State of Nevada
Controller's Annual Report

Ron Knecht, State Controller Geoffrey Lawrence, Assistant Controller

For Fiscal Year Ended June 30, 2017

Highlights and Table of Contents

I. State Spending (pages 2-3) – In FY17 and over the long term, state spending has grown faster than Nevada's economy, thus imposing an ever larger real burden on Nevada families and businesses, whose real incomes have fallen significantly over the last decade. Rapid increases in spending on Health and Social Services (HSS) and K-12 education are driving state spending growth. HSS and education (K-12 and higher) accounted for 77% of total state spending of $12.3 billion in FY17, while all other state spending in total declined significantly in real terms since FY06.

II. State Revenues (pages 4-6) – Non-tax revenues – grants and contributions to the state, charges for services and contract revenues – have grown very rapidly (65% faster than Nevada's economy) to comprise 56% of total state FY17 revenues of $13.4 billion. Total tax revenues grew only slightly faster than the state economy, and they provide the other 44%. Gaming and property tax revenues fell sharply in real terms while tax revenues from non-gaming businesses (including unemployment assessments) rose greatly. The burden carried directly by consumers and residents (not including the pass-through effects of business taxes) grew only half as fast as their incomes.

III. Health and Social Services (pages 6-7) – Large amounts of revenues from federal HSS grants cannot be redirected to other areas. HSS spending is the largest category of state spending, and it has grown fastest, driven mainly by federal mandates. Medicaid is 64.6% of the HSS total, and that percentage has increased recently due to Nevada's decision to embrace provisions of the federal Affordable Care Act of 2010. Nevada Medicaid spending will increase in coming years, and federal funding that has supported it is uncertain, even as it delivers poor health care results. The doubling in the last 25 years of the fraction of national income spent on health care reflects inefficiency from increasing socialization of health care and insurance.

IV. Primary, Secondary and Higher Education (pages 8-9) – State funding of K-12 education has increased at more than twice the rate of incomes of Nevada families and businesses over the long term. Research has continuously demonstrated little correlation between student achievement and spending; so, in the absence of K-12 policy reform, it is unsurprising that the quality of Nevada education has remained low despite major funding increases. Substantial parts of the cost of higher education have been shifted from taxpayers to students and their families in Nevada, as elsewhere. Higher education compensation in Nevada and all states is very high. All levels of education suffer administrative bloat and operating inefficiency.

V. Public Employee Compensation and Benefits (pages 9-11) – Current compensation of state employees, except those in higher education, is overall at market levels, but higher for lower-level positions and lower for top-end jobs. Nevada local government compensation is among the highest in the nation and continues to require increases in taxes that are already very high. Public Employee Retirement System contributions required of state employees (higher education does not participate in PERS) and from taxpayers continue to rise in real terms. PERS coverage of local government employees is almost completely paid by taxpayers and is rising to unsustainable levels. PERS relies on high estimates of future investment returns and member growth to hide a growing under-funding problem that threatens financial disaster for Nevada. We propose reasonable levels: 5% expected returns; and 2.5% annual membership growth based on experience. On the other hand, in investment management PERS has rightly embraced indexing in all areas that can be indexed.

VI. Economic Outlook (pages 11-22) – We identify four secular trends that have suppressed U.S. economic growth in the last decade, thus explaining the "new normal" of long-term slow economic growth. The first trend is the continuing growth of government relative to the economy, reflected in public spending, taxes, deficits, debt, regulation of all kinds, and other government interventions. Until 2000, this growing deadweight loss was offset by three growth-inducing factors: 1) demographic and other trends that increased labor-force participation; 2) the growth of financial leveraging (debt); and 3) rapid growth in emerging

Demographic Information

	FY 2017	FY 2006	% Change
Population (end of fiscal year)	2,998,039	2,522,658	19%
Per Capita Income	43,689	38,717	13%
Debt per Capita	1,024	1,504	-32%
Personal Income *	130,980	97,670	34%
Gross State Product *	149,842	124,055	21%
Inflation Index (mid-year)	251	203	24%
K-12 Public School Enrollment	492,416	390,966	26%
Higher Education Enrollment (FTE)**	72,897	62,511	17%

*Figures in Millions **FTE stands for full-time equivalent

economies, plus globalization of firms, increasing trade and foreign direct investment. Turnarounds in recent years in all three trends mean they too now create an ever greater drag on our economy and produce slow real economic growth of 2% or less annually (1% per-person). Recent federal reforms may help reverse losses due to government over-reach if maintained and greatly supplemented for decades, but tariff increases will vitiate these reforms. We also address innovation, technological progress and productivity; cost disease; income and wealth distribution; and state-specific data that show Nevada is not an exception to national trends.

VII. Policy Prescriptions (pages 22-23) – Public policy should serve the wellbeing of the people of Nevada and the broad public interest. This means maximizing economic growth, because growth determines aggregate human wellbeing and the policies that maximize it are also those fair to all. Thus, for a long time to come, Nevada needs to rein in the size, scope and reach of government to get it back within optimal levels. We also need to adopt policies that help reverse the other three long-term adverse secular trends and that move Nevada away from cronyism toward true entrepreneurship and economic dynamism.

This Controller's Annual Report (CAR) provides Nevada citizens, officials and others a summary of key facts, data, analysis and issues on the state's fiscal condition and challenges. For additional detail, please see our Comprehensive Annual Financial Report and other materials available at controller.nv.gov. The Controller has a statutory charge to recommend plans for: support of public credit; promoting frugality and economy; better management of the state's fiscal affairs; and better understanding of them. This CAR first summarizes and analyzes state spending and revenue sources over the last decade, and provides detail and policy recommendations for major spending areas. Then it presents the long-term economic outlook for Nevada. It ends with some policy prescriptions for better serving the public interest and the Controller's statutory charges.

I. STATE SPENDING: How Does Nevada Spend Your Tax and Fee Dollars?

Table 1 below analyzes Nevada state spending by category. Key conclusions follow.

Table 1: Nevada State Spending Analysis

State Spending by Category	FY2017 $ Figures in Millions (1)	FY2006 $ Figures in Millions (1)	Percent of FY17 Spending	Growth Rate % 2006-17	2006-17 Real Per Person % Growth	% Growth in Tax & Fee Payers' Real Burdens (2)
Health and Social Services	$ 5,502	$ 2,199	45	150	68	87
K-12 Education (3)	2,215	1,240	18	79	14	33
Law, Justice and Public Safety	751	578	6	30	-13	-3
Higher Education (3)	571	706	5	-19	-44	-40
Unemployment Insurance	313	239	3	31	-12	-2
Recreation, Interest & Miscellaneous	348	404	3	-14	-42	-36
Regulation of Business	140	102	1	38	-7	3
General Government	351	371	3	-5	-36	-29
Transportation	841	508	7	66	12	24
Subtotal	**11,033**	**6,347**	**90**	**74**	**17**	**30**
Discretely Reported Component Units						
Higher Education, Net of Payments from State of NV (3)	1,211	594	10	104	41	52
Other Discretely Reported Component Units	46	125	1	-63	-74	-72
Discretely Reported Component Units Total	**1,257**	**719**	**10**	**75**	**21**	**30**
State Total Spending (Gov., Bus., Disc.)	**$ 12,290**	**$ 7,066**	**100**	**74**	**17**	**30**
Subcomponents and Statistics of Interest						
All Other Gov't. (Except HSS, K12 & NSHE)	$ 2,790	$ 2,328	23	20	-19	-11
Nevada Economy: Personal Income (FY) ($M)	$ 130,980	$ 97,670	NA	34	-10	NA
Nevada Economy: Gross State Prod. (FY) ($M)	$ 149,842	$ 124,055	NA	21	-19	NA
Inflation (BLS West-Urban CPI-U Index, FY)	251	203	NA	24	NA	NA
Nevada Population (FY average)	2,969,049	2,477,401	NA	20	NA	NA

(1) Data are taken from CAFR and CAFR workpapers. For consistency, Cultural Affairs spending is reported both years under General Government, where it is now classified; before 2014, the CAFR included it under Education. Also, for consistency, Nutritional Education Programs are classified both years under K-12, as they were before 2014, although they are now classified as Regulation of Business for CAFR reporting.

(2) These percentage changes are not due to inflation, population growth, increase in student or HSS client head counts, etc. They are the changes in the Nevada tax- and fee-payers' burdens in addition to increases in those burdens to cover inflation, population, etc. These percentages are computed based on personal income; if they were computed based on GSP, the increase in burden would be greater because GSP grew slower over the 2006-17 decade than personal income (21% versus 34%).

(3) Real Per-person Growth Rates computed based on state population figures for all categories except K-12 and Higher Education, which are based on student head counts.

1. Health and social services and all education accounted for 77% of FY17 state total spending of $12.3 billion. Their growth totals 91% of the growth in state total spending from FY06 to FY17. In FY17, HSS consumed 45% ($5.5 billion), with primary and secondary (K-12) education taking 18% ($2.2 billion) and higher education another 14% ($1.8 billion). All other activities – law, justice and public safety, transportation, unemployment insurance, general government, regulation, etc. – total 23% ($2.8 billion).

2. HSS and K-12 spending grew rapidly while all other government spending, the Nevada economy and the wellbeing of Nevadans declined significantly. The chart below displays the annual state spending growth by major category in real per-capita terms over the last eleven years. Table 1 shows the eleven-year totals: increases in HSS (68%) and K-12 (14%) drove up state total spending (17%), despite significant decreases in higher education (-8%) and all other government spending (-19%). Meanwhile, personal income of Nevadans (-10%) and gross state product (-19%) also contracted substantially.

3. Most importantly, the burden of state spending on Nevada families and businesses, driven by HSS and education, was 30% higher relative to their incomes in FY17 than in FY06. The right-hand column of Table 1 shows the growth in spending on each category as compared to incomes of Nevadans. The growth in burden from HSS spending was 87%. For K-12, it was 33%. Higher education saw a 2% increase. The total of all other state spending grew 11% slower than incomes. These burden figures mean that, besides covering spending increases due to inflation and growth in HSS client and student headcounts, rising HSS and K-12 spending required families and business to pay taxes and fees 30% higher in FY17 than in FY06.

The following points also are noteworthy:

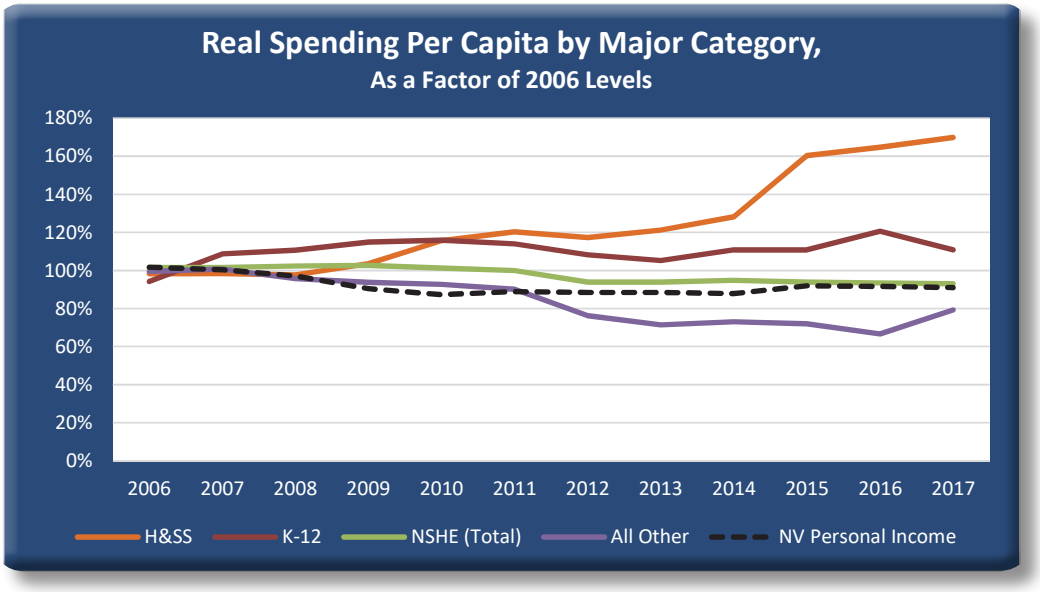
• More than $3.55 billion (64.5%) of HSS monies was spent on Nevada Medicaid. This spending will likely continue to rise in coming years due to the state's decision to expand eligibility pursuant to the federal Affordable Care Act (Obamacare). However, federal contributions toward this spending decreased in 2017 and will continue to do so, requiring additional state dollars.

• Nearly $1.5 billion (67%) of K-12 funds was paid from the Distributive School Account to county school districts to supplement their local revenues. By various measures, Nevada K-12 education continues to deliver poor results, despite rapid increases over the last decade in state K-12 spending. Despite the well-known lack of statistically significant correlation between spending and student achievement, in 2015 the Legislature and Governor further increased K-12 budgets by hundreds of millions of dollars through FY17.

• Total higher education spending rose 32% over the decade, but the state-funded portion fell 19%. Large increases in tuition and fees, grants and contracts, and self-supporting operations (meal plans, housing, ticket sales, etc.) shifted significant portions of the cost burden from taxpayers to students and their families, who get most of the benefit of the services.

• Transportation spending rose from $508 million in FY06 to $802 million in FY12 before falling to $180 million in FY16 and then rising back to $845 million in FY17. Much transportation spending is capital investment in large projects, so there is no trend in annual spending.

• Unemployment insurance costs rose nearly ten-fold from $239 million in FY06 to $2.233 billion in FY12, before falling to $313 million in FY17. The 31% growth rate in spending in FY06 to FY17 for UI is only a small part of the state spending growth total, and it was driven mainly by the Great Recession, poor recovery and federal UI policy. There is no meaningful time trend in UI spending.



II. STATE REVENUES: WHERE DID THE STATE GET THE MONEY?

Table 2 below presents a comprehensive state revenue analysis. Revenues are classified either as program revenues, which include charges for services and grants and contributions received by the state, or as general revenues, which include mainly taxes and also smaller miscellaneous items.

Both program and general revenues come from governmental activities, business-type activities of the state, and three entities that file separate accounting reports in addition to the state accounting reports covering primary government spending. These entities are called discretely presented component units, and the Nevada System of Higher Education (NSHE) accounts for nearly their entire total.

The points below emerge from Table 2.

TABLE 2: NEVADA STATE REVENUE ANALYSIS

State Revenues by Category	FY2017 $ Figures in Millions (1)	FY2006 $ Figures in Millions (1)	Percent of FY2017 Revenues	Growth Rate % 2006-17	2006-17 Real Per Person % Growth	% Growth in Tax & Fee Payers' Real Burdens (2)
Program Revenues						
Governmental Charges for Services	$ 902	$ 769	7	17	-21	-13
Governmental Grants & Contributions (Op'g & Cap.)	5,108	1,875	38	172	83	103
Business-type Charges for services	123	99	1	25	-16	-7
Business-type Grants & Contributions (Op'g only)	83	103	1	-19	-45	-39
Discretely-presented Units Charges for Services	716	531	5	35	-9	1
Discrete-unit Grants & Contributions (Op'g & Cap.)	535	378	4	42	-5	6
Total Program Revenues (Gov., Bus., Disc.)	**7,469**	**3,755**	56	99	34	48
General Revenues & Other Net Position Changes						
Discretely Presented Units (NSHE, CRC, NCIC)	720	814	5	-12	-40	-34
Less: Payments from State of Nevada (Primary Gov)	(568)	(706)	-5	-19	-46	-40
Net, Discretely Presented Units	152	108	1	41	-5	5
Governmental Activities	4,972	3,615	37	38	-7	3
Business-type activities	771	334	6	131	55	72
Total General Revenues (Gov., Bus., Disc.)	**5,895**	**4,057**	44	45	-2	8
Total Program & General Revenues	**$ 13,363**	**$ 7,812**	100	71	15	28

(1) Data are taken from CAFR and CAFR workpapers. Data for Discretely Presented Units covers NSHE, (by far the largest component) CRC and NCIC.

(2) These percentage changes are not due to inflation, population growth, increase in student or HSS client head counts, etc. They are the changes in the Nevada tax- and fee-payers' burdens in addition to increases in those burdens to cover inflation, population, etc. These percentages are computed based on personal income; if they were computed based on GSP, the increase in burden would be greater because GSP grew slower over the 2006- 17 decade than personal income (21% versus 34%).

1. Government grants and contributions accounted for 39% of total state revenues of $13.4 billion in FY17, and they grew much faster than other revenues from FY06 to FY17. Program revenues from government grants and contributions (operating and capital) totaled $5.1 billion in FY17. This revenue increased more than $3.2 billion from FY06, and it accounted for 58% of growth in total state revenues. These revenues are mainly comprised of federal government funding for Medicaid, Supplemental Nutritional Assistance (SNAP, or food stamps) and Temporary Assistance for Needy Families (TANF), and they are the revenue side of much of the increase in state HSS spending discussed above. That is, much of this spending is driven by federal mandate and also funded by federal government taxpayers, including Nevadans. A notable risk is that federal funding is sometimes reduced, but federal mandates rarely are. Now and in coming years, Nevada faces just such a problem with Medicaid revenues and spending.

2. Charges for services, grants and contracts for higher education comprise 9% of total state revenues, and they also grew rapidly. Program revenues totaled $1.25 billion for NSHE in FY17, an increase of 38% ($0.34 billion) over the last decade.

3. Other program revenues amount to 8.4% of total state revenues, and they grew very slowly. Other program revenues of $1.1 billion grew only 14% ($0.14 billion) since FY06, much less than the 34% nominal growth in incomes.

4. In sum, increases in program revenues, driven mainly by HSS and to a lesser extent by higher education receipts grew rapidly while tax revenues grew moderately. In FY06, most state revenues came from taxes. But over the last eleven years, program revenues grew 99%, becoming 56% ($7.5 billion) of total state revenues. General revenues, consisting mostly of taxes, grew only 44% ($1.8 billion) and

now account for only 44% ($5.9 billion) of the state total spending ($13.4 billion). Although past spending growth was supported mainly by increasing grants and contributions, the 2015 tax increases, plus uncertain federal support will place more burden of future spending growth on taxpaying families and businesses.

Table 3 presents analysis of state taxes by source. There is no definitive source for the right level of taxes relative to incomes and the economy. However, as discussed in the section below on the economic outlook, the overall level of state and local taxes in the U.S. is already well above public-interest levels, yet still rising. In Nevada, local-government taxes are the really big problem (due to high spending and pay), and state taxes have been a lesser problem. Turning to trends, Table 3 shows the points stated below:

TABLE 3: NEVADA STATE TAX ANALYSIS

Taxes Analysis	FY2017 $ Figures in Millions (1)	FY2006 $ Figures in Millions (1)	Percent of FY2017 Gen. Revenues	Growth Rate % 2006-17	2006-17 Real Per Person % Growth	% Growth in Tax & Fee Payers' Real Burdens (2)
Sales and use taxes	$ 1,285	$ 1,098	23	17	-21	-13
Gaming taxes	897	1,003	16	-11	-40	-33
Modified business taxes (3)	573	255	10	125	51	68
Insurance premium taxes	358	238	6	51	1	12
Property and transfer taxes	248	319	4	-22	-48	-42
Motor and special fuel taxes (3)	377	298	7	26	-15	-6
Liquor and tobacco taxes	240	161	4	49	1	11
Net proceeds of minerals tax	64	20	1	218	114	137
Auto lease and lodging taxes (3)	256	44	5	481	291	333
Commerce tax	198	-	4	NA	NA	NA
Unemployment assessments	825	367	15	125	51	68
Other taxes	203	172	4	18	-20	-12
Total Taxes	$ 5,523	$ 3,975	100	39	-6	4

(1) Data are taken from CAFR and CAFR workpapers.

(2) These percentage changes are not due to inflation, population growth, increase in student or HSS client head counts, etc. They are the changes in the Nevada tax- and fee-payers' burdens in addition to increases in those burdens to cover inflation, population, etc. These percentages are computed based on personal income; if they were computed based on GSP, the increase in burden would be greater because GSP grew slower over the 2006-17 decade than personal income (21% versus 34%).

(3) Modified business taxes were increased significantly in 2010 and new motor vehicle and short-term-vehicle rental and transient-lodging taxes were also added in that year. These changes affect growth and burden rates.

1. The burdens on consumption and on persons of state taxes declined in the last decade. Revenues from the following key taxes fell significantly relative to the growth in incomes: sales and use, gaming, property, motor and special fuels, and other minor items. The incidence of these declining tax revenues lies greatly with consumption, not with savings, investment and employment; and on persons, not businesses.

2. To compensate for this decline, the state added new levies and increased taxes mainly on savings, investment and employment and on business. It did so via the modified business tax (MBT, which mainly taxes employment) and unemployment assessments; and also partly via the commerce tax, levies on auto leasing, lodging and insurance premium taxes. The largest hike, which was for unemployment assessments, was driven mostly by federal mandate. The upshot is that the growth of total tax burden is trending down, but that trend masks a shift of burden from consumption to savings, investment and employment; and from persons to business.

3. Special note on the commerce tax. Claims have been made that repealing the commerce tax, as some folks have proposed, would cause significant harm to K-12 education and that people seeking repeal should state what spending they will cut if the tax is repealed. These claims are wholly false and misleading. There is no direct connection between commerce tax revenues and state K-12 spending; commerce tax revenues flow into the general fund, not an education account. Also, the Legislative Counsel Bureau has determined repealing the commerce tax, considering that it reduces MBT revenues, would cut revenues by $161 million in the first year and $97 million in the second year. These figures are one-fourth and one-seventh, respectively, of the annual growth in state revenues, which are growing faster than the Nevada economy. Hence, eliminating the commerce tax would only require that state total spending

grow at about the rate of the incomes of Nevada families and businesses, and it would not require any cuts at all in current spending.

4. The shift in tax burden from consumption to investment and employment and from persons to business diminishes tax neutrality. Neutrality is important because maximizing economic growth and fairness requires that taxes influence as little as possible the spending-versus-savings, investment and employment choices people and firms would make without them. The choices they would make in markets without taxes would maximize economic growth and also maximize aggregate human wellbeing and fairness, the fundamental public policy goals. Since individuals overwhelmingly use their dollars for consumption versus savings and investment, and businesses spend much of their revenue on goods and services, taxes should fall mainly on consumption of goods and services, and less on savings, investment and employment.

5. The shift in tax burden from consumption to investment and employment and from persons to business also diminishes transparency. Transparency is fostered by taxing people, not business; as economists note, businesses don't so much pay taxes in the sense of actually absorbing their economic burden as they collect them for the government from consumers via increased prices and from employees by lower employment and compensation. So, taxing people directly increases transparency, accountability and economic growth by minimizing distortions, economic inefficiency and reductions in investment and employment caused by using businesses as the tax middlemen.

6. With ten taxes accounting for 4% to 23% of general revenues in Table 3, and considering their incidence mainly on persons and consumption, Nevada's tax base can be called reasonably well diversified. Such diversity is important for the optimal balance between stability of public revenues and the revenue constraints that government needs to make it operate efficiently and not grow unduly large. Diversity also keeps rates generally low and the base broad, but in Nevada that benefit is offset by limiting the range of goods and services to which the largest tax revenue source, sales and use taxes, applies. So, no strong conclusion can be pronounced on this criterion.

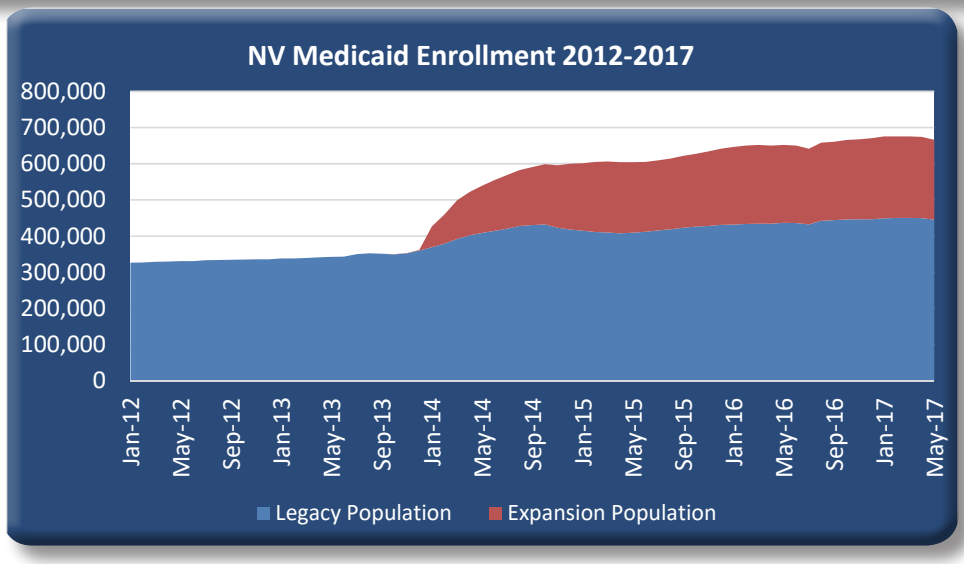
III. HEALTH AND SOCIAL SERVICES

HSS has been the fastest-growing category of expenditures since FY10 in Nevada, and this growth continued in FY17. In total, Nevada spent $5.5 billion on these services in FY17, up from $2.2 billion in FY06. Much of this spending is financed through federal grants to support programs like Medicaid, food stamps and other welfare programs. At present, as Nevada spends money on these programs, the state gets some reimbursement from their federal sponsors. However, the reimbursements do not compensate Nevada fully for all expenditures, and certain programs such as Medicaid require a matching state commitment.

1. Medicaid is Nevada's largest single expenditure, and accounts for 64.6% of the health and social services total. Federal operating grants to support this program fluctuate each year according to a formula based on the per capita income in each state. States with lower incomes are entitled to have a larger proportion of Medicaid costs reimbursed, but in no case does the federal reimbursement rate fall below 50% of eligible costs. For 2017, the reimbursement rate to Nevada was 65%, up from 54% percent in 2006. A prolonged decline in Nevada per capita incomes relative to the nation drove this increase in federal Medicaid financing. However, this also means that any prospective robust recovery in Nevada incomes will cause state Nevada taxpayer spending for Medicaid to rise even more rapidly.

2. The long-term rise in Medicaid spending has been accentuated by a rapid escalation within the past few years due to the expansion of eligibility parameters. Historically, states that elected to participate in Medicaid were required to cover only certain highly vulnerable populations, including the elderly, disabled and children living below the poverty level. The federal Affordable Care Act of 2010, however, encouraged states to expand eligibility rules to cover all individuals with incomes up to 138% of the federal poverty level, including single, childless, working-age adults with no disabilities. The ACA offered full reimbursement of eligible state expenditures for this expansion population through 2016. Federal reimbursements then fall to 95% in 2017, 94% in 2018, 93% in 2019 and 90% by 2020 and beyond. There remains some question as to whether these enhanced reimbursement rates will continue under a Republican congress and president, especially given the projections of increasing federal deficits.

In 2013, Gov. Brian Sandoval and Nevada lawmakers chose to expand Medicaid eligibility along the guidelines outlined in the ACA. Since that time, Nevada's Medicaid enrollment has nearly doubled, growing from 350,234 at the beginning of 2014 to 666,131 in May 2017. A portion of this increase is attributable to growth of the legacy population, which grew by 95,315 persons over the period. Although many of these individuals had been previously eligible for coverage, new federal tax penalties for failing to acquire health insurance prompted enrollment, which they had previously spurned. This legacy population is subject to the standard federal reimbursement rate, whereas the 220,582 persons who enrolled as part of the expansion population get Nevada the enhanced rate.



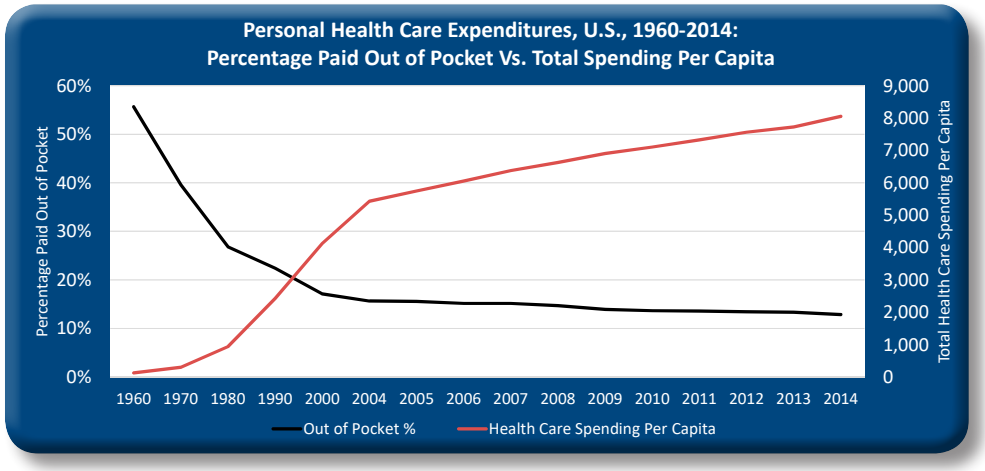
3. Expanded availability of publicly funded health care benefits has occurred alongside a decline in rates of private insurance coverage and other private spending. In 2008, 68.6% of Nevadans held private insurance coverage. That rate remained steady through the end of the Great Recession in 2009 but fell to just 61.5% by 2012 before rebounding partially to 64.5% in 2015. One explanation is that the mandates included in the ACA led to the closure of many private insurance plans and temporarily left policyholders without coverage until some purchased new, ACA-compliant plans. But the concurrent enrollment growth in Medicaid and other public health plans suggests that greater availability of these plans has displaced many consumers who previously could afford private insurance. In 2015, 33.5% of Nevadans were enrolled in some form of public health plan, up from just 20.6% in 2008.

4. There is evidence suggesting that expanding Medicaid to additional populations does not improve health outcomes and only further endangers the most vulnerable populations. Medical reviews reveal that outcomes are better for holders of private insurance policies than for beneficiaries of public health plans. Mortality rates for surgical procedures are nearly three times higher for Medicaid beneficiaries than for private insurance holders and even higher than for uninsured individuals.

Policymakers have historically squeezed provider reimbursement rates as a cost-control method for Medicaid, while expanding Medicaid eligibility rules. One outcome of this approach is that many health care providers, including the most talented, refuse to accept Medicaid patients. The result is growing demand for Medicaid services as eligibility rules have widened while the supply of providers within the network has contracted. The resulting supply shortage has fueled widespread reports of Nevadans who nominally have coverage through Medicaid but who cannot get care. Thus, the increased competition for care wrought by eligibility expansion harms the most vulnerable populations who were previously eligible and who now face reduced access to care.

5. Whether public or private, most health care plans today are more accurately described as third-party-payer plans than insurance. Insurance is a voluntary pooling of risks by participants to hedge against unforeseen events, but public and private health care plans offer payment for routine and foreseeable treatment, as distinguished from risk outcomes. These arrangements encourage individual participants to seek superfluous care because the cost of additional care is socialized among the group. This perverse incentive, called "moral hazard" by economists, leads to rapidly escalating premiums for private plans and very swiftly increasing demands on tax revenues to finance public plans.

Decades ago, most personal health expenditures were financed out-of-pocket by individuals without third-party payer arrangement. Wage controls imposed nationally during World War II inspired employers to offer non-wage benefits, including all-inclusive health care packages, to attract and retain workers. As this system of employer-sponsored third-party payers has grown alongside public health programs, the costs of health care have skyrocketed. The chart below reveals the near-perfect inverse relationship between the percentage of care financed by individuals' out-of-pocket spending and the nationwide cost of health care per capita.



IV. PRIMARY, SECONDARY AND HIGHER EDUCATION

Primary and secondary education has been the second fastest-growing category of state expenditures over the past decade, growing from $1.24 billion in FY06 to $2.22 billion in FY17. On a per-student basis, and without considering local funding, state spending for K-12 education increased from $3,172 to $4,498 over this period. Meanwhile, Nevada's ranking against other states in terms of student achievement has failed to improve significantly. In 2007, Nevada eighth-graders ranked 44th nationally in their performance on the federally administered National Assessment of Educational Progress (NAEP) reading and mathematics evaluations. By 2015, those rankings rose only to 43rd in reading and 41st in mathematics.

These facts show that Nevada has failed to translate higher spending for education into improved results. That's also true for the rest of the nation. Also, as shown in Table 4, among member countries to the Organization for Economic Cooperation and Development (OECD), the United States spends the fourth-highest levels per student but has below-average academic performance. Japan, the highest achieving nation, spends only 81.6% as much as the US per child.

Table 4: Per-Pupil Spending and Student Achievement -- Data Available for 33 OECD Countries
Results of the OECD's Programme for International Student Assessment (PISA, 2015)

Rank by Total Score	Country	Expenditures per Pupil, 2014, in US Dollars	Mean PISA Maths Score	Mean PISA Reading Score	Mean PISA Science Score	Mean PISA Total Score	$/Point, Mean PISA Total Score	Ratio, Mean PISA Total to OECD Mean	Rank by Per-pupil Spending
1	Japan	$9,934	532	516	538	1587	$6.26	1.08	15
2	Estonia	$6,991	520	519	534	1573	$4.44	1.07	24
3	Canada	$10,440	516	527	528	1570	$6.65	1.06	12
4	Finland	$9,779	511	526	531	1568	$6.24	1.06	16
5	Korea	$10,030	524	517	516	1557	$6.44	1.06	13
23	***United States***	***$12,176***	***470***	***497***	***496***	***1463***	***$8.32***	***0.99***	***4***
	OECD Average	**$9,302**	**490**	**493**	**493**	**1476**	**$6.30**	**1.00**	**NA**

1. To improve the effectiveness of its education spending, Nevada must allocate that spending toward programs that have been shown to boost student achievement. Factors beyond the direct influence of education policies, including the household income levels of students, can greatly influence student achievement. But these factors are largely beyond the ability of schools to change and must be addressed through economic policies to encourage growth, entrepreneurship, labor-force participation and dynamism. Education policy must focus on the school-controlled variables that lead to improvements in student achievement in a cost-effective manner.

The academic literature shows no school-controlled variable has a greater influence on student achievement than the quality of the teacher. Peer-reviewed statistical studies show that students lucky enough to have a top teacher make 1.5 times as much testable progress in a school year as those with average teachers. Harvard scholars have found that the best teachers are able to deliver effective instruction regardless of class size. So, Nevada's educational priority should remain the recruitment and retention of highly talented educators. Nevada should relax its current restrictions on who can receive a teaching license so schools can recruit from a wider array of professionals. Schools should also be freed to offer attractive compensation packages to attract the most talented professionals. Strict, formulaic salary schedules, especially those that reward job longevity instead of excellence, give insufficient flexibility to administrators looking to recruit top talent. Current pay arrangements for teachers also award a disproportionate share of compensation as benefits, as opposed to salary, even though many teachers would prefer greater salary to benefits. So, these strictures should also be relaxed.

2. Families are the consumers of public education, and each individual family is most familiar with its specific needs. Therefore, the allocation of education dollars among many alternatives, all subject to economic scarcity, is most efficient when consuming families are free to exercise choices over various educational offerings in the marketplace, just as with other consumer goods and services. Schools of choice, including both private and public charter schools, frequently operate at lower cost than traditional public schools and produce higher student achievement. Of the twelve random-assignment studies to date on school choice, six have determined that all student groups benefit from participation in choice programs, five have found some groups benefit and one found no visible impact. No study has found that choice negatively impacts student performance.

Nevada took a major step toward introducing consumer choice into the education marketplace when the 2015 Legislature created a system of universal Education Savings Accounts. These publicly funded, but privately held accounts promised to separate the public responsibility of financing education from the physical administration of schools. There is wide agreement that the public should provide basic education to citizens. However, this can be accomplished through means other than government administration of regional school monopolies, and experience has shown this arrangement leads to curricular politicization and fiscal bloat. Unfortunately, the Nevada Supreme Court upheld an injunction on the program until the Legislature can approve an alternative financing mechanism that does not divert funds first appropriated to the state Distributive School Account, which legislators failed to do in their 2017 session.

To see additional information, visit: controller.nv.gov

3. Strong evidence exists that technology-assisted learning leads to better student outcomes while also easing the workload on classroom teachers so they can more easily manage larger classes. A major 2010 study by the U.S. Department of Education found that "on average, students in online learning conditions performed better than those receiving face-to-face instruction." Students enrolled in online classes tend to spend more time on task and are able to move at their own pace, improving the effectiveness of class time. Further, online learning can lower the facilities and transportation costs faced by schools and parents and bring more students from remote locations into contact with the best educators from across the globe.

A major initiative by the 2015 Legislature sought to modernize Nevada public schools by appropriating $48 million to provide electronic devices for students. However, the initiative failed to recognize the cost reductions and productivity enhancements that should result from technology-assisted learning. Instead, the initiative was a single component of a larger package that continued to increase spending on the same cost items for which digital devices should reduce needs.

4. The 2015 Legislature was billed as "The Education Session," but only a subset of the new programs enacted are associated in academic literature with improved student performance. The others appear designed instead to appease special-interest political constituencies by spending hundreds of millions of dollars to create new positions at existing public schools. Those programs most clearly supported by academic research include Education Savings Accounts, the creation of an Achievement School District to transform failing public schools into successful charter schools and a Charter School Harbor Master Fund to attract highly successful charter school operators into the state. Others, including the provision of digital devices to students and a policy that students be literate before exiting third grade, were implemented in ways that ignored their cost-saving potential, while still more new initiatives needlessly inflated the costs of the public education bureaucracy.

5. Nevada has significantly increased revenues extracted from higher education students and their families to reduce general revenue spending for higher education in real terms. Nevada higher education has also greatly favored universities over community colleges. As does all of U.S. higher education, it suffers from administrative bloat and excessive salaries, plus preoccupation with trivia such as micro-aggressions, trigger warnings and safe spaces. Also consistent with higher education elsewhere, compensation levels in higher education are above those in other public service and in private business. Future Controller's reports will address these issues more extensively.

V. PUBLIC EMPLOYEE COMPENSATION AND BENEFITS

Previous sections of this CAR addressed Nevada spending by its purposes. Here we address the overall level of public-employee compensation, and especially the portion of that compensation managed by the Public Employee Retirement System (PERS). Both total compensation and retirement funding have long presented serious challenges to governments around the world, particularly for state and local governments. The good news is that, while Nevada also faces these challenges, it is doing one key thing right and is in a better position than most states to meet its challenges.

Current Compensation Levels: Annual compensation, excluding benefits, for Nevada state employees (except those in higher education) is comparable to private-sector levels in our state and well below average for public-employee compensation of other states as a group. Public employee compensation, excluding benefits, paid by Nevada local governments and higher education is greatly higher than that for Nevada state employees and employees in the private sector. In fact, Nevada local government compensation is among the highest in the nation, especially when benefits are recognized, because the benefits are also extremely generous. This CAR does not address local-government fiscal matters, but we note that the extreme practices of local governments redound to the disbenefit of the state and to state employees and taxpayers. So, reforms would not only be fairer to state employees and taxpayers, but also help the state manage its fiscal problems. State pay scales are also flatter than those in private enterprise, with entry-level jobs paying more and executive and upper-level professional jobs paying less; however, while reform may be in order, it is not clear that it would have net fiscal impacts.

Nevada Public Employee Retirement System: Nevada PERS runs various defined-benefit (DB) retirement funding programs, which we address as a group here to focus the key fiscal issues for the state. There are a number of other problems raised by the various aggregating practices of PERS that we can't address in this limited review.

In a retirement program, people put some of their current income into a fund that is invested for maximum risk-adjusted growth of the principal so that after their working/contributing years, they may draw retirement income from it. Under defined-contribution (DC) plans, the retirement draw of plan participants is determined by the amounts put aside and growth of the fund, which is determined mainly by how well the investments have fared. So, DC plans are inherently fair because all the fruits of saving and investment are returned ultimately to participants, and outside parties do not have any opportunity to divert the funds, nor are they required in any way to subsidize the participants. Under

DB plans, participants and the agents who govern the plan are allowed to socialize the risks of their saving and investment decisions to taxpayers and to future generations of participants who have no role in savings decisions and managing the investment risks and thus no opportunity to be fairly protected.

So, DB retirement programs inherently raise the following serious public-policy questions:

- What savings and investment management policies and practices are followed?
- What expected rate of return on future investments – or discount rate (DR) for future liabilities – is used in setting contribution and draw levels? The DR is one of the most important issues for retirement programs.
- What growth in plan membership is assumed? This is also very important.
- What lengths of working and thus contributory participation time are assumed, in addition to the other estimates used? The DR, membership growth and these other parameters are key in determining the Annual Contribution Rates (ARCs) for currently working plan participants. Unduly high DRs and membership growth estimates used in the past have contributed significantly to lowering past and current taxpayer and employees' required contribution rates, and they will almost raise future taxpayer and employee contributions significantly.

1. Investment Management Policies and Practices: Nevada PERS is doing the important things right in this area. Modern investment theory counsels that in efficient markets, such as investments, one cannot expect to beat the market by consistently reaping higher-than-market-average returns – and one can lose a lot of money by trying. Hence, one should seek essentially to buy a slice of the whole market (or a representative portfolio) and thereby come as close as possible to reaping market-average returns by keeping investment-management costs as low as possible. This is known as index-oriented (or passive) management, and the alternative is active management. There isn't space here to review the details, but Nevada PERS has done the best job in the U.S. of implementing index-oriented management on reasonable asset allocations and has realized greater returns than notable actively managed funds elsewhere. (See more detail on the Controller's web site.)

2. The Discount Rate (DR): Determining the DR is highly controversial, especially in deciding the purpose of discounting and thus what standards shall be used to set the rate. One view is that the purpose is to absolutely assure that plan resources from past contributions and investment returns will always be sufficient to cover all benefits and other claims the system may face, without having to raise additional funds in the future. This approach dictates use of a very low, so-called "riskless" rate – e.g., 2% per annum. One problem with this view is that retirement plans already have a long history of making adjustments to raise funds to cover liabilities incurred in the past because the past contributions and earnings were insufficient to cover the benefit levels granted to retirees. (In the few occasions high returns allowed cutting contributions, retirement system governors usually raised benefits instead.) Another problem is that it is impossible to assure the desired sufficiency because it is possible at any time for the plan to lose money unless it uses investment strategies that do not seek to maximize risk-adjusted returns; thus, this approach almost requires suboptimal investment management practices. A final problem is that if sound investment management practices are followed, the expected value of plan resources will normally exceed the liabilities using a riskless DR, and thus contribution rates and benefit levels for future employees will be subsidized by today's plan participants and taxpayers. Because economic growth means that future generations will be wealthier than today's generation, this implies a regressive intergenerational wealth transfer.

So, the proper fiduciary method for setting the DR is to soberly assess the expected net returns on the investments; then, probabilistic analyses such as Monte Carlo simulations should be conducted using return distributions that have as their expected value return the DR chosen. These simulations will tell the probabilities that the fund will be able to cover various future payout levels, and contribution requirements and benefit levels can be determined to satisfy the level of certainty chosen by the bodies overseeing the plan. Thus, the real DR question is simply: What are the reasonably expected returns? For decades, public-sector plans have assumed returns around 8%, although some plans, including PERS, have adjusted downward slightly in recent years. Our analysis in the Economic Outlook section below shows economic growth and thus investment returns are highly likely to be much lower than historic levels for the foreseeable future. Our conclusion is that a DR of 5% net of fees and costs is the most reasonable expectation. On the Controller's web site, we provide further support for this position.

3. Forecasted Membership Annual Growth Rates: PERS has been forecasting 6.5% annual membership growth rates, although it recently lowered them slightly. It has experienced roughly 2.5% actual growth. We believe that experience is consistent with the expected growth rates for the state population and with the ability of the state to afford spending growth. Thus PERS should use this rate.

4. Reference Working Lives and Retirement Periods: Expected life length has been climbing in the U.S. for decades, and health status has been improving at every age, but these factors have not been reasonably reflected in the reference working lives and retirement terms assumed by pension funds, Social Security, etc. In short, today most working lives assumed in pension plans, including PERS, mean that retirement benefits maximum levels are reached after 30 years of employment or only slightly longer and often

available at a mid-fifties age. Thus, many public employees, including Nevada state employees, get market-level pay for 30 years of service, followed by retirement draws that may run 30 years or more and are noticeably better than the retirement draws generally available in the efficient private employment markets. Even expanding on these issues at the Controller's web site, we cannot do full justice to this issue. Our purpose in raising it here is to initiate a broad and sustained conversation among all parties to properly plan for and finance the retirement of public employees.

5. Duty to the public interest, voters, taxpayers and future plan participants: The basic duty owed by all public officials – from governors, controllers and legislators to all public employees in policy-related positions – is a duty to voters, taxpayers and broad public interest. People involved in governing retirement funds tend to see a duty to plan participants, and statute and regulation often supports such additional duties. As public choice theory illustrates, the real problem is that officials generally begin to regard their primary duty as residing with current plan retirees and participants and they forget to view all their decisions from the viewpoint of the voters, taxpayers and broad public interest. In particular, taxpayers – and in retirement matters, future plan participants – begin to be viewed as mainly deep pockets to allow the politicians and bureaucrats to better serve the interests of current plan retirees and participants. We therefore urge that all discussions of these issues begin with explicit recognition of the duties to voters, taxpayers and the broad public interest, and all proposals should be evaluated almost exclusively on that basis.

VI. ECONOMIC OUTLOOK

Introduction and Overview: In Nevada's 2015 Popular Annual Financial Report, we proffered an unusual economic outlook, one focused on the intermediate and long terms. We identified four long-term secular trends that we believe have suppressed the U.S. economic growth rate the last decade – thus explaining the "new normal" – and by their nature will continue to do so for the foreseeable future, absent significant changes in public policy. These developments obviate short-term forecasts because they swamp out business-cycle effects and may even change business-cycle length. They also make sectoral forecasts uncertain. And they do the same to regional forecasts; nonetheless, we examined certain long-term Nevada trends to see if there was any basis for modifying the national forecast for our state. There was not.

Long-term Growth of Government Over-reach: The first trend is the continuing growth of government relative to the economy – reflected in public spending, taxes, deficits, debt, regulation of all kinds, and other government interventions (retirement programs, health care and insurance, etc.). The empirical economic literature indicates that government size, scope and reach has for nearly 60 years been excessive relative to levels that maximize growth and thus human wellbeing. Yet government has continued to grow, especially in the last decade, thus ever more retarding economic growth. Until the turn of the century, this growing deadweight loss was offset by three growth-inducing factors: 1) demographic and other increasing labor-force participation trends; 2) increasing debt levels of all kinds relative to GDP (government, financial debt, non-financial business debt, home mortgages and all other consumer debt); and 3) rapid growth in emerging economies, plus globalization of firms, increasing trade and foreign direct investment.

Changes in Three Other Long-term Secular Trends: Not only has government overreach soared to new levels in the last ten years, but labor-force trends that were a major offset to that excess have turned around, driven by both policy and demographics since the turn of the century. Since the Great Recession, rapid growth in debt has waned for policy reasons and simply because the previous growth rates were unsustainable. Third, world economic growth is slowing and will continue to slow because other countries have done an even worse job than the United States on growth policy; further, our increasing integration with the rest of world has slowed since the recession, mainly due to poor policy. So, for both reasons, the rest-of-the-world sector also has changed from an engine to a drag on economic growth.

The upshot of these trend changes is that ten-year U.S. economic growth, which peaked in the 1960s and then was roughly constant through 2007, except for a downward excursion in the early 1980s, collapsed after 2007 to half its historical rate, where it has stayed. Last year, we forecasted 2% or lower long-term annual growth, with half of it coming from population growth and half from real per-person economic growth, both of which may well decline going forward. We emphasize per-person growth because it determines the extent to which human wellbeing and human flourishing increase, and thus it is the real measure of public policy success. The difference between the 1% figure of the last decade and previous growth in the 2%-2.5% range is hugely significant in economic, social and human terms.

New Normal Persists: Slow Long-term Growth: While 2% growth had been the rule since the recession, until 2016 few people had projected continuation of it. So, our projection (which Knecht has made since 2011 based on such analyses), was an unorthodox if not radical view. Over the last two years, many people have begun to accept the idea that such slow growth really is the new normal and will persist – and many have given reasons similar to ours to support such forecasts. In fact, the Congressional Budget

Office – which has a long record of optimistic forecasts that were not realized – adopted the 2% long-term growth estimate. Below, we revisit the four secular trends, plus our Nevada-specific factors, and their effects. We find that our previous analyses of these trends is essentially unchanged – although recent reforms in federal policy, if sustained and enlarged, may reverse the trend of increasing deadweight losses. Our conclusion remains that economic growth will be slow and that uncertainty has increased. Although our basic analyses are still sound, recent literature has highlighted some competing theories, concerns and new data. Following the discussion below of our approach, we examine those views too.

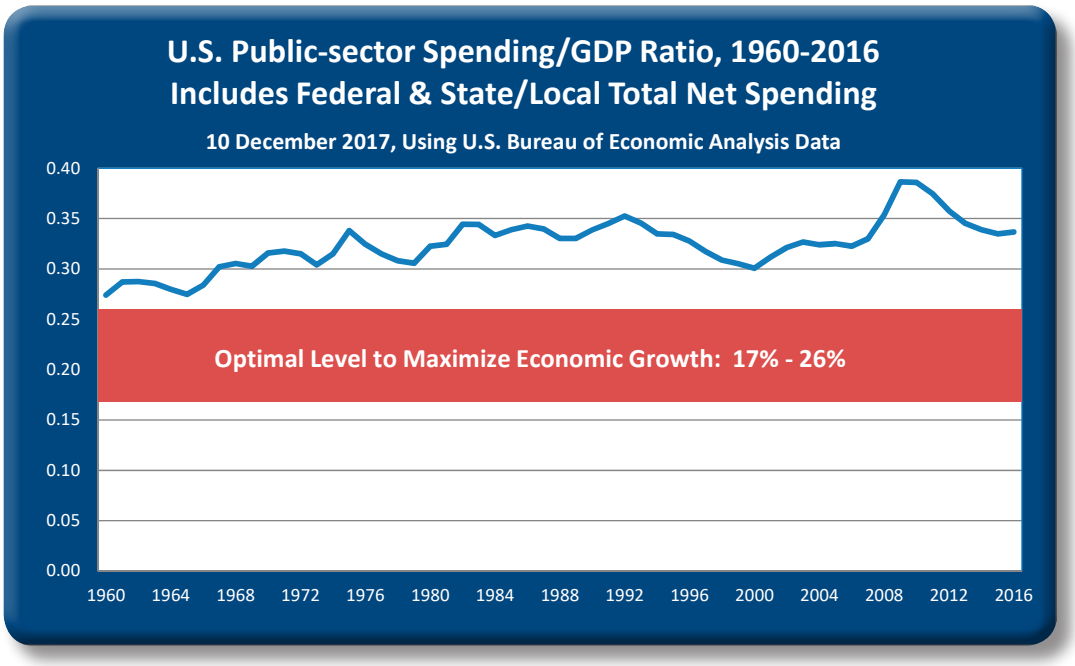
Innovation, Technological Change and Productivity: The first competing view comes from major works published in the last three years addressing productivity changes over time. The first two use endogenous (organic) factors to explain the growth over the last 150 years (or longer) in terms of specific inventions, innovations, technological progress and developments that led to unusual productivity gains and thus to rapid growth for periods from a decade to a century. These analyses seem mostly to ignore effects of the four trends we presented. More importantly they claim that past rapid growth was a one-off phenomenon, meaning we have now returned to a basal economic metabolism of slow growth. We believe our factor analysis explains much of the growth in innovation, technological progress and productivity they have correctly observed. However, the latest of the three books notes that the nature of investment has changed in recent decades toward intangibles and away from tangible property. It further shows that investment in intangibles has declined since the Great Recession, apparently causing a decline in productivity growth. This is consistent with our analysis and adds another factor supporting policy reform as the key to growth.

Cost Disease: An important aspect of this debate concerns structural changes in our economy as its total output has shifted more to services from goods. William Baumol's "cost disease" is the economist's explanation of the problem, but we believe it errs by failing to consider alternates and substitutes continually proliferating in the baskets of consumer and business purchases. We give an example below to show that the traditional description of cost disease fails to capture the full range of efficiency gains realized by new developments. While cost disease may characterize general government and sectors greatly entangled with it (especially education, health care and aging services), innovation by producers combines with consumer sovereignty to overwhelm cost disease in market economies. Again, growth requires public policy reform that changes budget processes of government and those sectors toward market structures.

Market Capitalism and Income Inequality: Finally, recent years have also seen increased concern about the distribution of economic growth, especially as our now slowly rising tide fails to lift all boats as the historic tidal surges did. Some academics have rolled out new versions of classic Marxian doctrines that search for major structural flaws in real capitalism, with one book even titled as a knock-off of *Das Kapital*. It claims that, over time, market systems systematically make the rich richer and leave the poor and middle classes behind. These claims have been thoroughly refuted on their own terms by strong academic and professional analyses – and the thesis has been greatly qualified as a result by its author. We show that increases in economic inequality have been directly correlated with the public-sector overreach with which our analysis began. We explain that cronyism, which is the inevitable result of government excess, benefits the political classes at the expense of the masses. Market competition enables social mobility and favors the many, while the political allocation of resources (high public spending, taxes, regulation, etc. – in short, politics and cronyism) favors the privileged political few.

The Solution: Broad Public Policy Reform: As we detail below, our analysis of the four factors we previously identified as resulting mainly from unsound public policy explains the source and solution of our problems. To serve the broad public interest and the people of Nevada, our state and local governments need to do their part, and our federal representatives need to push the national government to do its part. Further discussion of matters addressed here will be posted on the web site, controller.nv.gov.

1. Government Overreach: The size, scope and reach of American government – including spending, taxing, borrowing, statutory mandates, regulation, monetary and credit-allocation policy, and other intervention – long ago exceeded levels that promote the public interest in maximum economic growth and fairness. These excesses at federal, state and local levels have increasingly slowed growth and diminished fairness and will continue to do so unless they are reined in. Economists now understand that economic growth, and thus aggregate human wellbeing levels, are determined more by the economic, political and social institutions, practices and policies of a society than by geographic, infrastructure, resources and other earlier development-theory factors. The following are important for growth and fairness: the rule of law; constitutionally limited government; separation of powers between national, regional and local units; separation of functional powers at each level of government; individual sovereignty and personal liberty; individual rights, not group rights; strong property rights; and high levels of economic freedom.

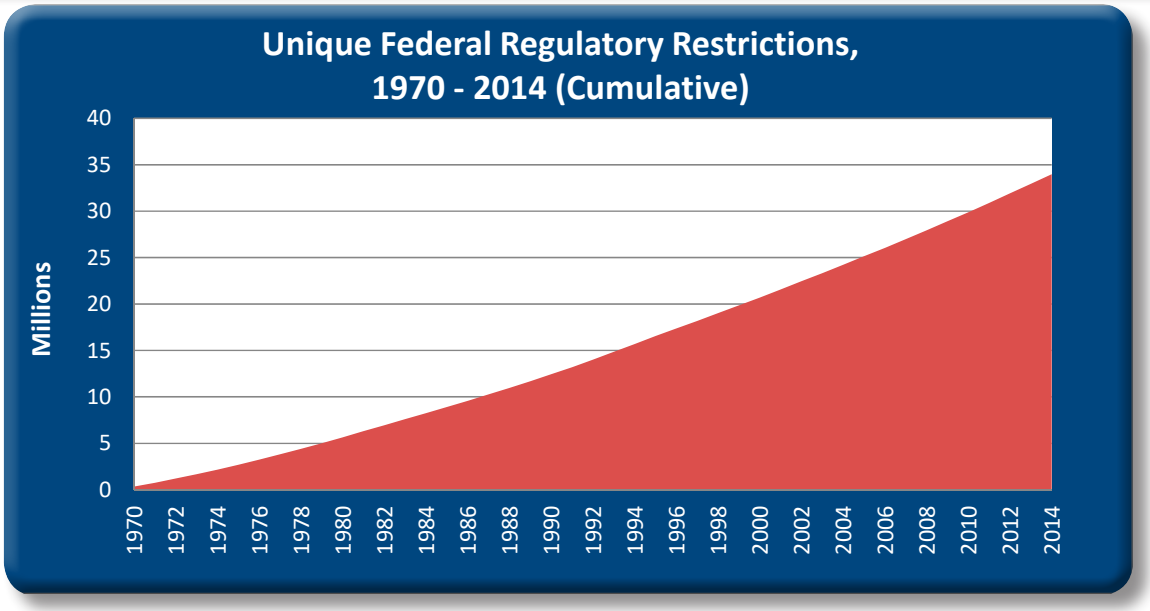


Empirical literature – that is, research using real economic data – supports and quantifies theory suggesting there's an optimal range of government spending that maximizes economic growth. There are classically defined public goods that are most efficiently provided by government and there are market failures that justify regulation and other intervention. However, excess spending, scope and reach of the public sector diverts efficient private investment and consumption and slows growth. While there are uncertainties and debate about the levels of public spending relative to the economy that maximize growth, the best evidence, reviewed by economists at the University of Nevada-Reno, shows the range is 17% to 26%. The U.S. passed those levels by 1960 and has increased government excess to the present time.

The chart above of public spending over time as a percentage of the U.S. economy vividly illustrates this point. The excess growth has not been limited to the federal government; state and local spending have proportionately grown even faster. Nevada's local-government and total public-sector spending have grown particularly fast. Nationally, increasing government interventions into health care have driven up its cost. As the public sector continues to consume resources beyond economically efficient levels, private investment and growth is elsewhere deterred, and overall growth of our economy slows.

While public spending is the measure of government overreach easiest to quantify, analyze and understand as a growth determinant, other measures also drive and reflect the excess. Taxes and public debt are directly driven by public spending, and public debt has now reached its highest level relative to the gross domestic product (GDP) since the early 1950s, when the debt from World War II was being worked off. Government regulation in a wide range of economic, environmental, public health and safety areas, plus intervention including monetary stimulus and credit allocation and federalization of health insurance and education have all increased to unprecedented levels and metastasized in the last decade. The net effect has been to raise the barriers that hinder business formation and success, thus retarding growth. With the overreach at record levels and still increasing, the drag may even get worse. Regulatory restrictions accumulate at an increasing rate each year, with more than 1 million restrictions issued in 2014 alone. For entrepreneurs, it is the cumulative effect of these restrictions that burdens business formation and expansion and job growth. In 1970 through 2014, nearly 34 million unique federal restrictions were issued, as shown in the graph on the next page.

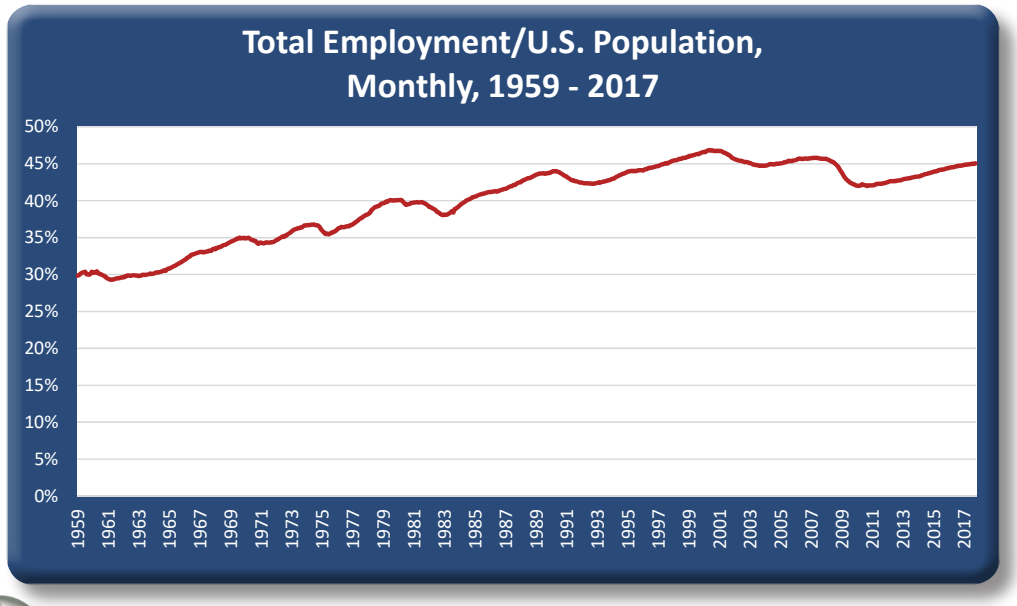
One bright spot is the 2017 federal income tax reduction and reform, plus the Trump administration's efforts to rein in regulatory excesses across the board and establish rational regulatory policies. If such efforts are sustained and extended for decades, they can reverse the trend of increasing deadweight losses. However, the administration's recently announced tariff increases will slow economic growth and diminish fairness



2. Demographics and Work-force Participation: Demographic changes driven by public policy and non-policy factors are reducing the fraction of the population doing productive work in market settings, while increasing numbers of people consuming but not producing. These changes include falling birth rates, increasing longevity, more public subsidy for retirement and for persons not working, and changing social and economic roles of men and women. These changes are slowing growth and may precipitate generational conflict.

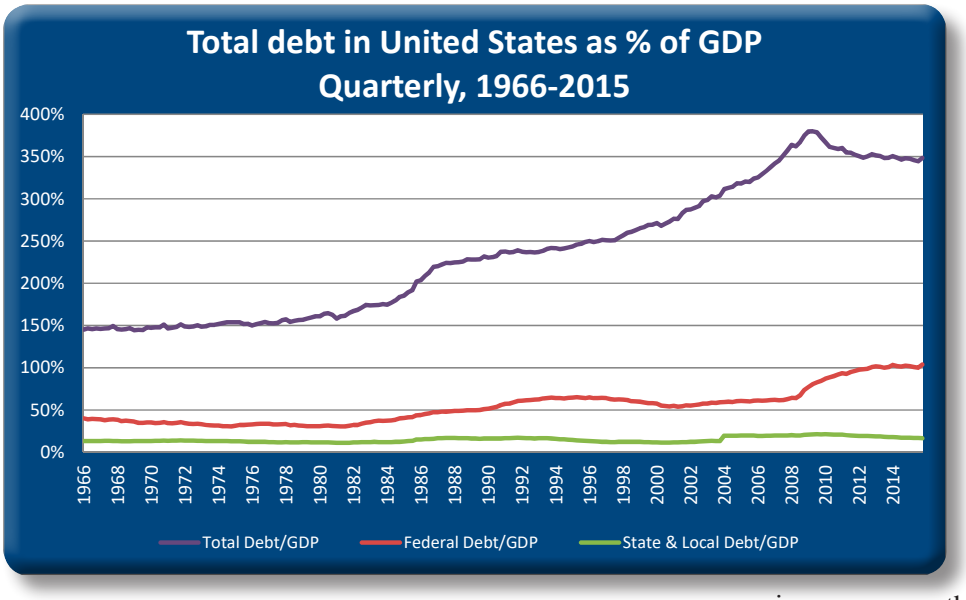
The 1970s movement of Baby Boomers into working age, plus the movement then and later of women into paid work drove labor-force participation to a record level of 67.1% in 2001. The aging of Boomers into retirement years, plus declining birth rates in younger cohorts, the slippage of female workforce participation and the tepid recovery from the Great Recession have all dropped participation to 62.4% in September 2015, the lowest level since 1977. It now sits at 62.7%. Falling labor-force participation in the 16-54 age range more than offsets recent participation increases for the 55+ group, netting a continued decline in total employment ratios. Low unemployment rates are due to counting "discouraged workers" out of the labor force and to increases in "under-employed" part-timers – both driven by the tepid recovery and the palliative effects of increases in benefits to people not working. As shown in the graph nearby comparing population and employment, through 2002, demographic and workforce participation factors gave a huge boost to economic growth countering public-sector overreach, and the employment/population ratio rose more than 56% in 42 years (from 0.30 to 0.47).

However, since 2002, demographic and other labor-force-participation trend reversals have reinforced the increasing drag from government excess that depresses growth. The movement of the large Boomer cohort into retirement began in 2011, is accelerating and will continue for perhaps 20 more years. Because retirement age and support policies were set when longevity was lower and health of people over 60 was less robust, U.S. dependent/producer ratios will continue to rise relative to what they would be under market incentives. So, total-factor productivity and thus the economy will continue to grow slowly. The burden on productive cohorts will increase, especially with slow income growth, leading perhaps to generational conflict. Slow economic growth



and resulting low interest rates and other rates of return on investment will challenge retirement and endowment funding and exacerbate many other problems.

3. Debt in All Sectors and Net Savings and Investment: Total debt levels relative to the U.S. economy increased hugely until the financial crash and Great Recession of 2007-2009. As shown in the graph below of total American debt as a percentage of the economy, they have retrenched only slightly since then, leaving an excess-leverage overhang that may not be receding. All debt sectors are involved: government at all levels; business (financial and nonfinancial); and households (mortgage, auto, student and consumer loans, etc.). Credit-allocation policy such as the Community Reinvestment Act amendments of the 1990s drove much of the excess, especially in the decade ending 2008, providing artificial and unsustainable temporary stimulus to growth but also producing mal-investment. Monetary policy – the Federal Reserve keeping interest rates low in 2002-2005 – also contributed to these problems.

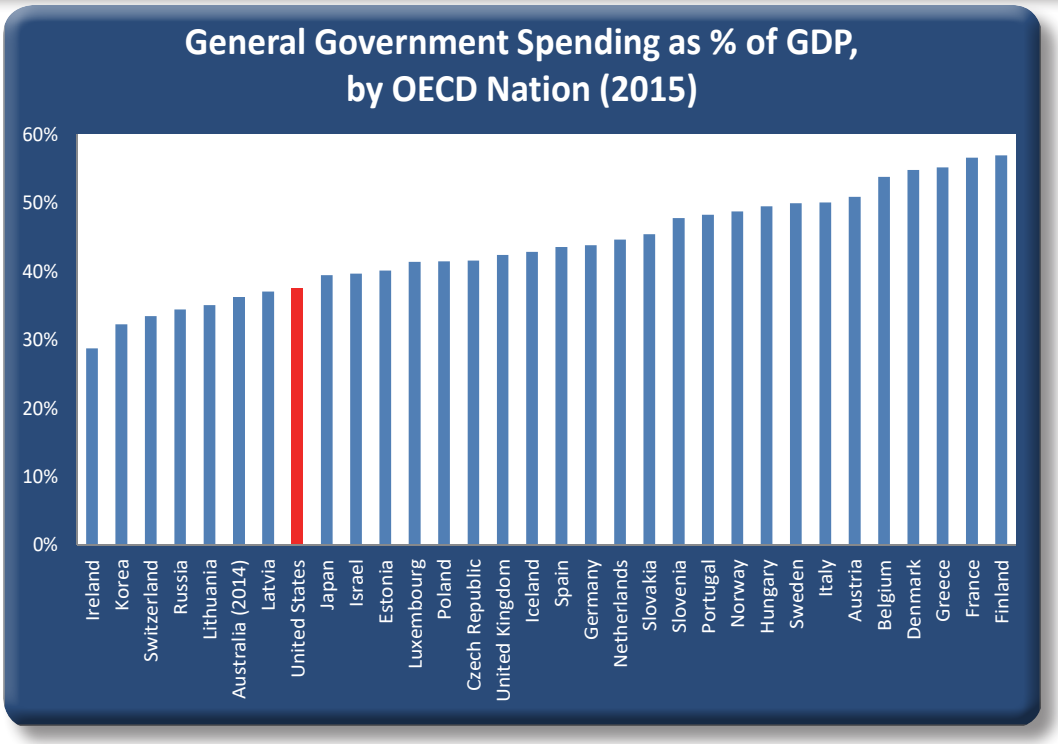


Total American debt/GDP ratios in 2015 were still twice their 1984 levels, despite retrenchment following the financial crash and Great Recession. Consumer debt growth was driven mainly by the federal mortgage lending policies that caused the housing bubble and subsequent collapse. Business debt grew in finance and large corporate stock buybacks, mergers and acquisitions – so, there is now an equity bubble to match the debt bubble. Federal government total debt/GDP ratios have more than doubled, driven by fiscal policy and the continued growth of "entitlements" spending (Social Security, Medicare and Medicaid). Monetary policy – the copious increases to the Federal Reserve balance sheet due to massive purchases of Treasury securities and government agency debt – was also used to ameliorate the negative growth effects of a wide range of regulatory, tax and other public policies. Further retrenchment from current debt levels is needed to restore the economy, so demand for capital and interest rates and investment returns can all be expected to remain low, as will economic growth. The resulting sustained low interest rates have destroyed much economic wealth and damaged institutional, retirement and endowments investors and savers.

4. International Economic Growth, Trade and Foreign Direct Investment: Until the Great Recession, long-term growth of the world and developing economies, led by China, was more rapid than growth in the U.S. and other advanced nations. Driven by and contributing to increasing 1) globalization of corporate operations (not political globalization), 2) international trade and 3) foreign direct investment in the U.S., this growth increased our economic growth by lowering costs to American consumers and businesses and spurring more efficient investment and production by domestic and foreign businesses.

Since 2007, trade increases have lagged world economic growth. Growth in China and other developing nations has slowed, further depressing American growth. The three factors above that now retard U.S. economic growth are even worse in other major economies, advanced and developing. While this makes our economy the "cleanest dirty shirt in the laundry pile" for investors, it also means the global-trade-and-investment cavalry will not be riding to rescue us from anemic economic growth rates. The world economy will no longer spur U.S. growth to the degree it did before the Great Recession.

The problems of excess and still growing size, reach and scope of government are worse in every other major economy than in the U.S., except for Russia, as shown in the chart on the next page. So are demographic problems of low birth rates and labor force participation, plus increased aging. Europe (the only other comparably-sized economy) and Japan continue to struggle as they long have done with very low growth. China has grown hugely into the second-largest national economy, but the command-and-control methods that remain even after its liberalization have yielded massive mal-investment and debt growth. Due to mal-investment, persistent low consumer demand and the recently eased one-child policy (a monumental policy mistake that spawned great human tragedy and continues to do so), China is headed for ever lower and possibly negative growth. All other economies are too small to make a significant difference to U.S. growth.



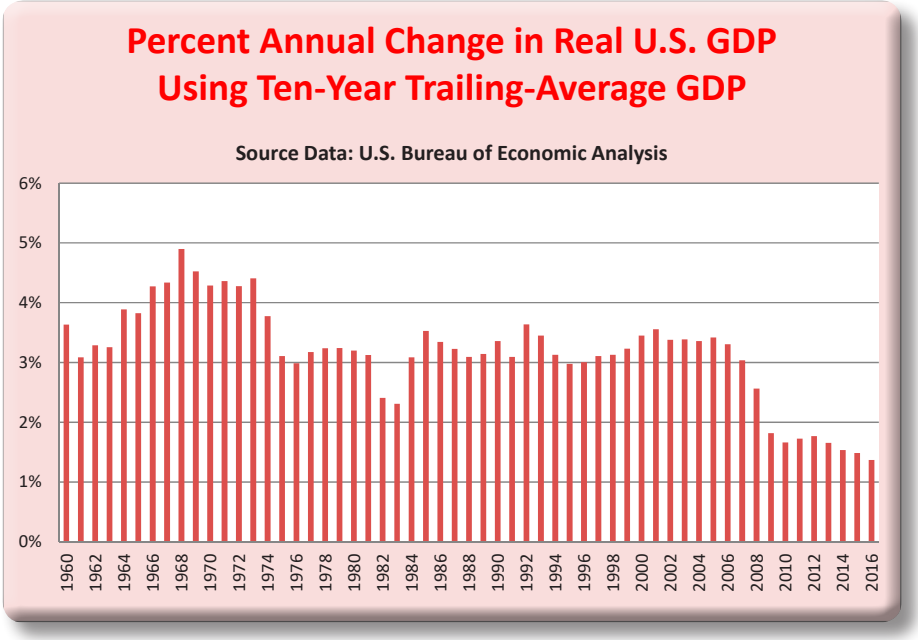
Total debt worldwide is now about 5.6 times what it was 20 years ago, while the world economy is only 2.8 times its prior size, meaning debt/GDP ratios have doubled in only two decades. That increase is likely unsustainable especially with slowdowns in world growth and globalization, leading to future retrenchment. Europe has now followed Japan and the U.S. into monetary and credit-allocation overreach, and Italy and others (possibly including Japan and China) soon may face Reinhart/Rogoff excess debt levels (debt above 90% of GDP leading to financial collapse). Birth rates being an inverse function of women's education and wealth levels explains much of the world demographic problem, but in India and Africa birth rates are dropping even faster than education and income levels. Slow population growth will slow economic growth.

5. Upshot: Continued Slow Economic Growth: All four mutually reinforcing problems discussed above have already produced the poorest recession recovery on record, with real growth of about 2% annually – or, adjusting for population increase, real per-person growth of about 1%. With none of these problems abating (and all perhaps increasing), the most reasonable outlook is economic and productivity growth at recent anemic rates or even lower, plus great uncertainty going forward. The chart below of rolling ten-year growth rates shows that U.S. economic growth has long been declining due to these factors and has collapsed to record sustained low levels since 2008. Growth at 1% per person per year sounds only slightly lower than historic 2.0%-2.5% levels, but the compounding impact is huge: Namely, average human wellbeing growing only 42% every 35 years instead of doubling, which was the social norm for 250 years. So, instead of average family incomes doubling from $50,000 yearly to $100,000 (at 2.5%), they will grow only to $71,000 (at 1%) – or 29% lower. Restoring the economic growth legacy left by previous generations, an essential public policy need, requires government to grow slower than the economy for decades.

Down-side risks may even make things worse. The recent slow growth has occurred despite falling energy and other commodity prices that, all other things remaining equal, should have spurred growth. Possible returns of these prices to historical levels could dampen growth even further, and a few economists even believe persistence of low prices could precipitate world-wide deflation and negative economic growth. Two other factors may further compound these problems: 1) slow expected economic growth produces low investment returns, which in turn tend to keep growth lower in a negative feedback loop; and 2) our current recovery, anemic as it has been, is now longer than the average cyclical upturn and we may be due for a contraction.

6. Innovation, Technological Change and Productivity: Two recent economic history books have addressed the slowing of the American economy in the last half century, and a third further analyzes the roles of investment, innovation, technological progress and productivity growth. The first two books are *The Rise and Fall of American Growth* by Robert Gordon and *An Extraordinary Time* by Marc Levinson.

Gordon focuses on the historically unprecedented growth in the U.S. in "the special century" of 1870-1970 and the much less spectacular record since 1970. He breaks down the determinants of growth between 1) capital deepening (the ever accumulating stock of capital to serve the economy and foster growth) and 2) the effective education levels of the populace (which makes people more economically productive and can be viewed as the deepening of the human capital stock), plus 3) total factor productivity (TFP), which covers all productivity gains not explained by the other two factors. He finds that the combination of capital deepening and education has contributed roughly a nearly constant 1% per year in real terms to average annual growth rates of output per work hour since 1890.



However, TFP was a mere 0.5% in 1890-1920 before soaring to 1.8% in 1920-1970 and settling back to 0.7% in 1970-2014. Gordon does address briefly the demographic and labor-force participation trends we have cited, but not the other three factors. Instead, he casts TFP as endogenous and even sui generis – more a richly deserved and well told humanistic celebration of some remarkable technological and economic history than an analysis useful for forecasting and policy. While he sees no basis to believe TFP will rebound to previous levels, he does analyze the last 44 years to conclude that the flowering of information and communications technologies during that time produced only a ten-year serious bump in TFP to 1.03% in 1995-2004. However, he finds the 2004-2014 rate to be the lowest since 1890 at 0.4%.

Levinson analyzes the progress of major western economies, including the U.S., in 1948-1973 to also find historically unprecedented growth ("the golden age") followed by a collapse to much lower levels since then. His analysis is also well told, but lacks even more than Gordon's in quantitative detail and support; in over 300 pages, one finds not a single table, chart, graph or equation (a remarkable feat for a former finance and economics editor of *The Economist,* which has always specialized in illuminating graphics). He states, "Scholars have spent the past fifty years struggling to understand what went wrong and how to set it right." So, he joins Gordon in concluding that the present is normal and that the golden age was a unique non-recurring set of many fortunate circumstances.

Both books overlook our explanation above that modest growth until the Great Recession, and the distressingly low growth since 2007 are explained by the powerful effect of increasing government over-reach, first offset and then reinforced by the demographic/labor-force, debt and rest-of-the-world trends. But Levinson embraces a particular error in this regard as he writes:

"Our inability to restore the world economy to its peak condition has had long-lasting consequences. It radically changed social attitudes, engendering a skepticism about government that has dominated political life well into the twenty-first century. *With that change came a shift away from collective responsibility for social wellbeing; as state institutions were allowed to wither, individuals were asked to assume more of the costs and risks of their health care, their education and their old age.*"

The first sentence is certainly true, and arguably the second one too. However, the third sentence, for which we have supplied the emphasis, is categorically false and runs expressly counter to the objective facts, even though it has become a common talking point for some politicians and media outlets. We show above that public-sector spending, has remained above reasonable (optimal) levels for decades has continued to increase in both nominal and real terms, and consumes an increasing proportion of household incomes, burdening economic growth. Moreover, we show that this public-sector metastasis has been driven especially by increasing spending on health care, education and old-age, the exact three areas for which Levinson erroneously claims public-sector retrenchment. Also, the burden and problems from excess public spending have been exacerbated by wanton regulatory and other governmental intervention in everything, especially those three areas.

Invention, innovation and technological progress – plus the benefits of capital deepening and education – all together produce productivity gains, which are the source of real economic growth and improvements in human wellbeing. It is helpful to break out capital deepening and education as Gordon does, but more breakout and causal analysis related to his TFP residual is needed. To sum up the total productivity growth in the last 70 years: the golden age rate was 2.8% through about 1973; followed by 1.3% in 1973-1995; then a jump to 2.5% in 1995-2004; and concluding with 1% in 2004-2015. The long sustained low rate of the last dozen years included a jump to 2% in 2007-2010 that was mainly a temporary lurch caused by the onset of the Great Recession

and businesses' response to it. The sustained rate in 2010-2015 has been about 0.3%, with as much evidence that it is falling as rising.

On the other hand, our 10-year U.S. rolling economic growth computation – which includes about 1% per year for population growth (a figure that is now declining) – shows a boom ending about 1973, followed by a flat and modestly good sustained rate of 3% or slightly more in 1973-2007, then followed by a troublesome and declining 2% in 2007-2016. Our four-part causal analysis of continually growing government excess for 56 years, first offset and then in this century reinforced by the other three factors (demographics and labor force; debt; and rest-of-the-world sector) is fully consistent with the facts and numbers of U.S. economic growth history. Moreover, while we do not have a detailed explanation correlating progress in these four factors with the capital deepening, education and TFP estimates by Gordon, the two data series are reasonably compatible and consistent. And they provide a direction for future research to understand our growth history and prospects. Note also that we also note economists have raised a number of productivity measurement issues, as well as questions about achievement trends and the incremental economic effectiveness of education. Also, many have emphasized the metastasis in regulation in the last decade.

In their 2017 book, *Capitalism without Capital,* Jonathan Haskel and Stian Westlake note that business investment in the U.S. economy has changed significantly in recent decades. From 1948 to 2007, intangible investment grew from 27% of total non-farm business investment to 56%. Tangible investment includes buildings, machines, computers, equipment, etc. Intangibles include mainly intellectual property such as research, patents and trademarks, brands, software, designs, etc.

They observe that intangible investment has characteristics they call the Four S's: scalability, sunkenness, spillovers and synergies. Scalability means, for example, that Uber was able to scale up its business from one city to worldwide promptly because the software, brand and other intangible assets on which its business model is based can be cheaply and quickly replicated and adopted to many more cities. A transportation model based on owning vehicles would take a long time to reach many cities due to financing and logistics challenges.

Sunkeness means that much investment in intangibles becomes a sunk, non-recoverable cost if the venture does not succeed – just as scalability and synergies make it very valuable if it does succeed. Spillovers refers to the fact that investments in intangibles produce assets economists call "non-rival" in nature: one party's use of them does not limit another party's use and benefit from them. Finally, synergies describe the multiplication of benefits when two or more assets, whether tangible or intangible, are combined; for example, a jet engine combined with a wing allows flight. The Four S's illuminate effect of the increase of intangibles on business investment on productivity and growth, as they detail.

Haskel and Westlake note that traditional accounting tends to obscure the increase of intangibles in the investment mix, because some of their costs, such as software, design, branding, etc. are expensed, not capitalized as investments. With the Great Recession, business investment fell substantially and recovered only somewhat thereafter. However, even after they correct investment levels to recognize intangibles, they still find a significant decline and persistent low level since the recession.

So, declining investment is a cause of declining productivity growth and economic growth. But what has caused the declining investment? Our four-factor analysis shows what has done so, and their explanation is consistent with ours.

7. Cost Disease: Over the long run, the mix of goods and services produced by the U.S. and world economies has shifted toward more services and fewer goods. Half a century ago, William Baumol (who later won a Nobel prize in economics) diagnosed a problem in providing many services that came to be known as Baumol's cost disease. He noted that the means of providing many services are constant over time and not subject to innovation and technological change that yield productivity gains. Hence, some have suggested that as the economy shifts toward services, effective economy-wide innovation, technological change and thus economic growth rates will slow from historic levels. As discussed below, we believe this view is unproven and likely offset when services productivity is viewed in a larger context.

Baumol observed that, economically, delivering the services of a Mozart quartet today has not changed since Mozart composed it. It still takes four musicians, their instruments and a venue that cannot be much larger (for more listeners) now than it was then. Put in these terms, it is easy to understand the argument and to extend it to a range of other services such as education, where a class of students still requires a teacher, classroom, desks, books, etc., just as it did a century ago. Thus, economy-wide, we may expect diminishing returns to innovation, etc., as services increase relative to goods. Baumol pointed out that when a sector such as classical music experiences productivity gains slower than those for the economy as a whole, the rising productivity of the economy nonetheless means that greater

rewards accrue to firms and individuals in that sector over time – albeit not as fast as they grow in sectors with rapid technological change and productivity gains.

Given the constant labor input per unit of output (i.e., a concert), he was concerned that business models for performing arts firms and performers may have trouble delivering income that would keep them economically viable. He did admit they might survive by developing new sources of revenue such as charitable contributions, not just ticket sales. A *Wall Street Journal* article a year ago noted that in fact symphony budgets and the pay of their musicians has actually increased relative to the economy, instead of diminishing – although it also questioned whether the increasing real costs can find revenues to sustain the enterprise and artists. Public subsidies, plus contributions, play a role too. However, contra Baumol's belief that alternate revenue sources such as recording sales would apparently not provide a solution, we believe they do. Further, when the service of providing music is viewed in a larger context, there is no reason to believe that services are inherently subject to slower technological change and productivity gains than goods.

The point is that new inventions, innovations and technological change can in fact hugely increase the productivity of musicians. With modern electronics, one musician can play multiple parts. More importantly, via recordings, broadcast and narrowcast, the performance that could be heard in Mozart's time only by the limited number of people present when and where it was rendered can now be enjoyed by literally millions of people as often as they like and at times and places of their convenience. So, with modern communications and data technology, the productivity of musicians and their instruments is multiplied by many orders of magnitude. And consumers realize much additional value from the performance by being able also to hear it on a long auto drive. That is, considering services productivity from the perspective of consumer utility and total output of various kinds by suppliers, there are synergies that offset any cost disease limits and increase productivity hugely.

Moreover, this observation extends to education and increasingly to nearly all services. Alternative means of delivery of education are proliferating in higher education: Students and many people benefit today from recorded and broadcast lectures by the best teachers in any area and at any location, not just at a brick-and-mortar institution. Primary and secondary students also have access to a range of options for their instruction, from traditional classrooms to online home-schooling. And instead of having to find an encyclopedia at the library during its hours, in the middle of the night, we Google a subject and follow the search results wherever and for as long as we want. With the synergies proliferating everywhere, we see no reason to believe that cost disease is found much outside the public sector, education, health care and aging care – where it prevails only for non-technological public policy reasons.

8. Market Capitalism and Income Equality: An economic outlook analysis is by nature focused on growth. But, we believe that economic growth should also be the primary goal of public policy. When aggregate output increases, there are more resources on average for each person. In addition, increasing total output gives society greater resources to take care of people who through no fault on their part are unable to reasonably provide for themselves. Increases in resources promote human flourishing via education, improved health care, better diets and living conditions, and greater opportunities for use of leisure time. In short, economic growth is the key to human wellbeing.

Moreover, as the analyses in this CAR show, the public policies that promote growth are also those that promote fairness or equity – which is generally accepted as another fundamental goal of public policy. In a mainly market-based economy, people get income and accumulate wealth roughly in proportion to the value they deliver to others. This delivered value is the "consumer surplus" reaped by people who do business with them, and it does not depend on how hard the producers work or how charitable or otherwise virtuous they are; even if they are simply avaricious, in market systems their rewards depend on the contributions they make to society. Further, the value they deliver to others is as much a contribution to society when it results from investing their capital as when it flows from their labor; value is value, and there is no more virtue inherent in labor than in managing capital.

The economic freedom and protection of private property that foster aggregate economic growth also are fair to those who produce by letting them retain the fruits of their labor and investment risk-taking. And those same economic freedoms and property rights promote among everyone the virtuous behaviors society needs of delivering value to others. On the other hand, in any political allocation of resources, income and wealth depend on political behavior, aggressiveness and many other factors that do not serve the public interest in growth and equity, but only the self-interest of the people engaging in them. So, market systems work to promote maximum aggregate human wellbeing, but the political allocation of resources does not.

Nonetheless, people have always been concerned about how their wellbeing compares to that of others and more generally about the distribution of income within society. With the slow growth and flagging human wellbeing of the last decade, concerns about income distribution and inequality have risen. These concerns often merge with some classic critiques of market capitalism, as reflected in the 2014 book *Capital in*

the Twenty-first Century by Thomas Piketty. So, we review here the arguments and claims about distribution, inequality and alleged structural problems of market capitalism. Then we present data that show that the extensive public-sector interventions urged by these critics not only suppress growth but have also contributed to unequal income distributions and lagging wellbeing of middle- and lower-income people.

Piketty covers much ground in his 700-page tome, but two points stand out here as summarized from *Problems with Piketty: The Flaws and Fallacies in Capital in the Twenty-first Century* by Mark Hendrickson. First, incomes and wealth are distributed very unequally, both within and among countries. Second, based on the fact that the rate of return on capital investment is generally greater than the growth rate of the economy, Piketty hypothesizes that capital will come to comprise an ever larger fraction of each economy. This leads him to conclude that inevitably the rich get richer and the poor and middle classes get left behind – until this unsustainable trend erupts in economic breakdown and political chaos. So, Piketty calls for confiscatory tax rates on wealth and income (e.g., 80%) to avert this supposed tendency.

However, like most analysts who obsess over income distribution, Piketty ignores the huge effects that income taxes and transfer payments already play. His calculations are based on pre-tax income, which is not the amount anyone has to spend with discretion. Piketty further overlooks employer-provided benefits like health insurance and non-taxable capital gains and he fails to adjust for household size, so his assertions have little basis in reality. There are also transcription errors and incorrect formulas in his spreadsheets and for some data he does not cite original sources. These problems led him to retract his data for the U.S.

Further, the obsessive focus on income distribution is misplaced in principle. As we noted, in market systems (but not in explicitly political allocations of resources), income and wealth generally flow to people in proportion to the value they deliver to others – i.e., the economic value they create for society. Since individuals' contributions vary greatly, sometimes by a few orders of magnitude, the resulting distribution of income not only reasonably rewards people who create value, but it also provides the appropriate value-creation incentives for everyone. Further, people's wealth is split among their heirs and according to their charitable contributions, and this effect in the real world tends to spread wealth, instead of allowing ever narrower accumulations of it. Thus, lists of individuals' fortunes increasingly include self-made entrepreneurial successes and ever fewer legacy fortunes. Also, not all capital reaps the average rate of return, and thus some fortunes grow more slowly than the economy or even disappear altogether in financial losses. And the fact that a loss of X% requires subsequent gains greater than X% to restore the original corpus also works toward wealth spreading.

Another major flaw is that, for Piketty, the value, virtue and efficacy of government spending is never questioned; more is always better by assumption, despite demonstrations by Nobel laureate Friedrich Hayek that rational economic planning is impossible outside competitive markets. Ultimately, Piketty's obsession (and that of other progressives) with income and wealth distribution not only completely distorts the real record on these trends but also overlooks the real public interest: namely, economic growth and thus human wellbeing. Capital formation is essential to this goal. He does, however, concede that "the return of high capital/income ratios over the past few decades can be explained in large part by the return to a regime of relatively slow growth."

Indeed, Table 5 below demonstrates broadly this point for the U.S. It shows that the difference between GDP growth rates in the U.S. and the increases in income inequality (measured by the most common Gini coefficient and related methods) have produced much slower total gains (GDP growth less income inequality increases) for the middle and lower classes in the Bush 41, Bush 43 and Obama administrations than was the case in the Nixon/Ford, Reagan and Clinton administrations. In short, total economic growth has benefitted the poor and middle classes more than slow growth and income redistribution.

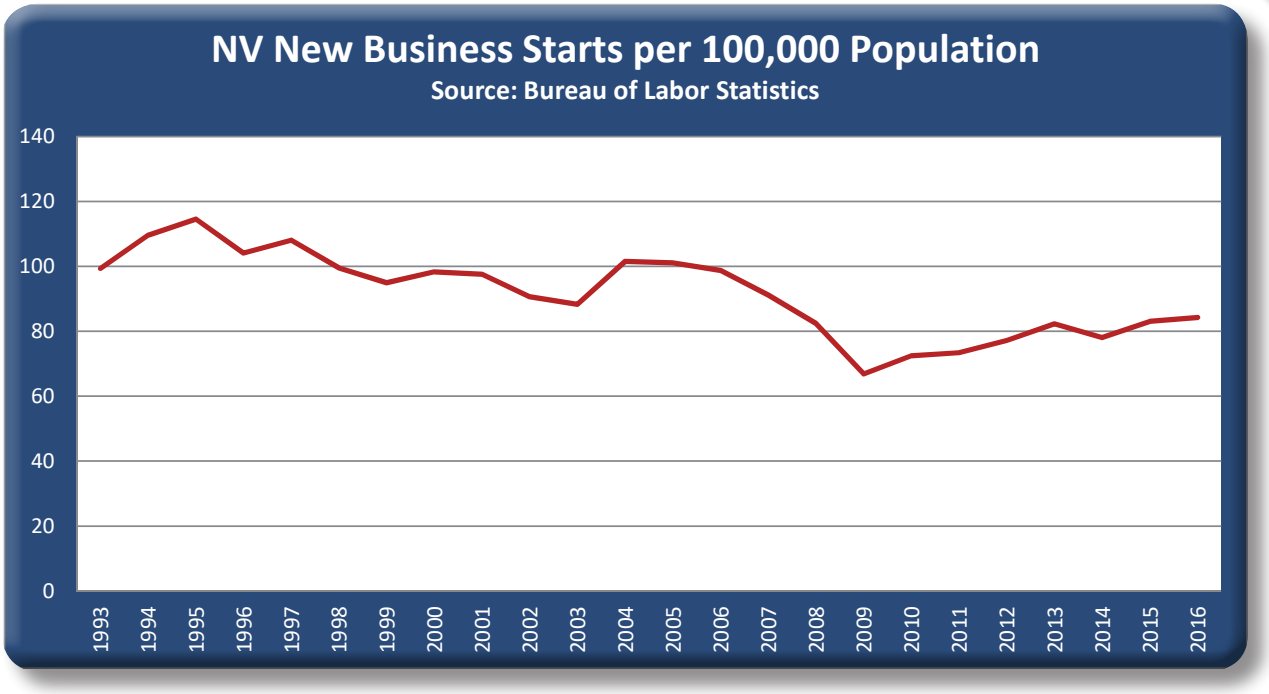
Table 5: Comparison of Income Growth and Increase in Income Inequality by United States Presidential Administration, 1969-2016

Administration	Annual Growth, Real GDP Per Person	Annual Increase in Income Inequality (Gini/MnLn/Thiel)	GDP Growth Less Income Inequality Increase
Nixon/Ford	1.90%	0.33%	1.57%
Carter	1.67%	0.67%	1.00%
Reagan	2.70%	1.04%	1.66%
Bush 41	0.75%	0.32%	0.43%
Clinton	2.48%	0.84%	1.64%
Bush 43	0.70%	0.25%	0.45%
Obama	1.39%	0.85%	0.54%

9. Nevada Prospects Are Similar to U.S. Prospects: Nevada's overall tax levels lie toward the middle among the states. The state has long practiced onerous regulation of professions and occupations and has intervened in housing finance in ways adverse to growth. In assisting destructive federal policies in health care, education and energy, state policy further retards growth. Nevada's demographic and workforce outlook is no better than the national picture, especially due to modest workforce education levels. Further, there is no reason to believe Nevada will do better than other states on non-state debt levels, or on trade and foreign direct investment. Historically, Nevada and the Southwest populations have grown much faster than the U.S., but their net in-migration has slowed greatly in recent years. So, despite faster growth currently than most states, the most prudent forecast for Nevada is growth at the anemic national rates. Moreover, the dominance of the outlook by long-term secular trends obviates fine-tuned state cyclical growth estimates. A notable bright spot is that Nevada has managed conservatively its debt load; so, maintaining its creditworthiness will be assured by continued prudence on that front.

Between 2011 and 2015, Nevada's state gross domestic product grew meagerly from $119.3 billion to $126.2 billion (in constant 2009 dollars). Per capita, that's a growth rate of -0.15%, ranking 44th among the states in that period. This continued negative growth comes on the heels of an economic recession in which Nevada experienced the largest per-capita decline in GDP of any state. Between 2007 and 2010, per-capita GDP shrank by an average of 5.76% annually versus a national shrinkage of 1.26%. Fortunately, Nevada growth has returned to healthy levels.

However, entrepreneurial activity in Nevada remains nearhistorically low levels. As shown in the graph below, startup density, measured by the number of business starts per 100,000 persons, fell roughly 30% between the mid-1990s and recent years, according to Bureau of Labor Statistics data. Non-governmental data sources, providing a longer time series, indicate that startup density has fallen 61% since 1977. This long-run decline in entrepreneurial activity portends a less dynamic state economy. Studies indicate that nearly all net new U.S. job growth is attributable to startups, so future Nevada economic growth prospects may be significantly diminished if entrepreneurial activity does not rebound to historic levels.



10. Economic Outlook Summary: Government at all levels has long been so big, yet still growing relative to our economy, that it increasingly consumes our time, energy and productivity; crowds out private entrepreneurship and business spending and investment; and thereby stifles economic growth. Until 2002, falling birth rates plus Baby Boomers and women entering the workforce greatly mitigated this problem. Sustained low birth rates leading to small working-age population cohorts, plus somewhat falling rates of workforce participation by women and by men ages 16-54, have lately decreased the fraction of the population working and the producer/dependent ratios that fed earlier growth.

Increasing debt levels relative to the economy, which were mainly driven by policy far into unsustainable territory, promoted growth until the financial crash. Mild retrenchment during the tepid recovery has not worked off the overhang; so, slow growth of non-government debt demand will add to the drag on economic growth. Rapid growth of developing economies, plus faster growth of trade and foreign domestic investment also helped greatly until 2009. Growth in most countries has slowed since then because the government overreach, and demographic and workforce participation and debt problems are worse in other major economies. And trade is now growing slower than the world economy. The most reasonable expectation is that these world trends will continue, not improve, despite (or even due to) low commodity and energy prices.

Hence, all four fundamental factors are now driving U.S. economic growth down from the current 2% annual real levels (1% per person), and so human wellbeing will grow much slower in the future than in the last 250 years. The increasing time since the Great Recession also suggests cyclical factors may stunt growth in coming years. Nevada is not exempt from this unfortunate outlook: As detailed above in the section on spending, the state's public-sector metastasis has been greater and it continues. Other demographic, debt and international trade and investment factors do not portend improvement from the national economic outlook. Nevada's creditworthiness is a single bright spot. However, low economic growth will yield low expected investment returns, greatly challenging management of state retirement and endowment funds.

VII. POLICY PRESCRIPTIONS

Recent upticks in economic growth may offer some hope to the extent they are driven by federal fiscal and regulatory reform that will be sustained for a long time. Tariff increases, however, will tend to slow growth. Also, bubbles may have formed in capital markets due to the persistence of low long-term (market) and short-term (policy driven) interest rates and investors chasing yields in ever riskier asset allocations. It is too early to forecast anything better than a continuation of the ennui of the last decade.

Some people argue that Nevada spends insufficiently on K-12 education and on HSS, although they have not said how much would be "enough" in either case. K-12 spending has increased much faster than incomes and all other state spending except that for HSS, especially with the large K-12 increases adopted in 2015. The empirical literature is clear that spending increases from current Nevada levels can be expected to have little or no effect on student achievement. The increases in HSS spending have been driven by state decisions and federal mandates and financed substantially by federal grants and contributions. Federal support for HSS programs may be diminished greatly in coming years. So, Nevada faces another major spending problem as it seeks either to rein in spending to reasonable levels determined by its revenues instead of increasing taxes again from unduly high levels.

Nevada's PERS system is managing its investments with the right approach, but it has not yet adopted reasonable discount rates for future liabilities for planning and determining contribution rates. It should adopt a rate of 5%, reflecting the realistic total net return assumptions for its investments. PERS also needs to reset expected membership growth rates to 2.5%, the levels it has achieved. And it should adjust working- and retirement-years assumptions to levels that reflect current and prospective demographics to correct a long history of burdening future taxpayers and future plan participants with subsidies to retired government employees. The unvarnished good news is that Nevada's credit situation is very sound.

As discussed in the economic outlook section, growth in public spending is a prime reason economic growth in our nation and state has slowed and will continue to be anemic. Further, claims that budgets have been cut are misleading when actual spending and taxpayer/fee payer burden have increased as they have. Public-sector excess is a drag on the economy and it diminishes human wellbeing and fairness in our society. It, not some alleged failure to adequately fund HSS and K-12, is the principal threat to our prosperity and children's welfare. **For a long time to come, Nevada government must grow slower than our economy.**

Nevada must also work to revitalize the dynamism of its economy and promote genuine entrepreneurship as the path to sustained growth and economic development. Occupational and professional licensing laws that are here more onerous than in other states place artificial barriers before enterprising individuals, limit their earning potential and diminish the contributions they can make to Nevada. Our state retains dubious licensing schemes for occupations like interior design and music therapy that exist in only a handful of states. For instance, 47 states impose no special licensing requirements for interior designers, but Nevada requires practitioners to complete six years of education and apprenticeship requirements, pay fees, and pass a state-administered test before contracting for services.

Such barriers to entry into middle-class occupations severely dampen opportunities available to Nevada's citizens. The traditional rationale for occupational licensing is that certain occupations present substantial risk of physical harm to the public when practiced by unknowledgeable or unskilled persons. For instance, patients benefit from the assurance that their surgeon has the required skill and knowledge to perform surgical procedures. However, the proliferation of licensing requirements in Nevada to occupations like interior design has little to no basis in this rationale.

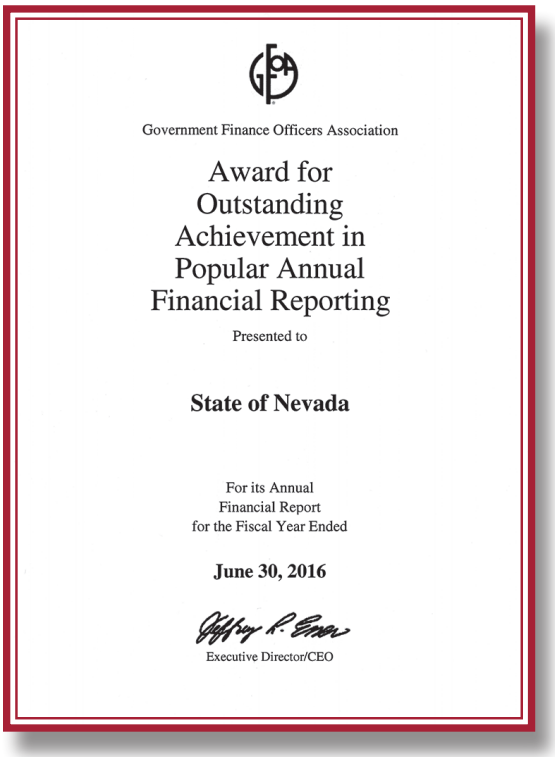
Further, many of Nevada's licensing laws fail to make clear that they apply only to for-profit endeavors. As such, they may incriminate citizens for behaviors generally believed to be legal and noncontroversial. NRS Chapter 640C, for instance, appears to make it a criminal offense for an individual to give his or her spouse a massage without first obtaining a license from the State Board of Massage Therapists.

While laws like these needlessly limit the upward mobility and opportunities available to most of Nevada's citizens, the state's approach to economic development has focused on providing incentives to select private firms with political influence. Substantial packages of targeted tax incentives have been awarded recently to Amazon, Tesla Motors and the Oakland Raiders. In addition, the Legislature has crafted legislation in recent years to authorize outright cash grants of state funds to private firms, preferential "economic development" utility rates and transferable tax credits that can be sold for cash on secondary markets and used to satisfy most state tax liabilities of the buyer.

Litigation is pending that challenges the constitutionality of Nevada's Catalyst Fund, which uses legislative appropriations to award cash grants to private firms. The litigants claim the Fund, created in 2011, violates Article 8, Section 9 of the *Nevada Constitution*, which reads: "The State shall not donate or loan money, or its credit, subscribe to or be, interested in the Stock of any company, association, or corporation, except corporations formed for educational or charitable purposes." The litigants claim the State's award of cash grants damages the competitors of grant recipients, whose tax dollars are used to subsidize their recipient competitors.

Beyond these legal issues, cash grants and other awards to particular firms signal official state support for those firms but distort the pattern of investment. Financiers and investors become reluctant to support ventures that compete with state-supported entities and more likely to support recipients of state support even if their prospects are less promising on a pure market basis. The result is a suppression of genuine entrepreneurship and slower economic growth as Nevada, along with the nation, has moved increasingly toward corporatism and cronyism. This discouragement of organic entrepreneurship is apparent in statistics cited earlier regarding a decades-long decline in Nevada's rate of business formation.

Nevada must restore hope for its future generations by abandoning these interventionist and corporatist policies and sweeping away unnecessary barriers to organic entrepreneurship and business formation. The promise for Nevada's future is found in the dreams, talents and creativity of its people and not in the political deals made with cronies regarding tax dollars and abatements and regulatory favors.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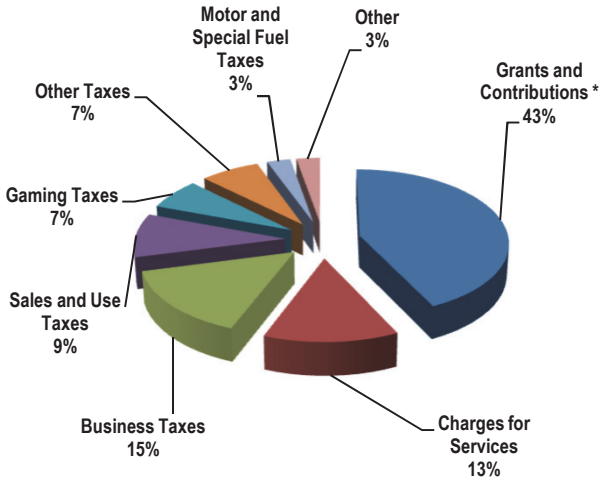
June 30, 2016

Executive Director/CEO

Nevada State Government Financial Summary

Sources of Revenue

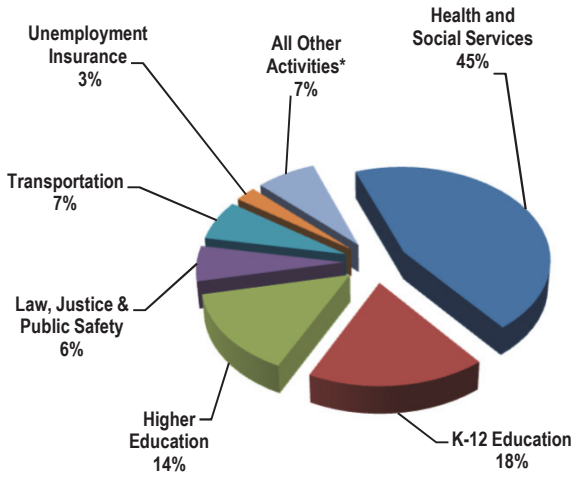


FY 2017 Revenues by Source

Revenues by Source Expressed in Millions	2017 Revenue	2006 Revenue	% Change
Grants and Contributions *	$ 5,726	$ 2,355	143%
Charges for Services	1,741	1,399	24%
Business Taxes	2,018	880	129%
Sales and Use Taxes	1,285	1,098	17%
Gaming Taxes	897	1,003	-11%
Other Taxes	947	696	36%
Motor and Special Fuel Taxes	377	298	26%
Other	372	83	351%
Total Revenues**	**$ 13,363**	**$ 7,812**	71%

*Grants and Contributions include Operating and Capital Grants
**Total Revenues includes revenues from Primary Government Activities and Discretely Presented Component Units. Payments from the State of Nevada to Discretely Presented Component Units are eliminated.

Functional Expenses



FY 2017 Expenses by Function

Expenses by Function Expressed in Millions	2017 Expenses	2006 Expenses	% Change
Health and Social Services	$ 5,502	$ 2,199	150%
K-12 Education	2,215	1,240	79%
Higher Education	1,783	1,299	37%
Law, Justice and Public Safety	751	578	30%
Transportation	841	508	66%
Unemployment Insurance	313	239	31%
All Other Activities*	885	1,003	-12%
Total Expenses**	**$ 12,290**	**$ 7,066**	**74%**

* All Other Activities include Governmental and Business-Type Activities and Discretely Presented Components Units except Nevada System of Higher Education.
**Total Expenses includes expenses from Primary Government Activities and Discretely Presented Component Units. Payments from the State of Nevada to Discretely Presented Component Units are eliminated.

An independent audit of the State's financial statements resulted in an unmodified audit opinion. Financial information in this report is derived from Generally Accepted Accounting Principles (GAAP) data in the State's Comprehensive Annual Financial Report (CAFR).