

# By the Numbers

By R. Paul Moore



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Golf is a lot like taxes, according to the old joke. You drive hard to get to the green and then end up in the hole.

Every year around April 15, Americans have a rendezvous with debt.

To better understand how our governments taxes us, what the money is spent on, and how these things have changed over time, this paper will take a non-political look at reasonably good descriptive statistical information, by the numbers.

We hear a lot about spending, taxes, the national debt, the deficit, etc. How meaningful is it to the average person? How much does the government spend and where does the money come from? How have these things changed over time? What does the future hold? What is my fair share?

To begin, consider the following two familiar assertions:

1. About half the people do not pay any taxes, and
2. Some folks are not paying their fair share.

Do you believe the first statement is true? If you think about it, anyone who works, buys gasoline, owns anything, drinks, smokes, or does almost anything pays taxes. The web site [BalancedPolitics.org](http://BalancedPolitics.org) lists one hundred taxes and fees that are paid by individuals and corporations (Messerli). While the first statement would be nearly true if it were confined only to federal income taxes, it seems clear that virtually all persons do pay at least some taxes.

The second statement is somewhat more difficult to prove or disprove.

One might suspect that the underlying sentiment is “some other folks are not paying enough, but I am paying too much.”

To think about taxes and spending in this country, we must consider some very large numbers. We know one million is a one with six zeros following, a billion has nine zeroes, and a trillion has twelve. But often when we hear how many dollars were spent on some project, we want to say “Wait a minute, was that millions, billions or what?”

How much is a billion dollars on a per person basis? With about 320 million people in the US, a billion dollars is roughly \$3.12 per person, which seems like very little. When congress voted a third of a billion in 2005 for the Rock and Roll Hall of Fame in Cleveland, was it worth it? Was it worth about \$1 from each person in the country? That question is difficult to answer. As the total number of projects increases, the amount spent in billions and trillions of dollars adds up. As Senator Everett Dirksen famously said, “A billion here, a billion there, and soon we’re talking about real money.” But I will try to make sense of it, by the numbers.

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First, consider what the government takes in and spends. By the numbers, how much of the tax money comes from the various sources? Table 1 shows the breakdown of tax revenue from income taxes, social insurance, ad valorem taxes, fees and charges, and business/other revenues. The table includes estimated or actual data for all types of taxes collected from all three sources—federal, state and local—in Fiscal Year (FY) 2015.

TABLE 1 (from Chantrill website)  
**United States Federal  
 State and Local Government Revenue  
 Fiscal Year 2015 in \$ billion**

	Fed	Gov. Xfer	State	Local	Total
Income Taxes	1,819.8	0.0	356.6	37.4	2,213.9
Social Insurance Taxes	1,065.0	0.0	409.7	42.7	1,517.4
Ad valorem Taxes	197.3	0.0	524.6	575.0	1,296.9
Fees and Charges	0.0	0.0	198.7	272.6	471.4
Business and Other Revenue	94.0	0.0	158.7	231.9	484.6
Balance	-0.0	0.0	0.0	0.0	-0.0
Total Direct Revenue	3,176.1	0.0	1,648.3	1,159.7	5,984.1
Federal Deficit	582.5	0.0	0.0	0.0	582.5
Gross Public Debt	18,627.6	0.0	1,153.1	1,913.2	21,693.9

The federal information in Table 1 is based on the President’s budget for FY 2015. The President’s budget serves as a blueprint for the appropriation bills but is not binding and often is not approved by Congress. The complex process leading to the appropriation of funds involves at least twelve committees in each branch of Congress. Moneys are first authorized and later appropriated by these committees.

The state and local numbers in Table 1 are combinations of actual known and estimated amounts. In total, a little more than half of the six trillion dollars in direct revenue is accounted for by federal taxes, with the remainder split between state and local taxes. Surprising as it may seem, only about half of the total tax revenue this year will be collected by the federal government.

Table 1 also shows the breakdown of the six trillion dollar total revenue by the three levels of government and by type of tax. Over half, about 57%, of the more than three trillion dollars in federal tax money comes from income tax. About one third of the federal taxes come from social insurance taxes (that’s Social Security, Medicare, and the like). On a per person basis, the total federal taxes are \$9,925 per person, and the total from all levels of taxation is \$18,700 per person.

That “Business and Other Revenues” at the federal level accounted for only about 3% of the federal revenue seemed small, so I looked up some information about corporate taxes. Corporate income is generally taxed at a 35% rate, and that rate receives a lot of attention. However, the effective corporate tax rate is much lower. The Congressional Research Service reports that corporate taxes were 6% of the Gross Domestic Product (GDP) in 1952 but have declined to 2% in 2011 and were between 1 and 3 percent during all of the years from 1983 to 2009. These lower effective tax rates are due to deductions, exemptions, and tax credits received by corporations. Also, there have been significant increases in the amount of business income taxed through the individual income tax. Over 50% of business income is now taxed as

individual income since it is passed through to individuals from partnerships and S corporations.

Table 1 also shows how state tax revenue is divided among the five categories shown, with ad valorem taxes (mainly on property) being the largest category. For local taxes, ad valorem is also the largest category. Social insurance and state income taxes are the next largest revenue sources, followed by revenue from fees and charges. Business and other taxes make up most of the rest.

\* \* \*

Federal, state and local tax revenues have changed over time. By far the greatest increase in total federal revenue occurred during World War II, when revenue from the federal income tax jumped from about 3% to just over 15% of Gross Domestic Product, or GDP (total value of all goods and services, currently about \$15 trillion). Since then, federal income tax revenues have ranged from 8 to 12% of GDP. The federal social program revenues increased greatly beginning in 1960, usually about 5-6% of GDP (Chantrill).

State revenues as a percentage of GDP have increased more gradually over time. Ad valorem taxes have stayed more stable over time at the state level while state income taxes and social insurance taxes have increased the most (Chantrill).

Local tax revenues showed a big spike relative to GDP in the 1930s (GDP went down very low level) and have gradually increased since the early 1940s. Ad valorem taxes have been the largest portion of local revenues. Fees and business taxes have also been also significant parts of local revenues. Business taxes produced relatively smaller parts of totals for federal and state revenues (Chantrill).

\* \* \*

Let’s turn to how is the tax money is being used and what it is used for. As one joke has it, Congress has the unsolved problem of how to get the people to pay taxes they cannot afford for services they do not need. How much is wasted? Pork barrel projects and earmarks come to mind. Certain members of Congress from both political parties have become known as the “Kings of Pork”.

Earmarks are specific amounts of money directed to particular projects. These were estimated to be 1% of the federal budget in 2010, or about \$100 per person annually. The process was reformed in 2010 when the U. S. House passed rules that banned earmarks to for-profit corporations. Some, however, say that earmarks are more democratic and less bureaucratic than other appropriations.

Foreign aid has sometimes been labeled as wasteful. One wit has said that he wouldn’t mind paying income tax if he

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just knew which country it was going to. In 2012 foreign aid was about \$150 per person, or 1.3% of total federal spending and 0.3% of GDP. This \$48.4 billion included 17.2 billion for military assistance and 31.3 billion for economic assistance. Afghanistan received the most of this aid in 2012—\$12.9 billion, including \$9.6 billion in military aid and 3.3 billion in economic aid. Economic aid is used for security support, health and child support, narcotics control, refugee assistance, food aid and development aid.

TABLE 2 (from Chantrill website)  
**United States Federal  
 State and Local Government Spending  
 Fiscal Year 2015 in \$ billion**

	Fed	Gov. Xfer	State	Local	Total
Pensions	959.0	0.0	236.6	51.0	1,246.7
Health Care	1,017.7	-355.3	554.7	139.0	1,356.1
Education	149.0	-60.6	284.5	549.6	922.6
Defense	813.9	0.0	1.3	0.3	815.5
Welfare	375.9	-134.5	128.6	84.2	454.3
Protection	35.5	-9.1	73.0	172.9	272.3
Transportation	92.9	-64.4	109.5	139.2	277.1
General Government	48.2	-4.1	44.5	63.6	152.2
Other Spending	37.3	-16.7	55.2	320.8	396.6
Interest	229.2	0.0	45.5	59.5	334.2
Balance	0.0	0.0	0.0	-0.0	0.0
Total Spending	3,758.6	-644.7	1,533.6	1,580.1	6,227.6
Federal Deficit	582.5	0.0	0.0	0.0	582.5
Gross Public Debt	18,627.6	0.0	1,153.1	1,913.2	21,693.9

Looking at Table 2, by the numbers, the largest federal spending categories are for health care and pensions. These are around one trillion dollars each in FY 2015 (\$3,125 per person) and together account for over 50 percent of all federal spending. The third largest category is defense, which at \$813 billion (\$2,540 per person) represents 21 percent of total federal spending. Welfare, at \$371 billion (\$1,175 per person), and interest on the debt, at 229 billion (\$716 per person), are the next largest categories.

The total for state level spending is about one and one-half trillion dollars, or nearly \$5,000 per person. Health care, at over half a trillion dollars (\$1,734 per person), amounts to 36% of state level spending and is the largest amount in the state level column of Table 2. Education, at 284 billion (19%), and pensions, at 236 billion (15%), are the second and third largest state-level spending areas. Welfare and transportation are the next largest categories. The federal transfer payments shown in column 2 of Table 2 are direct payments to individuals for social security, welfare and veterans benefits.

Local spending was also estimated at about one and one-half trillion dollars (\$4,938 per person). Education was the largest category of local government, accounting for 35% of

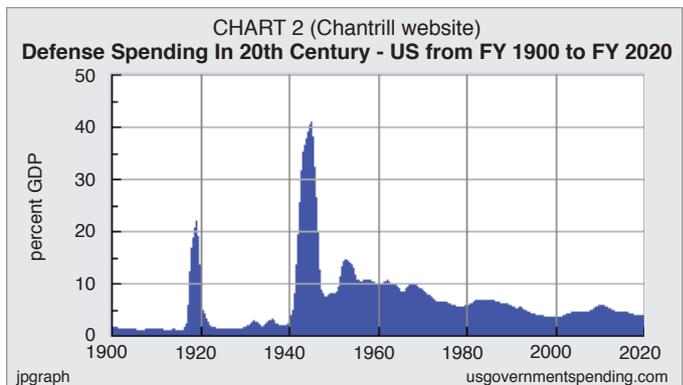
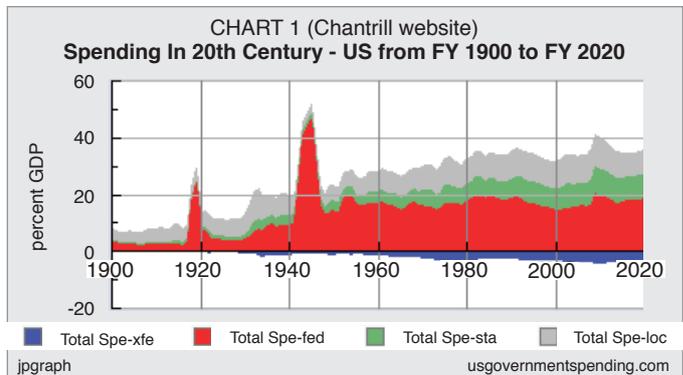
the total (\$1,718 per person). Other categories of local spending include \$541 per person for protection (11%), \$434 per person for health care (9%), and \$434 per person for transportation (9%).

\* \* \*

Have spending patterns changed over the years? Charts 1-4 show how several areas of federal, state and local government spending have changed since 1900, as a percentage of GDP. Total government spending was approximately 7% of GDP in 1900. It increased to about 20 percent during the Great Depression, with huge spikes in spending during the two world wars, mainly due to increased federal spending (shown in red).

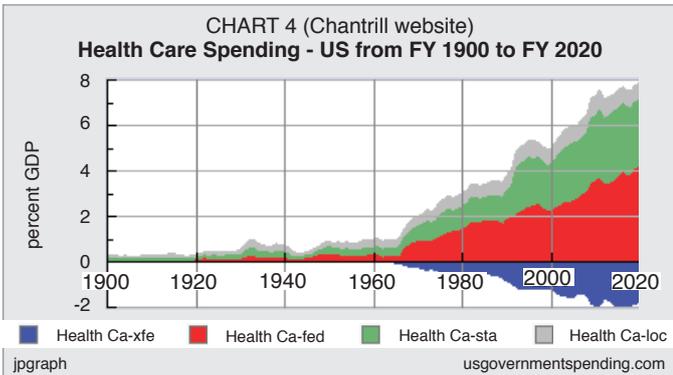
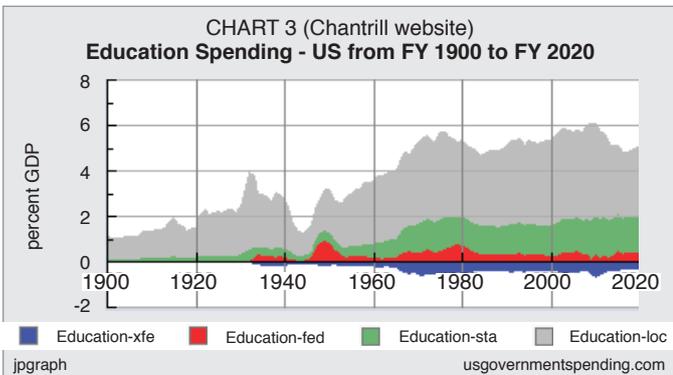
Chart 1 shows a fairly steady increase in spending in all three levels of government from 1950 to the present, with quite a bit of it at the state (green) and local (gray) levels. Federal spending has generally stayed at no more than 20% of GDP since 1960. Various bailouts following the mortgage meltdown of 2008 caused total federal, state and local spending to reach 41% of GDP. Future spending is projected to total about 36%.

Chart 2 shows defense spending spiked to over 20% of GDP during World War I and 41% during World War II. Defense spending then reached 15% of GDP during the Korean War and 10% during the Vietnam War. Current and future spending for defense is projected at about 5.5%.



Spending on education (Chart 3) was 1% of GDP in 1900 and remained below 4% until after 1960. Education spending did increase considerably after World War II, as teacher pay increased, and reached 6% of GDP in 2008. The blue area on the Education chart is for federal grants to state and local governments.

Health care spending (Chart 4) stayed at or below 1% of GDP until the passage of Medicare and Medicaid legislation in the mid-1960s. Government spending for Health Care has increased steadily from that time, currently standing at 7%. The blue area on the Health Care chart again represents federal transfer payment to state and local governments.

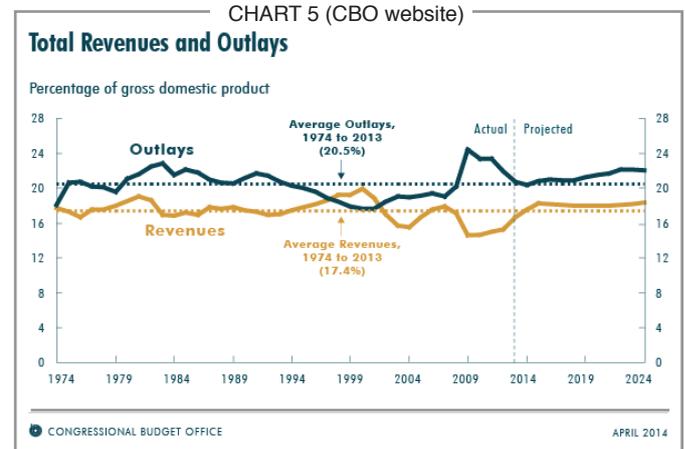


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Consider the federal budget deficits, by the numbers. In recent years, federal spending has run about four trillion dollars per year with revenue collections of around 3.5 trillion, so the annual deficit has run about 0.5 trillion per year. That is 500 billion, or 500 with nine zeros after, and 500 billion is \$1562 for every person in the country. That may not sound so terrible for just one year, but now the total national debt is up to about twenty-one trillion dollars or \$65,625 per person.

According to Congressional Budget Office (CBO) numbers, federal budget surpluses have occurred in only four of the last forty years. The yearly deficits have been

running about 3% of GDP from 1974 through 2013; the 2009 deficit of nearly 10% of GDP was due to the financial crisis and other bailouts. Yearly deficits have been declining from 2010 through 2014, but are projected to again increase between 2015 and 2024 due to the aging of the population, rising health care costs, and interest payments on the federal debt (CBO, “Updated Budget Projections”).



The CBO estimates in Chart 5 show total revenues averaged 17.4% of GDP during 1974 through 2013, while total outlays averaged 20.5%. Are there ways to control or eliminate the yearly deficits or the total debt? Though it would seem possible to reduce spending and/or increase revenues, both have proved extremely difficult politically.

The budget act of 2011 (known as sequestration) had some success but was uniformly unpopular. Everyone has his or her own special interests and would rather see a cut in someone else’s favorite program. Special situations requiring additional spending seem to always come up. The yearly deficits could possibly (or hopefully) be eliminated at some point. Unless that happens for many future years, by these numbers, there is no hope of reducing or eliminating the overall debt.

It may be noted by comparing Tables 1 and 2 that state and local revenue and spending are not completely equal. In FY 2015, the states as a group spent less than they taxed while local governments spent 420 billion more than they took in. The estimated public debt is more than a trillion for states and nearly two trillion for local governments.

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Let’s look back at the second assertion noted at the beginning the article. Are some citizens “not paying their fair share” in taxes? One hears various statements and claims on this subject, many implying or stating that the higher income people ought to pay more, or that the top 1% of earners might just as well pay all of the taxes. These claims tend to be

focused on the federal income taxes, though we know from Table 1 that federal income taxes are only about 30% of total federal, state and local tax revenues.

TABLE 3 (from Citizens for Tax Justice website)  
**Incomes and Federal, State & Local Taxes in 2014**

	Average cash income	Shares of		TAXES AS A % OF INCOME		
		Total income	Total taxes	Federal taxes	State & local taxes	Total taxes
Lowest 20%	\$ 14,000	3.3%	2.1%	6.8%	12.3%	19.1%
Second 20%	28,400	6.8%	5.1%	11.3%	11.5%	22.9%
Middle 20%	45,500	11.2%	9.9%	15.9%	11.0%	26.9%
Fourth 20%	75,100	18.6%	18.3%	19.3%	10.7%	30.0%
Next 10%	115,000	14.2%	14.7%	20.8%	10.7%	31.5%
Next 5%	162,000	10.1%	10.7%	21.9%	10.4%	32.3%
Next 4%	283,000	14.2%	15.2%	22.5%	10.1%	32.6%
Top 1%	1,542,000	21.6%	23.7%	24.7%	8.6%	33.3%
<b>ALL</b>	<b>\$ 78,900</b>	<b>100.0%</b>	<b>100.0%</b>	<b>20.1%</b>	<b>10.3%</b>	<b>30.4%</b>
<b>Addendum:</b>						
<b>Bottom 99%</b>	<b>\$ 64,200</b>	<b>78.3%</b>	<b>76.1%</b>	<b>18.8%</b>	<b>10.7%</b>	<b>29.5%</b>

**Notes:**  
a. Taxes include all federal, state & local taxes (personal and corporate income, payroll, property, sales, excise, estate etc.).  
b. For calculations of income shares and taxes as a % of income, income includes employer-paid FICA taxes and corporate profits net of taxable dividends, neither of which is included in the average cash income figures shown.

Source: Institute on Taxation and Economic Policy Tax Model, April 2014  
**Citizens for Tax Justice, 2014**

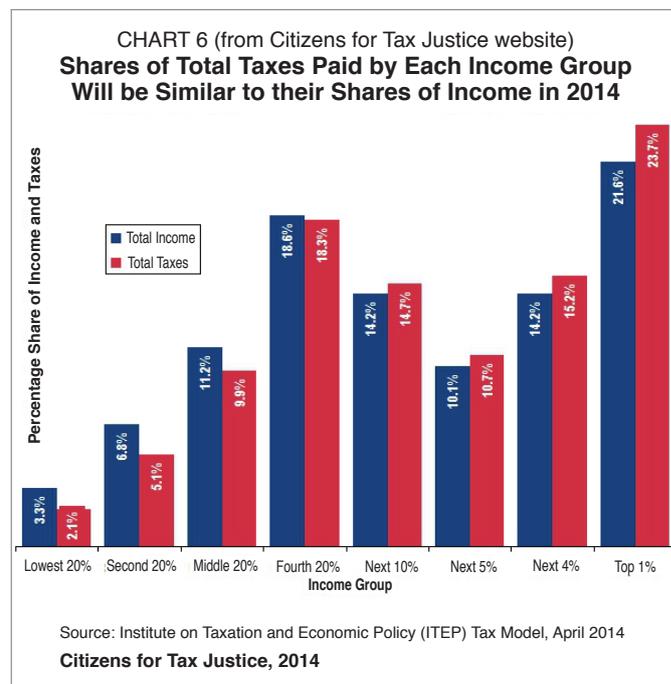
Table 3 compares 2014 average incomes with average amount of all federal, state and local taxes paid by selected groups of taxpayers. The middle columns of the table show that, on the average, the lowest 20 percent of taxpayers earn 3.3 percent of total income and pay 2.1 percent of total taxes. Similarly the middle 20 percent, on the average, earn 11.2 percent of total income and pay 9.9 percent of all taxes. And the top one percent of earners account for 21.6 percent of total income and pay 23.7 percent of total taxes.

Chart 6 shows the total income and total taxes data graphically. Total taxes paid by each income group are fairly similar to their share of income. So, are all paying their fair share? By the numbers, in 2014 each income group was paying taxes that seem appropriate for its income levels.

The lowest 20% of incomes in the first line of Table 3 are taxed at 19.1% overall. It would not be easy to live on \$14,000 per year (\$7.00 an hour) and pay nearly 20% of it on taxes.

Look at the last three columns of Table 3. These show that federal taxes paid as a percent of income increase as income levels increase—a progressive tax. But the state and local taxes over all states and local areas are slightly regressive—that is, the lower income groups pay a higher percent of their

income in taxes and the higher income groups pay somewhat lower percentages.



Debate over tax policies and fairness is as old as taxation itself, and it tends to get loud and passionate. We will have a better, more productive debate if we all first ascertain what the actual facts of taxation are—by the numbers.

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