

CHANGES IN STATE GOVERNMENT SPENDING COMPARED TO CHANGES IN INCOME IN ARIZONA SINCE 1990

A Report from the Office of the University Economist

March 2007

Dennis Hoffman, Ph.D.

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

Tracy Clark, M.S.

Associate Director, JPMorganChase Economic Outlook Center

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

Various measures of Arizona state government expenditures suggest that state spending has increased substantially, both in recent years and during a longer period stretching back to 1990. However, increases are much more modest after adjusting for inflation and the state's rapid population growth. Further, the spending increases generally have been in line with the gains in various measures of income.

The Arizona Joint Legislative Budget Committee is the source of all state spending figures used in this report. Budgeted spending in the current fiscal year (fiscal year 2007, running from July 1, 2006 through June 30, 2007) is shown in Table 1. Various measures of state government expenditures are provided. The first measure is simply that of the total general fund.

The second spending measure excludes various miscellaneous expenditures, as detailed in the notes in Table 1 for the last three fiscal years. These miscellaneous expenditures frequently are one-time items and in all cases are not regularly recurring. Examples include payments ordered in court decisions, such as the Ladewig class action case regarding taxation of dividends received from non-Arizona corporations and the Kerr litigation related to taxation of federal government employees' retirement contributions.

A third spending measure excludes Students' FIRST (Fair and Immediate Resources for Students Today). Due to a court decision that declared Arizona's means of funding school construction to be unconstitutional, the Students' FIRST measure was signed into law in 1998. Funding for capital projects that had come from general obligation bonds now is appropriated from the general fund. Thus, exclusion of this funding maintains a consistent time series of general fund expenditures going back to 1990. A fourth spending measure excludes both Students' FIRST and the miscellaneous expenditures.

The fifth, sixth and seventh measures combine the general fund with the dedicated education fund created by Proposition 301, which was passed in November 2000. This proposition increased the state sales tax by 0.6 percentage points for 20 years to provide financial support for specific statewide education programs. Spending related to Proposition 301 is consistent with expenditures made out of the general fund.

Annual average increases in state government spending have been calculated over two time periods: (1) between fiscal year 1991 (a recessionary year) and the current fiscal year, a 16-year period, and (2) between fiscal year 2001 (a recession began during this fiscal year) and the current fiscal year, a six-year period. Percentage changes are expressed three ways: unadjusted (nominal), adjusted for inflation (real), and real per person. In all seven spending measures, annual average increases in the fiscal year 2001-to-2007 period have been greater than in the longer period. Increases in the longer period have not varied substantially across the various spending measures, but the differences have been greater in the more recent period.

Adjusting for both inflation and population growth, annual average increases in the various state government expenditure measures have been 2 percent or less over the last 16 years. The broadest measure — the total of the general fund and Proposition 301 — has had the largest gain at 2.1 percent per year, while the most narrow measure — general fund less Students' FIRST and

**TABLE 1
MEASURES OF STATE GOVERNMENT EXPENDITURES AND INCOME, ARIZONA**

State Government Expenditures (Fiscal Year)	Nominal In Millions FY 2007	Annual Average Growth Rate					
		Nominal		Real		Real Per Capita	
		FY 1991- 2007	FY 2001- 2007	FY 1991- 2007	FY 2001- 2007	FY 1991- 2007	FY 2001- 2007
General Fund:							
Total	\$10,071	7.3%	8.1%	5.0%	5.5%	1.7%	2.3%
Less Miscellaneous*	9,686	7.1	7.5	4.8	4.9	1.4	1.7
Less Students' FIRST	9,657	7.0	8.8	4.8	6.1	1.4	3.0
Less Students' FIRST and Miscellaneous	9,273	6.8	8.1	4.5	5.5	1.2	2.3
General Fund and Proposition 301:							
Total	10,706	7.7	9.3	5.4	6.6	2.1	3.4
Less Students' FIRST	10,292	7.5	9.8	5.2	7.3	1.8	3.9
Less Students' FIRST and Miscellaneous	9,908	7.2	9.3	4.9	6.6	1.6	3.4
Income (Calendar Year)	2006	1990-2006	2000-2006	1990-2006	2000-2006	1990-2006	2000-2006
Personal Income	\$193,443	7.3	6.5	5.0	3.9	1.6	0.9
Federal Adjusted Gross Income:							
Resident	139,139	8.2	7.2	5.8	4.6	2.5	1.5
Nonresident	126,451	17.1	12.7	14.5	10.0	10.9	6.8
Total	265,590	11.0	9.6	8.6	6.9	5.2	3.8
Nonresident Earned in Arizona	10,687	11.6	12.3	9.2	9.5	5.8	6.4
Total Earned in Arizona	149,826	8.4	7.5	6.0	4.9	2.6	1.8

* Miscellaneous includes the following:

Budget Stabilization Fund Deposit: \$156 million in FY 2005, \$475 million in FY 2006 and \$10 million in FY 2007

Highway Fund Deposit: \$245 million in FY 2007

Ladewig Litigation: \$58 million in FY 2006 and \$95 million in FY 2007

Kerr Litigation: \$15 million in FY 2007

Water Banking Deposit: \$13.5 million in FY 2007

Arts Endowment Fund Payoff: \$5 million in FY 2007

Commission for the Deaf Fund Deposit: Less than \$1 million in FY 2007

Arizona 21st Century Fund Deposit: \$35 million in FY 2006

Health Insurance Trust Fund Deposit: \$10 million in FY 2006

Unallocated Adjustments: Less than \$1 million in each of last three fiscal years

Source: Calculated from Arizona Joint Legislative Budget Committee, Arizona Department of Revenue, and U.S. Department of Commerce, Bureau of Economic Analysis.

miscellaneous expenditures — has had the smallest advance at 1.2 percent per year. During the last six years, each of the measures that combine the general fund and Proposition 301 have had greater increases than the measures of the general fund only. The largest increase of 3.9 percent per year is in the category of the general fund plus Proposition 301, less Students' FIRST. The smallest advance of 1.7 percent per year is in the general fund less miscellaneous spending category.

Typically, personal income, reported by the U.S. Department of Commerce's Bureau of Economic Analysis, has been used as a comparison to government spending. The BEA defines personal income as the income received by, or on behalf of, all the residents of an area from all sources. It consists of wage and salary disbursements, supplements to wages and salaries, proprietors' income, dividends, interest and rent, and personal current transfer receipts.

However, taxable income is a more relevant, though less readily available, measure of income to compare to government spending. The abstract of individual income tax payers produced by the Arizona Department of Revenue is the source of the taxable income data, specifically defined as the federal adjusted gross income reported in income tax returns. According to the BEA, this measure of income varies substantially from personal income. A number of components that are not taxed are included in personal income, such as employer contributions to health and pension funds and several types of imputed incomes. In contrast, personal income excludes some types of taxable income, notably capital gains.

Personal income and various measures of adjusted gross income are included in Table 1. These figures are presented on a calendar year basis, with 2005 the latest data available. Estimates have been made for 2006, to align with the current fiscal year expenditure data. The 2006 taxable income estimates were derived from income tax withheld and from payments already made.

The taxable income figures vary substantially from those of personal income by showing considerably more rapid growth over both the 1990-to-2006 and 2000-to-2006 periods. This more rapid growth has occurred particularly in certain years, including the last few years and the late 1990s. Strong stock market gains boosted taxable income but not personal income in the late 1990s. Rapid appreciation in real estate values have led to gains in taxable income greater than those of personal income in the last few years.

As seen in Table 1, each of the measures of taxable income has increased more than personal income, over both time periods. Over the 16-year period, the increase in personal income has been roughly equivalent to the increases in the various spending measures: a bit less than in the combined figures for the general fund and Proposition 301 and for the general fund, but a little more than in the measures of the general fund that subtract Students' FIRST and miscellaneous expenditures. In contrast, each of the measures of taxable income has increased more than each of the measures of spending.

The correspondence of state government expenditure growth and income growth should not be a surprise. The Arizona Constitution has a balanced budget requirement and also limits spending as a percentage of personal income. Thus, increases in expenditures must derive from gains in revenues, which in turn are closely tied to incomes.

The income-to-spending comparison is a little more complex over the last six years. While personal income has climbed less over this period than each of the spending measures, some taxable spending measures have increased more than some spending measures, but others have increased less. Focusing on the total income earned in Arizona (the last line of Table 1), incomes have increased less than spending except for the measure of the general fund less miscellaneous spending.

A year-by-year comparison of state government spending (each of the seven measures of state spending presented in Table 1) to income is shown in Tables 2 through 5, expressed simply as spending as a percentage of income. In Table 2, the comparison is to personal income. In each measure, spending as a percentage of personal income was highest in fiscal year 1992, but did not change much during the 1990s. The impact of the economic cycle is obvious in the table, with the percentages starting to fall in fiscal year 2001 (the start of the recession) and reaching a cyclical low in fiscal year 2003 for each measure. Since then, each of the percentages has rebounded to approximately the levels of the 1990s. The combined general fund and Proposition 301 measure is the only one in which the fiscal year 2007 percentage is greater (by 0.1) than the peak of the 1990s. The other measures, particularly that of the general fund less Students' FIRST and miscellaneous spending, had a fiscal year 2007 percentage less than the fiscal year 1992 peak.

**TABLE 2
STATE GOVERNMENT EXPENDITURES
AS A PERCENTAGE OF PERSONAL INCOME, ARIZONA**

Fiscal Year	General Fund Less				General Fund plus Prop. 301 Less		
	Total	Miscellaneous	Students First	Students First & Misc.	Total	Students First	Students First & Misc.
1991	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%	5.2%
1992	5.4	5.4	5.4	5.4	5.4	5.4	5.4
1993	5.3	5.3	5.3	5.3	5.3	5.3	5.3
1994	5.2	5.2	5.2	5.2	5.2	5.2	5.2
1995	5.3	5.1	5.3	5.1	5.3	5.3	5.1
1996	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1997	4.9	4.9	4.9	4.9	4.9	4.9	4.9
1998	4.9	4.9	4.9	4.9	4.9	4.9	4.9
1999	5.1	5.1	4.8	4.8	5.1	4.8	4.8
2000	4.9	4.9	4.7	4.7	4.9	4.7	4.7
2001	4.7	4.7	4.4	4.4	4.7	4.4	4.4
2002	4.5	4.5	4.2	4.2	4.8	4.6	4.6
2003	4.1	4.1	4.1	4.1	4.4	4.4	4.4
2004	4.3	4.3	4.3	4.3	4.6	4.6	4.6
2005	4.5	4.4	4.4	4.3	4.8	4.7	4.6
2006	5.0	4.7	4.8	4.5	5.4	5.2	4.8
2007	5.2	5.0	5.0	4.8	5.5	5.3	5.1

Source: Calculated from Arizona Joint Legislative Budget Committee and U.S. Department of Commerce, Bureau of Economic Analysis.

In Table 3, state government expenditures are expressed as a percentage of Arizona resident federal adjusted gross income. The highest percentage varies by measure between fiscal year 1992 and fiscal year 1995, while the lowest percentage for most measures occurred in fiscal year 2001. Though the percentage for each of the measures has climbed from the cyclical low, the fiscal year 2007 figure remains considerably below the peak of the prior economic cycle. For most measures, the fiscal year 2007 percentage is less than that of each year during the 1990s. Even including Proposition 301, total spending relative to income in fiscal year 2007 is less than that of the general fund alone from fiscal years 1991 through 1996.

**TABLE 3
STATE GOVERNMENT EXPENDITURES AS A PERCENTAGE
OF RESIDENT FEDERAL ADJUSTED GROSS INCOME, ARIZONA**

Fiscal Year	General Fund				General Fund plus Prop. 301		
	Total	Miscellaneous	Students First	Students First & Misc.	Total	Students First	Students First & Misc.
1991	8.2%	8.2%	8.2%	8.2%	8.2%	8.2%	8.2%
1992	8.5	8.5	8.5	8.5	8.5	8.5	8.5
1993	8.4	8.4	8.4	8.4	8.4	8.4	8.4
1994	8.5	8.4	8.5	8.4	8.5	8.5	8.4
1995	8.7	8.3	8.7	8.3	8.7	8.7	8.3
1996	7.9	7.9	7.9	7.9	7.9	7.9	7.9
1997	7.5	7.5	7.5	7.5	7.5	7.5	7.5
1998	7.4	7.3	7.4	7.3	7.4	7.4	7.3
1999	7.5	7.4	7.1	7.0	7.5	7.1	7.0
2000	7.1	7.1	6.7	6.7	7.1	6.7	6.7
2001	6.9	6.8	6.4	6.3	6.9	6.4	6.3
2002	6.9	6.9	6.5	6.5	7.4	7.0	7.0
2003	6.6	6.6	6.5	6.5	7.0	7.0	7.0
2004	6.8	6.8	6.8	6.8	7.3	7.2	7.2
2005	6.9	6.8	6.7	6.6	7.4	7.2	7.1
2006	7.2	6.7	6.8	6.4	7.6	7.3	6.9
2007	7.2	7.0	6.9	6.7	7.7	7.4	7.1

Source: Calculated from Arizona Joint Legislative Budget Committee and Arizona Department of Revenue.

State government expenditures as a percentage of total (resident and nonresident) federal adjusted gross income are presented in Table 4. Though not all of the income was earned in Arizona, the figures represent the incomes of people who were in the state for at least a portion of the year and who relied on public services while in the state. The highest percentage on each spending measure occurred in fiscal year 1992 and the lowest occurred in fiscal year 2006. The fiscal year 2007 percentages are the same or slightly higher than those in fiscal year 2006. Thus, the incomes of nonpermanent residents of Arizona have increased considerably in recent years, causing these percentages to fall substantially.

**TABLE 4
STATE GOVERNMENT EXPENDITURES AS A PERCENTAGE
OF TOTAL FEDERAL ADJUSTED GROSS INCOME, ARIZONA**

Fiscal Year	General Fund				General Fund plus Prop. 301		
	Total	Miscellaneous	Students First	Students First & Misc.	Total	Students First	Students First & Misc.
1991	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%
1992	6.9	6.9	6.9	6.9	6.9	6.9	6.9
1993	6.7	6.7	6.7	6.7	6.7	6.7	6.7
1994	6.6	6.6	6.6	6.6	6.6	6.6	6.6
1995	6.7	6.4	6.7	6.4	6.7	6.7	6.4
1996	5.9	5.9	5.9	5.9	5.9	5.9	5.9
1997	5.5	5.5	5.5	5.5	5.5	5.5	5.5
1998	5.3	5.3	5.3	5.3	5.3	5.3	5.3
1999	5.4	5.3	5.1	5.0	5.4	5.1	5.0
2000	4.3	4.3	4.1	4.1	4.3	4.1	4.1
2001	4.1	4.1	3.8	3.8	4.1	3.8	3.8
2002	4.3	4.3	4.1	4.1	4.6	4.4	4.4
2003	4.2	4.2	4.2	4.2	4.5	4.5	4.5
2004	4.1	4.1	4.1	4.1	4.4	4.4	4.4
2005	3.9	3.8	3.8	3.7	4.2	4.0	4.0
2006	3.7	3.5	3.6	3.3	4.0	3.8	3.6
2007	3.8	3.6	3.6	3.5	4.0	3.9	3.7

Source: Calculated from Arizona Joint Legislative Budget Committee and Arizona Department of Revenue.

While Table 3 considers only the incomes of state residents and Table 4 includes the total income of all filing Arizona income tax returns, Table 5 presents an intermediate alternative, that of all income earned in Arizona, whether by residents or nonresidents. The percentages in Table 5, comparing state government spending to total federal adjusted gross income earned in Arizona, are slightly lower than those in Table 3, with the rise in percentage from the cyclical trough marginally less based on total income.

Federal adjusted gross income earned in Arizona totaled \$150 billion in 2006. Personal income was about \$193 billion. Thus, a significant portion of personal income is not considered taxable (by either the federal government or Arizona). In addition, some income considered taxable is not included in personal income, further widening the difference between personal income and taxable income. The federal adjusted gross income measures align with the sum of wages and salaries and proprietors' income, plus dividends, interest and capital gains. The latter are not adequately represented in personal income, at least on a current-year basis. As a result of large increases in capital gains due to the stock market and to housing appreciation, federal adjusted gross income has increased more than personal income.

TABLE 5
ARIZONA STATE GOVERNMENT EXPENDITURES AS A PERCENTAGE
OF FEDERAL ADJUSTED GROSS INCOME EARNED IN ARIZONA

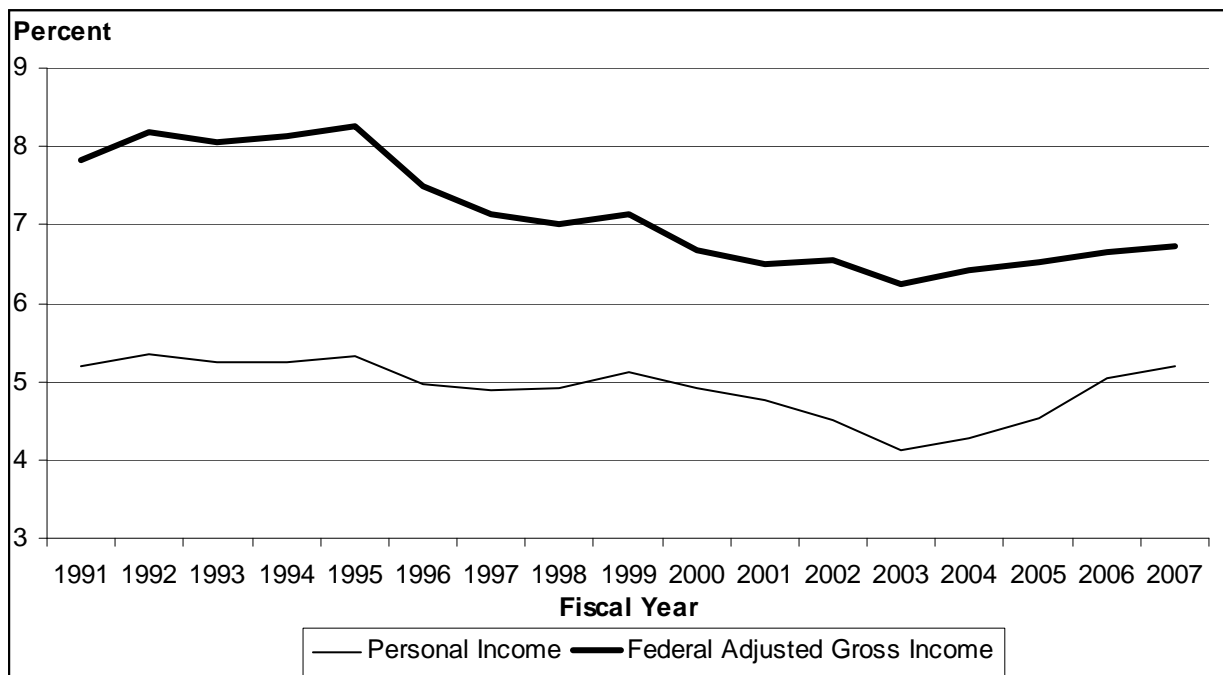
Fiscal Year	General Fund				General Fund plus Prop. 301		
	Total	Miscellaneous	Students First	Students First & Misc.	Total	Students First	Students First & Misc.
1991	7.8%	7.8%	7.8%	7.8%	7.8%	7.8%	7.8%
1992	8.2	8.2	8.2	8.2	8.2	8.2	8.2
1993	8.1	8.1	8.1	8.1	8.1	8.1	8.1
1994	8.1	8.0	8.1	8.0	8.1	8.1	8.0
1995	8.3	7.9	8.3	7.9	8.3	8.3	7.9
1996	7.5	7.5	7.5	7.5	7.5	7.5	7.5
1997	7.1	7.1	7.1	7.1	7.1	7.1	7.1
1998	7.0	7.0	7.0	7.0	7.0	7.0	7.0
1999	7.1	7.0	6.7	6.7	7.1	6.7	6.7
2000	6.7	6.7	6.3	6.3	6.7	6.3	6.3
2001	6.5	6.5	6.0	6.0	6.5	6.0	6.0
2002	6.6	6.6	6.2	6.2	7.0	6.6	6.6
2003	6.2	6.2	6.2	6.2	6.7	6.6	6.6
2004	6.4	6.4	6.4	6.4	6.9	6.9	6.9
2005	6.5	6.4	6.3	6.2	7.0	6.8	6.6
2006	6.6	6.2	6.4	5.9	7.1	6.8	6.4
2007	6.7	6.5	6.4	6.2	7.1	6.9	6.6

Source: Calculated from Arizona Joint Legislative Budget Committee and Arizona Department of Revenue.

Selected percentages are shown graphically in Charts 1 and 2. In both charts, spending is shown as a percentage of (1) personal income and (2) federal adjusted gross income earned in Arizona. Total general fund expenditures are shown in Chart 1, while the narrowest spending measure (general fund less Students' FIRST and miscellaneous) is displayed in Chart 2.

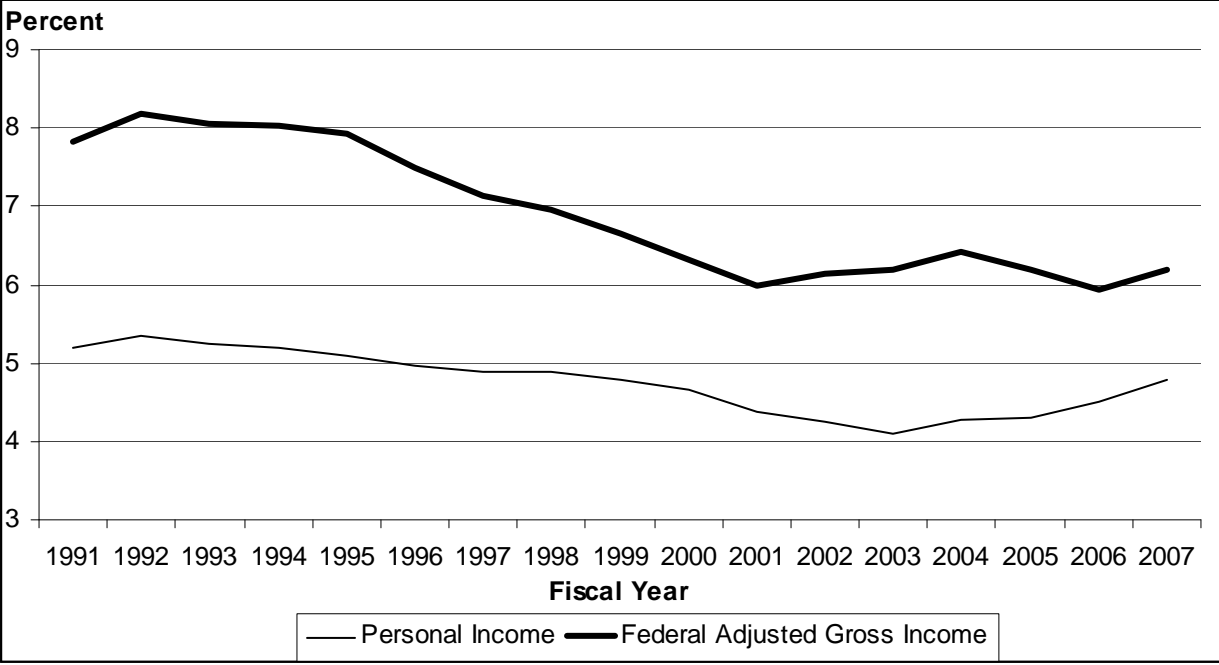
Even as a percentage of personal income, state government expenditures have not increased at an undue rate since 1990. When compared to federal adjusted gross income, state spending since 1990 has fallen. Had state spending kept pace with the 8.4 percent nominal annual average rate since 1990 of total taxable income earned in Arizona, general fund spending in fiscal year 2007 would have been \$11.7 billion — \$1 billion higher than the actual sum of the general fund and Proposition 301.

**CHART 1
ARIZONA TOTAL STATE GOVERNMENT GENERAL FUND EXPENDITURES
AS A PERCENTAGE OF PERSONAL INCOME AND FEDERAL ADJUSTED GROSS
INCOME EARNED IN ARIZONA**



Source: Calculated from Arizona Joint Legislative Budget Committee, Arizona Department of Revenue, and U.S. Department of Commerce, Bureau of Economic Analysis.

CHART 2
ARIZONA STATE GOVERNMENT GENERAL FUND EXPENDITURES LESS STUDENTS FIRST AND MISCELLANEOUS AS A PERCENTAGE OF PERSONAL INCOME AND FEDERAL ADJUSTED GROSS INCOME EARNED IN ARIZONA



Source: Calculated from Arizona Joint Legislative Budget Committee, Arizona Department of Revenue, and U.S. Department of Commerce, Bureau of Economic Analysis.