

A Current Assessment of Arizona's Tax Competitiveness

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The state of Arizona significantly reformed its taxes during the 1990s, with sizeable reductions in personal income tax rates and notable changes in sales and property taxes. This article reviews the latest statistics and recent studies to assess the present burden of Arizona's state and local taxes. Arizona's tax burden is compared to those of competing western states and to the national average. Arizona compares favorably in household tax burden but unfavorably in business tax burden.

What is arguably the most satisfactory measure of the overall competitiveness of a state's taxes is the "tax effort" index given by the ratio of tax collections to tax capacity. Based on this measure, Arizona would be considered a medium-to-low tax state. Its tax burden in fiscal year 1996 (July 1, 1995 through June 30, 1996) ranked 28th among the 50 states and was 94 percent of the national average. Given known reductions in Arizona's income and property taxes that became effective after fiscal year (FY) 1996, the relative burden of the state's taxes is likely to be even lower today.

More striking than the overall level of Arizona's taxes, however, is their distribution between businesses and households. The percentage of Arizona's taxes initially incident on business is well above the national average. Data from the mid-1990s indicate that the business share of Arizona's taxes ranks in the top 15 among all U.S. states and in the top 10 among states that do not rely heavily on severance taxes (those levied on the extraction of natural resources). Representative-firm studies that calculate the effect state and local taxes have on rates of return to new investment in key manufacturing and service industries also show Arizona to be a high business tax state, with one of the highest effective tax rates among the western states. Most onerous are taxes levied on commercial and industrial property.

While businesses in Arizona are taxed heavily, households are taxed lightly, relative to other states. This is especially true for high-income families. Recent surveys by *Money* and *Kiplinger's Personal Finance Magazine* rank the burden of Arizona's taxes on individual households at 37th and 43rd in the nation, respectively.

Whether it is desirable that taxes be low in Arizona is a complicated issue, depending in part on the expenditure needs of the state. Whether businesses should be taxed heavily depends on the merits of a case for business taxation. The final section of the paper offers some thoughts on the optimality of Arizona's taxes.

RECENT TAX REFORMS

Arizona has experienced rapid economic growth over the past decade. As tax bases have swelled, legislators have been afforded an opportunity to enact rate reductions in many of the state's taxes. Most of the reforms in Arizona have been made at the state level. However, for interstate comparisons, state and local taxes must be combined since a given tax may be levied at the state level in one state but at the local level in another.

Table 1 details the most notable reforms in Arizona state tax law and provides estimates of their impact on revenues. The most significant reforms in Arizona have been in the individual income tax. Income tax rates first were reduced in the Middle Income Tax Relief Act of 1994. As suggested by its title, the new law concentrated tax relief on lower- and middle-income brackets. Legislators reduced income tax rates again in 1995, extending rate reductions more uniformly across tax brackets. The 1995 law left each bracket's rate approximately 20 percent below its 1990 level. Together the two reforms reduced annual revenues some \$320 million. Income taxes were reduced again in 1997 through further rate reduction and an increase in the

personal exemption. The 1997 law lowered annual revenues an additional \$230 million by FY 1999.

Two other recent state tax law changes are noteworthy. In 1993 the state initiated a phaseout of the sales tax on commercial lease properties, from 4 percent in FY 1994 to zero in FY 1998. By FY 1998 annual state revenues were some \$115 million lower because of this exemption. This represents approximately 3 percent of total state and local revenues from the general sales tax. In 1996 the state substantially reduced its tax rate on real and secured property, taking total collections down from \$188 million in FY 1996 to \$51 million in FY 1997. The drop in the state rate served to reduce total state and local property taxes by roughly 5 percent.

Taken together, state tax law changes enacted since 1993 have reduced total state and local taxes by approximately 10 percent.

MEASURING TAX COMPETITIVENESS

Two general approaches are used to compare tax burdens across states. Both are surveyed in this paper. One approach is to define a representative household (with particular income and spending habits) or business (with particular capital requirements and demands for intermediate goods and services) and then use state tax codes to calculate the tax liability of the household or business in alternative states. The results are highly specific to the assumed conditions, but an accurate and current analysis can be made. When measuring business tax burden in this way, the standard approach is to calculate the “effective tax rate”—the percentage effect state and local taxes have on the internal rate of return on a new investment. This measure of tax burden is comparable across industries, and it explicitly accounts for the time value of such tax provisions as depreciation schedules, property tax abatements, and sales taxes on purchases of capital goods.

A second approach to comparing tax burdens across states is to standardize total tax collections by some measure of size of state, such as tax capacity, population or personal income. This approach offers a broad assessment of tax burden across many types of households and businesses. The disadvantages of the approach are that data on tax collections are only available with a lag of several years and, with coverage so broad, the results may not be accurate when applied to particular types of households or businesses.

The measure of aggregate tax burden considered most satisfactory by public finance economists is the “tax effort” index developed by the U.S. Advisory Commission on Intergovernmental Relations (ACIR). The index is calculated by taking the ratio of a state’s tax collections to its tax capacity as defined by the Representative Tax System (RTS). The RTS evaluates tax capacity by applying national average tax rates to commonly used tax bases, with the tax capacity index calculated as the per capita tax capacity in a state divided by the per capita average of all states. The ACIR calculated an RTS tax effort index for each state intermittently throughout the 1980s and last calculated the index for FY 1991. The agency is now defunct. Fortunately, Robert Tannenwald of the Federal Reserve Bank of Boston has provided updated estimates of tax capacity for FY 1996. These estimates are used to calculate tax effort indexes for FY 1996.

Measures of aggregate tax burden that are more easily produced and more commonly reported are a per capita measure, calculated by dividing tax revenues by state population, and a measure that divides tax revenues by state personal income. Two states will necessarily compare differently under these two measures whenever their per capita incomes differ. Historically, Arizona’s per capita income has been below the national average (only 85 percent of the national

figure in FY 1996, ranking 36th among the 50 states). Thus Arizona's relative tax burden always appears lower when measured per capita rather than per dollar of personal income.

Of these latter two measures—the per capita measure and the income measure—which is better? The per capita measure is well suited to answering the question “Does the average Arizona resident pay more or less in taxes than the average U.S. resident?” But the issue of tax competitiveness involves a somewhat different question: “Would the taxes of an out-of-state household or business go up or down if it moved to Arizona?” The average Arizona household has more members per worker than the U.S. average, and the average earnings of its workers are below the national average. If all states had identical tax systems with identical tax rates, Arizona's per capita taxes would be lower than the national average. However, a household moving to Arizona with its own demographics and earnings would find its tax bill unchanged, not reduced. Taxes are not lump sum. They are levied as a percentage of the value of an economic base. Since income is itself an important base in state taxation and since income correlates with other tax bases such as sales and property, the personal income measure of aggregate tax burden would seem in principle to be a more reliable indicator of tax competitiveness.

Both the per capita and income measures overstate resident tax burden for states that “export” an unusually high percentage of their taxes. States such as Alaska and Wyoming export tax burden by taxing immobile mineral wealth owned largely by out-of-state residents. Other states, including Arizona, achieve significant tax exporting through sales and residential property taxes on tourists and seasonal residents. Thus, the tax burden on Arizona residents is overstated by these measures.

Historically, the RTS measure has portrayed Arizona's relative tax burden as being lower than that suggested by the personal income measure [Rex, “The Facts of the Matter: Arizona's Tax Cuts,” *Arizona Policy Choices*, Morrison Institute for Public Policy, November 1997]. The upward bias in the income measure derives from the fact that Arizona's share of sales and residential property in the nationwide tax base is greater than its share of U.S. personal income. This, in turn, reflects the relative importance of tourists and seasonal residents to the state. In FY 1991, Arizona accounted for 1.5 percent of the national sales tax base and 1.7 percent of the residential property tax base but only 1.3 percent of U.S. personal income. This caused the personal income measure of Arizona's relative tax burden to be 9 percent higher than the RTS measure in that year. An appendix provides a more formal discussion of the sources of difference between the RTS and personal income measures.

In summary, of the two measures of aggregate tax burden that are most easily calculated and most commonly reported—the per capita measure and the personal income measure—the income measure is in principle a better indicator of a state's tax competitiveness. In the case of Arizona, however, where the ratios of sales and residential property values to income are higher than the national average, the personal income measure has an upward bias when judged against the RTS tax effort index. The drawback to the RTS measure is that it is difficult to calculate and is no longer produced on a regular basis. If the question of tax competitiveness is focused more narrowly on a specific type of household or business rather than on the entire state economy, all of this ambiguity can be avoided. Tax competitiveness can be measured satisfactorily using the representative agent approach.

OVERALL TAX COMPETITIVENESS

Table 2 shows alternative measures of Arizona's aggregate tax burden and makes comparisons with competing western states. Tax revenues cover all state and local taxes. The figures are for FY 1996, the latest year for which information on state and local tax collections is available for all states.

The tax burden in Arizona was \$2,293 per person, 88 percent of the national average. Arizona ranked 29th among all U.S. states in per capita taxes. When measured as a percent of personal income, however, Arizona's taxes were 103 percent of the national average and ranked 16th in the nation. The per capita measure tends to present an unrealistically favorable view of Arizona's tax rates to prospective migrants because it does not consider the state's lowered ability to pay taxes because of the relatively low per capita income. On the other hand, both measures overstate tax burden because of the relatively high percentage of taxes that Arizona exports to out-of-state residents.

The most satisfactory measure of overall tax competitiveness is the RTS tax effort index. According to this measure, tax effort in Arizona was 94 percent of the national average, 28th highest among the 50 states. On this basis, Arizona could be considered a medium-to-low tax state. These figures are based on tax collections in FY 1996. In view of the significant rate reductions Arizona enacted from FY 1997-1999, the state's relative tax burden likely would appear lower if measured using more current information.

Arizona is a medium-to-low tax state on a nationwide basis but a medium tax state when compared with other western states. Seven of the ten states in Table 2 have an RTS tax effort index below 100. Arizona ranks fourth in the region, and its tax effort is significantly greater than that of Nevada, Colorado, and Oregon. States in the region with tax effort above the national average are Washington, New Mexico, and California.

DIVIDING THE TAX BURDEN BETWEEN HOUSEHOLDS AND BUSINESSES

Taxes levied on businesses may be shifted to workers in the form of lower wages and/or to consumers in the form of higher prices. Thus, it is difficult to know how much of any given tax is ultimately paid for by households, either as consumers or as workers, and how much is paid for by businesses. To avoid having to make controversial assumptions, tax policy researchers customarily allocate tax burdens between households and businesses according to initial incidence. A business tax is defined as any levy that would in the absence of price adjustments reduce business net income. Included in this definition are corporate profits and franchise taxes, severance taxes, real and personal property taxes on business assets, and sales and gross receipts taxes on a firm's purchase of equipment, services, and materials. Taxes that are initially incident on households include individual income taxes, residential property taxes, and general and selective sales taxes on items purchased by consumers.

Table 3 shows estimates from a recent study by the Institute on Taxation and Economic Policy of the percentage of state and local taxes that are initially incident on business. The estimates were prepared using data from the mid-1990s. Arizona ranked 14th highest among the 50 states in business tax share. Of the 10 states with the highest business tax shares, five rely heavily on severance taxes (raising at least 5 percent of total state and local revenues). Among the 42 states that do not rely heavily on severance taxes, Arizona ranked eighth in business tax share. Within the western region, Arizona joined Texas and Washington as states that raised an unusually high percentage of state and local revenues with business taxes and did so by primarily taxing mobile business capital rather than immobile mineral wealth.

Table 4 shows figures on household and business tax burdens calculated by combining the estimates of business tax shares with Census Bureau data on total state and local tax collections in FY 1996. The tax burdens are presented as rates per \$1,000 of personal income for household taxes and per \$1,000 of gross state product for business taxes. The results suggest that while Arizona could be considered a medium-to-low tax state in terms of overall tax burden, it is more accurately thought of as a low tax state for households and a high tax state for businesses. Arizona's household tax burden was 98 percent of the national average, ranking 32nd among the 50 states and fourth among the 10 states in the region. Arizona's business tax burden, on the other hand, was 11 percent above the national average, ranking 14th highest in the nation and tied for second with Texas in the region. Washington's rate of business taxation is the highest in the region, well above Arizona's rate. Western states with taxes most favorable to business included Nevada, Oregon, and Colorado.

The Utah State Tax Commission regularly prepares estimates of household and business tax burdens for selected states in the western region. Tables 5 and 6 show their most recent estimates for FY 1998. These figures are current enough to capture all of Arizona's recent property tax reform (effective FY 1997) and half of the effect of the reduction in state income tax rates phased in over fiscal years 1998 and 1999. The results from the Utah study are similar to those in Table 4. Arizona is depicted as a low tax state for households but a high tax state for business. Out of the seven states in the region, Arizona ranked sixth in household tax burden, with a rate 94 percent of the regional average. Arizona taxed sales heavily, but this was more than offset by the state's low personal income tax rates. Arizona's rate of business taxation, on the other hand, was 9 percent above the regional average, ranking second among the seven states. Most responsible for this ranking was the state's high rate of business property taxation, but the burden on business from sales taxes also was high.

HOUSEHOLD TAX BURDENS: REPRESENTATIVE HOUSEHOLD CALCULATIONS

An alternative approach to assessing tax competitiveness is to compare tax liabilities calculated from state and local tax codes for a household or business with given economic characteristics. Shown in Table 7 are the results of two recent studies of alternative household tax liabilities—one from *Money* (January 1997), with calculations based on 1996 tax law, and another from *Kiplinger's Personal Finance Magazine* (October 1998), with calculations for 1998. The *Kiplinger* study is timely enough to account for Arizona's 1996 state property tax reforms and half of the phase-in of 1997 income tax reforms. The *Money* study incorporates only those tax law changes made in or before 1995. The base household in each study is relatively affluent, with an income of almost \$90,000 in the *Money* study and \$75,000 in the *Kiplinger* study. The most significant difference in assumptions made concerns housing. In the *Money* study, property taxes are based on what households in different metro areas commonly pay on a 2,200 square foot home. Geographic differences in property tax payments then reflect both differences in tax rates and property values. In the *Kiplinger* study, households are assumed to pay taxes on a \$250,000 home, regardless of location. States with high property values, such as California, rank considerably higher in tax burden in the *Money* study.

Table 7 supports what was suggested in the previous section—that Arizona imposes a relatively light tax burden on individual households. In the *Money* study, Arizona's taxes were 85 percent of the national average, and the state ranked 37th lowest in the nation. The results are even more striking in the *Kiplinger* study, where Arizona's taxes were only 68 percent of the national average and the state ranked 43rd in the nation. Low income and property taxes drive

Arizona's low tax rating. The state's sales tax burden was slightly higher than the national average.

Arizona's approach to individual taxation—a low overall burden and a heavy reliance on sales taxes—is common among western states. Using results from the *Kiplinger* study, eight of the 10 competing regional states have a total household tax burden that is lower than the national average. The 10-state average income tax burden is only 78 percent of the national average, and the average regional property tax burden is 86 percent of the national average. The 10-state sales tax burden, on the other hand, is 103 percent of the national average.

While many western states have pursued a strategy of low individual taxation, Arizona has been especially aggressive in this approach. In the *Kiplinger* study, Arizona ranks eighth lowest out of the 10 regional states in terms of total individual tax burden. The only states with lower burdens are Nevada and Washington.

BUSINESS TAX BURDENS: REPRESENTATIVE FIRM CALCULATIONS

Two recent studies by the Barents Group of KPMG Peat Marwick used the effective tax rate approach to assess the burden of business taxes in Arizona and neighboring states. One of these studies was commissioned by economic development officials in the state of New Mexico and was based on 1996 tax law. The other study was prepared for the Arizona Tax Research Foundation (ATRF) and used 1997 tax laws. Both studies exhibit a high degree of professionalism and are sufficiently current to provide an accurate impression of Arizona's present tax competitiveness (although the New Mexico study would not have incorporated Arizona's 1996 property tax reforms).

Taxes included in the two studies were the corporate income and franchise tax, the property tax, and the sales or gross receipts tax. The analyses incorporate not only rate structure but detailed information on the way tax bases were defined. With regard to corporate taxation, details on apportionment formulas were considered, and the analyses included franchise taxes based on net worth. Property taxes were modeled to reflect any exemptions available for inventory and machinery, and property tax rates allowed for variations in assessed-to-market value ratios.

The analyses covered Arizona and eight other regional states. Because local taxes figured prominently in the calculations and because property tax rates vary significantly across cities within a state, the results were specific to a particular city within a state. In the New Mexico study, the authors selected cities that had approximately the same property tax rate as the average for their state. In the ATRF study, more emphasis was placed on choosing cities that were felt to be in direct competition with the Tucson and Phoenix areas.

Effective tax rates were calculated for each of seven industries in the New Mexico study and eight industries in the ATRF study. Industries selected were export-based, footloose industries of common interest to economic development agencies, including such high-tech manufacturing industries as electronic components, aircraft and parts, and instruments and such service industries as call centers and business services. A "representative firm" was constructed for each industry using financial ratios that reflect the actual experience of firms in the industry.

Table 8 summarizes the findings in the New Mexico report. The table shows average effective tax rates by state and type of tax. Table 9 presents results from the ATRF study. The average overall effective tax rate across all states was approximately 7 percent. This means that investment projects that would in the absence of business taxes yield a 10 percent rate of return would yield an after-tax return of 9.3 percent.

Both studies indicate that Arizona imposed the greatest tax burden on business of any state in the region, with an effective tax rate that was well above average. In the New Mexico study, Arizona's total tax rate was 1.5 times the regional average. In the ATRF study, Arizona's rate was 1.8 times the regional average when measured using Tucson's taxes and 1.5 times the average when computed using Chandler's taxes. The tax most responsible for Arizona's high tax rating was the business property tax. In the New Mexico study, for example, the property tax accounted for 2.4 percentage points of the 4.0 percentage point difference between Arizona's total effective tax rate and the regional average. Corporate income taxes accounted for 0.9 points of the difference, and sales taxes made up the remaining 0.7 points.

According to the New Mexico study, Texas ranked second highest in business tax burden with an overall effective tax rate that was less than a percentage point lower than Arizona's rate. In the ATRF study, on the other hand, Texas ranked third, with a tax rate 4 to 6 percentage points lower than that in Arizona. The reason for the difference in findings is that the ATRF study used Austin as the reference city for Texas, and Austin's property taxes were lower than the statewide average. Austin was selected for the study because it was considered to be the Texas city in closest competition with Arizona for key high-tech industries. Other western states fell well below Arizona in terms of business tax burden. In the New Mexico study, for example, California, Colorado, Oklahoma, Oregon, and Utah had virtually identical effective tax rates that were about one-half the size of Arizona's rate. Nevada ranked as the lowest tax state in both studies.

The results from the Barents Group studies, especially those in Table 8, are very similar to the results for the business taxes per \$1,000 of gross state product measure presented earlier in Table 4. The state of Washington was not considered in the Barents Group studies but presumably would have had a higher business tax ranking than Arizona had it been considered. The relative positions of states common to both Tables 4 and 8 are almost identical. Texas has a measured business tax burden equal to Arizona's in Table 4 but slightly lower than Arizona's in Table 8. This may be due to the fact that the analysis behind Table 4 included severance taxes in the group of business taxes while the Barents Group study did not, and severance taxes are more important to Texas than they are to Arizona. The measures of business tax burden in Table 9, while perhaps more relevant for the issue of tax competitiveness, are less comparable to those in Table 4 because of the way cities were selected.

Table 10 provides detail from the ATRF study on effective tax rates in individual industries. Arizona is highly non-competitive in every industry. The state's effective tax rates were highest in service industries, such as professional services, business services, and telecommunications. The tax burden on manufacturers is uniform and much lower. Property taxes are most responsible for the high tax rates in professional services and telecommunications. Sales taxes contribute significantly to the high tax burden in business services. The industry pattern of tax burdens in other states is similar to that in Arizona. The highest rates are found in professional and business services, and the rates faced by manufacturers are fairly uniform.

POLICY IMPLICATIONS

In an age of high mobility of people and business, public officials are ever mindful of how their state's tax burden compares with other states. This is true whether the official is growth-oriented or focused on the present electorate, for a state with a fiscal climate that appears unattractive to new investors is also likely to appear unattractive to insiders looking out.

In relation to other states, Arizona is a medium-to-low tax state overall. But the composition of its taxes is heavily skewed toward those that are initially incident on business. With the exception of Washington, Arizona imposes the highest tax burden on business of any state in the region. Is this a good tax structure or one in need of reform? There are two separate issues: First, is the overall level of taxation appropriate? And second, what are the reasons for the heavy emphasis on business taxation?

Taxes cannot be judged independently of the public services they are used to finance. One approach to the question of what is the right overall level of taxation is to ask whether public service delivery in Arizona is in line with public demand. This is a difficult issue and one on which two people looking at the same data may disagree. But if Arizona does not wish to be a radical model of state and local public finance, a case can be made that public service delivery in the state is presently too low and, consequently, that taxes are too low.

This conclusion follows from a recent analysis by Robert Tannenwald of the fiscal needs of U.S. states. Tannenwald estimated what each state would have to spend, in per capita terms, to provide the “standard” or nationally representative bundle of government services. Estimates of a state’s standard expenditures were made by starting with national spending figures and then making adjustments to reflect special fiscal circumstances in each state, including differences in the cost of inputs (especially labor) and “workload” factors such as the size of the school-age population, poverty rates, and per capita vehicle-miles traveled. His results, indexed to actual national per capita spending (for Arizona and other regional states), are shown in Table 11. For interpretation, figures on actual per capita expenditures are also included. All data are for FY 1996.

On a per capita basis, Arizona’s expenditures were only 85 percent of the national average. But to provide a standard level of public services (assuming an average degree of government efficiency), expenditures should be 105 percent of the national average. Arizona was not alone in the region in having a shortfall of expenditures relative to fiscal needs. Deficiency in public service delivery also appears to be a serious problem in Texas and New Mexico. But the point is clear. If the optimality of tax levels is judged by relative levels of service delivery, it is easier to make the case that Arizona’s taxes are too low than too high.

There is another sense in which Arizona’s taxes may be too low. According to a recent study by Harold Hovey, Arizona has a *structural* budget deficit and will not be able to support even current service levels without an increase in tax rates (“State Spending for Higher Education in the Next Decade,” <http://www.highereducation.org>). Hovey made baseline budget forecasts for each U.S. state using standard demographic projections from the U.S. Census Bureau and the economic assumptions used by the U.S. Congress in its budget deliberations. The results indicate that, in most U.S. states, revenue growth over the next decade will be insufficient to keep pace with the growth in expenditures needed to maintain current service levels.

Arizona’s projected shortfall is especially large. The state ranks 44th in the nation with a projected deficit of 10 percent by the year 2006. The structural deficits in state budgets have been hidden recently by unusual factors such as above-trend national economic growth, extraordinary returns on state pension funds, and large flows of federal aid to states that are unlikely to be sustained. In addition, many states and localities rely heavily on a sales tax applied primarily to goods purchased in traditional ways. With consumer spending shifting to untaxed services, and with spending on goods shifting to untaxed on-line sources, the sales tax is failing to keep pace with overall economic growth.

A notable feature of Arizona's taxes is the heavy emphasis on business taxes. Is there a case for business taxation? The most compelling reason to tax businesses is to recover the costs of services rendered to the business community. Good tax policy should charge businesses and households with the true costs of providing public services. By shifting the tax burden toward the business sector, businesses are overcharged for their consumption of public services, which can act as a deterrent to business attraction, expansion and retention. The non-business public are undercharged for public services, which can result in overconsumption, for example of water.

If business taxes are judged in this way, most states overtax business. Using data for 1992, Oakland and Testa found that, on a nationwide basis, state and local taxes paid by businesses were 1.7 times the level of expenditures that could reasonably be considered to benefit business ("State-Local Business Taxation and the Benefits Principle," Federal Reserve Bank of Chicago *Economic Perspectives*, Jan/Feb 1996). States make heavy use of business taxes for political reasons. Business taxes have low visibility among voters. Most citizens do not pay these taxes directly, and they are unaware of the burden they bear through higher prices or lower wages.

For Arizona to remain competitive in the market for mobile business capital, business taxes need to be reduced, especially property taxes. But if Arizona is to provide a bundle of public services that is up to national standards, overall tax effort may have to be increased. The implication is that household taxes will have to be raised. Arizona relies heavily on sales taxes, particularly as a source of new revenue needs. But sales taxes are not keeping pace with economic activity. This leaves residential property and personal income as the most logical bases to tax more heavily. However, it may be difficult politically to rescind the tax cuts of recent years even if the public recognizes a need for improved public services, especially since tax increases require a two-thirds majority in the state legislature.

TABLE 1
RECENT MAJOR CHANGES IN ARIZONA STATE TAX LAW

	Fiscal Year First Effective	Revenue Impact in First Year (in millions)
INDIVIDUAL INCOME TAX:		
Laws 1994, Chapter 41 contained the major components of the Middle Income Tax Relief Act of 1994. The act reduced individual income tax rates in all brackets, with the largest reductions for brackets with taxable income of \$50,000 or less.	1995	-\$121
Laws 1995, 1st Special Session, Chapter 9 reduced individual income tax rates for the second year in a row. The new law left each bracket rate approximately 20% below its 1990 level.	1996	-200
Laws 1997, 1st Special Session, Chapter 8 lowered individual income taxes through rate reduction and an expanded personal exemption for married couples with at least one dependent.	1998	-111
PROPERTY TAX:		
Laws 1996, 7th Special Session, Chapter 2 eliminated the \$0.47 per \$100 net assessed valuation state rate and reduced the "qualifying tax rate" used in the state school funding formula.	1997	-142
SALES TAX:		
Laws 1993, 2nd Special Session, Chapter 9 phased out the Transaction Privilege Tax imposed on commercial lease properties. The phase-out period began with FY 1994 and extended through FY 1998.	1994	-114*

*Value in FY 1998 of all reductions in taxes on commercial lease properties made from FY 1994 through FY 1998.

Source: Joint Legislative Budget Committee.

TABLE 2
ALTERNATIVE MEASURES OF AGGREGATE TAX BURDEN
 State and Local Taxes, Fiscal Year 1995-96

	Taxes per Capita	National Rank	Taxes per \$1,000 of Personal Income	National Rank	RTS Tax Effort Index*	National Rank
Arizona	\$2,293	29	\$117.5	16	93.9	28
California	2,714	14	114.2	24	101.4	15
Colorado	2,424	25	101.7	45	81.8	44
Idaho	2,143	38	115.2	22	91.6	30
Nevada	2,666	15	113.7	25	72.8	50
New Mexico	2,270	30	127.7	7	102.8	12
Oregon	2,265	31	106.6	38	84.6	42
Texas	2,139	39	102.1	44	90.5	32
Utah	2,123	40	119.4	14	88.8	37
Washington	2,803	10	120.2	12	103.7	11
United States	2,598		113.7		100.0	

*Tax revenues as a percent of tax capacity, relative to the nation

Source: Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University. State and local taxes and population (July 1, 1996) are from the U.S. Bureau of the Census. State personal income (calendar year 1995) is from the U.S. Bureau of Economic Analysis. Estimates of tax capacity are from Tannenwald, "Fiscal Disparity Among the States Revisited," Federal Reserve Bank of Boston *Economic Review*, July/August 1999.

TABLE 3
BUSINESS SHARE OF STATE AND LOCAL TAXES, CIRCA 1995

	Tax Share	National Rank		Tax Share	National Rank		Tax Share	National Rank
Alaska*	88.4	1	New York	41.4	18	Idaho	36.3	35
Wyoming*	65.8	2	Rhode Island	41.3	19	Missouri	36.2	36
Texas	54.0	3	Mississippi	40.8	20	Kansas	35.9	37
Washington	50.6	4	Maine	40.5	21	Utah	35.8	38
Florida	46.6	5	New Mexico*	40.2	22	Massachusetts	35.6	39
North Dakota*	46.6	6	Delaware	39.4	23	South Carolina	35.4	40
Illinois	46.2	7	Georgia	38.9	24	Nevada	35.2	41
Montana*	45.9	8	California	38.7	25	Oregon	34.9	42
Indiana	45.5	9	Pennsylvania	38.4	26	Oklahoma*	34.3	43
Louisiana*	44.9	10	Vermont	38.4	27	Wisconsin	33.3	44
Tennessee	44.4	11	Iowa	38.1	28	Kentucky	32.8	45
South Dakota	44.2	12	Nebraska	37.7	29	Ohio	32.7	46
West Virginia*	44.2	13	Connecticut	37.6	30	North Carolina	31.7	47
ARIZONA	43.4	14	New Jersey	37.6	31	Alabama	31.4	48
New Hampshire	42.5	15	Colorado	37.0	32	Virginia	30.7	49
Minnesota	42.1	16	Hawaii	37.0	33	Maryland	25.6	50
Michigan	41.8	17	Arkansas	36.3	34			

* Severance taxes account for at least 5% of total state and local taxes.

Source: Institute on Taxation and Economic Policy, as reported in *State Policy Reports*, Vol. 15, Issue 17, p. 15.

TABLE 4
HOUSEHOLD AND BUSINESS TAX BURDENS, FISCAL YEAR 1995-96

	Household Taxes per \$1,000 of Personal Income	National Rank	Business Taxes per \$1,000 of Gross State Product	National Rank
Arizona	\$66.51	32	\$42.60	14
California	70.02	22	36.30	26
Colorado	64.10	36	31.60	39
Idaho	73.40	18	34.40	32
Nevada	73.70	17	31.00	42
New Mexico	76.38	9	38.00	23
Oregon	69.39	24	31.30	41
Texas	46.98	48	42.60	13
Utah	76.67	8	33.40	35
Washington	59.40	40	52.00	2
United States	68.00		38.40	

Source: Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University. Gross state product is from the U.S. Bureau of Economic Analysis. Estimates of percent of taxes incident on business are from the Institute on Taxation and Economic Policy, as reported in *State Policy Reports*, Vol. 15, Issue 17, p.15.

TABLE 5
HOUSEHOLD TAX BURDENS, FISCAL YEAR 1997-98
 (Per \$1,000 of Personal Income)

	Income and Estate	Property	General Sales	Total Major Taxes
Arizona	\$16.31	\$17.56	\$26.75	\$67.26
California	33.90	14.11	21.22	75.60
Colorado	30.06	12.81	19.74	68.42
Idaho	31.84	16.96	16.96	75.58
Oregon	44.08	19.59	0.00	70.68
Utah	33.66	16.36	26.92	84.98
Washington	0.57	17.85	26.42	56.50
Average	27.20	16.46	19.72	71.29

Source: Utah State Tax Commission.

TABLE 6
BUSINESS TAX BURDENS, FISCAL YEAR 1997-98
 (Per \$1,000 of Gross State Product)

	Income and Estate	Property	General Sales	Total Major Taxes
Arizona	\$4.36	\$13.66	\$10.94	\$33.84
California	5.65	8.24	9.37	28.37
Colorado	2.09	12.17	9.57	27.20
Idaho	4.01	11.87	8.06	30.43
Oregon	4.42	9.88	0.00	23.29
Utah	3.54	9.49	9.74	29.00
Washington	10.76	11.15	13.96	43.99
Average	4.98	10.92	8.81	30.88

Source: Utah State Tax Commission.

TABLE 7
HOUSEHOLD TAX BURDENS: REPRESENTATIVE HOUSEHOLD CALCULATIONS*

	<i>Money</i>		<i>Kiplinger's</i>				
	Total Taxes	National Rank	Income	Property	Sales	Total Taxes	National Rank
Arizona	\$7,271	37	\$1,560	\$2,500	\$685	\$4,745	43
California	10,269	13	2,192	2,750	780	5,722	39
Colorado	7,639	34	2,620	1,875	654	5,149	41
Idaho	9,398	21	3,793	4,125	748	8,666	8
Nevada	5,246	46	0	2,750	683	3,433	49
New Mexico	6,964	39	2,329	2,875	911	6,115	37
Oregon	9,654	16	4,576	3,750	0	8,326	12
Texas	6,435	40	0	5,875	780	6,655	30
Utah	8,590	25	3,389	1,875	905	6,169	36
Washington	6,319	43	0	3,375	795	4,170	46
Mean across 50 states	8,580		2,627	3,695	677	6,998	

*Tax burdens are calculated by applying state and local tax rates to the tax base of a family with particular income, spending patterns, and housing demand. In the *Money* magazine study, the representative household has income of \$88,764 and owns/occupies a 2,200 square foot home. In the *Kiplinger's* study, the household has income of \$75,000 and pays property taxes on a \$250,000 home.

Sources: "Slash Your State and Local Taxes 20%," *Money*, January 1997, and "Taxing Geography," *Kiplinger's Personal Finance Magazine*, October 1998.

TABLE 8
BUSINESS TAX BURDENS: NEW MEXICO STUDY
 Seven-Industry Average Effective Tax Rate by State and Type of Tax*

	Income	Property	Sales	Total
Arizona (Tucson)	2.9%	5.6%	2.9%	11.5%
California (Sacramento)	3.3	1.5	2.0	6.7
Colorado (Pueblo)	1.9	2.9	1.5	6.3
Nevada (Reno)	0.6	1.7	2.1	4.5
New Mexico (Albuquerque)	2.0	1.9	4.6	8.6
Oklahoma (Oklahoma City)	2.5	2.5	1.2	6.3
Oregon (Eugene)	2.2	4.2	0.0	6.4
Texas (Lewisville – Dallas area)	1.0	6.4	3.5	10.9
Utah (Taylorsville – Salt Lake area)	1.9	2.3	2.2	6.4
Average	2.0	3.2	2.2	7.5

* Figures shown are averages of effective tax rates calculated separately for each of the following industries: food preparation, electrical lighting, electrical components, laboratory instruments, surgical and medical instruments, catalogue and mail order telecommunications, and business services.

Source: Barents Group and KPMG Peat Marwick, "New Mexico Business Tax Competitiveness Study," May 15, 1997.

TABLE 9
BUSINESS TAX BURDENS: ARIZONA TAX RESEARCH FOUNDATION STUDY
 Eight-Industry Average Effective Tax Rate by State and Type of Tax*

	Income	Property	Sales	Total
Arizona (Tucson)	2.9%	7.7%	2.5%	13.1%
Arizona (Chandler)	2.9	5.8	2.5	11.2
California (Riverside)	3.2	2.0	1.9	7.1
Colorado (Colorado Springs)	1.9	4.2	1.4	7.5
Nevada (Las Vegas)	0.3	1.9	2.0	4.2
New Mexico (Albuquerque)	2.1	0.4	2.9	5.4
Oklahoma (Oklahoma City)	2.5	2.0	1.1	5.6
Oregon (Portland)	2.2	2.6	0.0	4.8
Texas (Austin)	1.0	3.8	2.3	7.1
Utah (Salt Lake City)	2.0	3.1	1.8	6.9
Average	2.1	3.4	1.8	7.3

* Figures shown are averages of effective tax rates calculated separately for the following industries: primary nonferrous metals, electronic components, aircraft and parts, measuring devices, telephone communications, business services, healthcare, and professional services.

Source: Barents Group and KPMG Peat Marwick, "State and Local Revenue Impacts of Electric Utility Deregulation in Arizona," April 10, 1998.

TABLE 10
BUSINESS TAX BURDENS: ARIZONA TAX RESEARCH FOUNDATION STUDY
 Effective Tax Rates by Industry and Type of Tax

	Electronic Components	Measuring Devices	Business Services	Primary Metals	Aircraft	Telecom- munications	Healthcare	Professional Services	Average
Arizona (Tucson):									
Total Taxes	12.6	9.8	16.4	10.2	9.7	16.0	9.9	20.2	13.1
Income	2.6	3.3	2.8	2.5	3.2	1.6	3.2	4.0	2.9
Sales	2.2	1.5	5.9	1.8	1.2	2.7	1.1	3.9	2.5
Property	7.8	5.0	7.7	5.9	5.3	11.7	5.6	12.3	7.7
Arizona (Chandler):									
Total Taxes	10.8	8.6	14.5	8.8	8.5	13.1	8.5	17.3	11.3
Income	2.6	3.3	2.8	2.5	3.2	1.6	3.2	4.0	2.9
Sales	2.2	1.5	5.9	1.8	1.2	2.6	1.1	3.9	2.5
Property	6.0	3.8	5.8	4.5	4.1	8.9	4.2	9.4	5.8
Average of Other States:									
Total Taxes	6.0	5.1	9.2	5.0	4.8	5.9	4.1	8.6	6.1
Income	1.8	2.2	1.8	1.6	2.1	1.1	2.0	2.6	1.9
Sales	1.3	1.1	5.2	1.1	0.8	1.4	0.4	2.2	1.7
Property	2.9	1.8	2.2	2.3	2.0	3.4	1.7	3.8	2.5

Source: Barents Group and KPMG Peat Marwick, "State and Local Revenue Impacts of Electric Utility Deregulation in Arizona," April 10, 1998.

TABLE 11
EXPENDITURES MADE COMPARED TO EXPENDITURES NEEDED, FISCAL YEAR 1995-96

	Index of Fiscal Effort*	Index of Fiscal Need**
Arizona	85	105
California	106	110
Colorado	95	90
Idaho	85	100
Nevada	96	94
New Mexico	102	115
Oregon	105	91
Texas	85	108
Utah	91	95
Washington	109	95

*Per capita state and local expenditures, relative to the national average (U.S. = 100)

**What each state would have to spend per capita to provide a nationally representative bundle of state and local government services, expressed as a percent of national per capita expenditures (U.S. = 100).

Source: Center for Business Research, L. William Seidman Research Institute, College of Business, Arizona State University. From U.S. Bureau of the Census and Tannenwald, "Fiscal Disparity Among the States Revisited," Federal Reserve Bank of Boston *Economic Review*, July/August 1999.

Appendix: Comparing RTS and Personal Income Measures of Relative Tax Burden

The comparison of these two measures is simplified by ignoring any differences across states in the way tax bases are defined. Further, this discussion is limited to the three principal taxes: general sales, income (both individual and corporate), and property (both residential and business). The formulas use the following notation:

S = sales tax base	t_s = sales tax rate
I = income tax base	t_i = income tax rate
P = property tax base	t_p = property tax rate
Y = personal income	INC = the personal income measure

Variables without an “*” refer to the state of Arizona while those with an “*” represent national values. Then the two measures of relative tax burden can be expressed as

$$(A1) \quad INC = \{(t_s S + t_i I + t_p P)/Y\} / \{(t^*_s S^* + t^*_i I^* + t^*_p P^*)/Y^*\}$$

$$(A2) \quad RTS = (t_s S + t_i I + t_p P) / (t^*_s S + t^*_i I + t^*_p P).$$

By taking the ratio of equation (A1) to equation (A2) and using θ^* to denote the share of a given tax in national revenues, the formula becomes

$$(A3) \quad INC/RTS = \theta^*_s \{(S/S^*)/(Y/Y^*)\} + \theta^*_i \{(I/I^*)/(Y/Y^*)\} + \theta^*_p \{(P/P^*)/(Y/Y^*)\}.$$

Thus the two measures will agree (their ratio will equal one) if Arizona’s share of each national tax base is the same as its share of personal income. However, this has not been the case historically. The state’s shares of general sales and property have been significantly greater than its share of personal income. For FY 1991 the numerical evaluation of equation (A3) is

$$(A4) \quad INC/RTS = (.299)\{1.145\} + (.311)\{.939\} + (.390)\{1.158\} = 1.086$$

The personal income measure of Arizona’s relative tax burden was 9 percent higher than the RTS measure in FY 1991. The principal factor responsible for the discrepancy was that Arizona’s share of the national property tax base was 16 percent greater than its share of personal income. All of this was due to residential property. The state’s share of the national residential property tax base was 1.67 percent while its share of national income was 1.29 percent. Arizona’s share of the base relating to commercial and industrial property was only 1.07 percent.