

PUBLIC FINANCE IN ARIZONA VOLUME II: CONCEPTS AND ISSUES

A Report from the Office of the University Economist

December 2008

Dennis Hoffman, Ph.D.

Professor of Economics, University Economist,
and Director, L. William Seidman Research Institute

Tom R. Rex, MBA

Associate Director, Center for Competitiveness and Prosperity Research

Center for Competitiveness and Prosperity Research
L. William Seidman Research Institute
W. P. Carey School of Business
Arizona State University
Box 874011
Tempe, Arizona 85287-4011

(480) 965-5362

FAX: (480) 965-5458

EMAIL: Dennis.Hoffman@asu.edu

www.wpcarey.asu.edu/seid



ARIZONA STATE UNIVERSITY

PUBLIC FINANCE IN ARIZONA

VOLUME II: CONCEPTS AND ISSUES

PREFACE

This is the second of a series of three reports that discuss government finance in Arizona. The reports are available at www.wpcarey.asu.edu/seid/ccpr.

The first volume is an objective review of government finance in Arizona and is a prerequisite to understanding the analyses presented in this second volume. Included in the report are analyses of Arizona state government finance, using data of the Arizona Joint Legislative Budget Committee, and of the combined finances of all state and local governments within Arizona, using data of the U.S. Census Bureau. A historical perspective is provided for both datasets. For combined state and local government finance, comparisons are made to other states and to the national average. In addition, other measures of the tax burden by state are examined.

This second volume goes beyond the factual material included in the first volume. It particularly addresses the conceptual and empirical relationships between taxes, government revenue, and economic growth. It also discusses current issues specific to Arizona state government finance. The second volume is a revised version of the report “Tax Reductions, the Economy, and the Deficit in the Arizona State Government General Fund,” incorporating new and updated material.

The third volume presents options and offers recommendations for managing the Arizona state government general fund. The near-term budget deficit is addressed as well as ways to prevent budget deficits from recurring every time economic growth slows. The third volume is an update to the report “Options for Managing the Arizona State Government General Fund: Closing the Structural Deficit and Preventing Large Deficits in the Future,” but few changes were made.

CONTENTS

SUMMARY	1
TAXES, GOVERNMENT REVENUE, AND ECONOMIC GROWTH	5
Taxes as a Business Expense	5
The Laffer Curve and Supply-Side Economics	6
Value of Public Services	7
Tax Changes in Arizona	8
Empirical Evidence in Arizona	10
ISSUES IN STATE GOVERNMENT FINANCE	18
Revenue	18
Expenditures	19
Budget Stabilization Fund	20
Resolving the Current Deficit	21

TABLES

1. Taxes and Officers' Compensation as a Percentage of Operating Income, 2005-06	6
2. Annual Average Economic Growth by Economic Cycle, 1975 Through 2008, Arizona and United States	14
3. Annual Economic Growth Rates in Arizona and United States Compared to Tax Changes in Arizona, 1991 Through 2007	14

CHARTS

1. Incremental Tax Change as a Share of State General Fund Expenditures and Percent Change in Inflation-Adjusted Earnings in Arizona, 1984 Through 2009	12
2. Annual Percent Change in Inflation-Adjusted Per Capita Earnings, 1984 through 2008, Arizona and United States	13
3. Per Capita Personal Income and Earnings Per Employee in Arizona as a Percentage of the National Average, 1975 Through 2007	15
4. Arizona State Government General Fund Expenditures as a Percentage of Personal Income, 1979 Through 2009	17

SUMMARY: PUBLIC FINANCE CONCEPTS

The state and local government tax burden is small relative to the federal government tax burden. State and local government taxes account for only a small share of household income, and an even smaller share of the operating expenses of businesses.

Conceptually, state and local government taxes can have an impact on local economic growth. State and local government tax rates have an impact on state and local government tax revenue based on the Laffer Curve. Given the small size magnitude of these taxes, however, the difference in the tax burden from state to state must be very large before a noticeable effect will be seen on economic growth. Similarly, tax rates need to be considerably above the revenue-maximizing rate on the Laffer Curve before a positive revenue impact will result from a reduction in state and local government tax rates.

Taxes simply are the price paid for public services. The state and local government services that consume most of the public revenue, such as the education of children and public safety, are valued by individuals and businesses alike. If taxes are so low as to negatively affect the quality and quantity of public services, a detrimental economic effect can result.

Historically, Arizona's state and local government tax burden was near the national average. Since the late 1970s, and especially since the early 1990s, the tax burden, particularly of the state government, has been lowered significantly in Arizona. Yet while these reductions have been large from the perspective of state government, they have been small from the perspective of the size of the overall economy. Conceptually, then, one should not expect that the tax cuts in Arizona have had a positive effect either on the economy or on government revenue.

An empirical analysis fails to discern any positive effect from these tax reductions in Arizona, or any negative effect from the tax increases that occurred around 1990. The bulk of the tax cuts have occurred in years when surplus revenue has been realized due to a surge in economic growth. Government revenue, however, has been lowered by these tax cuts.

SUMMARY: STATE GOVERNMENT FINANCE ISSUES

The long series of state government tax cuts in Arizona have not been matched by an equivalent reduction in state government spending, resulting in a structural budget deficit in the state's general fund. This deficit has been caused not just by lowering tax rates, but by narrowing the tax base, making it more cyclical, and by causing the revenue system to be less responsive to economic growth, resulting in revenue collections falling behind over time.

The structural deficit can be resolved through a combination of spending cuts and/or revenue enhancements. The spending cut option is limited by so much of state government spending being "protected" from reductions due to voter-passed initiatives. In addition, other types of spending are protected by statutory mandates, some derived from federal government requirements. This leaves nearly two-thirds of the general fund expenditures off limits to spending reductions.

The actual deficit last fiscal year and the projected deficits in the current and following years in the state government general fund result from a combination of the structural deficit and cyclical

reductions in revenue due to the weak economy. The projected deficit in the general fund for the current fiscal year amounts to 10 percent of all spending, but nearly 30 percent of the “discretionary” spending. With substantial spending reductions highly unlikely in some “discretionary” government functions, such as the correctional system, extremely large cuts to the rest of the discretionary spending would be necessary if the budget were to be balanced by spending reductions alone.

The budget stabilization fund was intended to transfer monies to the general fund at times when revenue cyclically declines, but the amount of money placed in this rainy-day fund has been highly inadequate to close the deficits. The early depletion of the budget stabilization fund in each of the recessions since it was created indicates both that a structural deficit exists due to tax cuts not being matched by spending reductions, and that the design of the rainy-day fund is not adequate.

Resolving the Existing Deficit

According to the Arizona Constitution, the state government general fund cannot have a deficit at the end of the fiscal year. The deficit in the current fiscal year is projected to be \$1 billion after transfers from other funds. The mix of expenditure reductions and revenue enhancements used to balance the budget should be carefully considered for several reasons.

First, unlike much of the private sector, demand does not decline for most public-sector services during a recession. In some government programs, demand rises. Thus, imposed decreases in public spending during recessions come at the same time that demand for public services is stable or rising, resulting in a reduction in the quantity and/or quality of government services. For the most disadvantaged of those consuming public services, real hardship can ensue.

Second, spending reductions by governments during recessions worsen economic conditions. Less spending for goods and services by governments will result in reduced demand for private-sector goods and services. If spending reductions are accomplished by employee layoffs, then private-sector businesses are affected further as laid-off workers either leave the state or cut back substantially on their purchases. It is not realistic to expect that many laid-off government employees will find jobs in Arizona until the recession has ended.

The result of state spending cuts of \$1 billion would be to very significantly worsen and lengthen the economic recession. A total of approximately 20,000 workers (8,000 state government and university workers and 12,000 others) might lose their jobs.

Third, cutting the public-sector workforce causes public-sector revenue to decline as the laid-off workers spend less and experience losses in income. Further, the savings to state government of not paying the former workers’ salaries and benefits are partially offset by rising payments to the ex-workers for unemployment insurance and other public health and welfare programs.

Fourth, the negative economic effect of a tax increase would be no larger than that of a government spending decrease. In fact, it should be less. Some of the tax payments would come from personal savings. A portion of a tax increase would be exported to nonresidents and to the federal government (since state taxes are federally deductible).

The negative effect of a tax increase would be spread across the state, with individual households and businesses suffering only slightly. In contrast, a spending reduction would have substantial negative effects on a relatively small number of businesses — those selling directly to state government and to laid-off government workers. A relatively small number of individuals also would bear the brunt of a government spending reduction: laid-off government employees and workers at hard-hit businesses.

Fifth, the size of a tax increase would be relatively small. Even in the extreme example of a tax increase of \$1 billion that affected individuals only and was not exported, the increase would equate to only about \$150 per Arizona resident, or \$400 per household. A tax increase of this magnitude would offset only about a third of the state tax cuts implemented between 1993 and 2008 and would be considerably less than the federal tax rebates distributed in May. Arizona still would rank as a low-tax state at 37th, just lower than Mississippi, according to Tax Foundation data (assuming no other states increased taxes).

Sixth, without enhancing revenues, the state will be unable to adequately support a growing population. In particular, Arizona faces substantial infrastructure needs over the next quarter century.

Tax and Spending Myths

- 1. The state government budget deficit is due to spending increases.** State government spending per \$1,000 of personal income in fiscal year 2008 was 17th highest of the last 30 years. Spending did increase considerably between 2003 and 2008, but the 2003 figure was the lowest on record, a result of severe spending cuts the last time the state budget was in deficit.
- 2. State government has plenty of “fat” to cut.** Over the last 15 years, expenditures per \$1,000 of personal income have fallen in education, which accounts for close to 60 percent of general fund expenditures. Public safety and public welfare are the only categories not to experience decreasing expenditures. Most of the increase in public welfare has been mandated by the federal government and by Arizona voter initiative. Close to two-thirds of the state budget is off limits to spending reductions due to voter initiatives or statutory mandates.
- 3. The size of government should shrink during recessions.** Most businesses experience a decline in demand for their products or services during a recession, and thus reduce the size of their workforce. However, the public sector does not experience lowered demand for its services during an economic downturn. Most government programs serve residents, who continue to increase in number. Demand for some government programs, such as unemployment benefits, rises during recessions.
- 4. Government spending in Arizona is high and rising.** State and local government spending per \$1,000 of personal income has been at historic lows since the late 1990s. Further, Arizona’s state and local government spending is below the national average and below the norm of other fast-growing and/or western states. Because of the need to build infrastructure to accommodate rapid population growth, Arizona’s spending would have to be above average to provide a service level equal to the national average.

5. The tax burden in Arizona is high and rising. According to the Tax Foundation, the combined state and local government tax burden in Arizona in 2008 is 12 percent less than the national average. Arizona ranks 41st among the 50 states, the lowest rank on record. Before the mid-1990s, the tax burden in Arizona was near the national average.

6. Taxes should not be increased during a recession. A tax increase is no more harmful than public spending cuts, which damage the economy by reducing government purchases from the private sector and by diminishing consumer expenditures made by laid-off government workers. By spreading the negative impact broadly, a tax cut is less likely to have a significantly detrimental effect than spending cuts, which are absorbed by a smaller number of individuals and businesses.

7. Taxes remove money from the economy. Tax revenue is spent in much the same way as private-sector revenue, such as to pay employee wages and to purchase materials from the private sector. The in-state multiplier effect likely is larger for public-sector spending.

8. All tax cuts enhance economic growth. Empirical evidence to support this statement has not been found. In Arizona, tax increases and decreases over the last 30 years have had no perceptible impact on economic growth.

9. All tax cuts are good for government revenue. The idea that every tax cut will result in greater government revenue is a distortion of supply-side economics, which was popularized by the Laffer Curve. In reality, any cut in a tax rate that is already below the revenue-maximizing rate will result in lesser government revenue. Most of the reduction in taxes over the last 15 years in Arizona has been to the individual income tax, which had a tax rate below the national norm prior to the first tax cut. Over the last 30 years in Arizona, tax increases have resulted in greater public-sector revenue and tax cuts have led to lesser government revenue.

10. Reduced government size is good for the economy. The public sector provides numerous services, many of which are valued by the private sector. Education and the physical infrastructure are of particular importance to businesses. Taxes are the price paid for these services and need to be evaluated relative to the public programs they fund.

11. State and local government taxes are a major expense. Total taxes collected by all state and local governments in Arizona are less than the taxes the federal government collects from Arizonans. For businesses, state and local government taxes typically are less than 2 percent of operating income — less than officers' compensation.

TAXES, GOVERNMENT REVENUE, AND ECONOMIC GROWTH

Nearly any position on the relationship between state and local government taxes and economic performance is supported in the published literature. However, the bulk of the modern literature indicates that state and local government taxes have only a small effect on economic growth. For example, one study suggests that a 10 percent reduction in *all* state and local taxes would increase employment growth over the course of 20 years by 2.5 percentage points over and above the growth that would have occurred without the tax reduction. In a fast-growing state like Arizona, where the 20-year rise in employment from 1987 to 2007 was 98 percent, such an acceleration in growth is inconsequential.

The key factor leading to the conclusion that state and local government taxes have only a small impact on the economy is that state and local government taxes are not that significant an expense to either households or businesses. State and local government taxes are small expenses relative to federal government taxes. Further, taxes merely represent the price paid for government services consumed, with many state and local government services — such as the education of children and the provision of police protection — of high value to individuals and businesses alike.

Thus, state and local government tax burdens must be far out of line with competitor regions before much of an effect on the economy can be measured. For a state, a tax cut will have little effect on the economy unless the tax burden is comparatively quite high (especially versus competing states) and the tax reduction is very large. In general, tax policy is an inefficient way to stimulate the economy. Investment in infrastructure and education has been shown to have a greater effect on economic growth.

Taxes as an Expense

According to the Tax Foundation, *all* state and local government taxes — including those paid by businesses — account for less than 10 percent of income nationally, with the share in Arizona lower at 8.5 percent. The District of Columbia tax burden study indicates that the tax burden to households in Phoenix of most state and local government taxes is about 7 percent of household income except at low income levels.

Despite the attention given to taxes, tax payments are a small expense for most businesses. All state and local government taxes and most federal government taxes — social security and payroll taxes, unemployment insurance taxes, excise taxes, import and tariff duties, business license and privilege taxes, and the environmental tax — account for only a little more than 2 percent of operating income of all businesses, as seen in Table 1. The federal income tax is not included.

Thus, state and local government taxes are less than 2 percent of business operating income. Therefore, the difference in state and local tax rates between states would have to be very large to have a noticeable effect on a company's profits. The compensation of company officers is a larger expense than state and local government taxes.

State and local government business taxes receive attention because many state and local governments grant tax incentives, tax credits, and tax exemptions to businesses. A rational

TABLE 1
TAXES AND OFFICERS' COMPENSATION
AS PERCENTAGES OF OPERATING INCOME, 2005-06

Sector	Share of Es- tablishments in Arizona*	Percentage of Operating Income: National Average	
		Taxes**	Officers' Com- pensation
Retail Trade	13.6%	1.6%	1.0%
Professional, Scientific, Technical Services	11.8	3.3	8.8
Construction	11.7	1.7	2.9
Health Services	10.6	3.7	13.7
Accommodation and Food Services	8.0	5.1	2.3
Other Services	7.9	3.6	5.3
Finance and Insurance	7.3	1.3	1.0
Real Estate	6.9	3.6	5.0
Administrative Support	6.0	4.3	2.9
Wholesale Trade	4.9	1.0	1.2
Manufacturing	3.6	1.7	0.8
Transportation and Warehousing	2.4	3.0	1.3
Information	1.6	3.0	1.7
Arts, Entertainment and Recreation	1.4	5.3	6.9
Educational Services	1.2	3.5	5.2
Management of Companies	0.6	13.2	8.6
Mining	0.2	3.1	1.3
Utilities	0.2	3.5	0.4
Agriculture	0.1^	2.3	2.4
TOTAL	100.0	2.3	2.0

* The number of establishments — physical locations at which business is conducted — is used as a proxy for the number of companies, which are not available. A company may consist of one or more establishments.

** Taxes include state and local government taxes and most federal government taxes, but do not include the federal income tax.

^ Farms and ranches are not included in the count of establishments.

Sources: *Almanac of Business and Industrial Financial Ratios*, 40th annual edition, 2009 (taxes and compensation) and *County Business Patterns 2006*, U.S. Department of Commerce, Bureau of the Census (number of establishments).

profit-seeking business will avail itself of such opportunities. In site location decisions, such tax breaks can be a deciding factor only if two or more locations are viewed equally on all other factors. Equity becomes an issue if certain businesses or industries receive such tax breaks.

The Laffer Curve and Supply-Side Economics

Supply-side economics is based on the concept that tax reductions stimulate economic growth, with the stimulus so great that government revenue rises despite the lower tax rates. The “Laffer Curve” popularized this theory.

The economist Arthur Laffer brought the relationship between taxes and economic performance into the popular literature in the 1970s. However, the analytical foundations of his Laffer Curve

were established centuries ago. Moreover, the curve is a mathematical relationship (Rolle's Theorem).

The concept is simple. A single tax rate produces the greatest government revenue: the revenue-maximizing rate (RMR). Setting rates below the RMR leaves governments with less than maximum revenue but setting rates higher than the RMR stifles the economy — resulting in lower tax collections despite the higher rate. The relationship between tax rates and revenue collected follows a curve. The exact shape of the curve can vary by specific circumstances, but the end points always are the same: No tax results in no public revenue while a 100 percent tax rate would cause all legal economic activity to cease. The difficulties in real-world application of this relationship are to identify the tax rate that constitutes the RMR, and to describe the exact shape of the curve.

The simple concept of the Laffer curve has been lost in some applications. Proponents of limited government erroneously argue that tax rates are always above the RMR and reduced taxation is always better.

Laffer originally discussed the relationship between tax rates and tax revenue in the context of national tax rates, particularly the federal income tax, which was quite high in the 1970s. The concept also is valid at a regional level such as a state. However, state tax rates are low relative to the federal income tax rate. Thus, a decrease in a state tax rate is less likely to have a supply-side effect and any effect likely is small.

On the other hand, a state tax by definition is narrower than a national tax and thus is more likely to have a RMR that is being exceeded in reality. This is because states compete for economic activity, much of which is mobile (not tied to a particular place as in the case of a mine). Capital and labor can move easily throughout the country.

While tax rates may influence capital and labor mobility across the states and give rise to Laffer-type effects, capital and labor move for a host of reasons. The amount and quality of public infrastructure (such as airports, roads, and schools) available in a region — amenities supported by state and local government tax revenue — is among the factors influencing economic growth. So the RMR in a state or region will be the rate that allows sufficient investment in public amenities that foster economic growth without imposing tax burdens that stifle growth.

For a tax cut to result in a positive effect on economic growth and government revenue, the existing tax rate must be higher than the RMR. For much of a positive effect to result, the tax rate must be very high and be lowered to near the RMR. Such a situation is most likely in the case of a narrow tax. In addition, a greater economic impact is likely from a reduction in a business tax with a rate above the RMR than in a personal tax with a high tax rate since one business decision (for example, in site selection) can affect many workers.

Value of Public Services

Over time, some supply-side enthusiasts have moved to a position that any tax cut is good for the economy and enhances public revenue — which violates the Laffer Curve. The idea that lower taxes always are better ignores the purpose of taxation.

Taxes merely are the price paid for a service that is publicly provided. Particularly at the state and local level, many government services directly impact the lives of all: education of children, water provision and sewer services, collection of trash, building and maintaining roads, police and fire protection, the judicial system, the correctional system, etc. Many public services, such as education (kindergarten through graduate school) and provision and maintenance of physical infrastructure, are of key importance to businesses, particularly high-technology and other “new-economy” companies. For these types of companies, the quality of public goods is more important than the level of taxes. Thus, business climate benefits from investment in various public programs.

Empirical evidence exists that public infrastructure plays a role in increasing business investment, job creation and economic growth. Similarly, tax reductions financed by cutting education, infrastructure spending, and other services valued by businesses likely will have a negative effect on economic performance.

The idea that taxes remove money from the economy is false. Tax revenue is spent in much the same way as private-sector revenue: paying employees, purchasing materials from the private sector, etc. On average, a higher portion of public-sector spending is for wages and salaries while private-sector firms spend a higher portion of their revenue on raw materials and manufactured goods.

At most, it might be argued that the in-state multiplier effect of government spending is less than that of private-sector expenditures. However, this is unlikely. A public-sector worker is no different than a private-sector employee in how they spend money. To the extent that private-sector businesses spend a higher proportion of their revenue on goods than the public sector and to the extent that most of these goods are manufactured out of state (manufacturing in Arizona is limited except in a few high-tech subsectors), the multiplier likely is higher for public-sector spending than for private-sector spending.

Tax Changes in Arizona

The Arizona Joint Legislative Budget Committee (JLBC) has estimated of the impact of every state government tax law change since the late 1980s. A discussion of these tax law changes in Arizona is included in Volume I of *Public Finance in Arizona*.

While estimates of the impacts were not made, a series of significant tax law changes were made from 1979 through 1984, consisting first of tax cuts, then a tax increase. Following a period of considerable tax increases from 1989 through 1991, substantial tax decreases were implemented from 1995 through 2001 and again in 2007 and 2008. More generally, tax cuts have occurred in all but two years since 1993.

When the tax cutting began in 1993, Arizona’s overall state and local government tax burden already was less than the national average and lower than it had been in the late 1970s, based on the Tax Foundation’s measure of tax burden. Thus, Arizona was not generally in a position to benefit from a series of tax cuts, either in terms of enhanced government revenue or economic performance.

Further, for a *net* positive effect to accrue on government finance from a state government tax cut, the state must have underutilized resources. For example, if a state with higher-than-optimal tax rates also has high unemployment and high commercial and industrial vacancy rates, then a reduction in taxes to near the optimal point might stimulate economic growth, putting more residents to work and more highly utilizing existing facilities. Since labor to support the faster economic growth would not have to be imported to the state, population growth would not accelerate. Thus, the increase in government revenue would not be offset by the need to increase public spending to support new residents.

Except during recessions, Arizona has had neither high unemployment rates nor high commercial/industrial vacancy rates. The majority of jobs created in Arizona are filled by labor imported into the state from other states and other countries. (Arizona would not have strong net migration and population growth if this were not the case.) Thus, even assuming that tax cuts in Arizona did have an effect on economic growth, the requirement of excess capacity is not met in order for a net benefit to accrue. If lowered taxes stimulated the Arizona economy further, then even more labor would have to be imported into the state, both for the construction of the facilities needed to house these economic activities and for the permanent employment created. Thus, while public revenue would increase, the need for public spending also would rise. Unless the incomes of the imported workers were above the existing average (considerably so if the worker had or would have school-age children), taxes paid by new residents would not cover the costs of providing them with public services.

Most of the taxes cut in Arizona since the early 1990s have been broad-based taxes applied to individuals. In particular, decreases in the individual income tax have accounted for nearly 60 percent of the cumulative \$1.6 billion nominal overall decrease since 1992. However, even in the early 1990s, the individual income tax rate in Arizona was less than the average of the states. Using the Laffer Curve, this suggests that the individual income tax cuts in Arizona should have decreased, not increased, government revenue. Conceptually, it is unlikely that these tax cuts had much of an effect on the state's economic performance.

The remaining 40 percent of the tax cuts since 1992 have been split between the sales tax, the property tax, the vehicle license tax, and the corporate income tax. None of these tax reductions resulted in a loss of revenue of even \$200 million. Like the individual income tax, the property tax rate in Arizona already was relatively low, so this cut is unlikely to have had any positive effect on government revenue or economic performance. The vehicle license tax rate was near the middle of the states, so this tax cut also is unlikely to have had much of any positive effect.

In contrast, the general sales tax rate in Arizona is high, so the reductions in the sales tax potentially had a positive effect. Most of the revenue decline occurred in the late 1990s and was due to the reduction in the commercial lease rate and to the passage of sales tax exemptions. Similarly, the corporate income tax rate was relatively high before tax cuts were implemented in the early 2000s and again recently. Thus, while these tax rates might have generated a Laffer Curve effect, the magnitude of any benefit would be small given the very small scale of the tax cuts from the perspective of the size of all business expenses. Further, with most of these cuts occurring at a time of a booming Arizona economy, any economic stimulus created by the cuts

would have resulted in an increase in the importation of labor to the state and thus a rise in government expenditures.

One example exists in Arizona of a tax reduction that might have a more noticeable net positive effect on economic growth and public-sector finance. The business property tax, a narrow tax, has been demonstrably high relative to other places. It is a tax that disproportionately affects some businesses, particularly manufacturers who use considerable equipment in their operation. High-tech manufacturers, such as semiconductor plants, are among those with considerable equipment. These companies pay high wages. Lower business property taxes might encourage companies to expand facilities in Arizona. Although most of the labor force needed for an expansion would be imported, the high wages of these new workers could result in a net positive effect even on public-sector finance. Fifteen years after the first tax cuts were passed, some reduction in the business property tax currently is being phased in.

Thus, the size, nature and timing of the tax cuts in Arizona, combined with the conceptual basis for supply-side economics, suggest that little positive effect either on government revenue or on economic growth should have occurred as a result of these cuts. The next section examines the empirical data on government revenue and economic growth to see if a positive effect of the tax cuts, or a negative effect of tax increases, is perceptible.

Empirical Evidence in Arizona

The effect of tax rate reductions and increases on economic performance and government tax collections can be examined empirically in Arizona. In the last 30 years, the state has had two periods of tax reductions and one period of tax increases. While the record of tax changes can be compared to the state's economic growth, the more telling comparison is to the state's economic growth relative to national economic gains. Economic growth in this section has been measured on both aggregate and per capita/per worker bases.

Tax Changes and Economic Growth

The JLBC has estimated the effect of the tax changes since 1988. The relationship in the magnitude of these tax law changes and economic growth is examined using quarterly earnings data from the U.S. Bureau of Economic Analysis. The quarterly data allow the economic figures to be aligned with the fiscal year general fund data. While gross domestic product by state is the broadest measure of the economy, inflation-adjusted data go back only to 1990 and the data are only available annually. Thus, the next-broadest measure of economic performance — the earnings component of personal income — is used. The data were adjusted for inflation using the quarterly GDP implicit price deflator.

Changes in general fund revenue resulting from tax law changes in Arizona have been inversely related to real earnings growth: the decreases in taxes have occurred at times of strong economic growth and the tax increases have occurred at times of economic recession. The highest correlation of $-.64$ occurs when the percent change in economic growth leads by one year the tax change as a share of general fund expenditures. The second highest correlation of $-.58$ occurs when economic growth and the magnitude of the tax change in the same year are compared. Thus, the change in economic performance slightly precedes the change in taxes over this 20-year period in Arizona.

When the economy is strong, surpluses in the general fund are realized, allowing taxes to be cut while still balancing the budget as required by the Arizona Constitution. When the economy is weak, budget deficits occur, precluding tax cuts and sometimes resulting in tax increases.

Chronology of tax changes and economic growth. Property taxes were lowered in fiscal year (FY) 1979 and the sales tax on food to be consumed at home was eliminated in FY1981. As a result, a sharp drop in Arizona's tax burden was measured. These tax cuts, however, did not prevent the Arizona economy from dropping into a recession just as deep as the national average in 1981 and 1982. With the tax cuts not having been matched by an equivalent amount of spending reductions, in order to balance the budget the Legislature increased the general sales tax rate in fiscal year 1984. The tax burden, however, still was less than in the late 1970s.

Despite the net tax cut between fiscal years 1979 and 1984, the economic recovery that began in FY1983 in Arizona only matched the historical norm relative to the national average. Economic growth in Arizona peaked in FY1984 and tax collections per \$1,000 of personal income peaked in FY1985. Per capita economic gains in Arizona then slowed to an atypical rate considerably below the national average. For the entire economic cycle from 1982 through 1991, annual average economic growth in Arizona was less than in the prior cycle and also lower relative to the national average. Thus, this early round of net tax cuts did not have a perceptible positive effect on economic growth.

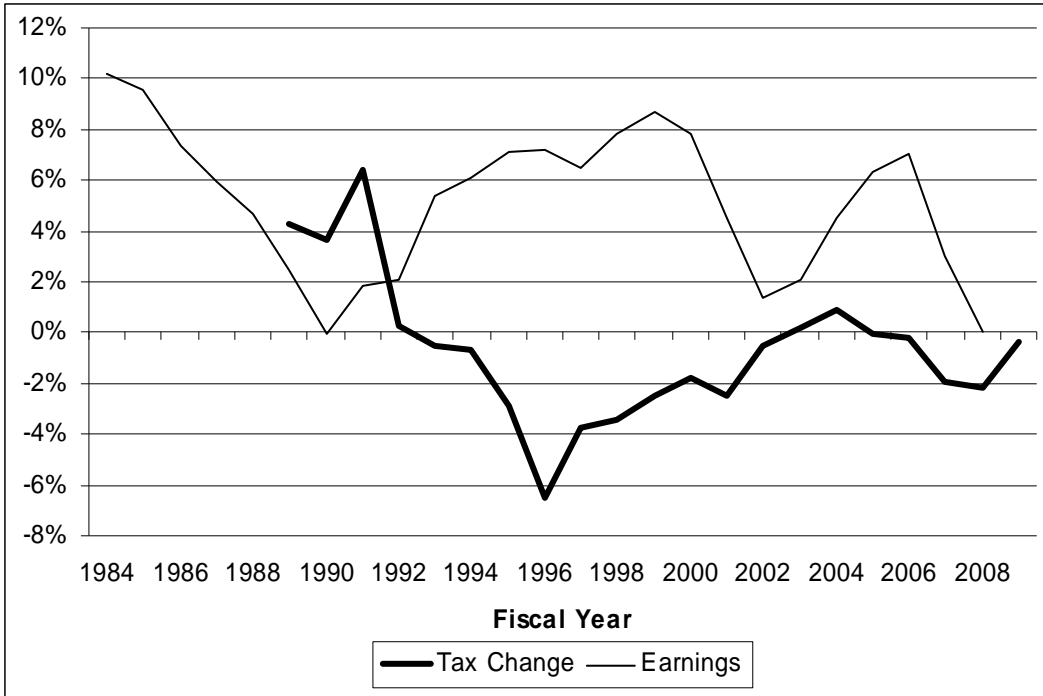
To arrest the decline in general fund revenue per \$1,000 of personal income that began after FY1985 and to balance the budget, a variety of increases in tax rates were passed by the Legislature between 1988 and 1990 and implemented from FY1989 through FY 1992. Spending was reduced as well. These tax increases caused an increase in the state's tax burden, but the tax burden remained less than during the late 1970s.

The effects of the tax law changes since FY1989 expressed as a percentage of general fund expenditures are compared to inflation-adjusted earnings growth in Chart 1. As seen in the chart, the Arizona economy is highly cyclical, with the growth rate of inflation-adjusted earnings ranging from about 0 to 10 percent over the last 25 years. While real growth in earnings has not been more than marginally negative during recessions, this is due to the state's rapid population growth. Real per capita earnings fell from fiscal years 1989 through 1992, 2002 through 2003, and 2007 through 2008.

A close examination of Chart 1 verifies that economic performance has led the changes in tax policy. Economic growth during the 1980s peaked at around 10 percent in fiscal years 1984 and 1985 and was down to 4.7 percent in FY1988, the year preceding the first year of tax increases. Economic gains continued to slow, bottoming at no change in FY1990. Despite the higher taxes implemented from fiscal years 1989 through 1991, the recession in 1990 and 1991 was only as deep in Arizona as the national average.

Economic growth in Arizona began to accelerate after FY1992 despite the state's tax burden being higher than during the 1980s. Real economic growth reached 5 percent in FY1993 and rose further to 6 percent in FY1994 and 7 percent in FY1995. The first tax cut did not occur until FY1993 and was minimal at only \$19 million, leaving tax revenue \$430 million higher than

**CHART 1
INCREMENTAL TAX CHANGE AS A SHARE OF STATE GENERAL FUND
EXPENDITURES AND PERCENT CHANGE IN INFLATION-ADJUSTED EARNINGS
IN ARIZONA, 1984 THROUGH 2009**



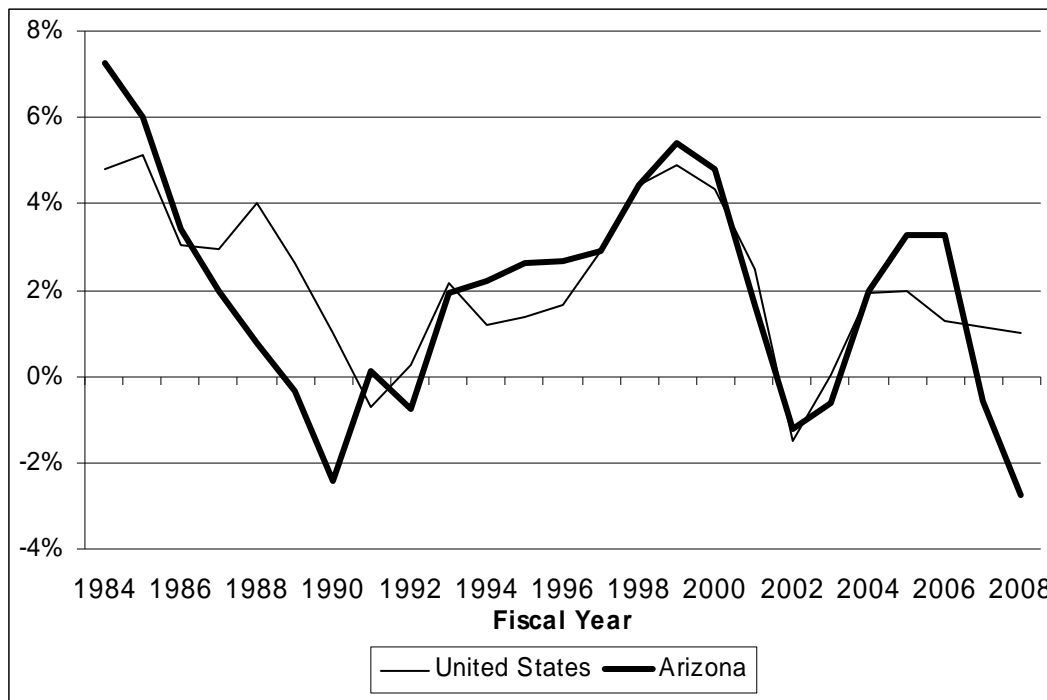
Sources: Arizona Joint Legislative Budget Committee (tax change) and U.S. Department of Commerce, Bureau of Economic Analysis (earnings).

before the tax increases of 1988 through 1990. The first substantial tax reductions did not come into effect until FY1995, considerably after economic growth had strengthened.

While Chart 1 displays real earnings growth in Arizona, Chart 2 provides real per capita earnings growth compared to the national average. From fiscal years 1994 through 1996, while Arizona’s tax burden still was higher than during the 1980s, Arizona’s real per capita economic growth exceeded the national average (as it had in fiscal years 1984 and 1985). Despite the large tax reductions that took effect from FY1995 through FY2001 cumulating over time, and Arizona’s tax burden becoming the lowest on record by 1998 according to the Tax Foundation, Arizona’s per capita economic gains were only equal to the national average from fiscal years 1997 through 2004. Thus, the 1988-through-1990 tax increases did not have a perceptible negative effect on economic growth in the early 1990s and the tax decreases that began in earnest in the mid-1990s did not have any noticeable positive effect on economic growth.

Despite historically low tax burdens, the state’s economic growth rate fell sharply during fiscal years 2001 and 2002, matching the national decline. This temporarily ended the annual tax cutting in Arizona. During the recovery in fiscal years 2003 and 2004, growth in the Arizona economy was only equal to the national average. The real estate boom in Arizona contributed to

CHART 2
ANNUAL PERCENT CHANGE IN INFLATION-ADJUSTED PER CAPITA EARNINGS,
1984 THROUGH 2008, ARIZONA AND UNITED STATES



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

faster economic growth in fiscal years 2005 and 2006. Using general fund surpluses that largely can be traced to the real estate boom, another round of substantial tax cuts were implemented in fiscal years 2007 and 2008 that pushed Arizona’s tax burden even further below the national average. However, these tax cuts did not preclude Arizona’s economic growth from slowing sharply in fiscal years 2007 and 2008. Arizona’s per capita earnings change was negative in these years, while the nation continued to experience economic growth. Arizona’s decline in real per capita earnings and the negative differential between the state and national growth rate in FY2008 each was the largest in the last quarter century. So, once again, there is no evidence that reducing taxes has had any positive effect on Arizona’s economy.

Summary. Many factors affect economic growth and it is a challenge to accurately measure the impact of any one factor. The tax increases and reductions of the last 30 years have not had any obvious effect on the economy. In Table 2, average annual growth by economic cycle is shown for several measures of the aggregate economy. Relative to the national average, economic gains in Arizona in the 1991-to-2001 cycle, the last several years of which were notable for historically low tax burdens, were greater than those in the 1980s cycle, but lower on three of four measures than those in the late 1970s cycle, when the tax burden was relatively high. Economic gains in Arizona relative to the U.S. average in the current cycle —during which Arizona’s tax burden has been at historically low levels — are much less than in the prior cycle.

TABLE 2
ANNUAL AVERAGE ECONOMIC GROWTH BY ECONOMIC CYCLE,
1975 THROUGH 2008, ARIZONA AND UNITED STATES

Inflation-Adjusted Percent Change	Calendar Years			
	1975-82	1982-91	1991-2001	2001-2008
Arizona:				
Employment	5.1%	4.5%	4.5%	3.3%
Personal Income	6.4	5.4	6.8	4.1
Personal Income less Transfer Payments	6.5	5.0	6.9	3.7
Earnings	5.5	5.1	7.7	3.7
United States:				
Employment	2.0	2.1	1.9	1.2
Personal Income	3.2	3.5	3.9	2.0
Personal Income less Transfer Payments	3.2	3.5	3.8	1.8
Earnings	2.4	3.5	4.1	1.8
Difference, Arizona less United States:				
Employment	3.1	2.4	2.6	2.1
Personal Income	3.2	1.9	2.9	2.1
Personal Income less Transfer Payments	3.3	1.5	3.1	1.9
Earnings	3.1	1.6	3.6	1.9

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

TABLE 3
ANNUAL ECONOMIC GROWTH RATES IN ARIZONA AND UNITED STATES
COMPARED TO TAX CHANGES IN ARIZONA, 1991 THROUGH 2007

Calendar Year	Employment			Real Earnings			Tax Change*
	Arizona	U.S.	Difference	Arizona	U.S.	Difference	
1991	0.4%	-0.6%	1.0	1.1%	-0.7%	1.8	\$208
1992	1.2	0.4	0.8	4.9	4.5	0.4	10
1993	4.4	1.9	2.5	5.0	1.9	3.1	-19
1994	6.5	2.4	4.1	7.1	2.7	4.4	-25
1995	5.4	2.6	2.9	6.9	2.8	4.1	-121
1996	5.8	2.1	3.7	7.1	3.6	3.5	-285
1997	4.6	2.3	2.3	7.0	4.6	2.4	-175
1998	4.6	2.6	2.0	9.3	6.6	2.7	-172
1999	3.4	2.1	1.3	6.7	5.3	1.4	-142
2000	3.6	2.3	1.3	8.1	5.7	2.4	-105
2001	1.3	0.2	1.1	2.0	0.7	1.3	-158
2002	0.7	-0.2	0.9	1.8	0.4	1.4	-33
2003	2.6	0.6	2.0	2.3	1.6	0.7	12
2004	3.2	1.8	1.4	6.3	3.5	2.8	57
2005	5.8	2.2	3.6	6.6	2.0	4.6	-5
2006	5.8	2.1	3.7	5.8	2.5	3.3	-18
2007	3.2	1.8	1.4	0.7	2.2	-1.5	-194

* In millions, for fiscal year ending during the calendar year.

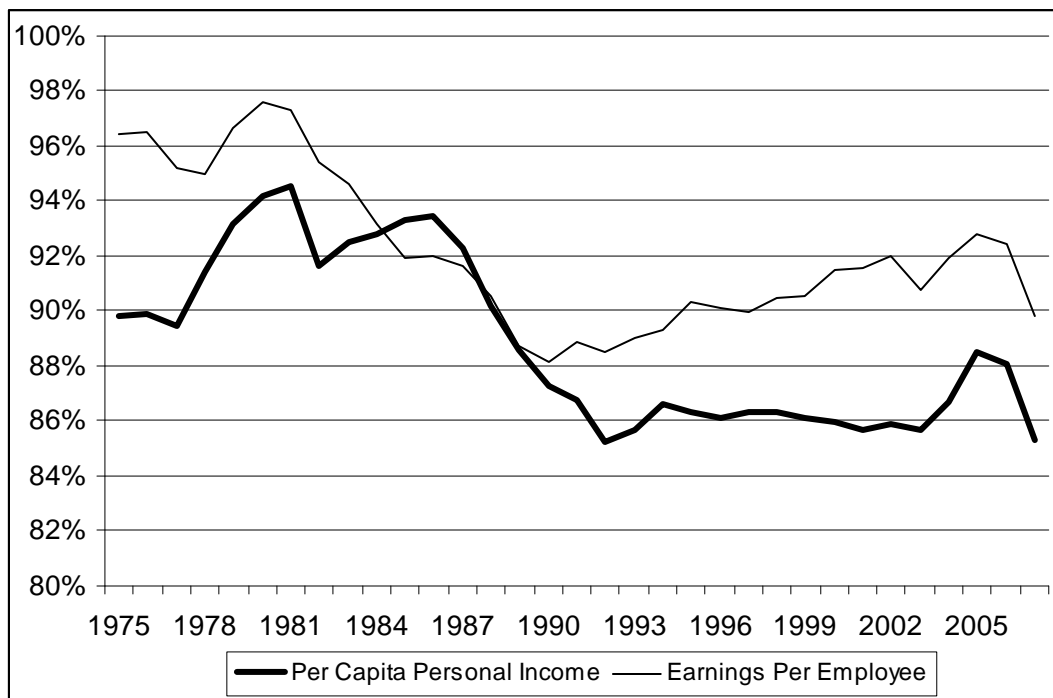
Sources: U.S. Department of Commerce, Bureau of Economic Analysis (employment and earnings), and Arizona Joint Legislative Budget Committee (tax change).

The annual record for the last two economic cycles is displayed in Table 3. This tabular presentation is an alternative to the graphic view in Chart 1. It also demonstrates that tax cuts have not had a positive effect on Arizona's economy.

The measures of aggregate economic growth such as employment or earnings shown in Tables 2 and 3 are not the only or best indicators of economic performance. The economic well-being of the population can be estimated through indicators such as per capita personal income and earnings per employee. As seen in Chart 3, Arizona has compared unfavorably on both measures since the late 1980s. The decline began prior to the 1988-to-1990 tax increases. Some recovery from the very low ratios of the late 1980s and early 1990s occurred on per capita personal income, but not on earnings per employee. Both ratios rose after 2003, but the 2005 peak still was historically low, and the ratios have fallen sharply since then.

Despite the significant decline in Arizona's tax burden relative to other states since the mid-1990s, economic growth in Arizona relative to the nation in recent years has not been stronger than the historical relationship. Thus, the empirical evidence in Arizona regarding the lack of relationship between the state's tax cuts and increases and subsequent economic growth matches the conceptual analysis previously discussed.

CHART 3
PER CAPITA PERSONAL INCOME AND EARNINGS PER EMPLOYEE IN ARIZONA
AS A PERCENTAGE OF THE NATIONAL AVERAGE, 1975 THROUGH 2007



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Tax Changes and State Government Tax Revenue

Due to the reductions in the property tax and sales tax between fiscal years 1979 and 1981 and the economic recession, general fund tax revenue per \$1,000 of personal income plunged from fiscal years 1979 through 1982. Despite a strong economic recovery and an increase in the general sales tax rate, tax revenue per \$1,000 of personal income throughout the 1980s remained below that of the late 1970s. Thus, the tax cuts not only did not have a positive effect on government revenue in Arizona through the 1980s, they cause revenue to be lower.

As the Arizona economy weakened in the late 1980s, tax revenue per \$1,000 of personal income declined. The tax increases of the fiscal year 1989-to-1991 period boosted revenue, even as the economy fell into recession. Tax revenue per \$1,000 of personal income peaked in 1993 and then began to fall despite the strengthening economy and the stock market boom that caused a surge in capital gains. This countercyclical decline was the result of the long series of tax cuts passed during the 1990s. Thus, as in the 1980s, the tax cuts during the 1990s had the effect of lowering revenue, not raising it as predicted by those claiming to be supply-side adherents.

Tax revenue in Arizona continued to fall through and after the 2001 recession and as capital gains turned into capital losses, bottoming out in FY2003. Tax revenue per \$1,000 of personal income rose considerably during the next three years as the economy improved and capital gains returned due to the real estate boom. The FY2006 peak, however, was considerably less than the peaks of the preceding economic cycles. Since FY2006, tax revenue per \$1,000 of personal income has dropped substantially to levels below those of all years except during the last recession. The FY2009 figure likely will drop to a record low.

Summary. The empirical evidence is that the effect on government revenue from tax increases and tax decreases in Arizona has been as expected based on the conceptual analysis discussed earlier: Tax increases have raise revenue and tax cuts have reduced revenue. No evidence exists of a supply-side boost in revenue resulting from the tax cuts.

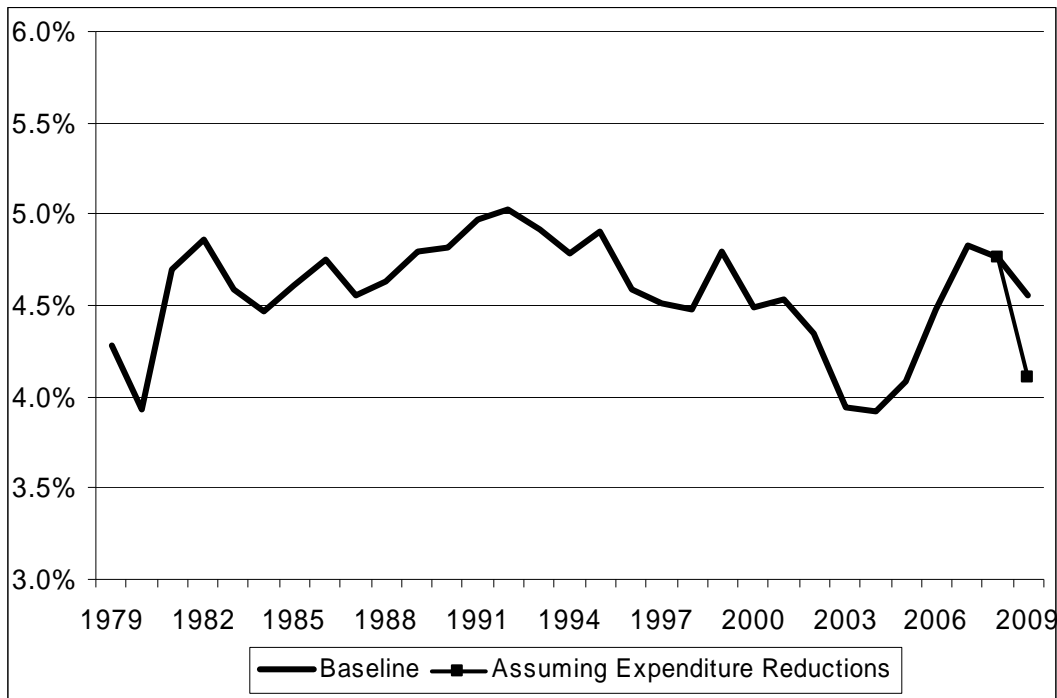
The state's general fund tax collections have been substantially affected by the tax cuts. The general fund was significantly in deficit during the last recession and is experiencing a more severe shortfall in the current recession. While the economic recession contributes to the budget deficit, the severity of the current deficit results from many years of significant tax cuts not accompanied by an equivalent amount of spending cuts. These revenue reductions were not matched by spending cuts of a commensurate size because of the increasing population-driven demands for public services and infrastructure, such as education and public safety.

An increase in state government general fund spending has not contributed to the large budget deficits of the last two economic downturns. Expenditures generally have remained between 4 and 5 percent of personal income since 1979, as seen in Chart 4. Expenditures decreased considerably in fiscal years 2002 and 2003 in order to balance the budget. After dropping to a record low of less than 4 percent of personal income in fiscal years 2003 and 2004, expenditures rose considerably through fiscal year 2007. However, the peak of 4.8 percent in FY2007 was typical of the pre-1996 figures.

Expenditures as a share of personal income began to drop in FY2008. The baseline shown in the chart for FY2009 uses appropriated expenditures, but spending cuts to narrow or close the current deficit almost certainly will lower the actual expenditures considerably. Instead of 4.56 percent for FY2009 in the baseline, the share likely will be closer to 4.1 percent — one of the lowest in the 30-year history.

Thus, the reduction in tax revenue during the last 15 years, not excessive spending, has been the main cause of the structural deficit. An outdated tax code that creates large cyclical swings in revenue and that causes revenue to grow more slowly than the pace of the overall economy contributes to the deficit. Many of the changes to the tax code during the last 15 years exacerbated the cyclical volatility and slow trend growth of revenue.

CHART 4
ARIZONA STATE GOVERNMENT GENERAL FUND EXPENDITURES
AS A PERCENTAGE OF PERSONAL INCOME, 1979 THROUGH 2009



Sources: Arizona Joint Legislative Budget Committee (expenditures) and U.S. Department of Commerce, Bureau of Economic Analysis (personal income).

ISSUES IN STATE GOVERNMENT FINANCE

The most pressing government finance issue facing state government is to balance the current year's budget. Shortly thereafter, it will be necessary to pass a balanced budget for the next fiscal year. After that, changes to the revenue system need to be made so that large budget deficits do not occur every time economic growth slows.

In the near term, insufficient revenue and the inability to adjust spending in some categories are the major issues. In order to resolve the long-term issues, shortcomings in the revenue system and in the budget stabilization fund need to be addressed.

Revenue

Like all states, Arizona's revenue system is dated, largely having been put into place decades ago. At that time, a high proportion of consumer spending was for goods, not services. Mining and agriculture were major economic activities. An efficient tax code for the early 20th century is an outmoded system for the 21st century.

Moreover, changes in Arizona's tax system over the last three decades, especially since the early 1990s, have made it less relevant to the contemporary economy and less stable. The state had a reasonably balanced system of tax collections as recently as the early 1990s, with tax revenue coming from multiple broad-based taxes as well as more narrow tax sources.

For the most stability in tax revenue, multiple tax sources should be used. In any economic cycle, different sources of tax revenue do not perform equally. For example, in the slump of the late 1980s and early 1990s, property tax collections suffered due to the crash in the real estate market. In the early 2000s slump, real estate values continue to rise, while income tax collections dropped considerably. In the current recession, collections are down from each of the major revenue sources, with the general sales tax experiencing a far larger hit than ever before.

Yet state government no longer benefits from using a real estate property tax. This lesser balance among major taxes is complicated by reductions in revenue from sources other than the sales, income, and property taxes. State government no longer receives general fund revenue from the vehicle license tax, a stable source over the economic cycle. Other than the insurance premium tax, revenue is insignificant from all other taxes. In addition, limited revenue is realized from nontax sources.

The state is more reliant than ever on the sales tax, which applies only to goods. This growing dependence results both from increases in the sales tax rate (at both the state and local levels) and decreases in rates of other taxes. As consumer spending shifts to more services, and to the purchase of goods online, growth in sales tax revenue can be expected to lag behind the gains of the general economy. Between 1992 and 2007, real per capita retail sales (a combination of the retail and restaurant and bar categories) rose 24 percent in Arizona, compared to a 33 percent increase in real per capita personal income.

Like the other tax sources, collections from the sales tax are highly cyclical, another reason not to place too much dependence on this source of revenue. Highway construction in Maricopa County in the late 1980s and early 1990s suffered from this cyclicity as the economy slumped

shortly after the 1985 public vote to increase the sales tax to build a freeway system. Another drawback to the sales tax is that it is not progressive like the property or income taxes, with more of the tax burden falling onto the less affluent.

A further complication to sound tax policy is the requirement that two-thirds of the Legislature vote for a tax increase while a simple majority can approve a tax reduction. In a situation like that currently faced by state government — a structural deficit that resulted from significant tax cuts and less significant spending reductions — a minority of legislators can dictate fiscal policy, reducing the number of options politically available to resolve the deficit.

Expenditures

An important concept in analyzing general fund expenditures is that much of the spending is “mandated” or “protected.” A recent analysis by the JLBC indicates that barely more than one-third of the approved 2009 appropriations of \$10.2 billion (rollover adjusted) is discretionary. Voter initiatives, primarily related to education and AHCCCS, place \$3.6 billion (35 percent) off limits to spending reductions. Statutory mandates, many required by the federal government, limit the possible spending reductions in another \$3.1 billion (30 percent) of the budget.

In the education category, by far the largest use of state government general fund appropriations, roughly half of the K-12 appropriation in FY2009 of more than \$4 billion is “protected” from budget cuts through voter-approved initiative. University funding is not protected by the voter initiative. The Board of Regents and the universities represent the largest single category of unprotected spending in the general fund.

However, Article 11, Section 10 of the Arizona Constitution states “... the legislature shall make such appropriations, to be met by taxation, as shall insure the proper maintenance of all state educational institutions, and shall make such special appropriations as shall provide for their development and improvement.” Given the substantial decline in funding over time for both the universities and K-12, and given Arizona’s low education spending relative to other states, it is unclear whether this constitutional requirement is being met.

In the health and welfare category, the second-largest use of state general fund monies, of the \$2.9 billion appropriated for FY2009, nearly half is protected by Arizona voter initiative. Much of the remainder is statutorily mandated, with many of the programs federal in nature. Of the \$1.4 billion appropriated for AHCCCS in FY2009, \$1 billion is required by voter initiative. Of the FY2009 appropriation for the Department of Health Services of \$0.6 billion, \$0.4 billion is voter protected.

The protection and safety category is the other major recipient of state general fund monies. With none of the spending for the Department of Corrections and the Department of Juvenile Corrections voter protected, the correctional system is the second-largest recipient of unprotected funding behind the universities.

While much of the rest of the state budget is unprotected, relatively little money is at stake. Outside of the three categories already discussed, all of the rest of state government receives less than 5 percent of the general fund appropriations, or under \$500 million in FY2009. Even if all

of this were eliminated — a completely unpractical idea — it would not reduce the current year budget deficit by even half.

Budget Stabilization Fund

The operation of the Budget Stabilization Fund (BSF), which was introduced to state government in 1990, was discussed in Volume I. The purpose of the fund is to save monies when surplus revenue is realized, to be spent during periods in which revenue falls short of appropriated expenditures. Since the BSF has not come close to meeting the needs in either of the recessions since the BSF was created, simulations of the operation of the BSF were made under various conditions.

The simulated operation of the budget stabilization fund, going back to the early 1970s, was run under three conditions: (1) under the original 15 percent cap, (2) under the current 7 percent cap, and (3) under the 15 percent cap, with general fund revenue adjusted up to reflect lesser tax cuts during the late 1990s. The results of the simulations since the early 1990s were compared to the actual operation of the BSF, as reported by the JLBC.

Each of the simulations used revised personal income, whereas the actual operation of the BSF uses a preliminary estimate. Interest earned was estimated in each of the simulations, using the federal funds rate.

In each of the three simulations, the BSF was depleted in each recession since the mid-1970s before transferring all of the formula-calculated monies to the general fund. A primary reason for the shortfall in the rainy-day fund is that the balance did not reach 15 percent in any of the economic expansions, and did not even reach 7 percent in two of the four expansions since the mid-1970s. Thus, the design of the BSF is faulty for the stated goal of providing enough monies for the general fund to hold general fund revenue steady in years in which general fund revenue declines due to an economic downturn.

In addition, it is clear that the current 7 percent cap on the BSF is inadequate. During the expansion of the 1990s, the BSF cap initially was 5 percent, then gradually rose to 7 percent. Because of this 7 percent cap, more than \$300 million was not transferred to the BSF during years of revenue surplus, with the funds instead being used to make permanent tax cuts. Thus, during the economic downturn that began in 2001, the amount available to transfer to the general fund was less than \$450 million, compared to more than \$800 million had the original BSF cap of 15 percent not been changed. (The BSF balance at the beginning of the downturn would have exceeded 12 percent.) The 7 percent cap also would have resulted in less transfer to the general fund during the mid-1970s and early 1980s recessions than if the cap had been higher.

Had the cap not been reduced during the 1990s, some of the tax cuts passed during this period could not have been implemented while still balancing the general fund as constitutionally required. In nominal terms, some \$300 million in tax cuts would not have been possible, one-fourth of the reductions implemented during this period. Adjusting for inflation and population growth, revenue in fiscal years 2002 through 2004, years in which a transfer from the BSF to the general fund was called for, would have been approximately \$425 million to \$450 million higher in each year. During these three years in which balancing the budget was difficult and involved

substantial spending reductions, revenue would have been about \$1.3 billion higher and an additional \$350 million would have been available to transfer from the BSF to the general fund.

In the current downturn, the 7 percent cap did not affect the balance in the rainy-day fund since the depletion of the fund during the previous downturn and the formula transfers would have produced a BSF balance of only 4 percent. However, by not making the \$300 in tax cuts during the late 1990s, inflation- and population-adjusted revenue would be around \$500 million per year higher. In this scenario, spending cuts and/or revenue enhancement still would be needed to balance the budget in the current fiscal year and in the next year, but the magnitude of the deficit would not be as large.

That a sizable deficit remains even in the scenario of a higher BSF cap and lesser tax cuts during the late 1990s indicates not only that the operation of the BSF is faulty, but that the adjusted amount of tax cuts implemented since the early 1990s still was much too large given the amount of spending reductions implemented. A stronger rainy-day fund would have precluded some of the tax cuts from being passed, not only in the late 1990s but in recent years as well.

The actual operation of the BSF is considerably different from that modeled, even in the second simulation of a 7 percent cap. While the simulations used actual personal income instead of the personal income estimates used in each year, the largest cause of the variance is that the Legislature rarely has made transfers to or from the BSF in accordance to the amount calculated by formula. While slightly fewer monies were actually deposited to the BSF during the prior expansion than called for by the formula, the Legislature fully funded the BSF (up to the 7 percent limit) in recent years, considerably exceeding the transfers calculated from the formula.

Resolving the Current Deficit

Arizona's economy has been in recession since autumn 2007. Already lengthy, the economic downturn in the state will be prolonged and worsened by a deepening national and global downturn.

During a recession, the demand for goods and services provided by many private-sector companies declines, as consumers experience job losses, wage reductions, investment losses, or simply become more cautious in their spending. As a result, companies need fewer employees and employment in the private sector falls.

Unlike much of the private sector, the demand for most public-sector services does not decline during a recession (though the pace of increase in demand slows). For example, children continue to attend school, workers continue to use roads and highways, households continue to produce trash and wastewater, and needs for fire protection do not abate. In some government functions, the demand for public services is countercyclical, rising during an economic recession. The demand for public safety rises since crime tends to increase during hard economic times. The demand for unemployment benefits, food stamps, and other public assistance is higher during recessions due to increases in the number of unemployed and to reductions in income among those still working.

Despite the need for stable, if not increasing, funding during recessions, ever since the first round of tax cuts were passed in the 1979-to-1981 period, general fund revenue during economic downturns has been inadequate to meet the expenditure needs. The budget deficits during the early 1980s recession and during the late 1980s-to-early 1990s downturn were resolved through a combination of spending reductions and tax increases. In the early 2000s, the deficits were resolved through spending reductions and transfers from the rainy-day fund. So far in the current recession, transfers from the rainy-day fund and spending cuts have been used. The magnitude of the projected deficits in the current and subsequent fiscal year present an enormous challenge: either revenue will need to be raised, or spending cuts will have to be far more drastic than ever before.

The budget stabilization fund was designed to largely mitigate the need for spending reductions during recessions, but changes to the original statute, particularly the reduction in the cap from 15 percent to 7 percent, left the BSF unable to serve its intended function. Balancing the budget by spending reductions has been made more difficult by the increasing proportion of funding that is protected from cuts by voter-approved initiatives or statutory mandates. The JLBC estimates that 66 percent of the 2009 general fund appropriation is off limits to spending cuts.

In the last fiscal year, the general fund revenue was more than \$1 billion short of the appropriated expenditures. A large transfer from the rainy-day fund and a variety of accounting techniques were used to balance last year's budget such that only modest spending cuts were required. Since these accounting maneuvers work only once, they are not available to resolve the projected deficit in the current fiscal year.

To appreciate the severity of the current economic downturn, the projection of the state government's general fund budget deficit in the current fiscal year is \$1.2 billion (beyond the deficit in the last year), but this deficit projection will climb if the economy continues to worsen. Some of this deficit will be made up by monies currently in other funds. In addition to the \$120 million balance in the rainy-day fund, the Governor's budget management plan released on October 1, 2008 assumes that \$50 million is available to transfer from other funds, and at least \$75 million is available from revenue enhancements. Considering these transfers, the general fund shortfall still is projected to be near \$1 billion in the current fiscal year.

Further complicating the resolution of this year's deficit is that a larger deficit is projected for the next fiscal year. Thus, even if the federal government helps to bail out the state government in this fiscal year, it is likely that the state still will need to take significant actions to balance the budget in the next fiscal year. The magnitude and timing of any influx of federal funds is speculative, such that the state cannot rely upon this as a possible solution.

While a \$1 billion deficit after fund transfers represents 10 percent of total general fund appropriations in the current fiscal year, it is nearly 30 percent of the portion of the appropriations that is "discretionary." Since significant spending reductions are unlikely to be applied to large portions of the discretionary budget, such as the correctional system, the spending reductions necessary to balance the budget in the remaining categories would be huge.

The shortfall will need to be eliminated through spending cuts and/or revenue enhancements. The two-thirds requirement for a tax increase makes the latter option less likely to be implemented. However, imposed decreases in public spending during recessions come at the same time that demand for public services is stable or rising, resulting in a reduction in the quantity and/or quality of government services. For the most disadvantaged of those consuming public services, real hardship can ensue.

Spending reductions by governments during recessions not only negatively affect those being served, but also worsen economic conditions. The spending cuts take the form of reductions in government employment and in government purchases of goods and services from the private sector. The latter obviously has a detrimental effect on those private-sector companies selling directly to the public sector. Governor Napolitano's directive of October 8, 2008 to freeze contracts in excess of \$50,000 was the first step in this process.

Government workers laid off during a recession have little hope of finding another job in Arizona in the near term. If unemployed workers leave Arizona to seek employment opportunities in a state less hard hit by the recession, then all of the expenditures that the former workers made at private-sector companies will be lost to the Arizona economy, as will the sales taxes and other public-sector taxes and fees paid by the former workers.

If unemployed government workers remain in Arizona, their spending will decline, negatively affecting the companies at which the former workers shop, and also adversely affecting the collection of sales taxes, on which Arizona's governments are disproportionately dependent. Thus, in addition to reducing demand for private-sector goods and services, cutting the public-sector workforce will cause public-sector revenue to decline.

Further, laid-off government employees will be eligible for unemployment insurance payments and may qualify for other public welfare, such as food stamps. Thus, the savings to state government of not paying the former workers' salaries and benefits will be partially offset by rising payments to the ex-workers for unemployment insurance and other public welfare programs.

The result of state spending cuts of \$1 billion would be to very significantly worsen and lengthen the economic recession. A total of approximately 20,000 workers (8,000 state government and university workers and 12,000 others) might lose their jobs.

The reduction of government spending during a recession has the effect of trying to balance the public budget on the backs of a relatively small share of the state's residents and businesses — primarily the laid-off workers, and secondarily the private-sector companies (and their employees) at which the laid-off workers shop.

Spending Reductions Compared to Revenue Increases

Spending reductions are not the only way to balance the budget. The Governor's Budget Management Plan released on October 1, 2008 includes nontax revenue enhancements, though no details are presented in the plan. In any case, nontax revenue enhancements will not be

adequate to close most of the likely shortfall (after transfers from other funds) in the state government general fund.

Additional funding also would be available by increasing tax rates. An increase in taxes was one of the methods used to balance the budget during the lengthy economic decline of the late 1980s and early 1990s, another economic downturn disproportionately caused by the boom-bust cycle in real estate.

The overall tax burden in Arizona currently is well below the national average. The relative tax burden on individuals is even lower, given that some taxes on businesses are high relative to other states. Assuming that little of any tax increase would be levied on businesses, the negative economic effect of a tax increase would be no larger than that of a government spending decrease. In fact, it should be less. Some of the tax payments would come from personal savings. A portion of a tax increase would be exported to nonresidents and to the federal government (since state taxes are federally deductible).

In order to reduce the effect on lower-income individuals, any tax increase could be made to be highly progressive. The primary negative effect of a tax increase that largely spares lower-income households would be that middle- and upper-income households would have less money to spend in the private sector. But the effect would be spread throughout the state. Individual households and businesses would suffer slightly, in contrast to the substantial negative effects on a relatively small number of individuals and businesses that would result from a government spending reduction. Further, individuals — whether state government employees or the disadvantaged who are highly dependent on public assistance — would not be devastated in the tax increase option.

For perspective, a tax increase of \$1 billion that affected individuals only would equate to only about \$150 per Arizona resident, or \$400 per household. In reality, some of the tax increase would be exported to tourists and seasonal residents. The tax increase also would be deductible from the federal income tax. Thus, the per person tax increase would be less than \$150.

Such a tax increase would be considerably less than the rebate in federal taxes that most Arizonans received in May and would offset only approximately one-third of the state tax cuts implemented between 1993 and 2008. According to the Tax Foundation rankings for 2008, even with an increase of this magnitude Arizona still would retain its low-tax status. Assuming no changes in the tax burdens of other states, Arizona's rank would be 37th, one spot lower than Mississippi.

Without enhancing revenue, state government will be unable to adequately support a growing population. In particular, Arizona faces substantial infrastructure needs over the next quarter century.