform more problematic. State and local governments do not tax a large proportion of consumption, which makes the state evidence perhaps not totally relevant to the national scene. Moreover, cross-border effects of sales tax differentials at the state level suggest that

a national sales tax would create some major administrative and enforcement problems. A federal sales tax would bring rates far in excess of anything observed historically, making the state and local evidence of limited value in assessing potential economic effects.

## WHY TAXES MATTER: ECONOMICS AND HUMAN BEHAVIOR

Before looking at the results of previous research and presenting some new research findings, it is appropriate to understand why taxes potentially alter human behavior, leading to different outcomes from would exist in the absence of taxes. Why, for example, do many economists argue that taxes lead to significant reductions in the growth of incomes and jobs?

A majority of taxes imposed in the United States are imposed at the margin -- they impact on new or additional behavior. If an employee works overtime, she or he earns additional income -- and an additional federal and state income tax liability. If a consumer decides to buy a new car, he increases his consumption at the margin -- and the amount of sales taxes that he pays. The major exception to this principle is the real estate property tax imposed by local governments in all the states. A fixed cost on owners of capital resources, property taxes do not impact on marginal business or personal decisions as much in the short run. In the long run, however, all costs are variable, so property tax burdens impact marginally on business decisions. For example, increased property taxes reduce the attractiveness of owning property, lowering its market value. That, in turn, adversely affects the ability of firms to borrow and make new investments.

The imposition of a tax on additional economic activity tends, other things equal, to raise the costs of carrying out that activity relative to the benefits. This tends to reduce incentives to implement an economic action -- be it working, forming capital, or consuming. The "price", or cost, of the activity rises. By changing relative prices, taxes alter economic behavior, adversely when taxes are increased.

Using an extreme example makes the point. Suppose there is no income tax and the government decides to tax income earned at

a 100 percent marginal rate. In other words, the government takes everything. People would simply stop working. An engineer might find his annual disposable income fall from $50,000 to zero. The same principle applies, although less drastically, if a previously existing tax rate were raised, so that take home pay falls from, say, $50,000 to $40,000.

It is true that there is what economists call an "income effect" and a "substitution effect." Higher income taxes lower the marginal benefits to working, leading people to substitute leisure, which is not taxed, for income, which is taxed. On the other hand, people facing reduced incomes might want to work harder to overcome the "income effect" of reduced after-tax earnings. The empirical evidence, however, suggests the substitution effect dominates, and that higher income taxes tend on balance to reduce activities that generate income.

Putting it differently, the Law of Supply suggests that the amount of resources that will be supplied varies directly with price. Taxes lower the after-tax "price" received by owners of factors of production, thereby lowering quantity supplied.

One other negative effect of taxes arises from the impact that taxes have on trade and exchange. It can be shown graphically that the imposition of, say, an excise or sales tax, will involve changing prices and quantities produced, and that the revenue gains to government will be less than the loss of consumer and producer welfare from the reduction in trade (what economists call a "deadweight loss.") Intuitively, trade increases human satisfaction since both parties to the trade are happy to make the exchange. Taxes that reduce trade (say by artificially raising prices) will reduce trade-related satisfaction or welfare.

The negative impact that taxes have on economies can be understood by using a different approach. By reducing individual incomes or raising prices of goods, taxes reduce the real command of the private sector over resources. Those resources that are not commanded by the private sector go to implement public sector programs. Resources are moved from the private to the public sector. If the productivity in the public sector is as high or higher than in the private sector, the economy should suffer no output loss,

and perhaps will even grow more. If, however, public sector productivity is lower than that in the private sector, a resource shift to the public sector will lower overall productivity and output. If a private sector worker makes 10 widgets a day, while a public sector widget maker produces only six, the switching of one widget maker from the private to the public sector will result in the loss of four units of widget output per day.

The evidence is overwhelming that private sector activity on average is in fact more productive. The worldwide move to privatization is a response to this reality. Three reasons for this are worth noting briefly. First, the private sector faces market disciplines not common in public sector activity. On the demand side, entrepreneurs win greater rewards if they satisfy customers who pay to buy their product. If prices rise for goods in short supply, the signaling device of the market motivates others to begin supplying goods that people seem to want. On the supply side, profits are increased if firms reduce costs, meaning they increase productivity. In government, those incentives are non-existent, and, indeed, there are sometimes perverse incentives that lead bureaucrats to try to increase their command over resources via bigger budgets without increasing their "output" of services or goods. In other words, they try to lower productivity.

Second, for most services that government provides, it is a monopoly or near-monopoly producer. There is only one provider of highway services, fire services, national defense services, or even, in many communities, educational services. The private sector, by contrast, is more likely to be characterized by competition, providing added incentives for suppliers to innovate, cut costs and be efficient.

Third, the accumulation of large revenues by governments leads to many attempts to use government to redistribute income. Much destructive behavior is unleased by using resources to attempt to change who gets the output, rather than create output. Public employees clamor for above-market level wages, business interests try to get tariffs erected to keep out foreign competition, other groups attempt to provide incentive-destroying welfare benefits to members of the population, etc.

For all of these reasons, taxes used to finance government activity tend to crowd out productive private sector behavior, replacing it with public activity that is, on average, less productive because of the nature of government and the lack of market based incentives. It is no surprise, then, that researchers have found overwhelming evidence that the economic performance tends to fall off when taxes are increased, a subject addressed more fully below.

## WHAT MAKES A GOOD TAX?

While there are strong theoretical and empirical reasons to believe that taxes are harmful to economic performance, not all taxes are the same in terms of their impact on economies or citizens. Economists have identified numerous criteria with which to evaluate taxes. Some of these criteria are somewhat controversial. To cite one example, some economists believe, other things equal, that a tax is improved if revenues from it increase at least proportionately with changing incomes of the citizenry. The argument is made that this reduces the need to constantly change tax rates, tax bases, or levy new taxes. Others would argue, however, that a high revenue elasticity is not good, since it guarantees the government income without a vote of elected representatives. High revenue elasticity, according to this view, reduces accountability to the political process, and possibly promotes revenue-driven spending that is unproductive.

There are three criteria on which virtually everyone agrees in principle: a good tax is one that can be levied without enormous costs of administration; a good tax aims to be as neutral as possible with respect to resource allocation, and does not reduce economic growth by promoting allocative inefficiency; and a good tax tends to be fair. Bad taxes are administratively costly and complex, distort and reduce economic activity, and are widely viewed as unfair.

Resources devoted to tax collection, compliance, and administration are resources that could be used elsewhere. Much of the recent rise in discontent with the federal tax system arises because of its complexity. Conservative estimates are that it costs at least $70 billion a year to administer the federal income tax, and

some put the estimates as much as three times higher.[1] Some three billion hours of human effort are expended annually filling out federal income tax forms -- the equivalent of 1,500,000 full-time workers.

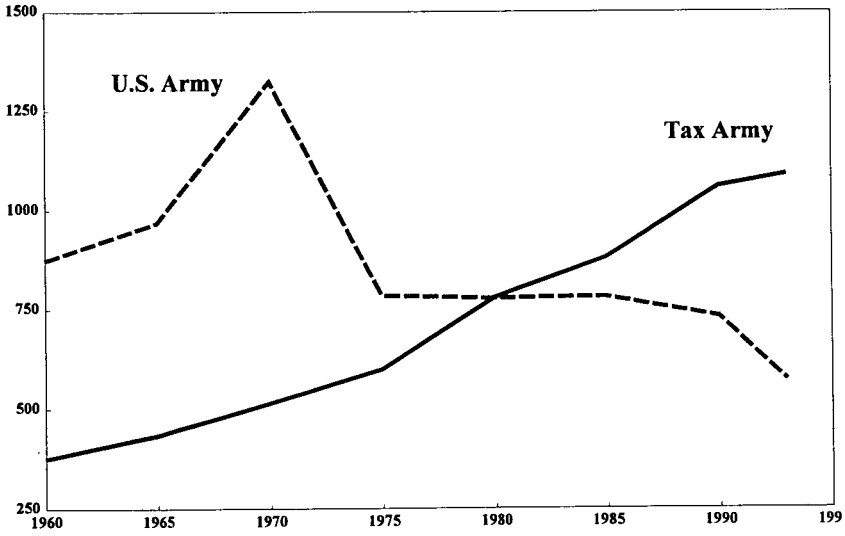
Moreover, a "tax army" of tax collectors, tax preparers, accountants, lawyers, etc. grows relentlessly, as Figure 1 shows. In that figure, the number of tax professionals is roughly estimated by taking one-half the accountants, one-fourth of the lawyers, and all the IRS employees. The tax army is much larger than the U.S. army. This may be an understatement, as it ignores tax preparation firms, most non-professional support personnel, etc. Adding in the 1,500,000 equivalent workers in form preparation, we expend about as many human resources preparing taxes as we do producing food.

Moreover, countless other administrative problems exist at the state and local level. A small army of tax assessors and appraisers determines the property tax base. High excise taxes lead to wholesale smuggling of cigarettes and other commodities between jurisdictions. Numerous studies show that cross-border purchases of goods to avoid taxes is extensive.

Good taxes do not distort the allocation of resources from what individual preferences and cost considerations dictate, as determined by market prices. If people spend more on housing and less on food because tax laws favor purchasing expensive houses, then the tax system is pushing people into spending patterns that differ from what their preferences reveal in the absence of taxation. Such a tax-induced change in human behavior violates the principle of tax neutrality and tends to lower economic welfare.

The violation of the principle of neutrality is particularly great at the federal level in the United States with respect to decisions to save and invest. The rate of personal savings out of disposable income is lower for Americans than citizens of virtually every other major industrialized nation in the world. In a de facto sense, marginal rates of taxation on income derived from savings sometimes exceed 100 percent. This is particularly the case where individuals make a long term financial investment. Because of

**Figure 1**
**Changing Personnel, Tax Army vs. U.S. Army, 1960-1993**




Source: Author's calculations; see text. Joint Economic Committee

persistent inflation, even at levels which we have come to regard as

moderate, or even low, the real capital gains on the sale of an asset are often much smaller than the nominal gains that do not take account of the changing purchasing power of the dollar. Yet the tax system taxes nominal gains, which often are fictitious. Indeed, sometimes capital gains taxes have to be paid on investments that in any meaningful sense involved capital losses.

An even more fundamental problem is the fact that corporate earnings are taxed also at the individual level as dividends or capital gains, involving double taxation. Double taxation becomes triple taxation when the government taxes estates at the time of death. The pyramiding impact of these taxes increases the confiscatory nature of taxation of capital. On three separate occasions in the twentieth century, there were major reductions in federal income taxes -- the Mellon tax cuts of the 1920s, the Kennedy tax cuts of the 1960s, and the Reagan tax cuts of the early 1980s. All three unleashed high rates of economic growth, because they reduced (although did not eliminate) the anti-growth/anti-neutrality provisions of the federal tax code.

One interesting feature of our 50 states is that there is wide variation in the types of taxation. Some emulate the federal income tax, with its attendant problems. Others use no income tax at all. Most states have sales taxes, but there are five exceptions. Do variations in tax systems between states mean the violation of the principle of tax neutrality also varies widely by state? If so, does that impact on state economic growth? We turn to those questions shortly.

A tax can be administratively simple and cheap to collect and be neutral in its economic impact but not be perceived to be fair. The classic example is a head or poll tax, the same dollar tax imposed on all citizens. Such a tax is highly regressive -- requiring a higher share of income at low income levels than at high income levels -- and thus violates many persons' sense of what economists call "vertical equity." The imposition of the "community charge" by British Prime Minister Margaret Thatcher was similar to a head tax and widely considered the cause of her fall from power.

Many persons would say that a head tax violates the ability to pay principle of taxation. According to this principle, it is

appropriate to tax the more affluent members of the population more than the poor because of the former group's greater "ability to pay." Many use this principle to call for highly progressive rates of taxation.

The concept of fairness cannot be scientifically measured or determined. What is fair to one person may be unfair to another. Indeed, to many Americans being fair is treating everyone the same, except perhaps the most disadvantaged members of society. That view may be consistent with relatively proportional or flat rate taxation. Interestingly, one of the early founders of modern economics, John Stuart Mill, argued that a good case could be made to exclude a minimal amount of income (or other tax base) from taxation, but that taxation should be proportional after that point, similar to what proponents of flat rate income taxes advocate today.[2]

Since fairness is elusive to measure, perhaps the best indicator of the public's attitude on this issue is provided by polling data. For a generation, the Advisory Commission on Intergovernmental Relations (ACIR) has done rather extensive polling in which the public was asked: "Which do you think is the worst tax -- that is the least fair"? In the first poll, in 1972, 19 percent answered the federal income tax, compared with 45 percent that said the local property tax was the worst. The winner in recent years, by a wide margin, is the federal income tax, a tax that is one of the most progressive.[3] In the 1993 poll, 36 percent said the federal income tax was the worst. Adding another 10 percent who voted for state income taxes, some 46 percent said income taxes were the worst. By contrast, state sales taxes, which are typically somewhat regressive, ranked a distant third in the most recent poll, with only 16 percent citing them. Progressivity in rate structure does not seem to be too critical to most persons' notion of fairness.

Probably one reason the income tax is viewed is highly unfair is that it violates most people's concept of horizontal equity - a principle that holds that persons of similar economic means should pay similar amounts of tax. Because of the large amounts of deductions, exemptions, credits, surtaxes, and the like in the federal income tax code, individuals of similar income often pay widely

varying amount of taxes. Homeowners pay less than renters; people with dividend income pay more than those with municipal bonds; persons in high tax states pay less federal tax than those in states that minimize the state and local burden. Some people get the government to pay for most of their lunch, while others have to pay for their own food. All of this irritates people, particularly when the complexity of all the special provisions adds to the administrative costs of tax compliance.

In summary, good taxes are simple, economically relatively benign, and fair. The widespread perception that federal taxation, especially of income, fails to meet any of these criteria, is probably the underlying reason why the clamor for tax reform is growing in America. Our tax code is viewed as Byzantine and unduly complex and expensive to administer; it has profoundly negative economic effects; and it is viewed as terribly unfair.

## TAXES AND ECONOMIC PERFORMANCE: REVIEWING THE RESEARCH

Until a generation or two ago, economists often believed that taxes did not have a great deal of impact on economic behavior. For example, while the substitution effect of high income taxation might lead persons to stop working and enjoy more leisure (which is untaxed), the income effect of reduced paychecks would lead persons to work more. The two effects would roughly offset each other, so relatively high income tax rates would not have much economic impact.

One distinguished expert in the field of public finance, John F. Due, typified this thinking when he said, with reference to the impact of state and local taxes on business location, that studies "suggest very strongly that the tax effects cannot be of major importance."[4] As late as 1978, another economist made similar claims in an article surveying the literature on business location.[5]

Yet beginning in the early 1970s, economists increasingly took the view that "taxes matter" in a variety of ways. Much research anticipated the supply side revolution of the late 1970s and early 1980s that led to the 1981 Kemp-Roth bill enthusiastically

promoted by President Ronald Reagan and, in modified form, approved by Congress in 1981 with bipartisan support.

## Taxes and Economic Growth

Economists realized that state and local governments provided an excellent laboratory in which to evaluate tax policy, since there were 50 different states and thus 50 different tax systems. Perhaps the first empirical analysis into the question of state and local taxes on overall economic performance was performed by two economists at the Harris Bank and Trust in Chicago.[6] Robert Genetski and Young Chin used a simple regression model to show that economic growth was negatively correlated with changing rates of state and local taxation.

The Harris Bank study mirrored what numerous earlier studies found looking at specific areas or taxes. For example, A. James Heins discovered that there was an inverse relation between corporate income tax revenues in Illinois and state economic growth.[7] Arthur Laffer and associates found similar adverse effects between business taxes and economic growth in both Puerto Rico and Massachusetts.[8]

This author prepared an extensive study for the Joint Economic Committee in 1981 that replicated Genetski and Chin, but provided added detail.[9] Aside from tax variables, additional variables were introduced into the analysis for control purposes. For example, it was found that, other things equal, "States had a higher rate of economic growth the lower the growth in the burden of welfare expenditures."[10] A particularly interesting finding was that the study found that income and property taxes were more inimical to growth than sales taxes, and that progressivity within the income tax also, other things equal, tended to reduce growth.[11]

The findings of scholarly studies were supplemented by a variety of articles and books written for broader audiences.[12] The editorial page of the Wall Street Journal and the late columnist Warren Brookes were particularly important in spreading the view that "taxes matter."[13]

By the mid-1980s, this proposition was becoming standard wisdom within the economics profession, although with varying

new nuances. L. Jay Helms, for example, said that the impact of taxes depended on how they were used, with expenditures on welfare, for example, having a negative impact.[14] A few years later, Mofidi and Stone reached similar conclusions.[15] Benson and Johnson showed that taxes had lagged negative effects, with the adverse impact being realized about three years after tax implementation.[16] Victor Canto and Robert Webb extended Helms's insight into the debilitating impact of tax-financed expenditures.[17] Still other studies confirmed the tax-growth relationship using other data sets or methodologies.[18]

The rate structure of taxation received some attention. In two studies, this author showed that there was a strong adverse relationship between the progressivity of state and local income taxes and economic growth, explicitly arguing that the state and local evidence supported a move to a flat rate federal income tax.[19] The negative effects of progressivity were described more fully by Hunter and Scott.[20] Both the Vedder and Hunter and Scott studies extended a pioneering observation by Romans and Subrahmanyam that tax progressivity reduced growth over a flat tax approach.[21]

Early studies by Marsden and Reynolds used international data to demonstrate that taxes were negatively correlated with economic growth.[22] Gerald Scully confirmed the tax-growth relationship in a study that looked at broader institutional factors in explaining growth differentials.[23] By the 1990s, numerous studies using ever more sophisicated econometric techniques and detailed international data sets confirmed the earlier finding. One National Bureau of Economic Research working paper reached what are now commonplace conclusions: "We find that a balanced-budget increase in government spending and taxation is predicted to reduce output growth rates."[24] Looking at the 24 major industrial nations belonging to the Organization of Economic Cooperation and Development (OECD) for the 1980s, two British economists concluded "We find robust and important effects suggesting that a large proportion of the divergence of economic performance through the 1980's can be explained by the supply-side effects of tax policy."[25] They were not alone in reaching that conclusion.[26]

Indeed, internationally, mainstream economists were reaching conclusions by the early 1990s that were very similar to those of early supply side economists of the late 1970s who were disparaged at the time by many mainstream economists. The conclusion of Dutch academic and government official Jariq van Sinderen is representative:[27]

> "Balanced budget reductions in taxes on wages and profits exert favorable effects on employment and growth. The relative impact depends on the specific government outlays and taxes which are cut back. In the long run, tax revenue decreases less than the amount of the initial tax reduction."

The latest word using international data was contained in a recent International Monetary Fund paper by Paul Cashin.[28] Using a combination of time series and cross section data on 23 OECD countries over the period 1971 to 1988, Cashin finds that each one percent increase in taxes as a percent of GDP lowers output per worker by about two percent. To be sure, he observes positive effects of spending from taxes, but in general the positive spending effects are only about one-half as large as the negative tax effects. That is approximately the same thing as saying that private sector expenditures are twice as productive as public sector ones.

**Taxes and Other Measures of Economic Performance**

The evidence suggests that taxes not only adversely affect economic growth, but other economic variables as well. The following propositions seem to be reasonably well documented by modern economic research:

- Businesses are less likely to locate in areas of high taxes;
- Job creation varies inversely with levels or changes in taxation, and unemployment varies positively with taxes;

Migration data suggest people move away from relatively high tax areas. The view that taxes do not matter in business location decisions began to be seriously questioned in the late 1970s. Grieson, Hamovitch and Morgenstern used econometric techniques

in an important article in the Journal of Urban Economics, suggesting that taxes in fact did matter.[29] Bernard Weinstein, alone and with Robert Firestine, noted that high taxes forced up labor costs, as employers had to compensate employees for the burden of high taxes.[30] This observation was empirically verified a few years later in a National Bureau of Economic Research study.[31]

In the 1980s still more researchers, using more sophisicated models, confirmed the earlier findings.[32] One of the more interesting studies, however, used rather low tech procedures to reach similar conclusions. Robert Premus used a questionnaire approach with medium sized high technology firms, finding a strong indication that high tech firms consider taxes a major factor in business location.[33]

The research in the 1990s does not alter the now conventional wisdom that "taxes matter." To be sure, some offer qualifications. For example, Fox and Murray note that sensitivity to public policies, including taxes, varies considerably with industry and firm size.[34] Some of the more interesting recent evidence relates to locational choice of foreign multinational corporations.[35] One National Bureau of Economic Research study noted very high sensitivity of foreign investors to local taxes, concluding "that state taxes significantly influence the pattern of foreign direct investment in the United States."[36] Still another study written about the same time reached similar conclusions.[37]

The conclusions relating to business location are replicated with respect to migration. Studies by Cebula and by Browne in the 1970s demostrated that high local government taxation was a significant deterrent to in-migration of labor and thus a barrier to human capital formation within localities.[38] Reaching similar conclusions were Ecker and Syron.[39] For years, this author has cited evidence that shows that in the 1980s, people moved in large numbers into states with low or non-existent income taxes, while migrating out (net) of high income tax states. William Niskanen developed a model that demonstrates this relationship empirically, controlling for other factors.[40] A National Bureau of Economic Research demonstrated the importance of tax differentials in lifetime locational choice decisions in a still more sophisicated

fashion.[41] Research on Canada shows similar sensitivity of migrants to taxes.[42]

Research has similarly showed that high taxes destroy jobs, or add to unemployment. Although they offer some caveats, Wasylenko and McGuire observed a negative correlation between taxes and metropolitan area employment growth between 1973 and 1980.[43] Looking at two different time periods in the 1960s and 1970s, Plaut and Pluta noted strong tax-induced adverse employment effects.[44] More recent evidence confirms these earlier studies. For example, Goss, Preston and Phillips think that earlier studies failed to fully control for other factors, thereby leading to an understatement of a strong negative relationship between taxes and employment growth.[45] In a study by this author, it is suggested that state and local taxes tend, other things equal, to increase the long run rate of unemployment in states.[46]

The review of the literature above is meant to be illustrative, not exhaustive. Moreover, some topics are not even discussed. A study shows, for example, that high property taxes lower property values and thus the real wealth of the citizenry.[47] The overall evidence however is overwhelming: high taxes lower the growth of income and reduce employment opportunities, business investment and in-migration of human resources. Taxes do matter, and indeed, matter a good deal.

## STATE AND LOCAL TAX SYSTEMS: A DESCRIPTION AND TRENDS

Over the course of the twentieth century, state and local governments have grown enormously in size, necessitating increased revenues. This, in turn, has required new taxes and higher rates on existing taxes. Unlike the federal government, state and local governments are mostly constrained by balanced budget constitutional requirements that usually mean revenues rise roughly proportionally to expenditures. In recent decades, non-tax forms of revenue have become increasingly important to governments.

These trends are demonstrated in Tables 1 and 2. Turning first to Table 1, tax collections for state and local governments were more than 600 times larger in 1992 than 90 years earlier. Since

considerable price inflation occurred over that time interval, it is necessary to correct for price trends. Using the Consumer Price Index, we observe that real (inflation-adjusted) tax revenues rose more than 45 fold between 1902 and 1992. Because of the likelihood that the Consumer Price Index overstates inflation, it is probable that actual real tax growth may be even greater.

**TABLE 1**
STATE AND LOCAL GOVERNMENT TAX COLLECTIONS: 1902 TO 1992*

| Year | Tax Collections | Inflation-Adjustd Collections+ | Taxes Per $1000 Personal Income |
|---|---|---|---|
| 1902 | $860 | $12,745 | $47.78 |
| 1927 | $6,087 | $51,900 | $76.47 |
| 1940 | $7,810 | $82,446 | $99.74 |
| 1950 | $15,914 | $97,861 | $69.95 |
| 1960 | $36,117 | $180,829 | $90.07 |
| 1970 | $86,795 | $331,521 | $107.38 |
| 1980 | $223,463 | $401,477 | $98.64 |
| 1992 | $555,610 | $586,895 | $107.80 |

* Numbers in first two columns are in millions of dollars.
+ Adjusted using the Consumer Price Index; in 1994 dollars.
Source: U.S. Department of Commerce, author's calculations.

The compounded annual rate of growth of real tax revenues over the 90 years was 4.44 percent a year -- well beyond the rate of growth in personal income. In 1902, state and local tax payments absorbed less than $48 of every $1000 in personal income; by 1992, that share had over doubled, going to nearly $108 of each $1000 in income. The growth was rapid and fairly steady from 1902 to 1940. Tax revenues rose in both nominal and real terms in the 1940s, but there was a considerable decline in state and local tax payments in relation to personal income. This presumably reflects two factors. First, high unanticipated inflation meant that the tax base grew less rapidly than incomes, particularly in this era before heavy reliance on income taxation. Second, huge increases in federal taxation and spending during World War II may have crowded out state and local efforts to some extent.

The growth in tax revenues accelerated in the 1950s and 1960s before slowing down in real but not nominal terms in the 1970s during another burst of inflation along with the beginnings of a tax

revolt in several states. Growth resumed in the 1980s, and at the present the state and local tax burden is at or near a historic high.

Table 2 includes non-tax general revenues that state and local governments obtain from their own sources. Federal grants, insurance and pension payments, utility and liquor store revenues are excluded. Fees, charges, and interest income of government are included. During the first half of the century, non-tax sources constituted 10-15 percent of general revenues, but now reach 30 percent. In some jurisdictions, most notably California, the growth in non-tax revenues has soared because of constitutional tax limitations. Looking at general revenues (less federal grants), state and local governments took roughly a nickel of each dollar received in 1902, but more than 15 cents in 1992, easily an all-time record.

**TABLE 2**
STATE AND LOCAL GENERAL REVENUES FROM OWN SOURCES, 1902 TO 1992

| Year | General Revenues* | Real General Revenues*+ | % From Non-Tax Sources | Revenue Per $1000 Personal Income |
|---|---|---|---|---|
| 1902 | $979 | $14,509 | 12.2% | $54.39 |
| 1927 | $7,155 | $61,006 | 14.9% | $89.89 |
| 1940 | $8,664 | $91,461 | 9.9% | $110.65 |
| 1950 | $18,425 | $113,302 | 13.6% | $80.99 |
| 1960 | $43,530 | $217,944 | 17.0% | $108.56 |
| 1970 | $108,898 | $415,945 | 20.3% | $134.73 |
| 1980 | $299,293 | $538,020 | 25.3% | $133.45 |
| 1992 | $743,399 | $844,411 | 30.0% | $153.94 |

* In millions of dollars.
+ In 1994 dollars, deflated using the Consumer Price Index.
Source: U.S. Department of Commerce, author's calculations.

The type of taxes used by state and local governments have changed considerably over time. Early in this century, state and local governments obtained the overwhelming majority of their tax revenues from property taxes. During the Great Depression of the 1930s, many states enacted sales taxes and some introduced income taxes as well. Even so, as Table 3 indicates, at the middle of the century property taxes still provided nearly half of all tax revenues.

**TABLE 3**
CHANGING IMPORTANCE OF MAJOR STATE AND LOCAL TAXES: 1902 To 1992

| | Percent of Total Tax Revenues Raised By Tax | | | |
|---|---|---|---|---|
| Year | Property | Sales | Income | Other |
| 1902 | 82.1% | 3.3% | 0.0% | 14.6% |
| 1927 | 77.7% | 7.7% | 2.7% | 11.9% |
| 1950 | 46.2% | 32.4% | 8.7% | 12.7% |
| 1970 | 39.3% | 34.9% | 16.7% | 9.1% |
| 1992 | 32.1% | 35.3% | 25.0% | 7.6% |

Source: U.S. Department of Commerce, Bureau of the Census, and author's calculations

During the past forty years, the relative importance of property taxes has declined. The key word is "relative." Property taxes by any measure did not decline, but the growth in state and local government was essentially financed by expanding other forms of taxes, especially income taxes. Sales taxes rates have risen, so their relative importance has grown slightly, but the big shift has been towards income taxation.

However measured, state and local governments are absorbing larger amounts of the incomes of Americans, whether they be measured in nominal or real dollars, or even as a proportion of total income. The consequences of state and local fiscal policies, then, have grown over time simply because state and local government is relatively larger than earlier in our history.

As the evidence that follows shows, these fiscal trends have probably introduced some drag on American economic growth. There is evidence that, other things equal, higher tax burdens mean lower growth. In addition, however, the shift to income forms of taxation have likewise probably reduced the growth rate, as income taxes are by many indicators the worst of all taxes from a growth perspective.

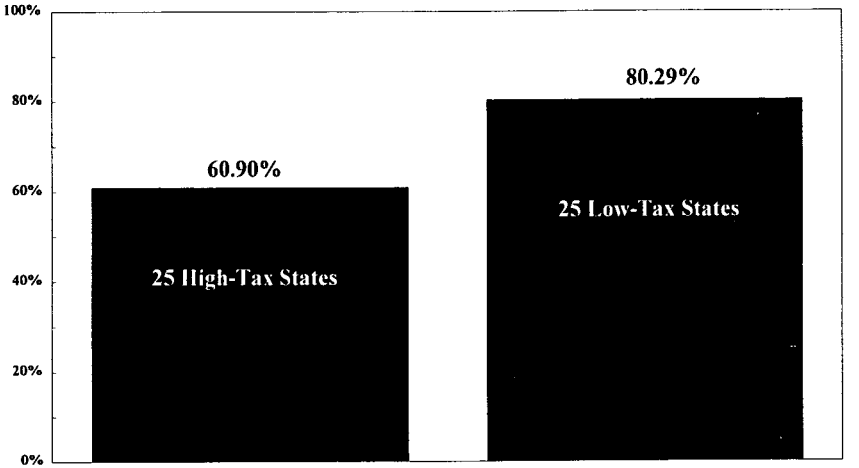
## STATE AND LOCAL TAXES AND ECONOMIC GROWTH: SIMPLE EVIDENCE

Most of the studies relating taxes to economic performance that were cited earlier use moderately to very sophisicated statistical techniques to evaluate various forms of evidence. Such methodologies usually do an excellent job of controlling for other, non-tax factors that might explain economic performance, thus increasing the accuracy in the observed relationship between taxes and economic change. At the same time, these statistical studies are relatively difficult for the average person to understand. Accordingly, the use of some rather simple descriptive statistics helps evaluates the relationship between taxes and economic growth.

Since the impact of taxes on economic behavior takes time to be realized, and since the effects may accumulate over time, it is probably best to look at the tax-economic growth relationship over a relatively long time horizon. That also reduces the impact of regionally-specific short-term economic booms or busts that occur. Accordingly in Figure 2, we took the 25 states with the highest measured state and local tax burden over the period 1965-92, and calculated the average rate of growth in income per capita in real terms. We then did the same thing for the 25 states with the lowest measured state and local tax burden.[48]

## Figure 2

**Real Per-Capita Income Growth, High and Low Tax States, 1965-1993**




Source: Author's calculations; see text

Note that the relatively low tax states grew nearly one-third faster than the high tax states. Since the average state in 1965 had per capita income of $11,899 in 1993 dollars, the difference between a 60 and 80 percent growth rate translates into a difference of about $2,300 per person, or over $9,000 for a family of four. The The evidence suggests that residents of above average tax states suffered very materially from the fiscal actions of their state of residence.

In Table 4, the data are classified by quintiles in terms of average tax burden. Also, both the mean and median value were calculated for each group. Note that for both statistics, the 10 states with the lowest tax burden had the highest rate of income growth per capita, with income growth increasing with falling tax burden, with one exception. The lowest tax states grew anywhere from 12 to 28 percentage points more than the highest tax states, depending on the statistical measure of central tendency used.

**TABLE 4**
Economic Growth Experience Of States, Classified By Tax Burdens From 1965 To 1993

| Average Tax Burden* | Median Growth, Real Per Capita Income | Average Growth, Real Per Capita Income |
|---|---|---|
| 10 Highest Tax States | 63.46% | 67.96% |
| 10 Next Highest Tax States | 56.53% | 58.33% |
| 10 Middle States | 71.86% | 67.51% |
| 10 Next Lowest States | 72.62% | 72.02% |
| 10 Lowest Tax States | 91.84% | 79.51% |

* For years 1965 to 1993.
# Average of state and local taxes per $1000 personal income in fiscal years 1965 and 1992.
Source: U.S. Department of Commerce, author's calculations

The low tax states included some of the fastest growing states in the Union from a per capita income perspective, including, for example, Virginia, Tennessee, Alabama, Georgia and New Hampshire. By contrast, none of the high tax states grew nearly as fast as these states. To be sure, the correlation between taxes and growth was far from perfect. Illinois and Ohio, for example, had relatively low taxes and also below average rates of economic growth. In short, "taxes matter," but it is not true that "taxes alone matter."

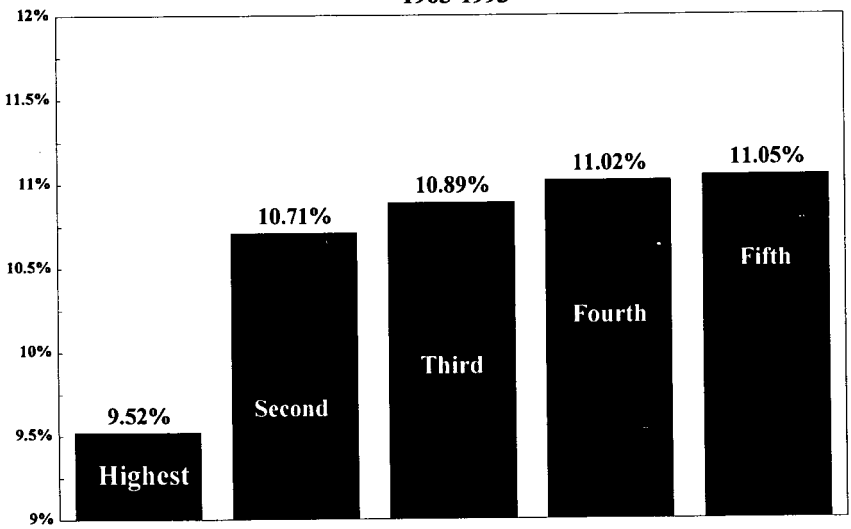
Another approach would be to categorize the states by their rates of economic growth. In Figure 3, note that the mean tax burden rises consistently as the growth experience worsens. The 10 states with the lowest growth rates had, on average, a 16.1 percent higher tax burden than the 10 states with the highest rate of economic growth.

In Figure 4, two changes are made. First, we look at a slightly longer time horizon, 1960 to 1993. Second and more important, we look at the change in the tax burden over that entire time period rather than the average tax burden. The proposition here is that a

high tax state can help itself by lowering its real tax burden, even if its burden after the tax cut is still fairly high relative to other states.

## Figure 3

**Tax Burden of States By Quintile of Per Capita Income Growth, 1965-1993**

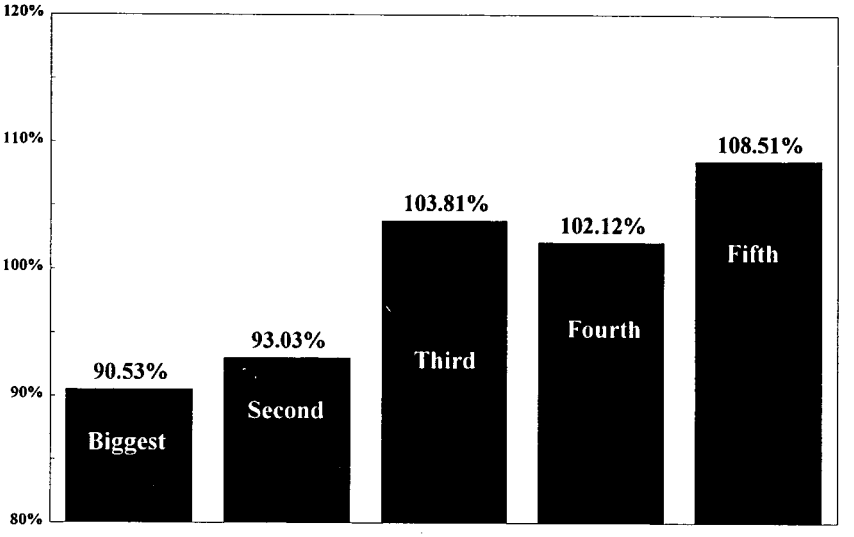



**Source: Author's calculations; see text**

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

## Figure 4

**Real Per Capita Income Growth By Rate of Growth in Tax Burden, 1960-1993**




Source: Author's calculations; see text

* "Biggest" refers to states with largest increase in state and local tax burden from 1960 to 1992; "second" refers to states ranked 11th to 20th in tax increase, etc. Per capita income figures are in constant dollars.

Note that the states that cut their tax burden the most (New Hamsphire, Mississippi, South Carolina, Louisiana, North Dakota, Kansas, Tennessee, Nevada, Colorado and Vermont) had an average growth in real per capita income than was nearly 20 percent large than the states that increased their tax burdens the most (Alaska, Delaware, New York, Connecticut, New Jersey, Pennslyvania, Kentucky, Hawaii, Wyoming, and Nebraska). The differential growth between these two groups is substantial, amounting to about $2,000 a person by 1993.

Note also that quintile rankings show a fairly close negative correlation between the magnitude of tax changes and the rate of economic growth. Thus the second quintile in terms of tax increases grew a little faster than the top quintile, while the fourth quintile grew a little less than the bottom quintile (the group of states that actually reduced taxes in most cases).

## Four Case Studies

For many readers, the reference to broader statistical aggregates is less interesting than individual case studies. Using the data on tax burdens in 1960 and 1992 and the growth experience from 1960 to 1993, there are many examples of specific states losing ground to similar states because of their inappropriate tax policy. Four examples follow.

The champion taxer of the large states is New York. Its tax burden was already above average in 1960, but it was raised an extraordinary 42.2 percent in the one-third of a century following 1960. Its neighbors, Pennsylvania, New Jersey and Connecticut - all raised their tax burdens too, yet less than New York. New York had a much higher average tax burden than its neighbors in 1960 - and the differential widened. The result? New York's rate of per capita income growth was less than any of these neighbors. New Jersey's income, below New York's in 1960, was above by 1990. Connecticut's per capita income exceeded New York's by two percent in 1960 - but by 14 percent by 1993.

Moving west and south, compare Kentucky and Tennessee. In 1960, Kentucky had an aggregate tax burden (as measured by state and local taxes as a percent of personal income) that was 12 percent lower than Tennessee's. It also had higher per capita income than its neighbor to the south. Over the next one-third of a century, the aggregate tax burden in Kentucky was increased by an extraordinary 38 percent. By contast, in Tennessee, the aggregate tax burden actually fell slightly. Kentucky was in the top quintile of states in terms of tax increases, while Tennessee was in the bottom.

The results were striking. Over the 33 years, the rate of economic growth was over 20 percent higher in Tennessee than in Kentucky. By 1993, per capita income was nearly eight percent higher in Tennessee. Lower taxes meant higher growth.

The Kentucky and Tennessee example points out the pernicious impact of progressive income taxes. Kentucky had a progressive income tax, while Tennessee had the "ultimate flat rate tax" -- no tax at all. With inflation, Kentuckians were pushed into higher tax brackets. Without voting, politicians in Kentucky

inflicted higher taxes on their constituents. That did not happen in Tennessee.

Moving further West, compare Idaho and neighboring Montana. In 1960, per capita income was about 10 percent higher in Montana. The tax burden was also slighter higher in Montana than in its western neighbor. Over the next third of a century, Idahoans increased their tax burdens only very slightly, while Montanians had a much larger aggregate tax increase, greatly widening the already existing tax differential between the two states. What happened to incomes? They rose much more in Idaho, so that by 1993, per capita income in Idaho exceeded that in Montana, previously the considerably more affluent state.

The impact of tax differentials shows up in other statistics as well. For example, in 1960, more people lived in Montana than Idaho. By 1993, the population of Idaho exceeded that of Montana by 31 percent. It appears that people literally fled relatively high tax Montana for its relatively lower cost neighbor to the West.

People love the sun, and the nation's premier competitors for tourists wanting a sunny climate are California and Florida. What is the fiscal history of these two states? Throughout the period, the aggregate tax burden was higher in California than in Florida. Moreover, the differential widened over time, as the aggregate tax increases in California , despite property tax rollbacks following from Proposition 13, were larger than in Florida.

The result? By any measure, economic progress was greater in Florida. Real per capita income rose 118 percent in Florida - well above the national average. By contrast, in California, it rose less than 66 percent - substantially below the national average. In 1960, California had a dramatically higher per capita income than its eastern rival, exceeding Florida by 39 percent. Today, the differential in nearly gone (less than five percent). Also, population growth and migration have been greater in Florida than in California.

Again, Florida has no income tax, while California has a highly progressive income tax. Inflation pushed income taxes up in California, absorbing more of the populace's income and serving as

a drag on the rate of economic growth. High taxes, low growth, and highly progressive income taxes, and doubly slow growth.

## STATE AND LOCAL TAXES AND GROWTH: ECONOMETRIC FINDINGS

The simple descriptive statistics comparing different tax and growth situations can be criticized on the grounds that they do not take account of other, non-fiscal factors that might play a role in explaining economic behavior. Accordingly, in this section, rather simple but compelling econometric evidence is presented that demonstrates that "taxes have mattered" over the past third of a century in the United States.

While some modern studies have used highly complex multiequation models, the findings are typically similar to what is obtained using single equation ordinary least squares regression procedures. That is the methodology used here, as it can be understood at least in part by the intelligent layperson for whom this study is directed.

Let us look at the relationship between the rate of economic growth in the 50 states (called GROWTH in the statistical results below) and two fiscal variables: the level of state and local taxation as a percent of personal income in fiscal year 1960, denoted TAX60, and the change in that tax burden from 1960 through 1992 (again, as a percent of personal income), denoted TAXCHANGE. The variations in GROWTH are considerable, ranging from slightly over 60 percent in Delaware to nearly 151 percent in South Carolina. In the regression results below, the numbers in parentheses are t-statistics:

(1) GROWTH = 160.81 - 5.61 TAX60 - 6.35 TAXCHANGE,
(5.39) (1.87) (3.20)

$\bar{R}^2 = .145$, F-Statistic = 5.15.

The null hypothesis that there is a negative statistical relationship between taxes and economic growth is confirmed for both variables at least at the five percent level of significance using

a one-tailed test. In other words, we are 95 percent confident (even 99 percent in the case of the tax change variable) that the true relationship between each of the tax variables and economic growth is negative (higher taxes, lower growth).

The findings suggest that an increase in state and local tax burdens equal to one percent of personal income would lower growth by about six percentage points from 1960 to 1993 (e.g., from 90 percent to 84 percent). That is true of both tax variables. Since the typical state in 1960 had personal income per capita of over $11,000 (in 1993 dollars), the results suggest a state that raised their taxes fairly considerably (say equal to two percent of personal income) would have had over $5,000 less income for an average family of four by 1993 compared to the state that did not change its tax levels at all.

Looking at actual tax burdens and growth rates, it is possible to estimate the impact that taxes had in explaining growth differentials. For example, Pennsylvania grew nearly 94 percent compared with less than 61 percent for Delaware. The findings suggest that about one third of that differential is tax-related. On the other hand, New York (85 percent growth) and New Hampshire (112 percent) followed radically different tax policies (New York raised its taxes dramatically, while New Hamphsire lowered its tax burden), and the findings show all the differential (and a bit more) is explainable by tax policy. Similarly, Indiana modestly outperformed Illinois (79 vs. 74 percent growth), and the differential is virtually entirely explainable by bigger tax hikes in Illinois.

The model above suffers from several limitations. It only explains about one-seventh of the total variation in economic growth, and it excludes other variables that might be important. Controlling for these other factors conceivably could wipe out the observed tax-growth relationship. Accordingly, a large number of control variables were introduced into the model. Also, there are significant problems involved in including Alaska, and arguably Hawaii in the regression equations. Aside from the geographic isolation of these states from the mainland, Alaska's tax numbers are severely distorted because of the treatment of oil revenues from

the North Slope. Alaska's total state and local taxes as a percent of personal income increased several standard deviations more than any other state, and by standard outlier tests it is appropriate to exclude it. It is unique in its ability to export a huge portion of its tax burden to other states. In the regression below, the data set is confined to the 48 contigous states.

In Table 5, four additional variables are introduced into the model for control purposes: UNION, measuring the percent of the nonagricultural labor force in labor unions at midperiod (1974); SUNSHINE, the percent of the days of the year the sun shines in a leading city in the state, or an average of several cities; WAGES, a measure of average worker wage payments from four different dates within the time period, indexed to average 100 for all states; and UNEMPLOYMENT, the average annual unemployment rate for the first 32 years of the time period (1960 through 1991).

**TABLE 5**

State And Local Taxes And Economic Growth, 1960-1993: Results*

| Statistic or Variable | Regression Coefficient | T-Statistic |
|---|---|---|
| Constant | 308.90 | 10.54 |
| TAX60 | -3.65 | -1.83 |
| TAXCHANGE | -3.64 | -1.97 |
| UNION | -0.74 | -1.65 |
| SUNSHINE | -1.08 | -3.64 |
| WAGES | -1.10 | -5.01 |
| UNEMPLOYMENT | 3.81 | 1.74 |
| F- Statistic | 18.10 | |
| $\bar{R}^2$ | .685 | |

*Dependent variable is the growth in real personal income per capita, 48 contiguous states; ordinary least squares regression analysis is used.
SOURCE: Author's calculations; see text.

The model now is far more robust statistically, explaining over two-thirds of the variation in economic growth between the states. The tax variables maintain their expected negative signs, and remain statistically significant at the five percent level using the appropriate one-tail test.

The magnitude of the impact of taxes on growth has been reduced by about 40 percent by the inclusion of the control variables, but still the tax-growth relationship remains potent. For example, compare North and South Carolina, both very fast growing states. South Carolina grew over five percentage points faster, however. Why? The fact that North Carolina raised its average tax burden nearly three times as much as its neighbor to the South can explain about two-thirds of the differential. Ohio had less growth than either of its large midwestern industrial neighbors (Michigan and Indiana).Yet it raised its taxes more than these states, and the model suggests that act explains a significant part of the growth differential (about one-third of it in the case of Indiana, one-fourth in the case of Michigan).

At the same time, it is not true that "taxes alone matter." Pennsylvania outgrew Ohio despite raising its taxes more, for example. The reasons relate to factors other than taxes. For example, the model found that high wage, highly unionized states tended to grow less than those with less unionization and lower wage levels. For no clear reason, sunshine and growth were statistically significantly negatively correlated. Taxes are relevant and important, but not exclusively important. They are, however, controllable by public policy whereas some other variables, notably the sunshine, are not.

To test to see if the tax-growth relationship was solid, an exercise in what econometricians call "sensitivity analysis" was performed. More than a dozen variations of the model were explored, some introducing new control variables (e.g., variables measuring the degree of manufacturing, energy or farm orientation of the state, a variable measuring the age of the state, even a variable measuring political liberalness). Other models used all 50 states or even the 50 states plus the District of Columbia. In every single case, the expected negative relationship between both tax

variables and the rate of economic growth was obtained, and in most instances for both tax variables the results were statistically signficant at least at the five percent level. The sensitivity analysis increased confidence that there is in fact a strong and statistically significant negative relationship between tax levels and tax changes and the rate of economic growth.

**Population Change**

When people discuss whether an area is growing, they typically think of population change. California rates low on growth in per capita income over time, but relatively high on growth as measured by population change. Most variations in the rate of population change reflect migration. Some people think migration is the ultimate measure of the attractiveness or success of an area. If an area is rapidly gaining population through migration, it is a sign that people like the area, and believe it has a relatively high quality of life.

Accordingly, regression analysis was used to explain variations in population growth between the states from 1960 to 1993. That variation was enormous, much more than for per capita income growth. Population growth was an extraordinary 387 percent in Nevada, but was actually negative in West Virginia. Again, several non-tax variables are introduced for control purposes, including two used before (WAGES and SUNSHINE), and one measuring the importance of farming (the percent of farm receipts as a percent of personal income in 1975, or FARM), and one measuring the importance of the production of fuels (mineral production as a percent of personal income in 1980), or ENERGY.

**TABLE 6**

Taxes And Population Change, 1960-1993: Regression Results*

| Statistic or Variable | Regression Coefficient | T-Statistic |
|---|---|---|
| Constant | -362.099 | -4.30 |
| TAX60 | -2.170 | -0.36 |
| TAXCHANGE | -13.255 | -2.44 |
| SUNSHINE | 6.133 | 7.49 |
| WAGES | 1.125 | 2.35 |
| FARM | -2.439 | -4.38 |
| ENERGY | -0.002 | -2.14 |
| $\bar{R}^2$ | .602 | |
| F-Statistic | | 12.86 |

*For 48 contiguous states.
SOURCE: Author's calculations; see text

The results, in Table 6, are quite interesting. Both tax variables have the expected negative sign, but the variable representing the initial tax level is not statistically significant at generally accepted levels. The variable measuring the change in tax burden, however, is highly significant in a statistically sense (at the one percent level using a one-tailed test), and supports the null hypothesis that, other things equal, people prefer areas where the tax burden is falling.

The results for the tax change variable are quite strong. Compare two otherwise identical states, one of which kept its taxes the same and the second raised its tax burden by two percent of personal income (from, say, nine to eleven percent). Suppose the state raising its taxes had 40 percent population growth. The model would predict population growth in the state holding the line on taxes would have population growth of more than 66 percent. If both states started with the same populations, the estimated 1993

population in the state maintaining lower taxes would be about 20 percent larger than in the tax raising state.

Looking at real illustrations, let us return to the example of Montana and Idaho used earlier. Idaho's population rose almost 65 percent, while Montana's increased only 24 percent. The model here suggests more than one-fourth of the difference between the two states is explainable by tax policy (the same is true with Washington and Oregon). Although both Minnesota and Wisconsin are high tax states, Wisconsin raised its taxes more. The differential tax change explains all the differential population growth (Minnesota 32 percent, Wisconsin 27 percent). The model predicts that had Illinois not raised its tax burden, its population growth would have more than doubled -- and Nebraska's would have tripled. If Florida had raised its taxes has much as New York (instead of slightly), its estimated 1993 population would have been more than two million less than the actual total of 13.7 million.

As before, use of sensitivity analysis reinforces the conclusion that changes in tax burdens are an important determinant of population growth. The general conclusion that emerges is that people alter their behavior in response to tax changes. As taxes go up, some people work and invest less, while others move. The evidence further confirms the basic proposition that increases in tax burdens are harmful to the growth and vitality of any area.

Moreover, a tax increase is a tax increase, whether imposed by federal, state, or local government. The rise in federal taxation over the past 60 years, then, may well be a significant factor in the lowering of the long-term slowdown in the rate of economic growth noted by some commentators.

## Taxes and Total Personal Income Growth

Economies grow partly because of population growth, and partly because of "intensive economic growth" -- increases in output per capita. The statistical evidence above relates to both of the components of total income growth. However, it is possible to look directly at total personal income growth over time as it relates to taxes. This incorporates both population and per capita income effects. Because some studies have indicated that a short lag exists

before the harmful effects of taxes are apparent, a two year lag is also introduced (taxes are related to income change two years later.) The control variables used are altered slightly as well. Table 7 shows the result for the 48 contigous states. Both tax variables have the expected negative sign, and the one representing the change in tax burden is statistically significant at the five percent level. Moreover, it shows a powerful relationship between tax change and income change. Taxes lower per capita income, and they lower population growth, so the impact on personal income is doubly significant.

**TABLE 7**
Taxes And The Growth Of Total Real Personal Income, 1962-1994*

| Statistic or Variable | Regression Coefficient | T-Statistic |
|---|---|---|
| Constant | -65.94 | -0.54 |
| TAX60 | -0.76 | -0.08 |
| TAXCHANGE | -17.56 | -2.13 |
| UNION | -2.48 | -1.90 |
| SUNSHINE | 6.41 | 5.02 |
| FARM | -4.15 | -4.95 |
| ENERGY | -1.38 | -2.24 |
| $\bar{R}^2$ | .594 | |
| F-Statistic | 12.47 | |

*Data are for 48 contiguous states.
SOURCE: Author's calculations; see text.

Compare New York and New Hampshire. The Empire State's real personal income only slightly more than doubled from 1962 to 1994, while New Hampshire's nearly tripled (110.3 vs. 186.3 percent). The statistical results suggest that this differential is entirely explainable by the fact that New York raised its average tax

burden dramatically, while New Hampshire lowered its burden. Kansas grew faster than neighboring Iowa, and again the differential is explainable by the fact Iowa raised its tax burden, unlike Kansas.

## EVALUATING ALTERNATIVE TAX AND NON-TAX FUNDING OPITONS

While it is clear that taxes have a negative effect on economic performance, as a practical matter all governments must fund their operations. Should the government resort to taxation or alternative means of raising revenues? If taxes are chosen, which taxes are best? If an income tax is used, should it have a flat or progressive rates?

### Tax vs. Non-Tax Sources of Revenue

State and local governments have two other major sources of revenue besides taxes, along with several other options available on a short-term or emergency basis. As to regular sources of funding, first, they receive financial grants from the federal government. Second, they can levy fees or user charges, including lottery operations. In addition, of course, they earn some revenues from interest on investments. As to revenue sources of a one time nature, states sometimes rely on the sale of assets. Also, despite balanced budget amendments, most states temporarily can meet expenditure demands in part by either drawing down cash balances (often in "rainy day funds") or even by borrowing.

The statistical model developed previously can be modified to evaluate the impact of federal grants and fees and charges on economic growth. In particular, the change in "miscellaneous revenues" including fees and charges was calculated as a percent of personal income for the period 1960 to 1992 for state and local governments; a similar measure was calculated to measuring changing federal grants. Also, in some regressions the level of fees and government grants in 1960 were also included as variables.

More than a dozen regressions were run using different combinations of fiscal variables, including tax variables previously included. The various non-fiscal control variables were changed, as

well sample size (e.g., including Alaska and Hawaii as opposed to excluding them). The findings can be summarized:

- In all regressions, the previously observed negative relationship between tax levels, tax change and economic growth held. In a majority of the regressions, the observed relationship was statistically significant at least at the 10 percent level, and often at the five percent level.
- In over 90 percent of the regressions, the expected negative relationship between fees and charges and the rate of economic growth was confirmed, and in a majority of cases the relationship was statistically significant at the five percent level. However, the observed relationship between the initial (1960) fee burden and economic growth was far more tenuous, with none of the findings being statistically significant.
- There is no discernible relationship between the magnitude of federal grants received and the rate of economic growth. In 13 regressions examining the relationship between changes in federal grants (as a percent of personal income) and economic growth, in 6 of them the expected positive relationship was observed, while in 7 of them (one of them statistically significantly different from zero at the five percent level), a negative relationship held -- higher grants meant lower growth.

On the basis of these statistical findings, it would appear that state and local governments that raise fees and charges in order to avoid tax increases will not significantly alter economic performance. While the findings with respect to fees and charges are on balance slightly less robust than those for taxes, the evidence suggests that raising fees and charges would have similar negative effects on growth.

The finding with respect to government grants is particularly revealing. While getting funds from Washington may have political appeal, the economic impact is negligible, and may actually be more negative than positive.

**Does the Type of Taxation Matter?**

Once a government decides that expenditure considerations make a change in the aggregate tax burden desirable, does it matter which type of tax is changed? The model used in Table 7 was modified, substituting changes in four specific types of taxes for the aggregate tax change variable incorporated in that table. As before, the change in the tax burden as a percent of personal income was used to define tax change. The taxes examined were the individual income tax, general sales taxes, selective sales taxes (excises), and property taxes.

An extremely powerful and statistically significant negative relationship was observed between changes in individual income tax burdens and the rate of personal income growth. This is particularly important since, on net, the increase in income tax burdens equalled roughly all the total increase in tax burden (other taxes cumulatively stayed about the same as a proportion of personal income).[49] Indeed, the results suggest that if state and local income individual income tax burdens in 1992 had remained at their 1962 level as a percent of personal income, personal income growth from 1962 to 1992 would have averaged about 60 percentage points more. Since the average real personal income growth was about 189 percent, the results suggest that if state and local income tax burdens had not risen, personal income growth would have been over 30 percent greater than actually occurred.

A negative relationship was also observed between the two forms of consumption taxes (general sales and selective sales) and the rate of real personal income growth, but the results were not statistically significant at conventional levels of confidence nor were the estimated relationships suggestive that higher sales taxation strongly impacted growth. The observed relationship between changing property taxes and economic growth was actually positive but both statistically insignificant and weak.

The conclusion from the state and local data is that policymakers can improve the rate of economic growth by moving towards lower taxes on income. It might seem that a growth oriented fiscal strategy would be to move towards substituting a national sales tax for the existing income tax. There are a number

of reasons, however, for believing that strategy is flawed, as will be discussed in detail below.

## Flat Rate vs. Progressive Income Taxes

Income taxes take many forms. In some states, virtually all income is taxed, but marginal rates are low and the same at all income levels. The tax is only modest progressive. Examples would include Illinois and Pennsylvania. A few states have a very small tax base, but fairly high flat rates on the remaining income. Good examples are New Hampshire and Tennessee, which tax only so-called unearned income (investments). Massachusetts is an example of a state that emulates Illinois and Pennsylvania in taxing most income at a flat rate, but follows Tennessee in placing a higher rate on investment income. Some states have nominally fairly sharply progressive income taxes that are in fact nearly flat rate taxes, since the top rate applies at very low income levels. Oklahoma is a good example, with rates ranging from 0.5 to 7.0 percent for those who do not deduct their federal income taxes, yet with the top rate applying for a typical family at about $25,000 income. In Utah, the top rate, 7.2 percent, applies to a family of four making more than about $15,000 annually.

Then there are states with classic highly progressive income taxes. Good examples include California, Iowa and Ohio. In all three states, the top marginal rate is at least 10 times the lowest rate, and applies at relatively high income levels. California's top rate of 11 percent is fully 10 percentage points above the lowest rate. A few states achieve similar progressivity by tying their tax to the federal income tax liability; Vermont is the classic example here.

At the other extreme are states such as Florida, Texas, Washington and South Dakota that have absolutely no income tax whatsoever. They are the "ultimate flat rate tax" states. The pattern of taxes then, is richly varied across the land, providing good opportunity to evaluate alternative income tax structures.

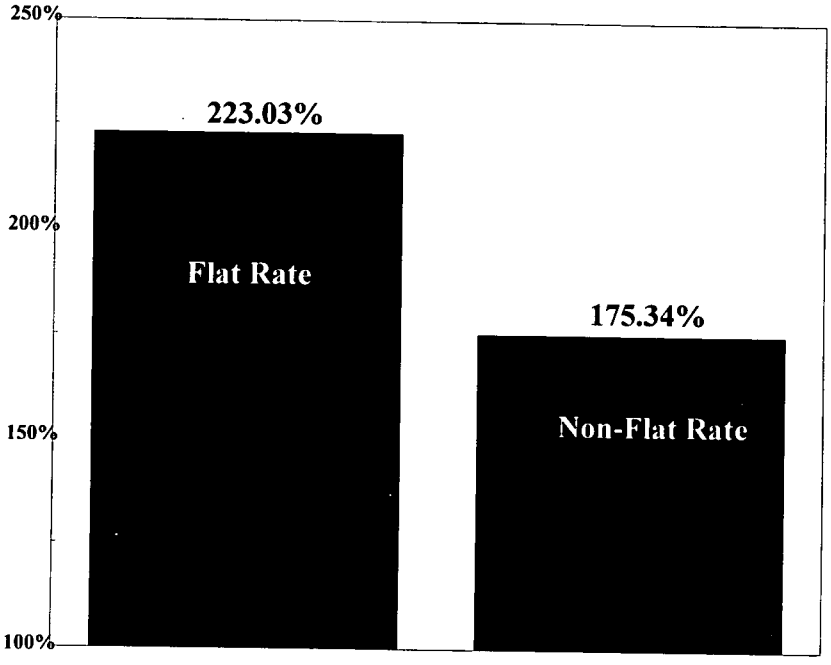
The expectation is that progressivity in rate structures should have a negative impact on economic activity. Human behavior is determined at the margin -- it is the tax rate on extra or additonal income that influences decisions whether to work overtime, invest

monies in a business venture, etc. High marginal tax rates lower the incentives to work, save, and invest more than lower marginal tax rates. Thus, one would predict that states with a broad-based income tax with flat rates at relatively low rates would do better than states with marginal tax rates that rise significantly with income.

In evaluating the effect of the progressivity of income tax rate structure, emphasis was again placed on the growth of total personal income, as that measure incorporates both the effects of migration and intensive economic growth from rising income per capita. As a first step, 14 states were identified that had flat tax rates for all or nearly all of the period 1962 to 1994. In many cases, the flat rate was zero - there was no income tax (e.g., Texas and Florida). In other cases (e.g., Illinois, Michigan and Pennsylvania), for most of the period the state had a flat tax with a positive rate. A few states (e.g., New Hampshire and Tennessee) had a zero rate for work related income, and a positve flat rate for property income.

Figure 5 shows that the average growth in real personal income from 1962 to 1994 was more than one-fourth higher in the 14 flat rate states than in the 36 states that had progressive rate structures for all or part of the period. Over time, a greater proportion of the nation's output (and the income derived from that production) came in states that chose not to increase income tax rates as individual incomes rose. Economic vitality was greater in the flat rate states.

**Figure 5**
**Growth in Real Personal Income, Flat Rate and Non-Flat Rate**




Source: Author's calculations; see text

The simple observation above, however, may have occurred by chance. It is possible that flat rate states had other attributes (e.g., sunshine, low unionization, etc.) that explain their high growth. Accordingly, a more sophisicated statistical analysis seems appropriate.

Table 8 reports the results of a ordinary least squares regression model that incorporates two tax variables. First, an average income tax burden is estimated by taking that burden at the beginning of the period as a percent of personal income, and doing the same thing for 1992, near the end of the period, and then averaging the two values. Second, the range of marginal income tax rates was examined for each state for four representative years within the period: 1968, 1980, 1987 and 1994 (December 31). The average of the four years was taken as a measure of flatness. Thus if a state had a range from 2 to 6 percent on the tax in each year, the

value assigned to that state would be four (six minus two). By contrast, a flat rate state would be assigned the value of zero.

**TABLE 8**
Flatness Of Income Tax Rates And Personal Income Growth, 1962-94*

| Statistic or Variable | Regression Coefficient | T-Statistic |
|---|---|---|
| Constant | 30.39 | 0.34 |
| AVEINCOME TAX | -19.14 | -3.81 |
| TAXRANGE | -7.26 | -3.01 |
| UNION | -3.62 | -3.38 |
| SUNSHINE | 5.76 | 4.95 |
| FARM | -4.21 | -5.91 |
| FUEL | -1.99 | -3.59 |
| $\bar{R}^2$ | .675 | |
| F-Statistic | 17.26 | |

*48 Contiguous states.
SOURCE: Author's calculations; see text.

As reported earlier, several other control variables were introduced: UNION, the percent of nonagricultural employees in labor unions in mid-period (1974); SUNSHINE (percent of days a year the sun shines); FARM (agricultural receipts as a percent of personal income in mid-period); and FUEL (receipts from fuel production, a measure of energy orientation, as a percent of personal income in 1980). Incorporating these various variables into the model allows us to evaluate the flat rate-income growth relationship holding these other factors constant. The results reported are for the 48 contiguous states.

The model is extraordinarily robust, explaining more than two-thirds of the total variation in real personal income between the states. Every variable is statistically significant at the one percent

level. As expected, personal income growth was, other factors held constant, significantly lowered by increases in the average income tax burden. As reported above, income taxes were found to be detrimental to growth.

Of greatest interest was the finding that increases in the range of marginal income tax rates was strongly negatively related to personal income growth. To put the estimated relationship in perspective, let us compare two states with identical income tax burdens and otherwise economically the same. One, however, had a flat rate tax of 4 percent, while the second had a progressive rate structure ranging from 1 to 7 percent throughout the period. Suppose the progressive rate state had real income growth of 180 percent (near the average of all states). The model predicts that income growth in the flat rate state would have been over 223 percent, nearly one-fourth higher. The results suggest that moving to a flat rate in the income tax can have dramatic long run growth effects, even where the initial move is "revenue neutral." In the longer run, government revenues are also higher with the flat rate tax, given the powerful income effects that flatness has and the positive relationship of tax revenues to income.

One caveat. The measure of flatness is imperfect -- simply the range from the lowest to the highest rate. In some states, the indicated range is more nominal than real, since virtually all taxpayers are at the top or near the top of the range in terms of marginal income. Trying to devise a more perfect measure of relative flatness of rates, however, is extremely difficult, given differences between the states in the definition of income, differences that have changed over time.

Turning to real world examples, Iowa and Kansas both had progressive income taxes throughout the period, but Iowa's was consistently more progressive. Kansas's real personal income grew 108.5 percent, while Iowa's grew 93.8 percent. If the estimates in Table 8 are correct, this differential is entirely explainable by the difference in rate structure, independent of the amount of revenue that the income taxes raised.

Going to the Northeast, Massachusetts' growth (127 percent) far outdistanced New York's (88.5 percent). Again the differential

is entirely explainable by the fact that while both states levied state income taxes, the Empire State's tax was highly progressive, while Massachusetts consistently had a flat rate, albeit one that at times was at a relatively high level.

It would be hard to find two states more similar than North and South Dakota. Yet South Dakota's real personal income growth of 105 percent far outdistanced its neighbor to the north, which grew less than 77 percent, the lowest growth in the union. Why? South Dakota had no income tax (a zero rate flat tax), whereas North Dakota had a high progressive rate structure.

Finally, compare our two premier Sun Belt tourist states, California and Florida. California had a highly progressive tax, whereas Florida again had a zero rate flat tax. California growth of 192 percent pales in comparison to Florida's 457 percent. The regression result in Table 8 suggests that more than one-fourth of that huge differential is explainable by the fact that California taxed income and Florida did not. In addition, however, more than another one fourth of the differential is explainable by the fact that California had a highly progressive rate structure as opposed to a flat tax. Collectively, a majority of the California-Florida income differential is explained by income taxation in California.

As before, sensitivity analysis was performed to see if the results were fragile, that is highly susceptible to changes in specification in the model. Consistently, negative relationships were observed between the variable measuring rate variability and the rate of personal income growth. Indeed, replicating Table 8 but including Alaska and Hawaii in the regression actually strengthened the observed relationship. The expected negative relationship between the rate and income tax burden variables are also observed where the dependent variable is income growth per capita, although the results are far less robust.

To conclude, states put themselves in double jeopardy by enacting progressive rate individual income taxes. The income tax itself has negative growth effects, but those effects are compounded by the fact that progressivity in the rate structure very materially worsens the climate for growth in incomes and output.

**Cross Border Effects of Consumption Taxation**

While the evidence suggests that partial relief from the debilitating impact of income taxes can be obtained by moving to a flat rate system, why not simply abolish income taxes and increase sales taxes? Why have none of the states moved to substitute their income tax with a higher sales tax?

While several factors may be at work, a major administrative problem with sales taxes is that they are susceptible to avoidance and/or evasion if rates rise too high. Numerous studies suggest that the "cross border elasticity of demand" may be as high as five or six for products sold near state borders.[50] In other words, if the price of good A is five percent higher in State A than in nearby State B because of sales or excise taxes, the evidence is sales of the product in State A may be 25 to 30 percent lower as a consequence of the tax. It is no coincidence that Oregon, without a sales tax, has a ratio of retail sales to disposable income that is over 20 percent higher than the Nation as a whole, and far higher than its four neighbors that all impose general sales taxes.[51]

This becomes relevant to the national tax reform debate. A significant national sales tax would almost certainly lead to a very significant decline in retail sales in states bordering on Canada and Mexico, as well as some erosion elsewhere from tourists and others attempting to avoid high American taxes. The impact would not be inconsequential. For example, roughly 30 percent of Americans live in a state bordering on a foreign country. When the tax-induced price differentials grow large enough, organized smuggling could well bring further erosion of the tax base to interior parts of the country.

## POLICY IMPLICATIONS FOR THE NATIONAL TAX REFORM DEBATE

As the narrative above suggests, the 50 states have had widely divergent tax systems over time and place. No two states have identical structures of taxation. Accordingly, we have observed historically 50 different approaches to financing government -- and 50 different experiences of economic change. How do these

experiences inform the growing debate as to how to reform the federal income tax system?

In deciding the relevance of the experience of the states, the political process has to decide what national economic goals have priority. The historical evidence suggests that there has been a slowdown in the rate of economic growth in the United States. If one reads historical treatments of the American economy written in the 1970s, they suggest that the long term rate of annual economic growth in the United States is about 3.5 or 3.6 percent.[52] Yet the current conventional wisdom is that the sustainable rate of economic growth is about 2.5 percent a year.[53]

The compound interest effects of the difference between 2.5 and 3.5 percent economic growth are difficult to overstate as Table 9 demonstrates. The national output in 2005 with the higher growth rate would be more than 10 percent higher than with the existing 2.5 percent norm. But that differential would climb over 21 percent in 20 years, and to over 47 percent in 40 years. Per capita income would literally be thousands of dollars higher within a decade with 3.5 percent growth, allowing the nation greater affluence and less poverty. Accordingly, the economic growth effects of taxation legitimately may be considered a major consideration in the debate over federal tax reform.

**Table 9**

Impact On Total Output: 2.5 vs. 3.5 Percent Annual Growth Rate

| Year | GDP in Year With 2.5 Percent Annual Growth | GDP in Year With 3.5 Percent Annual Growth | Percent Differential |
|---|---|---|---|
| 1995 | 100.0 | 100.0 | 0.0 |
| 2005 | 128.0 | 141.0 | 10.2 |
| 2015 | 163.9 | 199.0 | 21.4 |
| 2035 | 268.5 | 395.9 | 47.8 |

1995=100

SOURCE: Author's calculations.

## Flat Rate Proposals

The most discussed congressional proposals to reform the federal tax system involve substituting a flat or near-flat rate tax for the existing tax which has a rate structure of from 15 to nearly 40 percent. Some of the so-called flat tax proposals in fact maintain graduated rate structures, and thus are best considered modifications of the existing tax. Yet other proposals in both houses of Congress would truly initiate a flat rate tax, typically with generous exemptions that would remove lower income Americans from the tax rolls.

Many Americans favor the flat tax approach because it would remove enormous amounts of complexity from the tax system, saving taxpayers perhaps two billion hours or more of time in tax preparation, and also freeing literally hundreds of thousands of participants in the "tax army" to work in more worthwhile pursuits. Others favor the flat tax because of a feeling it is fair, treating everyone the same except the poor, who are freed of the obligation of paying income taxes. By expanding the tax base, the flat tax to many people is a fairer tax in that it promotes horizontal equity-requiring persons of similar economic circumstance to pay the same amount to the federal government.

This study, however, provides another rationale for supporting flat rate taxes. The evidence from the states is that flat rate taxes promote the growth of income and output. If a nation is picking between two income taxes raising the same amount of money, the evidence from the states suggests that the flat rate tax will generate more income growth over the long term which, in turn, would allow the nation to ultimately lower its tax burden, reduce its deficit and then its national debt, increase government services, or a combination of the above.

In short, the state evidence is supportive of moving towards a true flat rate tax. The evidence also supports the proposition that the nation should try to minimize its federal income tax burden. While going to a flat tax in a revenue neutral fashion would be a very positive development, the evidence from the states suggests that a long term goal should be to reduce the income tax burden, to the extent a major goal is the maximization of economic growth.

## A National Sales Tax

The evidence from the states appears also to support moving towards a national sales tax. Consumption taxation seems to have a less harmful effect on economic growth than income taxation. Yet there are a number of reasons why the lessons of the states are less useful in evaluating the efficacy of a national sales tax than a flat rate income tax.

The nation already has income taxes at both the federal and state level, and typically those taxes are defined very similarly. Indeed, most states use federal adjusted gross or taxable income as the starting point in calculating the state tax. By contrast, there is no national sales tax, and the tax base varies considerably between the states on general sales taxes. Virtually no state taxes a wide variety of consumption items, such as legal, medical and educational services. Many do not even tax food.

Virtually all discussion of federal consumption taxes involves either a national sales tax to replace the income tax or a value added tax to be imposed in addition to existing taxes. With a minor partial exception for Michigan, the states have no experience with value added taxes. With respect to sales taxes, the highest sales tax collections in fiscal year 1992 in relation to personal income were in Louisiana, where revenues were undoubtedly augmented by unusually large tourist inflows. Louisiana collected sales tax revenues equal to 4.25 percent of personal income. The current federal individual income tax equals between nine and ten percent of personal income. Thus any national sales tax that replaces the income tax would have to have a much larger tax base and considerably higher tax rates than imposed by any of the states at the present time.

Thus no federal sales tax would be anything like existing state sales taxes in terms of magnitude or base. Inspection of state sales tax rates and revenues suggests that a federal tax that emulated the states with respect to the tax base would have to have a rate of about 20 percent, well over double any state experience. At those high rates, the problems of tax evasion and avoidance discussed above become very significant. Attempts to lower that rate by base expansion would raise severe equity issues. The nation might

hesitate, for example, to impose a federal sales tax of, say, 15 percent on open heart surgical procedures where a patient died, or on college tuitions, or on wheelchairs.

With the sales tax, proposed federal legislation is so far out of the range of state and local experience that interpolating from that experience would be injudicious and inappropriate. While it is possible that a federal sales tax that is radically larger and broader than current state and local taxes might have relatively benign economic effects, it would be highly speculative to assert that based on the state and local experience. By contrast, with respect to state and local income taxes, the rates imposed are well within the relevant federal experience, so the historical empirical evidence from the states are relevant to the current policy debate. The evidence is clear: moving to a flat rate income tax would be consistent with higher rates of growth in income and output.

## CONCLUSION

The experience of the American states and their localities tell us that taxes matter, and, indeed, they matter a great deal. While governments cannot control the sunshine, the availability of natural resources, or a variety of other factors, they can control the taxes that they levy. State and local governments that have maintained low taxes have grown faster than jurisdictions that have had relatively high tax burdens. Income taxes are particularly debilitating to the growth of incomes and output.

The empirical evidence is also clear, however, that a state with high progressive income taxes can improve its economic performance by lowering the overall tax burden and moving to a flat rate structure. This lesson is instructive to the current federal concern over the tax system. To the extent that the growth in income is a national economic objective, the evidence of the states supports a move to a federal flat rate income tax.

**ENDNOTES:**

1. See Marsha Blumenthal and Joel Slemrod, "The Compliance Cost of the U.S. Individual Income Tax System: A Second Look After Tax Reform," National Tax Journal, June 1992.

2. John Stuart Mill, Principles of Political Economy (London: Longmans, Green and Co., 1921), pp. 806-7. For a general discussion of rate structure within the context of the concept of the diminishing marginal utility of income, see Richard A. Musgrave, The Theory of Public Finance (New York: McGraw-Hill, 1959), chap.5.

3. See "Taxing Our Temperature on Taxes," The American Enterprise, March/April 1995, p. 102. A Louis Harris poll in late 1993 showed Americans were generally unhappy with the value they receive from federal taxes, with four out of every five stating that the value they received from the taxes paid to the federal government was fair or poor. See ibid., p. 101.

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

5. W.S. Oakland, "Local Taxes and Intraurban Industrial Location: A Survey," in George F. Break, ed., Metro Financing and Growth Management Policies (Madison, WI: University of Wisconsin Press, 1978).

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

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

8. Victor A. Canto and Arthur B. Laffer, "Report to the Governor: Recommendations for Economic Reforms in Puerto Rico," (Boston: H.C. Wainwright and Co., 1979), and Charles W. Kadlec and Arthur B. Laffer, An Analysis of Fiscal Policy and Economic Growth in Massachusetts (Rolling Hills Estates, CA: A.B. Laffer Associates, 1981.)

9. Richard K. Vedder, "State and Local Economic Development Strategy: A 'Supply Side' Perspective," Staff Study, Joint Economic Committee, Congress of the U.S. (Washington, D.C.: U.S. Government Printing Office, 1981).

10. Ibid., p.21.

11. For a more recent survey of this author's research on the tax-growth relationship, see "Tiebout, Taxes and Economic Growth," Cato Journal, Spring/Summer 1990.

12. Four representative examples: George Gilder, Wealth and Poverty (New York: Basic Books, 1981); Bruce R. Bartlett, Supply Side Economics in Action (Wesport, CN: Arlington Books, 1980); James Ring Adams, Secrets of the Tax Revolt (San Diego: Harcourt Brace Jovanovich, 1984), and Jude Wanniski, The Way the World Works (New York: Basic Books, 1978).

13. See, for example, Warren Brookes, The Economy in Mind (New York: Universe Books, 1982).

14. L. Jay Helms, "The Effect of State and Local Taxes on Economic Growth: A Time Series-Cross-Section Approach," Review of Economics and Statistics, 67 (4), November 1985.

15. Alaeddin Mofidi and Joe A. Stone, "Do State and Local Taxes Affect Economic Growth?" Review of Economics and Statistics, November 1990.

16. Bruce L. Benson and Ronald N. Johnson, "The Lagged Impact of State and Local Taxes of Economic Activity and Political Behavior," Economic Inquiry, July 1986.

17. Victor Canto and Robert Webb, "The Effect of State Fiscal Policy on State Relative Economic Performance," Southern Economic Journal, July 1987.

18. Wei Yu, Myles S. Wallace and Clark Nardinelli found negative tax-growth relationships, but not uniformly strong ones. See their "State Growth Rates: Taxes, Spending and Catching Up," Public Finance Quarterly, January 1991, and also Gerald Scully, "How State and Local Taxes Affect Economic Growth" (Dallas, TX: National Center for Policy Analysis, 1991). Scully observes strong negative relationships between taxes and growth.

19. Richard K. Vedder, "Federal Tax Reform: Lessons from the States," Cato Journal, Fall 1985; "Tithing for Leviathan: The Case for a Pure Flat Rate Tax," in Dwight Lee, ed., Taxation and the Deficit Economy (San Francisco: Pacific Institute for Public Policy Research, 1986).

20. William J. Hunter and Charles E. Scott, "Interstate Differences in Individual Income Taxes," Public Finance Quarterly, January 1986.

21. Thomas Romans and Ganti Subrahmanyam, "State and Local Taxes, Transfers, and Regional Income Growth," Southern Economic Journal, October 1979.

22. Keith Marsden, "Links Between Taxes and Economic Growth: Some Empirical Evidence," World Bank Staff Working Papers, no. 604 (Washington, D.C.: World Bank, 1983); Alan Reynolds, "Some International Comparisons of Supply-Side Policy," Cato Journal, Fall 1985.

23. Gerald Scully, "The Institutional Framework and Economic Development," Journal of Political Economy, June 1988.

24. Eric Engen and Jonathan Skinner, "Fiscal Policy and Economic Growth," NBER Working Paper #4223, December 1992.

25. Andrew Newell and James Symons, "Macroeconomic Consequences of Taxation in the 80's", Discussion Paper 121, London School of Economics Centre for Economic Performance, February 1993.

26. Three other studies reaching roughly similar conclusions include: Robert J. Barro, "A Cross-Country Study of Growth, Saving and Government," NBER Working Paper 2855 (Cambridge, MA: National Bureau of Economic Research, February 1989); Reinhard B. Koester and Roger C. Kormedi, "Taxation, Aggregate Activity and Economic Growth: Cross-Country Evidence on Some Supply-Side Hypotheses," Economic Inquiry, July 1989; and Sergio Rebelo, "Long-Run Policy Analysis and Long-Run Growth," Journal of Political Economy, June 1991.

27. Jariq van Sinderen, "Taxation and Economic Growth: Some Calculations with a Macroeconomic Semi-Equilibirum Model for the Dutch Economy (MESM)", Economic Modelling, July 1993.

28. Paul Cashin, "Government Spending, Taxes, and Economic Growth," International Monetary Fund Staff Papers, June 1995.

29. Ronald Grieson, William Hamovitch and Richard Morgenstern, "The Effects of Business Taxation on Industry," Journal of Urban Economics, April 1977.

30. Bernard Weinstein, "Tax Incentives for Growth," Society, March/April 1977, and Weinstein and Robert Firestine, Regional Growth in the United States: The Rise of the Sunbelt and the Decline of the Northeast (New York: Prager, 1978).

31. Joseph Gyourko and Joseph B. Tracy, "The Importance of Local Fiscal Conditions in Analyzing Local Labor Markets," National Bureau of Economic Research Working Paper 2040, October 1986.

32. Dennis W. Carlton, "The Location of Employment Choices of New Firms: An Econometric Model with Discrete and Continuous Endogenous Variables," Review of Economics and Statistics, August 1983; James A. Papke and Leslie E. Papke, "Measuring Differential State-Local Tax Liabilities and Their Implications for Business Investment Location," National Tax Journal, September 1986; Leslie E. Papke, "Subnational Taxation and Capital Mobility: Estimates of Tax-Price Elasticities," National Tax Journal, June 1987; Timothy J. Bartik, "Small Business Start-Ups in the United States: Estimates of the Effects of Characteristics of States," Southern Economic Journal, April 1989.

33. "Location of High Technology Firms and Economic Development," Staff Study, Joint Economic Committee of Congress (Washington, D.C.: U.S. Government Printing Office, 1983).

34. William F. Fox and Matthew N. Murray, "Local Public Policies and Interregional Business Development," Southern Economic Journal, October 1990.

35. Joseph Friedman, Daniel A. Gerlowski, Johnathan Silberman, "What Attracts Foreign Multinational Corporations? Evidence from Branch Plant Location in the United States," Journal of Regional Science, November 1992.

36. James R. Hines, Jr., "Altered States: Taxes and the Location of Foreign Direct Investment in America," National Bureau of Economic Research Working Paper 4397, July 1993.

37. Cletus C. Coughlin, Joseph V. Terza, and Vachira Aromdee, "State Government Effects on the Location of Foreign Direct Investment," Regional Science Perspctives, vol. 20, no. 1, 1990.

38. 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.

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

40. William A. Niskanen, "The Case for a New Fiscal Constitution," Journal of Economic Perspectives, Spring 1992.

41.Laurence J. Kotlikoff and Bernd Raffelhueschen, "How Regional Differences in Taxes and Public Goods Distort Life Cycle Location Choices,"

National Bureau of Economic Research Working Paper 3598, January 1991. See also Martin Cadwallader, "Metropolitan Growth and Decline in the United States: An Empirical Analysis," Growth and Change, Summer 1991.

42. Mohammed N. Islam, "Tiebout Hypothesis and Migration: Impact of Local Fiscal Policies," Public Finance, v. 44, no. 3, 1989.

43. Michael Wasylenko and Therese McGuire, "Jobs and Taxes: The Effects of Business Climates on States' Employment Growth Rates," National Tax Journal, December 1985.

44. 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.

45. 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.

46. Richard K. Vedder and Lowell E. Gallaway, "Spatial Dimensions of U.S. Unemployment," Journal of Labor Research, Spring 1996.

47. Helen F. Ladd and Katharine L. Bradbury, " City Taxes and Property Tax Bases," National Tax Journal, December 1988.

48. The mean tax burden is simply the average of state and local taxes per $1000 personal income in 1965 and 1992.

49. Sales taxes also rose, although far less than income taxes. The rise in sales tax burden was offset by falling excise and property tax burdens.

50. See Richard Vedder, "Bordering on Chaos: The Cross-Border Impact of Cigarette Taxes," in William Shughart, ed., Taxing Liberty: Predatory Politics and the Public Interest (Oakland, CA: the Independent Institute, forthcoming); Michael Walsh and Jonathan Jones, "More Evidence on the 'Border Tax' Effect: The Case of West Virginia, 1979-84," National Tax Journal, June 1988; State of Washington, Department of Revenue, "The Effects of Tax Rate Differences on Retail Trade in Washington Border Counties," Research Report 90-5 (Revised), Olympia, WA, 1990; John L. Mikesell, "Central Cities and Sales Tax Differentials, National Tax Journal, June 1970, and his "Sales Taxation and the Border Tax Problem," Quarterly Review of Economics and Business, Spring 1971.

51. Richard K. Vedder, "The Economic Impact of an Oregon Sales Tax," Portland, OR: Cascade Policy Institute, Fiscal Insight #7, October 1993.

52. See, for example, Robert Gallman, "The Pace and Pattern of American Economic Growth," in Richard Easterlin et al, American Economic Growth (New York: Harper and Row, 1972), or Richard Vedder, The American Economy in Historical Perspective (Belmont, CA: Wadsworth Publishing Co., 1976).

53. Some writers have lamented the growth slowdown of the recent past. See in particular Robert L. Bartley, "Giving Up on Growth?" Wall Street Journal, September 13, 1995, p.12.

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