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STATE OF NEVADA

Comprehensive

Annual

Financial

Report

**for the Fiscal Year
Ended June 30, 2016**

**Ron Knecht, MS, JD, PE(CA)
State Controller**

RON KNECHT, MS, JD & PE(CA) STATE CONTROLLER

Ron Knecht, an economist, financial and policy analyst, Professional Mechanical Engineer (registered in California), and law-school graduate, became Controller January 5, 2015. As Controller, he also serves on Nevada's Board of Finance, Executive Branch Audit Committee and Department of Transportation Board of Directors.

In his first full fiscal year as Controller, Ron and his management team saved taxpayers 13% of the funds that had been appropriated to the Controller's Office by the Legislature and Governor, based on requests by his predecessor. While returning over \$1 million to the State Treasury, Ron and his staff have improved state services to Nevadans, especially in the area of accountability information.

Before being elected Controller, he divided 44 working years between public service and entrepreneurial small business, all in managerial and senior professional positions. He's been a founder, executive or director for 12 firms, charities, community-service and public-interest groups.

In previous jobs, he testified extensively as an expert witness. In 2012-14, 1986-2001 and 1976-78, he was a consultant and business executive. In 2001-12, he was a senior economist at Nevada's Public Utilities Commission. He held principal economics, finance, technology and policy positions in 1978-86 at California's Energy and Public Utilities Commissions. In 2009-13 he co-taught about ten two-day seminars for SNL Financial on utility finance, cost of capital, and economic and policy issues for regulators, professionals, managers, executives and securities analysts. In 1973-77, he was a Research Associate and Research Engineer at the University of Illinois. In 1972-73 he was Assistant City Engineer in Urbana, Illinois.

Ron was elected to the Board of Regents of the Nevada System of Higher Education in 2006 and re-elected in 2012. For two years, he chaired the Budget & Finance Committee and was Vice-chair another year; he chaired the Audit Committee for two years; and for seven years he was very active on the Investment and Major Projects Committee, which oversees \$1-billion of endowment and operating funds. He served on four other committees and on institutional presidential selection and performance-review committees, chairing two of them. Ron was elected to the Nevada Assembly for 2002-04, representing Carson City and Washoe City.

With some scholarship support, he worked his way through undergraduate and early graduate studies at the University of Illinois (BA, Liberal Arts & Sciences; mathematics major; physics & chemistry minor; 1971). Spending most of his working career in San Francisco and Silicon Valley, he paid his way at Stanford University (MS, Engineering Economic Systems; 1989) and the University of San Francisco (JD; 1995) by working full time. He's been a columnist for various print and on-line papers, and has taught part-time at two colleges.

The most important things in Ron's life are his wife, Kathy, their teenage daughter Karyn, and Ron and Kathy's mothers and families. Raised in a small Midwestern town, he was always active in a wide range of athletics and outdoor activities -- a competitive distance runner in high school and college. He enjoys ballet, modern dance, symphony, opera, rock & roll, country & western, theater and film, and he collects baseball cards and pursues other hobbies.

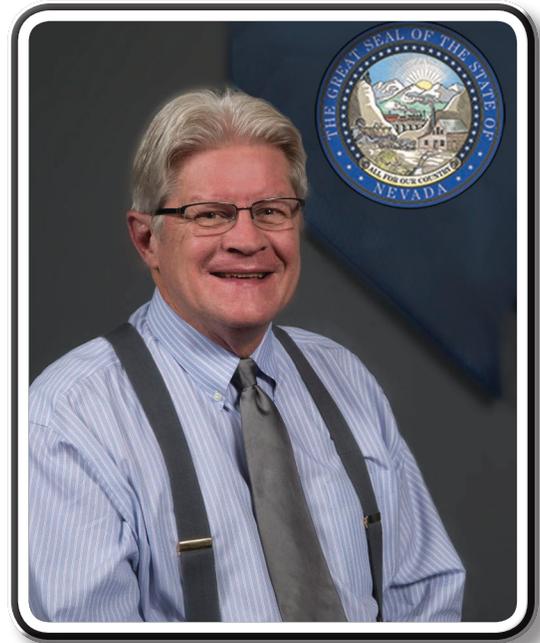


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RON KNECHT,
MS, JD, PE(CA)
State Controller

STATE OF NEVADA

JAMES W. SMACK
Chief Deputy Controller

GEOFFREY LAWRENCE
Assistant Controller



**OFFICE OF THE
STATE CONTROLLER**

December 21, 2016

To the Citizens, Governor and Legislators of the State of Nevada:

In accordance with Nevada Revised Statutes (NRS) 227.110 and the State Accounting Procedures Law (NRS 353.291 through 353.3245), I am pleased to present the State of Nevada Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2016. The objective of this Report is to provide a clear picture of the government as a single, unified entity, in addition to traditional fund-based financial statements.

Introduction to the Report

Responsibility: The Controller's Office prepares the State of Nevada CAFR and is responsible for the accuracy, completeness, and fairness of the presentation, including disclosures. To the best of our knowledge and belief, the information contained in the State of Nevada CAFR is accurate in all material respects and is reported in a manner that fairly presents the financial position and results of operations of the State's primary government and the component units for which it is financially accountable. Additionally, this report includes all disclosures necessary to enable the reader to gain a reasonable understanding of Nevada's financial activities.

Generally Accepted Accounting Principles: As required by State Accounting Procedures Law, this report has been prepared in accordance with generally accepted accounting principles (GAAP), applicable to State and Local Governments as established by the Governmental Accounting Standards Board (GASB). The State also voluntarily follows the recommendations of the Government Finance Officers Association (GFOA) for the contents of government financial reports and participates in the GFOA's review program for the Certificate of Achievement for Excellence in Financial Reporting.

Internal Control Structure: The State of Nevada has established a comprehensive internal control framework designed to both safeguard the government's assets against loss from unauthorized use or theft, and to properly record and adequately document transactions. As a result, the transactions can be compiled into the presentation of the State's financial statements in conformity with GAAP. Since the cost of internal controls should not outweigh their benefits, the State's comprehensive framework of internal controls has been designed to provide reasonable, rather than absolute, assurance that the financial statements will be free from material misstatement.

Many of our essential control features are decentralized. Hence, the State relies upon the controls in place within its various departments and agencies. NRS 353A.025 requires the heads of agencies to review their internal controls on a periodic basis to determine if the agency is in compliance with the Uniform System of Internal Accounting and Administrative Controls adopted pursuant to NRS 353A.020. On or prior to fiscal year end of even-numbered years, agencies are required to report the status of their internal controls to the Department of Administration.

Independent Auditors: The independent accounting firm of Eide Bailly LLP has audited the accompanying financial statements in accordance with generally accepted governmental auditing standards. Their opinion appears in the Financial Section of this publication. The goal of the independent audit is to provide reasonable assurance that the financial statements of the State of Nevada are free of material misstatement. We received an unqualified opinion on the basic financial statements for this fiscal year. The independent audit of the financial statements of the

State of Nevada is part of a broader, federally mandated Single Audit designed to meet the special needs of federal grantor agencies. The standards governing Single Audit engagements require the independent auditor to report not only on the fair presentation of the financial statements, but also on the audited government's internal controls and compliance with legal requirements, with special emphasis on internal controls and legal requirements involving the financial statements. This report can be found in the Compliance Section of the CAFR, and in the State of Nevada's separately issued Single Audit Report.

Management's Discussion and Analysis: GAAP requires management to provide a narrative introduction, overview and analysis to accompany the basic financial statements in the form of Management's Discussion and Analysis (MD&A). This letter of transmittal is designed to complement the MD&A and should be read in conjunction with it. However, as is the normal course of business, the audit by Eide Bailly LLP does not extend to or cover this transmittal letter or its addendum.

Profile of Government

Background: The Nevada Territory was carved out of the Utah Territory by Congress in 1861 and its boundaries were subsequently expanded eastward in 1862 and eastward and southward in 1866. In 1864, Nevada was granted statehood after transmitting its newly ratified constitution to Congress in the longest and costliest transmission by telegraph in history. This allowed statehood to be conferred on October 31, just days ahead of the November 8 presidential election at a time President Lincoln thought he might need Nevada's electoral votes to secure reelection.

The Great Basin Desert dominates the Nevada landscape, with the Sierra Nevada Mountains to the west and the Rocky Mountains to the east. Federal agencies own and control more than 80 percent of Nevada's 70,264,320 acres, meaning most of Nevada's land area is restricted from use and development by private citizens. Local governments are also unable to collect property taxes on these lands to sustain vital public services, although they do receive less valuable Payments in Lieu of Taxes from the federal government. Due greatly to the shortage of land available for citizens, more than 90% of our 2.8 million residents are squeezed into one of two distinct population centers: the Reno/Sparks/Carson City area near Lake Tahoe and Clark County at the southeast tip, separated by 450 miles.

Nevadans enjoy the absence of a personal income tax but labor under a variety of indirect taxes that are assessed on businesses and thus passed onto consumers in the form of higher prices and to workers in the form of suppressed wage and employment growth. Nevada has offered a continuous legal market for gaming since 1935, allowing that industry to thrive in the state while also financing a significant share of public services. The State operates under a constitution that provides for a full range of services, including education, health and social services, highway maintenance and construction, law enforcement, public safety, business regulation, and resource development.

Reporting Entity: The State of Nevada, as the reporting entity, conforms to the requirements of GASB Statement No. 14 and No. 34 as amended by GASB Statement No. 61. The accounting and reporting principles reflected in these statements are based primarily upon the fundamental concept that publicly elected officials are accountable to their constituents, and to distinguish between the primary government and its component units. The State's legally separate component units include the Nevada System of Higher Education, Colorado River Commission, and Nevada Capital Investment Corporation. In addition, the Nevada Real Property Corporation is reported as a blended component unit. The State also includes the presentation of its trust and agency funds. The State Legislature sets statutorily the parameters within which all these entities operate.

Financial Information

Debt Management: The State Constitution limits the aggregate principal amount of the general obligation debt to two percent of the total reported assessed property value of the State. Additional disclosures regarding the State's long-term obligations are provided in the notes to the basic financial statements.

Long-Term Financial Planning and Financial Policies: State law (NRS 353.205) requires a balanced budget. The Governor must submit a proposed budget for the Executive Branch to the State Legislature before each regular session, which convenes every odd-numbered year. Spending levels under this Executive Budget proposal may not

exceed the amounts that existed during the biennial budget period that began July 1, 1975, adjusted for population growth and inflation. However, the Legislature enacts the budget through passage of the General Appropriations Act and the Authorized Expenditures Act and the legislatively approved budget is not constrained by this growth limitation. Once passed and signed, the budget becomes the State's financial plan for the next two fiscal years.

In accordance with State statute, The Economic Forum, comprised of private economic and financial experts appointed by the Legislature and the Governor, sets the General Fund revenue forecasts which are binding on the budget. If revenues fall below those originally anticipated during the course of the fiscal year, the Governor must revise the budget to ensure that State appropriations do not exceed revenues. If the revisions exceed thresholds specified in NRS 353.220, they must be submitted to the Legislative Interim Finance Committee for approval.

Major State Initiatives

Nevada is beginning work on major transportation projects expected to be completed in coming years, including the massive Project Neon in Las Vegas and the USA Parkway in northwestern Nevada. These will be followed by the I-11 corridor developments between these two areas, and the state is developing a comprehensive freight plan. NDOT project schedules are contingent on the availability of funding, which is likely to be aided significantly by recent passage of the federal FAST Act. In addition, Nevada has awarded substantial packages of cash grants, tax abatements, and other incentives to a few select private firms, including Amazon, Tesla Motors, Faraday Future, and the Oakland Raiders.

Awards and Acknowledgments

GFOA Certificate of Achievement: The GFOA awarded a Certificate of Achievement for Excellence in Financial Reporting to the State of Nevada for its CAFR for the fiscal year ended June 30, 2015. To be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized CAFR that satisfies both GAAP and applicable legal requirements. A copy of the GFOA Certificate of Achievement is included in the Introductory Section of the CAFR. A Certificate of Achievement is valid for only a one-year period. We believe that this current CAFR continues to meet the requirements of Certificate of Achievement Program, and we are submitting it to the GFOA to determine its eligibility for another certificate.

Acknowledgments and Conclusion: This report would not have been possible without the hard work, dedication and professionalism of my staff and the cooperation and assistance from all State agencies, Executive, Legislature and Judiciary. I sincerely appreciate the efforts of all the individuals involved, especially the Controller's Office staff. We are committed to advancing accountability, continuity and efficiency in the State's financial operations.

In the following 23 pages, we present the Controller's Analysis and Economic Outlook addendum to this Transmittal Letter to provide additional and essential context for users of these statements. It provides a detailed overview of Nevada's performance in specific functional areas, a summary of financial results for the past year and an Economic Outlook for the foreseeable future.

Sincerely,



Ronald L. Knecht, MS, JD & PE(CA)
Nevada State Controller

Controller's Analysis and Economic Outlook

HIGHLIGHTS AND TABLE OF CONTENTS

- I. **State Spending** (pages v-vi) – Over the long term and in the last fiscal year, state spending has grown faster than Nevada's economy, thus imposing an ever larger real burden on Nevada families and businesses, whose 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 82% of total state spending of \$10.9 billion in FY16 while all other state spending in total declined significantly in real and nominal terms over the past decade.
- II. **State Revenues** (pages vii-ix) – Non-tax revenues - grants and contributions to the State, charges for services and contract revenues, have grown very rapidly (48% faster than the growth of Nevada's economy) to comprise 57% of total state FY16 revenues of \$12.5 billion. Total tax revenues grew with the state economy, and they provide the other 43%. Gaming tax revenues fell sharply in real terms while taxes on other businesses (including unemployment assessments) rose greatly. Ignoring the pass-through effects of increases in business taxes, the burden carried directly by consumers and residents almost tracked their incomes.
- III. **Health and Social Services** (pages ix-xi) – A large amount of non-tax revenues result from federal HSS grants that are restricted for spending for those purposes and thus cannot be redirected to other areas. HSS spending is not only the largest category of state spending, but it has grown fastest, driven mainly by federal mandates. Medicaid accounts for 63% of the HSS total and has accelerated recently due to Nevada's decision to embrace provisions of the federal Affordable Cost Act of 2010; Nevada Medicaid spending will balloon in coming years and its future is uncertain, even as it delivers poor health care results. The doubling in the last 25 years of the fraction of national income that goes into health care spending is due to the increasing socialization of health care and insurance.
- IV. **Education** (pages xi-xii) – State funding of K-12 has increased rapidly over the long term and last year, especially due to the unprecedented spending increases authorized by the 2015 legislature. Research has continuously demonstrated little correlation between student achievement and spending; so, it is unsurprising that the quality of Nevada education has remained low despite these increases, and it is likely that the massive 2015 spending increases will also yield little improvement.
- V. **Public Employee Compensation PERS** (pages xiii-xiv) – Total compensation of state employees is overall at market levels but is 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. PERS contributions required of state employees and taxpayers continue to rise in real terms. PERS coverage of local government employees is almost completely paid by taxpayers and is metastasizing to unsustainable levels. PERS relies on very high estimates of future investment returns to hide a growing under-funding problem that threatens financial disaster for Nevada. We propose a correct level, 5%, based on expected returns. By contrast, PERS is leading the nation in managing its investment portfolio, having moved to full indexing in all areas that can be indexed.
- VI. **Economic Outlook** (pages xiv-xxvi) – We identify four secular trends that have suppressed the US economic growth rate 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 the new millennium, this growing deadweight loss was offset by three growth-inducing factors: 1) demographic and other trends that improved labor-force participation; 2) the growth of financial leveraging (debt); and 3) rapid growth in emerging 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 the economy and produce slow real economic

growth of 2% or less annually (1% per-person). We also address innovation, technological progress and productivity; cost disease; income and wealth distribution; and the fact that state-specific data show Nevada is not an exception to national trends.

VII. **Policy Prescriptions** (page xxvi) – 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 that are 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 analysis is designed to provide Nevada citizens, officials and others a short summary of key facts, data, analysis and issues on the State’s fiscal condition and challenges. The State Controller has a statutory charge to recommend plans for support of public credit, promoting frugality and economy, and better management and understanding of the fiscal affairs of the State. This addendum first summarizes and analyzes state spending and revenue sources over the last decade. Then it presents the economic outlook for Nevada, focusing especially on the long term, which for reasons explained below, is necessarily based mainly on the national outlook. It ends with some policy prescriptions for better serving the public interest.

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

<u>State Spending by Category</u>	<u>FY2016 \$ Figures in Millions (1)</u>	<u>FY2006 \$ Figures in Millions (1)</u>	<u>Percent of FY16 Spending</u>	<u>Growth Rate % 2006-16</u>	<u>2006-16 Real Per Person % Growth</u>	<u>% Growth in Tax & Fee Payers' Real Burdens (2)</u>
Health and Social Services	\$ 5,111	\$ 2,199	47	132	66	83
K-12 Education	2,146	1,240	20	73	18	36
Higher Education (All Spending) (3)						
Primary Government Spending	603	588	6	3	-26	-19
Discrete Unit Spending	1,110	712	10	56	12	23
Law, Justice and Public Safety	710	578	6	23	-12	-3
Unemployment Insurance	342	239	3	43	2	13
Recreation, Interest & Miscellaneous	322	385	3	-16	-40	-34
Regulation of Business	137	102	1	35	-3	6
General Government	207	371	2	-44	-60	-56
Transportation	177	509	2	-65	-75	-73
State Total Spending	\$ 10,865	\$ 6,923	100	57	12	24
Subcomponents and Statistics of Interest						
All Other Gov't. (Except HSS, K12 & NSHE)	\$ 1,895	\$ 2,185	18	-13	-38	-32
Higher Education (State GF-Based Spending)	\$ 578	\$ 569	5	2	-27	-20
Nevada Economy: Personal Income (FY) (\$M)	\$ 123,939	\$ 97,669	NA	27	-9	NA
Nevada Economy: Gross State Prod. (FY) (\$M)	\$ 142,319	\$ 121,448	NA	17	-16	NA
Inflation (BLS West-Urban CPI-U Index, FY)	245	203	NA	21	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 2006-16 decade than personal income (17% versus 27%).

(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.

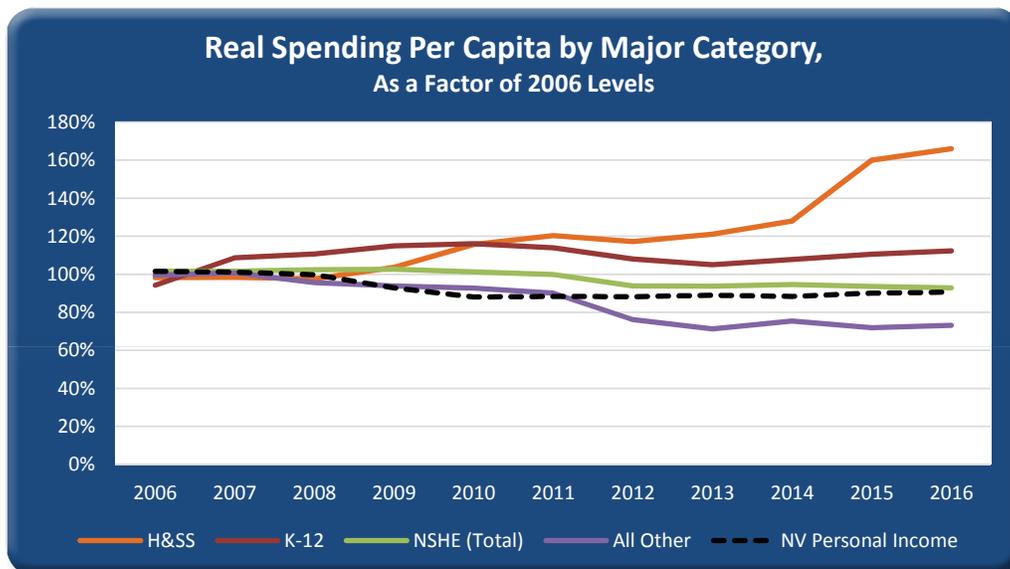
1. Health and Social Services (HSS) and education accounted for 83% of State Total Spending of \$10.9 billion in FY 2016. Their growth also exceeds growth in State Total Spending from 2006 to 2016. In 2016, HSS consumed 47% (\$5.1 billion), with Primary and Secondary (K-12) Education taking 20% (\$2.1 billion) and Higher Education another 16% (\$1.7 billion). All other activities – Law, Justice and Public Safety, Transportation, Unemployment Insurance, General Government, Regulation, etc. – total merely 18% (\$1.9 billion), as shown in the All Other Government line.

2. HSS and K-12 spending grew rapidly while All Other Government spending, the Nevada economy and the wellbeing of Nevadans declined significantly. Chart 1 below displays the annual state spending growth by major category in real per-capita terms over the last decade. Table 1 shows the ten-year totals: increases in HSS (66%) and K-12 (16%) drove up State Total Spending (12%), despite a small decrease in Higher Education (-5%) and a large decrease in All Other Government spending (-37%). Meanwhile, Personal Income of Nevadans (-9%) and Gross State Product (-16%) also contracted substantially.

3. Most importantly, the burden of state spending on Nevada families and businesses, driven by HSS and education, was 24% higher relative to their incomes in 2016 than in 2006. 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 83%. For K-12, it was 34% and for higher education, 4%. As shown in the All Other State line, the total of All Other State spending grew 31% 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 businesses to pay taxes and fees 24% higher in 2016 than in 2006.

The following points also are noteworthy:

- More than \$3.2 billion (63%) 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 will decrease beginning in 2017, requiring additional state dollars.
- Nearly \$1.5 billion (70%) of K-12 monies was paid from the Distributive School Account to local 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 increased K-12 budgets by hundreds of millions of dollars for the current biennium.
- Total Higher Education Spending rose 32% over the decade, but the state-funded portion rose only 5%. 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 \$509 million in 2006 to \$802 million in 2012 before falling a net 65% to \$177 million in 2016.
- Unemployment Insurance costs rose nearly ten-fold from \$239 million in 2006 to \$2.233 billion in 2012, before falling to \$342 million in 2016. The 43% growth rate in spending in 2006-2016 for UI is only a small part of the state growth total, and it was driven mainly by the Great Recession, poor recovery and federal UI policy.



II. STATE REVENUES: Where Did the State Get the Money?

Table 2 below presents the State's comprehensive 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 reports covering primary government spending. These entities are called Discretely Presented Component Units, and the Nevada System of Higher Education (NSHE) accounts for over 96% of their total.

Table 2: Nevada State Revenue Analysis

State Revenues by Category	FY2016	FY2006	Percent	Growth	2006-16	% Growth in
	\$ Figures in Millions (1)	\$ Figures in Millions (1)	of FY2016 Revenues	Rate % 2006-16	Real Per Person % Growth	Tax & Fee Payers' Real Burdens (2)
Program Revenues						
Governmental Charges for Services	\$ 886	\$ 769	7	15	-18	-9
Governmental Grants & Contributions (Op'g & Cap.)	4,804	1,875	38	156	83	102
Business-type Charges for services	120	99	1	22	-13	-4
Business-type Grants & Contributions (Op'g only)	59	103	-	-43	-59	-55
Discretely-presented Units Charges for Services	703	531	6	32	-6	4
Discrete-unit Grants & Contributions (Op'g & Cap.)	509	378	4	35	-4	6
Total Program Revenues (Gov., Bus., Disc.)	7,081	3,755	56	89	35	49
General Revenues & Other Net Position Changes						
Governmental Activities	4,726	3,615	38	31	-7	3
Business-type activities	694	334	6	108	48	64
Discretely Presented Units (NSHE, CRC, NCIC)	597	814	-	-	-	-
Less: Payments from State of Nevada (Primary Gov)	(579)	(706)	-	-	-	-
Net, Discretely Presented Units	18	108	-	-83	-88	-87
Total General Revenues (Gov., Bus., Disc.)	5,438	4,057	44	34	-4	6
Total Program & General Revenues	\$ 12,519	\$ 7,812	100	60	14	26

(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 2006-16 decade than personal income (17% versus 27%).

The following points emerge from Table 2 nearby.

1. Government Grants and Contributions account for 38% of total state revenues of \$12.5 billion in 2016, and they grew much faster than other revenues in 2006-2016. Program revenues from government grants and contributions (operating and capital) totaled \$4.8 billion in 2016. This revenue increased more than \$2.9 billion from 2006, and it accounted for 62% of growth in total state revenues. These revenues are mainly comprised of federal government funding for Medicaid, Supplemental Nutritional Assistance (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 the federal government and its taxpayers. A notable risk is that federal funding is sometimes diminished, but federal mandates rarely are. In coming years, Nevada faces just such a problem with Medicaid revenues and spending.

2. Charges for services and grants and contracts for higher education comprise 10% of total state revenues, and they also grew rapidly. Program revenues totaled \$1.2 billion for NSHE in 2016, an increase of 33% (\$0.3 billion) over the last decade.

3. Other program revenues amount to 8.5% of total state revenues, and they grew very slowly. Other program revenues of \$1.1 billion grew only 10% (\$0.1 billion) since 2006, much less than the 27% 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 only moderately. In 2006, most state revenues came from taxes. But over the last decade, program revenues grew 89%, becoming 57% (\$7.1 billion) of total state revenues. General revenues, which mostly consist of taxes grew only 34% (\$1.4 billion) and now account for only 43% (\$5.4 billion) of the state total (\$12.5 billion). Although past spending growth was supported mainly by increasing grants and contributions, the 2015 tax increases will place much of the 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 US 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

	FY2016	FY2006	Percent of	Growth	2006-16	% Growth in
	\$ Figures in	\$ Figures in	FY2016 Gen.	Rate %	Real Per	Tax & Fee
<u>Taxes Analysis</u>	<u>Millions (1)</u>	<u>Millions (1)</u>	<u>Revenues</u>	<u>2006-16</u>	<u>Growth</u>	<u>Payers' Real</u>
						<u>Burdens (2)</u>
Sales and use taxes	\$ 1,219	\$ 1,098	24	11	-21	-13
Gaming taxes	911	1,003	18	-9	-35	-28
Modified business taxes (3)	563	255	11	121	58	74
Insurance premium taxes	301	238	6	26	-10	0
Property and transfer taxes	238	319	5	-25	-47	-41
Motor and special fuel taxes (3)	357	298	7	20	-14	-6
Liquor and tobacco taxes	211	161	4	31	-6	3
Net proceeds of minerals tax	40	20	-	100	43	58
Auto lease and lodging taxes (3)	242	44	4	450	293	333
Commerce tax	144	-	3	NA	NA	NA
Unemployment assessments	707	367	14	93	38	52
Other taxes	202	172	4	17	-16	-7
Total Taxes	\$ 5,135	\$ 3,975	100	29	-8	2

(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 2006-16 decade than personal income (17% versus 27%).

(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, liquor and tobacco, 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 (that mainly taxes employment) and unemployment assessments; and also partly via levies on auto leasing, lodging and motor vehicles. The largest rise, 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. 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 also 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.

4. 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 and from employees by lower employment and compensation. Hence, taxing people directly increases transparency, accountability and economic growth by reducing distortions, economic inefficiency and reductions in investment and employment caused by using businesses as the tax middlemen.

5. With eleven taxes accounting for 3% to 24% 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.

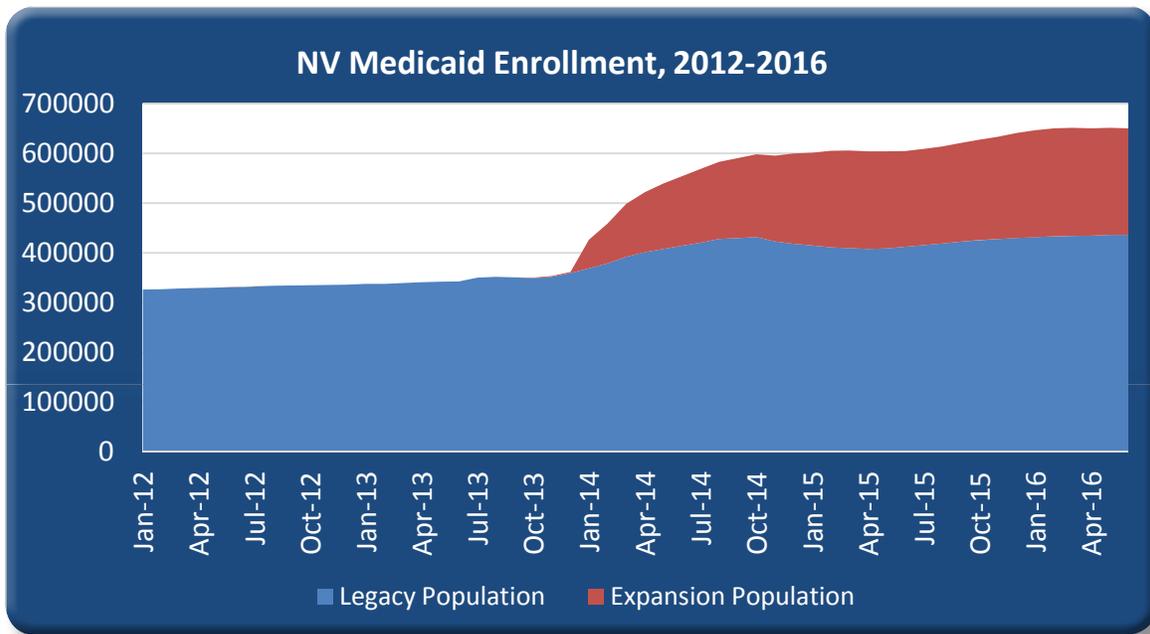
III. HEALTH AND SOCIAL SERVICES

Health and social services has been the fastest growing category of expenditures over the past ten years in Nevada, and this growth continued in FY2016. In total, Nevada spent \$5,111 million on these services in 2016, up from \$2,199 million in 2006. 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 becomes entitled to reimbursement from their federal sponsors. However, federal 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 for health and social services, and accounts for 63% of the categorical 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 2016, 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 recovery in Nevada incomes will cause state 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 below the poverty level. The federal Affordable Care Act of 2010 (ACA), 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 long-running projections of federal deficits.

Gov. Brian Sandoval and Nevada lawmakers chose to expand Medicaid eligibility along the guidelines outlined in the ACA during the 2013 Legislature. Since that time, Nevada's Medicaid enrollment has nearly doubled, growing from 350,234 at the beginning of 2014 to 650,213 at the close of 2016. A portion of this increase is attributable to growth of the legacy population, which grew by 85,837 persons over the period. Although many of these individuals had been previously eligible, new federal tax penalties for failing to acquire nominal health insurance prompted enrollment, which they had previously spurned. This legacy population is subject to the standard federal reimbursement rate, whereas the 241,142 persons who enrolled as part of the expansion population are subject to the enhanced rate.



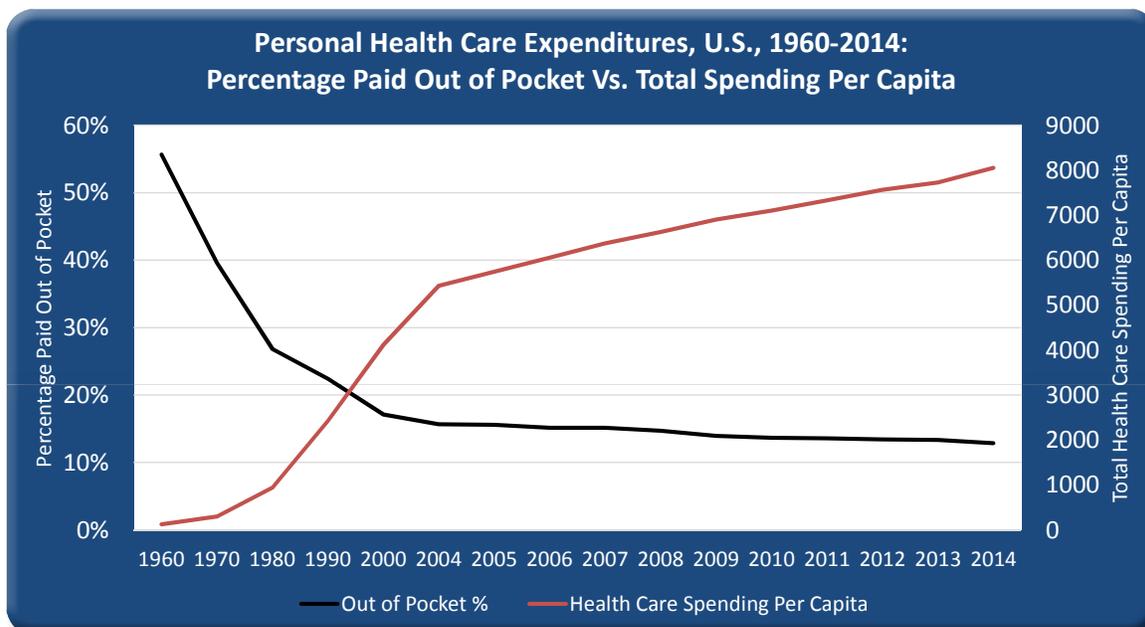
3. Expanded availability of publicly funded health care benefits has occurred alongside a decline in rates of private insurance coverage and other private spending. In 2008, 68.6% of Nevadans held private insurance coverage. That rate remained steady through the end of the Great Recession in 2009 but 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 suggest 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 to suggest that expanding Medicaid to additional populations does not improve objective 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 contracts. This shortage of supply 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 implies a pooling of risks 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 amounts of 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 taxes to finance public plans.

Decades ago, a majority of personal health expenditures were financed out-of-pocket by individuals in lieu of any 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 talented 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 programs have been the second fastest growing category of state expenditures over the past decade, growing from \$1.26 billion in 2006 to \$2.15 billion in 2016. On a per-student basis, and without considering local funding, state spending for K-12 education increased from \$3,227 to \$4,531 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 reading and math evaluations. By 2015, those rankings remained at 43rd in reading and 41st in math.

These diverging trends make clear that Nevada has failed to translate higher spending for education into improved results. That's also true for the rest of the nation. 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. South Korea, the highest achieving nation, spends only 59.5% as much as the US per child.

**Table 1: Per-pupil Spending and Student Achievement -- Data Available for Developed Countries
Results of the OECD's Programme for International Student Assessment (PISA, 2012)**

Rank by Total Score	Country	Expenditures per Pupil from Age 6 to 15, in US Dollars	Mean PISA Maths Score	Mean PISA Reading Score	Mean PISA Science Score	Mean PISA Total Score	Mean PISA \$/Point, Total Score	Ratio, Total to Mean OECD	Rank by Per-pupil Spending
1	Korea	\$69,037	554	536	538	1627	\$42.42	0.76	25
2	Japan	\$89,724	536	538	547	1621	\$55.34	0.99	19
3	Finland	\$86,233	519	524	545	1588	\$54.30	0.97	20
4	Estonia	\$55,520	521	516	541	1578	\$35.18	0.63	30
5	Canada	\$80,397	518	523	525	1567	\$51.32	0.92	22
20	OECD average	\$83,382	494	496	501	1492	\$55.90	1.00	17
22	United States	\$115,961	481	498	497	1476	\$78.55	1.41	4

1. To improve the effectiveness of its education spending, Nevada must allocate that spending toward programs that have been demonstrated 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 that encourage growth, entrepreneurship 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. Therefore, Nevada's educational priority should remain the recruitment and retention of highly talented educators. Nevada must relax its current restrictions on who can receive a teaching license so that schools can recruit from a wider array of professionals. Schools must 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 must 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 12 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 near universal 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 has 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.

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 US 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 hailed by leaders as "The Education Session," but only a subset of the new programs enacted are associated in the academic literature with improved student performance. The others appear designed to instead 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. It has also greatly favored the universities over community colleges. As does all of US higher education, it suffers from administrative bloat and excessive salaries and preoccupation with trivia such as micro-aggressions and safe spaces. Future Controller's Office reports will address these issues.

V. EMPLOYEE COMPENSATION AND BENEFITS

Previous sections of this letter have addressed Nevada spending by its purposes, but 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 US state and local governments. The good news is that, while Nevada also faces these challenges, it is doing some key things right and is in a better position than most states to meet its challenges.

1. Current Compensation Levels: Annual compensation, excluding benefits, for Nevada state employees 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 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 analysis 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 more fair to state employees and taxpayers, but also help the State manage its fiscal problems. The state payscale is also flatter than those in private enterprise, with entry-level jobs paying more and executive upper-level professional jobs paying less; however, while reform may be in order, it is not clear that it would have net fiscal impacts.

2. Nevada Public Employee Retirement System: Nevada PERS runs various defined-benefit (DB) retirement funding programs, which we address as a group here to get at the key fiscal issues for the State. There are a number of other problems raised by the various aggregating practices of PERS that we simply 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 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 investment decisions to taxpayers and to future generations of participants who have no role in managing those investment risks and thus no opportunity to be fairly protected.

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

- What 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 lengths of working and thus contributory participation time are assumed and what lengths of retirement-draw time are assumed, in addition to the other estimates used? The DR and these other parameters are key in determining the Annual Contribution Rates (ARCs) for currently working plan participants. Unduly high DRs used in the past have contributed significantly to raising taxpayer and current employees' required contribution rates, and they may also raise future taxpayer and employee contributions.

A. Investment Management Policies and Practices: Nevada PERS leads the nation and is doing all 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 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. We haven't space to rehearse here the details, but Nevada PERS has done the best job 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.)

B. 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%. 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. Another problem is that it is literally 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; so 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 always exceed the liabilities, and this means that 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, etc.) 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 board 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 have adjusted downward slightly in recent years. Our analysis in the following Economic Outlook section 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. For example, using a 60% equity and 40% debt portfolio with a debt return (yield) of 3.5%, and an expected equity return of 6%, gives exactly a 5% portfolio ROR; something slightly higher would be needed to cover fees and costs, even at the very low rates incurred by Nevada PERS. The 6% equity return can be supported by an average of: 1) a risk-premium analysis that adds a 5.5% equity risk premium to a 2.5% riskless rate to get 8%; and 2) a discounted cash flow analysis that adds a 3% current dividend yield to a 1% per-person expected economic growth rate for a 4% equity return. So, we strongly recommend PERS adopt a 5% DR.

- C. Reference Working Lives and Retirement Periods:** Expected life length has been climbing in the US 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 as long as 40 years and are noticeably better than the retirement draws generally available in private employment. 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.
- D. 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 the 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 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 pan 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

A year ago in Nevada’s first Popular Annual Financial Report, we proffered an unusual economic outlook, one focused on the intermediate and long term. We identified four long-term secular trends that we believe have suppressed the US 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 frequency. 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 (e.g., retirement programs, health care and insurance, etc.). The empirical economic literature indicates that government size, scope and reach has for over 55 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 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 over-reach 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 growth rates were unsustainable. Thirdly, 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.

The upshot of these trend changes is that ten-year US 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 is the real measure of success in public policy. The difference between the 1% figure of the last decade that we project to continue for the foreseeable future and previous growth in the 2%-2.5% range is hugely significant in economic, social and human terms, as we showed.

New Normal Persists: Slow Long-term Growth: While 2% growth had been the rule since the recession, almost nobody had been projecting 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 year, 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 – just recently adopted the 2% long-term growth estimate. While we're not averse to the mainstream coming around to our views, we nonetheless continually critically re-examine our analysis and results. So, beginning on the next page, we revisit the four trends, plus our Nevada-specific factors, and their effects. We find that last year's analysis of these trends is essentially unchanged. Our conclusion remains that economic growth will be slow and that uncertainty has increased.

Innovation, Technological Change and Productivity: Although our basic analysis are still sound, the last year has highlighted some competing theories, concerns and new data; so, we examine them too. First, major works published the last two years suggest endogenous (organic) factors 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 rapid growth for periods from a decade to a century. Proponents of these analyses seem mostly to ignore effects of the four trends we presented, and more importantly they claim that past rapid growth was a one-off phenomenon and so we have now returned to a basal economic metabolism of slow growth. We believe that our factor analysis explains much of the growth in innovation, technological progress and productivity they have correctly observed. Therefore, we need not wallow in pining for a lost golden age, but instead need to reform policies to reinstitute it.

Cost Disease: An important aspect of this debate concerns structural changes in our economy as our total economic output has shifted more to services from goods. 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 basket of consumer and business purchases. We give an example 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 the three sectors most entangled with it (education, health care and aging services), innovation by producers and consumer sovereignty overwhelm cost disease in the market economy. Once again, public policy is the key to reform and growth by directly changing the budget processes of the public sector and moving education, health care and aging services greatly forward to market structures.

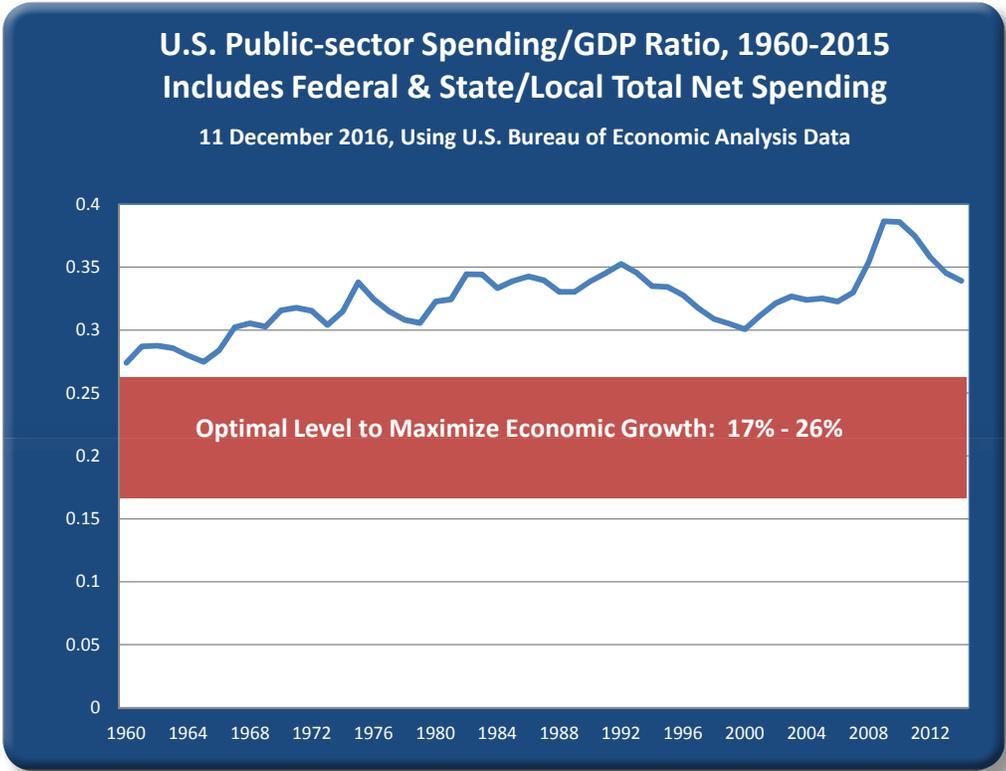
Market Capitalism and Income Inequality: Finally, recent years have also seen increased concern about the distribution of economic growth, especially as the slowly rising tide fails to lift all boats as the historic tidal surge did. Further, a group of academics have rolled out new versions of classic Marxian doctrines that search for major structural flaws in real capitalism, with the prime one 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, although this claim has been thoroughly refuted on its own terms by serious academic and professional analyses (and it has been greatly qualified as a result by the author). We show that increases in economic inequality have been directly correlated with public-sector over-reach with which our analysis began, and 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: In sum, 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. A new federal administration aligned with a cooperative and reform-oriented Congress have an opportunity to turn things around. Additional discussion of many matters addressed here is posted on the web site controller.nv.gov.

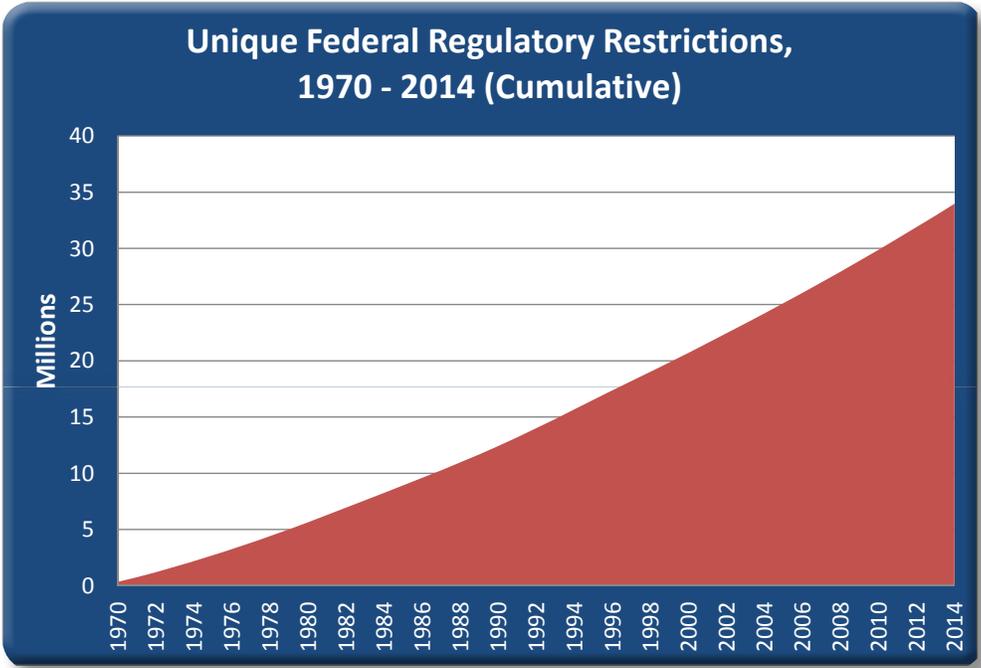
1. Government Overreach: The size, scope and reach of American government – including spending, taxing, borrowing, statutory mandates, regulation, monetary and credit-allocation policy, and other intervention – long ago exceeded levels that promote the public interest in maximum economic growth and fairness. These excesses at federal, state and local levels have increasingly slowed growth and diminished fairness, and they will continue to do so unless they are reined in. Economists now understand that economic growth and thus aggregate human well-being 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 rule of law, limited government with separation of powers, personal liberty and individual rights, strong property rights and high levels of economic freedom are essential for growth.

As detailed on the Controller’s web site, empirical literature – research based on real economic data – supports and quantifies theory suggesting that 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 it slows growth. While there are uncertainties and debate about the levels of public spending relative to the economy that maximize growth, the best evidence shows that the US passed those levels by the 1960s and has increased government excess to the present time.

The chart below of public spending over time as a percentage of the US economy vividly illustrates this point. The excess growth has not been limited to the federal government; state and local spending have grown even faster in relative terms. Nevada’s local-government and total public-sector spending have grown particularly fast. Nationally, increasing government interventions into health care have accelerated greatly 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.



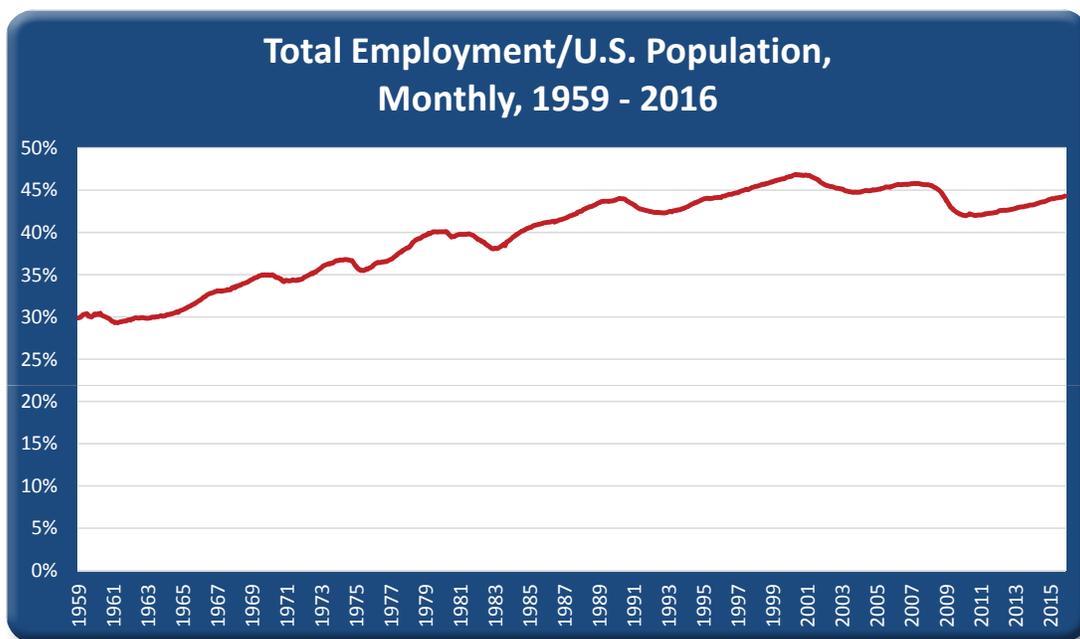
While public spending is the measure of government overreach easiest to quantify, analyze and understand as a growth determinant, other measures also drive and reflect the excess. Taxes and public debt are directly driven by public spending, and public debt has now reached its highest level relative 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 to business formation and success, 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, however, it is the cumulative effect of these restrictions that burdens business formation, expansion and job growth. Since 1970, nearly 34 million unique federal restrictions have been issued, as shown in the graph below.



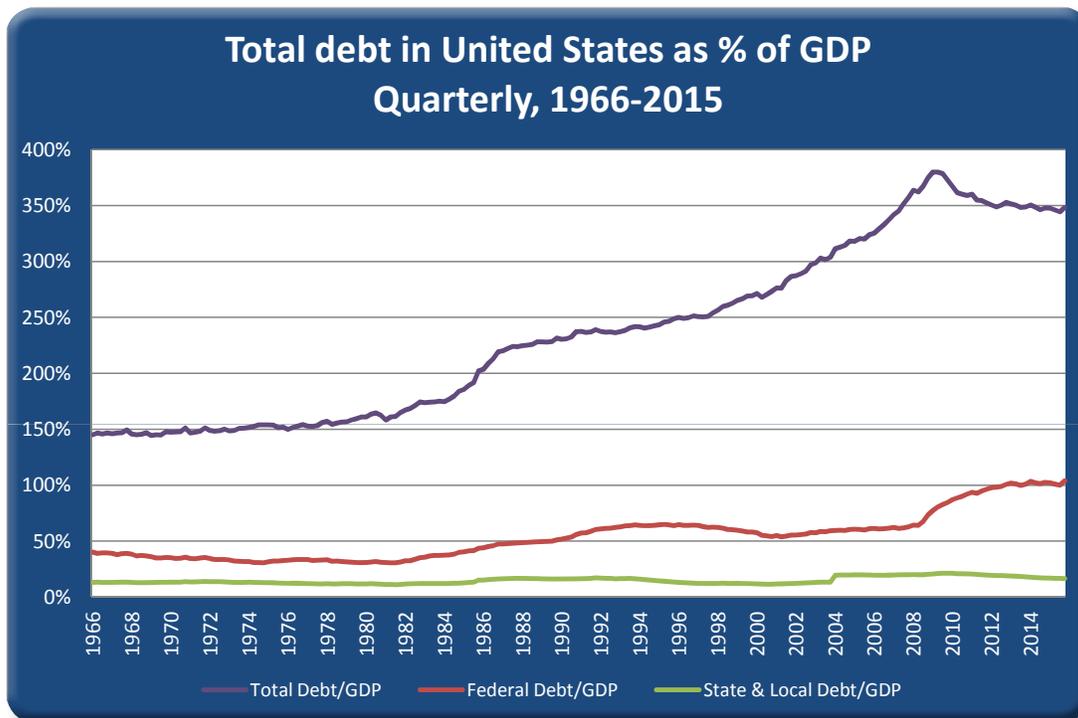
2. Demographics and Work-force Participation: Demographic changes driven by public policy and non-policy factors are reducing the fraction of the population doing productive work in market settings, while increasing numbers consuming but not producing. These changes include falling birth rates, increasing longevity, more public subsidy for retirement and of 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 62.7%, the lowest level since 1977. 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 non-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 and will accelerate and then continue for 20 more years. Because retirement age and support policies were set when longevity was lower and health of people over 60 was less robust, US 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 funding and exacerbate all these problems.



3. Debt in All Sectors and Net Savings and Investment: Total debt levels relative to the US economy increased hugely until the financial crash and Great Recession of 2007-09. As shown in the graph nearby of total American debt as a percentage of the economy, they have retrenched only mildly 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 produced mal-investment. Monetary policy – the Federal Reserve keeping interest rates low in 2002-05– also contributed to these problems.

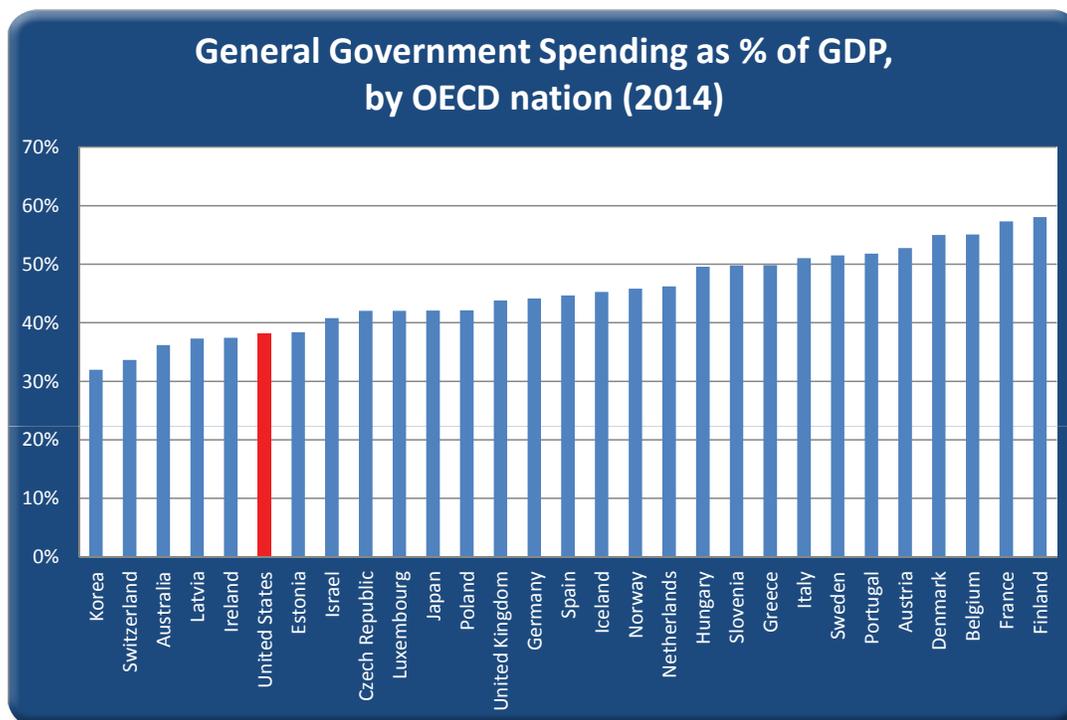


Total US debt/GDP ratios in 2015 were still twice their 1984 levels, despite retrenchment following the financial crash and Great Recession. Consumer debt growth was driven mainly by the federal mortgage lending policies that caused the housing bubble and subsequent collapse. Business debt grew in finance and large corporate stock buybacks, mergers and acquisitions, meaning there is now perhaps an equity bubble. Federal government total debt/GDP ratios have more than doubled, driven by fiscal policy such as the stimulus spending of the \$831-billion American Recovery and Reinvestment Act of 2009 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 – has also been 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 will all 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 US 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 US, this growth increased US 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 US 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 US 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 US, as shown in the chart below. 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 is spawning great human tragedy, China is headed for ever lower and possibly negative growth. All other economies are too small to make a significant difference to US growth.



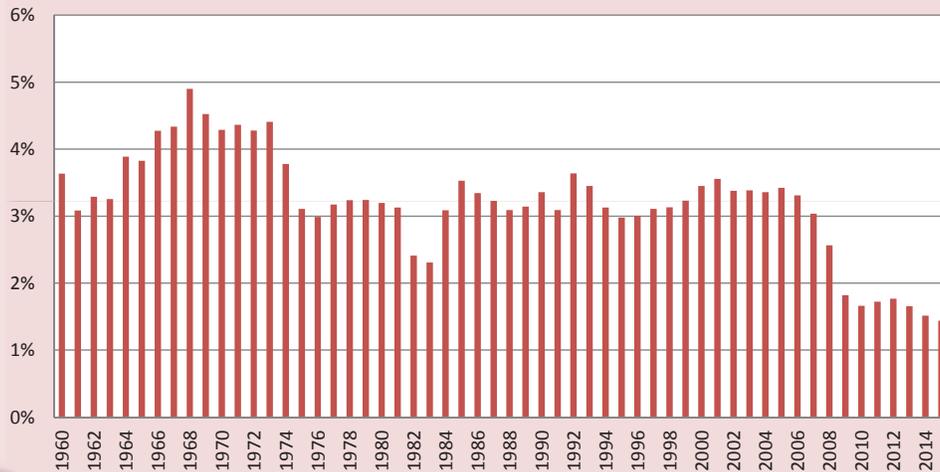
Total debt worldwide is now about 5.6 times what it was 20 years ago, while the world economy is only 2.8 times its prior size, meaning debt/GDP ratios have doubled in only two decades. That increase is likely unsustainable especially with slowing world growth and globalization, leading to future retrenchment. Europe is now following Japan and the US 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 indicate. Slow population growth will slow their 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 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 US 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% to 2.5% levels, but the compounding impact is huge: Namely, average human wellbeing growing only 42% every 35 years instead of doubling, 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%). 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. As discussed in the next section, some economists claim that invention, innovation, technological progress and thus productivity growth have slowed from levels of recent decades, meaning that this key driver of growth will have a diminished effect and economic growth will fall toward zero. A related issue is that 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, but some economists believe that persistence of low prices could precipitate worldwide deflation and negative economic growth consequences. Two other factors are likely to further compound these problems: 1) slow 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. We see no salient upside factors in the US outlook.

Percent Annual Change in Real U.S. GDP Using Ten-Year Trailing-Average GDP

Source Data: U.S. Bureau of Economic Analysis



6. Innovation, Technological Change and Productivity: Two recent economic history books have addressed the slow-down of the American economy in the last half century, and there have also been a number of analyses of the role of innovation, technological progress and productivity growth. The 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 US 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 sees 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 proliferation of information and communications technologies during that time produced only a ten-year serious bump in TFP to 1.03% in 1995-2004 and 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 US, in the 1948-1973 quarter-century 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, followed by the distressingly low growth since 2007, is 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 and 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 spending on health care, education and old-age -- the exact three areas for which Levinson erroneously claims public-sector retrenchment. And that the burden and problems from excess 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 recent total productivity growth in the last century: 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 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 US 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 2007-2015. Our four-part causal analysis of continually growing government excess for 55 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 US 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, we submit that the two data series are reasonably compatible and consistent. And they provide a direction for future research to understand our growth history and prospects. To initiate that further research, 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.

7. Cost Disease: Over the long run, the mix of goods and services produced by the US 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 here, 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 (e.g., charitable contributions), not just ticket sales. A recent Wall Street Journal article notes 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.

A good way to see our point is via the 1980 movie *Fame*. For his audition at a performing arts high school, a student uses three sets of keyboards and other electronic instruments to play, all by himself, a full synthetic orchestration of the third movement of Beethoven's Fifth Symphony. The music teacher (following Baumol approach to music) is appalled, thus setting up a running argument between them about what it means to make music. The student asserts that if Mozart were alive today, he'd use modern electronic methods – but he is also convinced finally to master classical instruments.

The point is that new inventions, innovations and technological change can in fact hugely increase the productivity of musicians. One musician can play multiple parts. But more important, via recordings and broadcast the performance that could be heard in Mozart's time only by the limited number of people present when it was rendered can now be enjoyed by literally millions of people – and as often as they like. 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 greater value from the performance by hearing the third movement of Beethoven's Fifth Symphony 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 on-line 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 Baumol's cost disease is anything other than a rare phenomenon or the product of a limited analytic paradigm.

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 addendum 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 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.

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 households.

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, thus leading 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 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. 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 some data does not cite original sources. These problems led him to retract his data for the US

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, often by many 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 slower 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, his 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.”

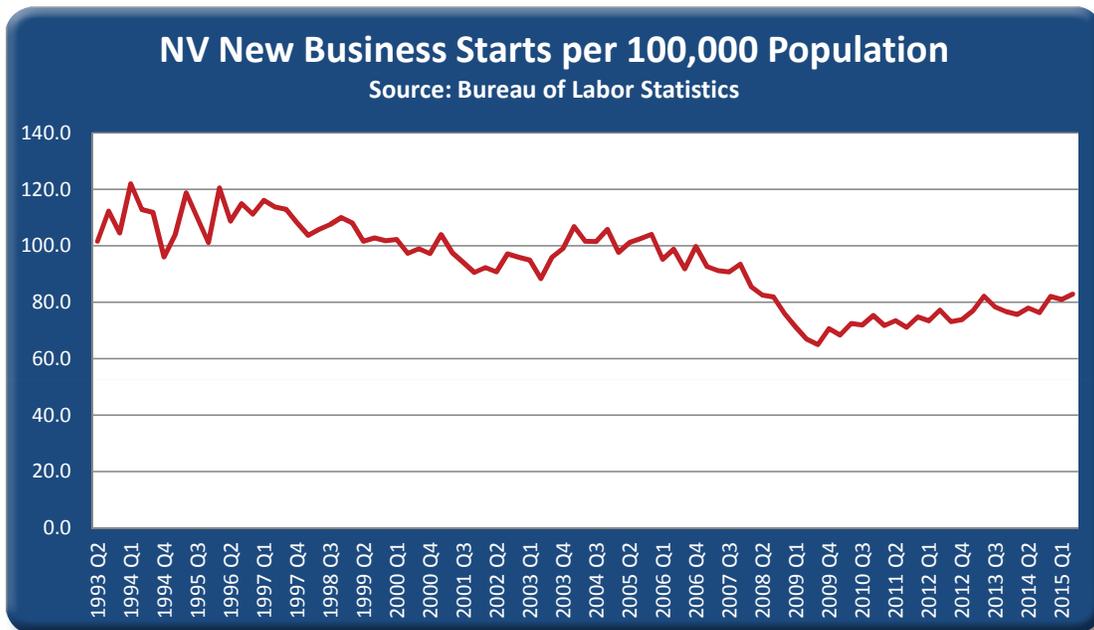
Indeed, the table nearby demonstrates broadly this point for the US. It shows that the difference between GDP growth rates in the US and the increases in income inequality have produced much slower total gains for the middle and lower classes in the Bush 41, Bush 43 and Obama administrations than was the case in the Nixon/Ford, Reagan and Clinton administrations. In short, as income growth has slowed – especially during the last decade inequality has risen.

Administration	Annual Growth, Real GDP Per Person	Annual Increase in Income Inequality	GDP Growth Less Income Inequality Increase
Nixon/Ford	1.87%	0.33%	1.55%
Carter	1.67%	0.67%	1.00%
Reagan	2.70%	1.04%	1.66%
Bush 41	0.69%	0.32%	0.37%
Clinton	2.48%	0.84%	1.64%
Bush 43	0.70%	0.25%	0.45%
Obama	1.44%	1.23%	0.20%

9. Nevada Prospects Are Similar to US 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 US, but their net in-migration has slowed greatly. 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.

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 saw 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%.

Further, entrepreneurial activity in Nevada remains at historically 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 US 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 In Sum: 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 non-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 work-force 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 US 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, its 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

Some people have claimed that Nevada has a revenue problem. Some 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. The analyses herein show that total state spending has increased much faster than the incomes of Nevada families and businesses and that state revenues increased even faster than spending. Hence, with state revenues and spending growing faster than the state economy, Nevada has a spending problem, not a revenue problem.

K-12 spending has increased much faster than incomes and all other state spending except that for HSS, especially with the massive K-12 increases adopted in 2015. The empirical literature is clear that spending increases from current Nevada levels have had 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 these 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 better than any comparable system, 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 working- and retirement-years assumptions to levels that reflect current and prospective demographics to correct a long history of burdening future taxpayers and 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 tax/feepayer 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, government in Nevada needs to 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 other licensing laws that are here more onerous than in other states place artificial barriers for enterprising individuals, damage their aspirations, and limiting their earning potential. Cash grants and targeted tax incentives for particular firms with political influence signal official state support for those firms, distort the pattern of investment and discourage genuine entrepreneurship. Nevada must restore hope for its future generations by abandoning these practices and embracing market capitalism and the social mobility it enables.

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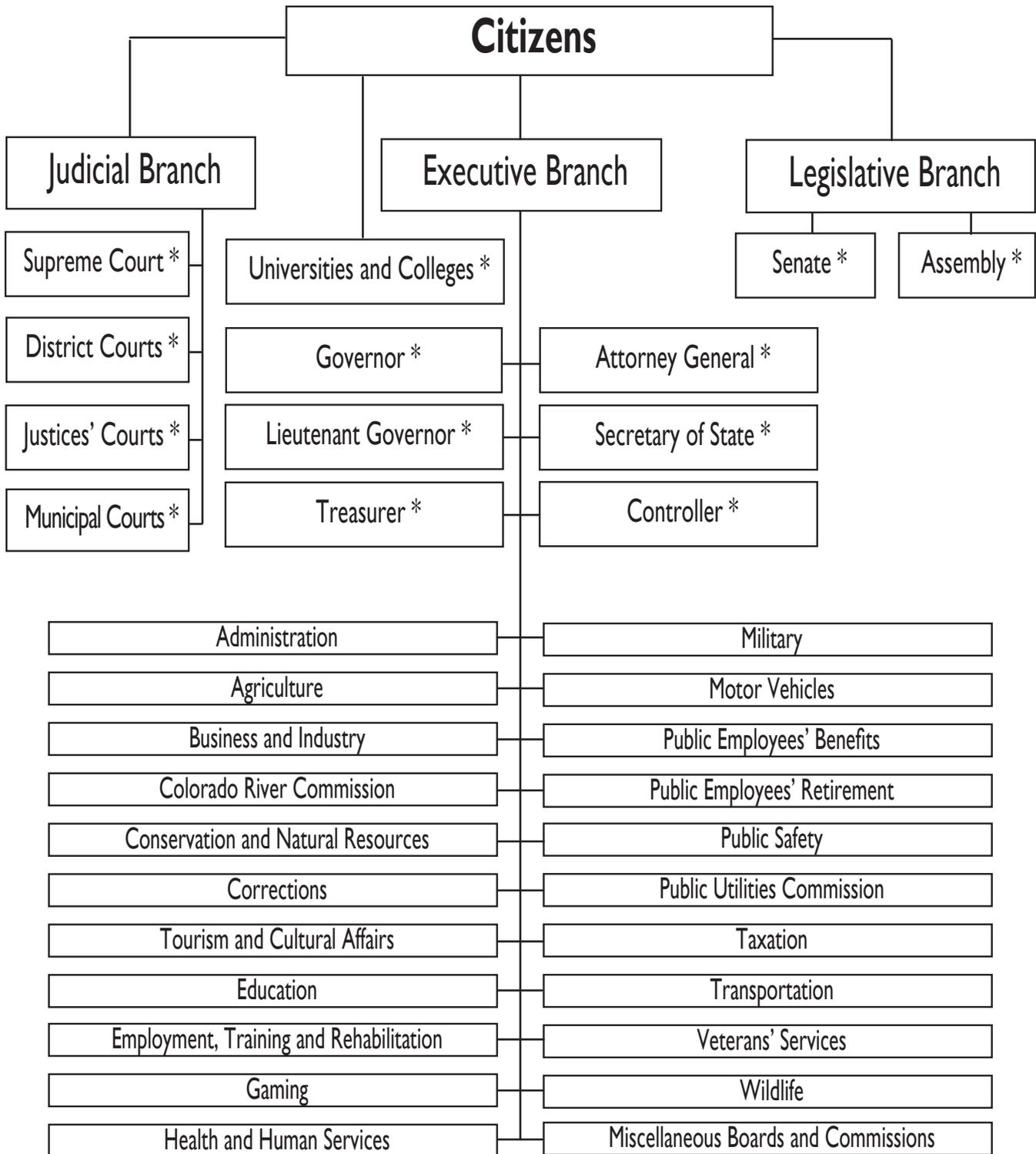


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