

THE LAFFER CURVE: PAST, PRESENT AND FUTURE¹

By Arthur B. Laffer

The story of how the Laffer Curve got its name isn't one of the *Just So Stories* by Rudyard Kipling. It began with a 1978 article published by Jude Wanniski in *The Public Interest* entitled, "Taxes, Revenues, and the 'Laffer Curve.'" As recounted by Wanniski (associate editor of the Wall Street Journal at the time), in December of 1974 he had been invited to have dinner with me (then professor at the University of Chicago), Don Rumsfeld (chief of staff to President Gerald Ford) and Dick Cheney (Rumsfeld's deputy and my former classmate at Yale) at the Two Continents Restaurant at the Washington Hotel in Washington, D.C. (just across the street from the Treasury). While discussing President Ford's "WIN" (Whip Inflation Now) proposal for tax increases, I supposedly grabbed my napkin and a pen and sketched a curve on the napkin illustrating the trade off between tax rates and tax revenues. Wanniski named the trade off "The Laffer Curve."

I personally don't remember the details of that evening we all spent together, but Wanniski's version could well be true. I used the so-called Laffer Curve all the time in my classes and to anyone else who would listen to illustrate the trade off between tax rates and tax revenues. My only question on Wanniski's version of the story concerns the fact that the restaurant used cloth napkins and my mother had raised me not to desecrate nice things. Ah well, that's my story and I'm sticking to it.

The Historical Origins of the Laffer Curve

The Laffer Curve, by the way, was not invented by me; it has its origins way back in time. For example, the Muslim philosopher, Ibn Khaldun, wrote in his 14th century work *The Muqaddimah*:

It should be known that at the beginning of the dynasty, taxation yields a large revenue from small assessments. At the end of the dynasty, taxation yields a small revenue from large assessments.

A more recent version of incredible clarity was written by none other than John Maynard Keynes:

When, on the contrary, I show, a little elaborately, as in the ensuing chapter, that to create wealth will increase the national income and that a large proportion of any increase in the national income will accrue to an Exchequer, amongst whose largest outgoings is the payment of incomes to those who are unemployed and whose receipts are a proportion of the incomes of those who are occupied, I hope the reader will feel, whether or not he thinks himself competent to criticize the argument in detail, that the answer is just what he would expect—that it agrees with the instinctive promptings of his common sense.

Nor should the argument seem strange that taxation may be so high as to defeat its object, and that, given sufficient time to gather the fruits, a reduction of taxation will run a better chance than an increase of balancing the budget. For to take the opposite view today is to resemble a manufacturer who, running at a loss, decides to raise his price, and when his declining sales increase the loss, wrapping himself in the rectitude of plain arithmetic, decides that prudence requires him to raise the price still more—and who, when at last his account is balanced with nought on both sides, is still found righteously declaring that it would have been the act of a gambler to reduce the price when you were already making a loss.²

Theory Basics

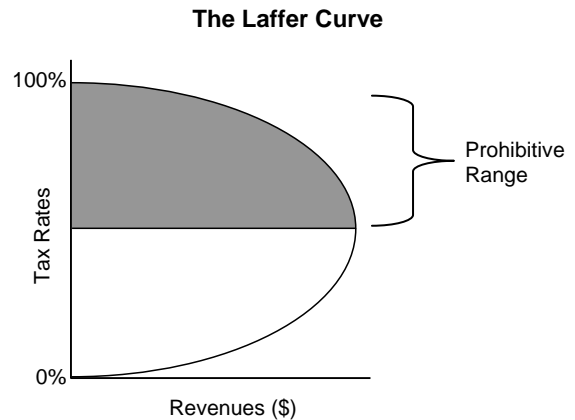
The basic idea behind the relationship between tax rates and tax revenues is that changes in tax rates have two effects on revenues: the arithmetic effect and the economic effect. The arithmetic effect is simply that if tax rates are lowered, tax revenues per dollar of tax base will be lowered by the amount of the decrease in the rate. And, the reverse is true for an

¹This paper was written in part for a John Stossel ABC News television special, scheduled to air in the near future. One segment of the special will focus on taxation and the Laffer Curve. Thanks to Bruce Bartlett, whose paper, "The Impact of Federal Tax Cuts on Growth," provided inspiration.

²John Maynard Keynes, "The Collected Writings of John Maynard Keynes," London: Macmillan Cambridge University Press, 1972.

increase in tax rates. The economic effect, however, recognizes the positive impact that lower tax rates have on work, output, and employment and thereby the tax base by providing incentives to increase these activities. Raising tax rates has the opposite economic effect by penalizing participation in the taxed activities. The arithmetic effect always works in the opposite direction from the economic effect. Therefore, when the economic and the arithmetic effects of tax rate changes are combined, the consequences of the change in tax rates on total tax revenues are no longer quite so obvious.

The diagram at right is a graphic illustration of the concept of the Laffer Curve—not the exact levels of taxation corresponding to specific levels of revenues. At a tax rate of 0%, however, the government would collect no tax revenues, no matter how large the tax base. Likewise, at a tax rate of 100%, the government would also collect no tax revenues because no one would be willing to work for an after-tax wage of zero—there would be no tax base. Between these two extremes there are two tax rates that will collect the same amount of revenue: A high tax rate on a small tax base and a low tax rate on a large tax base.



The Laffer Curve itself doesn't say whether a tax cut will raise or lower revenues. Revenue responses to a tax rate change will depend upon the tax system in place, the time period being considered, the ease of moving into underground activities, the level of tax rates already in place, the prevalence of legal and accounting-driven tax loopholes, and the proclivities of the productive factors. If the existing tax rate is too high—in the "prohibitive range" shown above—then a tax-rate cut would result in increased tax revenues. The economic effect of the tax cut would outweigh the arithmetic effect of the tax cut.

Moving from total tax revenues to budgets, there is one expenditure effect in addition to the two effects tax-rate changes have on revenues. Because tax cuts create an incentive to increase output, employment and production, tax cuts also help balance the budget by reducing means-tested government expenditures. A faster growing economy means lower unemployment and higher incomes, resulting in reduced unemployment benefits and other social welfare programs.

Over the past 100 years, in the U.S. there have been three major periods of tax-rate cuts: the Harding/Coolidge cuts of the mid-1920s, the Kennedy cuts of the mid-1960s, and the Reagan cuts of the early 1980s. Each of these periods of tax cuts was remarkably successful in terms of virtually any public policy metric.

Prior to discussing and measuring these three major periods of U.S. tax cuts, three critical points have to be made: one regarding the size of tax cuts, another regarding their timing, and, lastly, one regarding their location.

i.) Size of Tax Cuts

People don't work, consume or invest to pay taxes. They work and invest to earn after-tax income and they consume to get the best buys—after tax. Therefore, people are not concerned *per se* with taxes but instead their concern is focused on after-tax results. Taxes and after-tax results are very similar but have crucial differences.

Using the Kennedy tax cuts of the mid-1960s as our example, it is easy to show that identical percentage tax cuts, when and where tax rates are high, are far larger than when and where tax rates are low. When Kennedy took office in 1961, the highest federal marginal tax rate was 91% and the lowest rate was 20%. By earning a dollar pre tax, the highest-bracket income earner would receive nine cents after tax (the incentive), while the lowest-bracket income earner would receive 80 cents after tax. These after-tax earnings were the relative after-tax incentives to earn the same amount (one dollar) pre tax.

By 1965, after Kennedy's tax cuts were fully effective, the highest federal marginal tax rate had been lowered to 70% (a drop of 23% or 21 percentage points on a base of 91%) and the lowest tax rate was dropped to 14% (30% lower). Now by earning a dollar pre tax the person in the highest tax bracket would receive 30 cents after tax, or a 233% increase from the 9 cents after-tax earned when the tax rate was 91% and the person in the lowest tax bracket would receive 86 cents after tax or a 7.5% increase from the 80 cents earned when the tax rate was 20%.

Putting this all together, the increase in incentives in the highest tax bracket was a whopping 233% for a 23% cut in tax rates—a 10-to-one benefit/cost ratio—while the increase in incentives in the lowest tax bracket was a mere 7.5% for a 30% cut in rates—a one-to-four benefit/cost ratio. The lessons here are simple: The higher tax rates are, the greater will be the economic (supply-side) impact of a given percentage reduction in tax rates. Likewise, under a progressive tax structure, an equal across-the-board percentage reduction in tax rates should have its greatest impact in the highest tax bracket and its least impact in the lowest tax bracket.

ii.) Timing of Tax Cuts

The second and equally important concept of tax cuts concerns the timing of those cuts. People in their quest to earn what they can after tax not only can change how much they work, but they also can change when they work, when they invest, and when they spend. Lower expected tax rates in the future will reduce taxable economic activity in the present as people try to shift activity out of the relatively higher taxed present period into the relatively lower taxed future period. People tend not to shop at a store a week before that store has its well-advertised discount sale. Likewise, in the periods before legislated tax cuts actually take effect, people will defer income and then realize that income when tax rates have fallen to their fullest extent. It has always amazed me how tax cuts don't work until they actually take effect.

When assessing the impact of tax legislation, it is imperative to start the measurement of the tax cut period after all the tax cuts have been put into effect. As will be obvious when we look at the three major tax cut periods and even more so when we look at capital gains tax cuts, timing is of the essence.

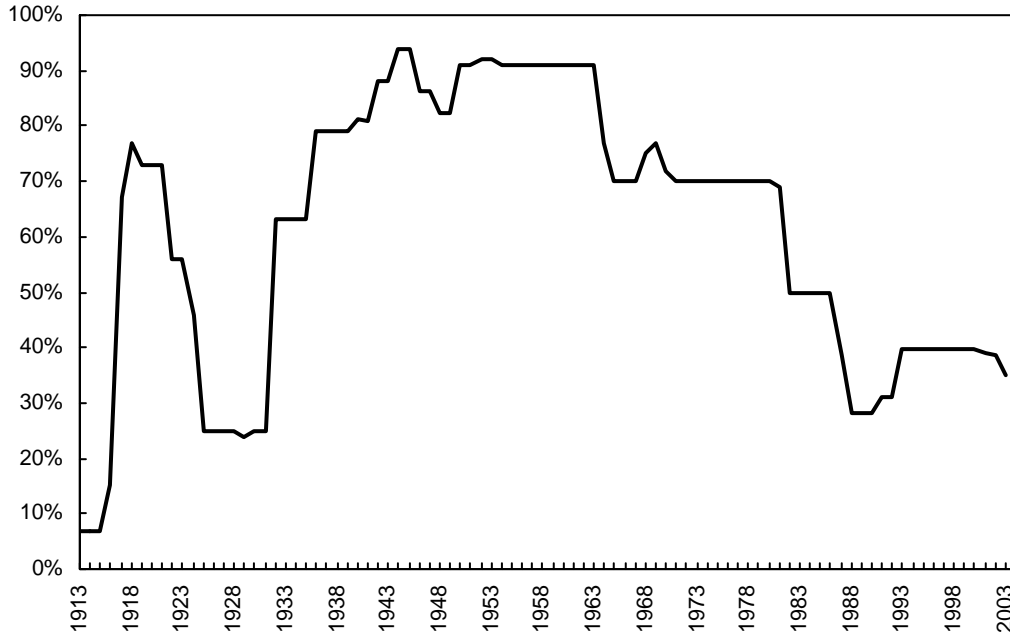
iii.) Location of Tax Cuts

As a final point, people can also choose where they earn their after-tax income, where they invest their money, and where they spend their money. Regional and country differences in various tax rates matter as we will see when we look at state and country effects of tax changes.

The Harding/Coolidge Tax Cuts

In 1913, the federal progressive income tax was put into place with a top marginal rate of 7%. Thanks in part to World War I, this tax rate was quickly increased significantly and peaked at 77% in 1918. Then, through a series of tax-rate reductions, the Harding/Coolidge tax cuts dropped the top personal marginal income tax rate to 25% in 1925.

Figure 1
The Top Marginal Personal Income Tax Rate, 1913-2003
 (when applicable, top rate on earned and/or unearned income)

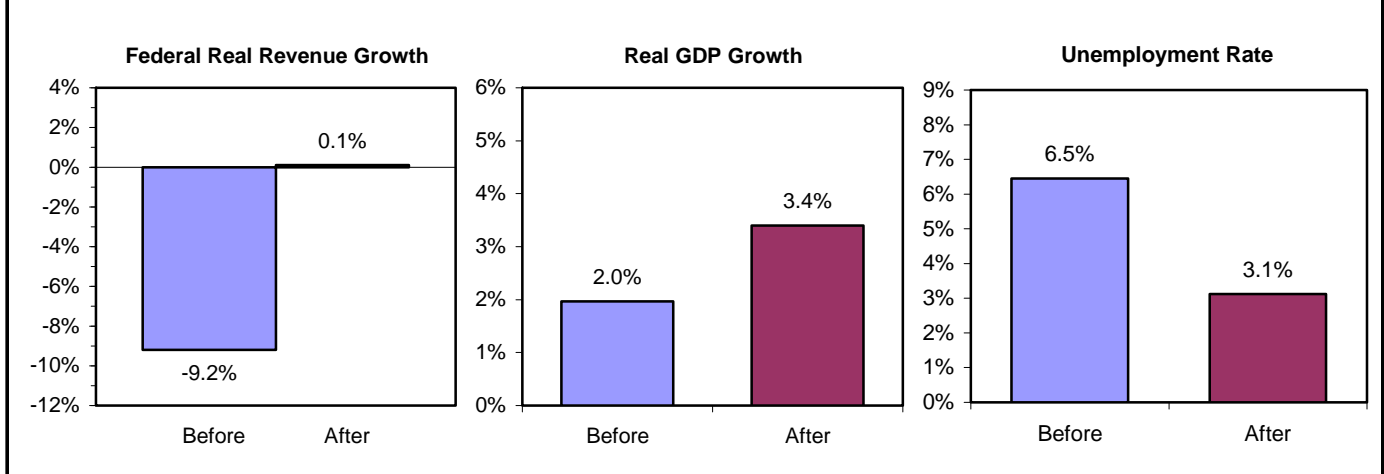


While tax collection data for the National Income and Product Accounts (from the U.S. Bureau of Economic Analysis) don't exist for the 1920s, we do have total federal receipts from the U.S. budget tables. During the four years prior to 1925 (the year the tax cut was fully enacted), inflation-adjusted revenues declined by an average of 9.2% per year (Table 1). Over the four years following the tax-rate cuts, revenues remained volatile but averaged an inflation-adjusted gain of 0.1% per year. The economy responded strongly to the tax cuts, with output nearly doubling and unemployment falling sharply.

Table 1
A Look at the Harding/Coolidge Tax Cut

Before and After: Federal Government Receipts					
<i>(in \$billions, fiscal year U.S. budget data)</i>					
		Federal Government			
		yr/yr		Inflation-Adjusted yr/yr	
	Fiscal Year	Revenue	% change	Revenue	% change
4-Year Average Before Tax Cut	FY1920	\$6.6		\$6.6	
	FY1921	\$5.6	-16.2%	\$6.2	-6.1%
	FY1922	\$4.0	-27.7%	\$4.8	-23.0%
	FY1923	\$3.9	-4.3%	\$4.5	-6.0%
	FY1924	\$3.9	0.5%	\$4.5	0.0%
			-12.6%		-9.2%
4-Year Average After Tax Cut	FY1925	\$3.6	-5.9%	\$4.2	-8.2%
	FY1926	\$3.8	4.2%	\$4.3	3.3%
	FY1927	\$4.0	5.7%	\$4.6	7.8%
	FY1928	\$3.9	-2.8%	\$4.5	-1.7%
			0.2%		0.1%

Before and After: Revenue, Output and Employment
annual average rate over four year period before and four year period after the tax cut



In the 1920s, tax rates on the highest income brackets were reduced the most, which is exactly what economic theory suggests should be done to spur the economy.

But those income classes with lower tax rates were not left out in the cold: The Harding/Coolidge tax-rate cuts did result in reduced tax rates on lower income brackets. Internal Revenue Service data show that the dramatic tax cuts of the 1920s resulted in an increase in the share of total income taxes paid by those making more than \$100,000 per year from 29.9% in 1920 to 62.2% in 1929 (Table 2). And keep in mind the significance of this increase, given that the 1920s was a decade of falling prices and therefore a \$100,000 threshold in 1929 corresponds to a higher real income threshold than \$100,000 did in 1920. The consumer price index fell a combined 14.5% from 1920 to 1929. In this case, the effects of bracket creep that existed prior to the federal income tax brackets being indexed for inflation (in 1985) worked in the opposite direction.

Table 2
Percentage Share of Total Income Taxes Paid
By Income Class: 1920, 1925 and 1929

Income Class	1920	1925	1929
Under \$5,000	15.4%	1.9%	0.4%
\$5,000-\$10,000	9.1%	2.6%	0.9%
\$10,000-\$25,000	16.0%	10.1%	5.2%
\$25,000-\$100,000	29.6%	36.6%	27.4%
Over \$100,000	29.9%	48.8%	62.2%

Perhaps most illustrative of the power of the Harding/Coolidge tax cuts was the increase in GDP, the fall in unemployment and the improvement in the average American's quality of life over this decade. Table 3 demonstrates the remarkable increase in American quality of life, as reflected by the percentage of Americans owning items in 1930 that previously had only been owned by the wealthy (or by no one at all).

Source: Internal Revenue Service
Table 3
Percentage of Americans Owning Selected Items

Item	1920	1930
Autos	26%	60%
Radios	0%	46%
Electric lighting	35%	68%
Washing machines	8%	24%
Vacuum cleaners	9%	30%
Flush toilets	20%	51%

Source: Stanley Lebergott, *Pursuing Happiness: American Consumers in the Twentieth Century*. (Princeton: Princeton University Press, 1993), p. 102, 113, 130, 137.

The Kennedy Tax Cuts

During the Depression and World War II the top marginal income tax rate rose steadily, peaking at an incredible 94% in 1944 and 1945. The rate remained above 90% well into President John F. Kennedy's term in office, which began in 1961. Kennedy's fiscal policy stance made it clear he was a believer in pro-growth, supply-side tax measures. Kennedy said it all in January of 1963 in the *Economic Report of the President*:

Tax reduction thus sets off a process that can bring gains for everyone, gains won by marshalling resources that would otherwise stand idle—workers without jobs and farm and factory capacity without markets. Yet many taxpayers seemed prepared to deny the nation the fruits of tax reduction because they question the financial soundness of reducing taxes when the federal budget is already in deficit. Let me make clear why, in today's economy, fiscal prudence and responsibility call for tax reduction even if it temporarily enlarged the federal deficit—why reducing taxes is the best way open to us to increase revenues.

Kennedy further reiterated his beliefs in his *Tax Message to Congress* on January 24, 1963:

In short, this tax program will increase our wealth far more than it increases our public debt. The actual burden of that debt—as measured in relation to our total output—will decline. To continue to increase our debt as a result of inadequate earnings is a sign of weakness. But to borrow prudently in order to invest in a tax revision that will greatly increase our earning power can be a source of strength.

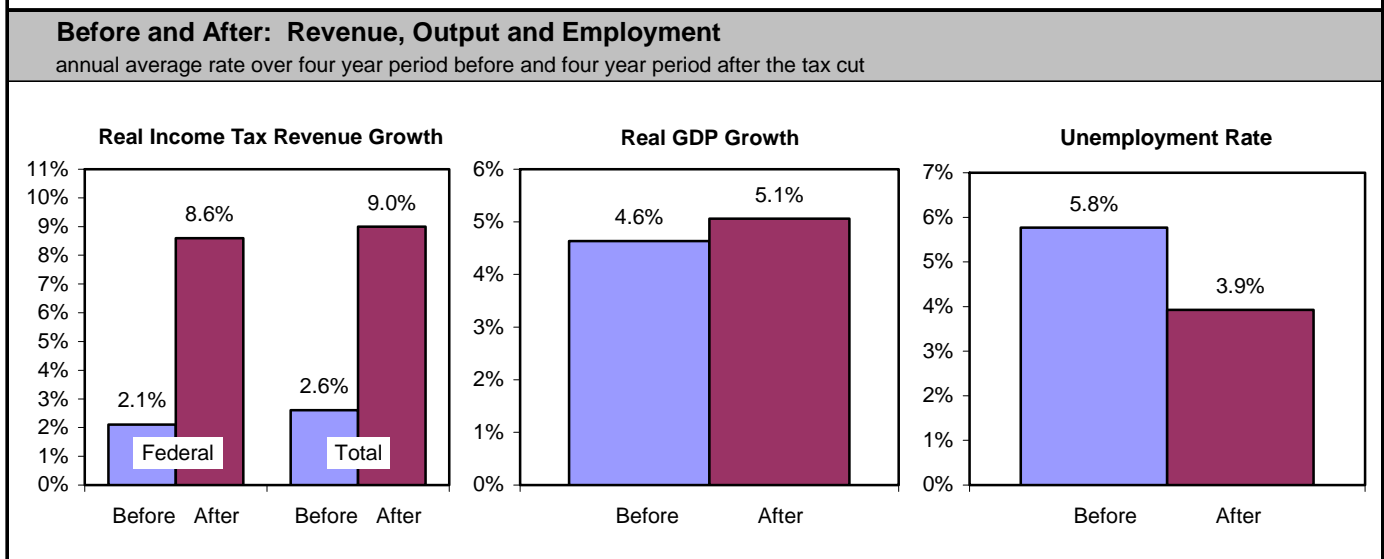
President Kennedy proposed massive tax-rate reductions which passed Congress and went into law after he was assassinated. The 1964 tax cut reduced the top marginal personal income tax rate from 91% to 70% by 1965. The cut reduced lower-bracket rates as well. In the four years prior to the 1965 tax-rate cuts, federal government income tax revenue, adjusted for inflation, had increased at an average annual rate of 2.1%, while total government income tax revenue

(federal plus state and local) had increased 2.6% per year (Table 4). In the four years following the tax cut these two measures of revenue growth rose to 8.6% and 9.0%, respectively. Government income tax revenue not only increased in the years following the tax cut, it increased at a much faster rate in spite of the tax cuts.

The Kennedy tax cut set the example that Reagan would follow some 17 years later. By increasing incentives to work, produce and invest, real GDP growth increased in the years following the tax cuts, more people worked and the tax base expanded. Additionally, the expenditure side of the budget benefited as well because the unemployment rate was significantly reduced.

**Table 4
A Look at the Kennedy Tax Cut**

Before and After: Total Income Tax Revenue (Personal and Corporate)									
(in \$billions, calendar year BEA NIPA data)									
	Year	Federal Government				Total Government (Federal, State and Local)			
		Revenue	yr/yr % change	Inflation-Adjusted Revenue	yr/yr % change	Revenue	yr/yr % change	Inflation-Adjusted Revenue	yr/yr % change
4-Year Average Before Tax Cut	1960	\$63.2		\$63.2		\$67.0		\$67.0	
	1961	\$64.2	1.6%	\$63.5	0.5%	\$68.3	1.9%	\$67.6	0.9%
	1962	\$69.0	7.5%	\$67.5	6.2%	\$73.7	7.9%	\$72.1	6.6%
	1963	\$73.7	6.8%	\$71.2	5.5%	\$78.7	6.8%	\$76.0	5.5%
	1964	\$72.1	-2.2%	\$68.8	-3.4%	\$78.0	-0.9%	\$74.4	-2.1%
			3.3%		2.1%		3.9%		2.6%
4-Year Average After Tax Cut	1965	\$80.0	11.0%	\$75.1	9.2%	\$86.4	10.8%	\$81.1	9.0%
	1966	\$90.0	12.5%	\$82.0	9.2%	\$97.7	13.1%	\$89.1	9.8%
	1967	\$94.4	4.9%	\$83.7	2.1%	\$103.2	5.6%	\$91.5	2.8%
	1968	\$112.5	19.2%	\$95.7	14.3%	\$123.6	19.8%	\$105.1	14.9%
				11.8%		8.6%		12.2%	



Using the Congressional Budget Office's revenue forecasts made with the full knowledge of, yet prior to, the tax cuts, revenues came in much higher than had been anticipated, even after the "cost" of the tax cut had been taken into account (Table 5).

Table 5
Actual vs. Forecasted Federal Budget Receipts, 1964-1967
(in \$billions)

Fiscal Year	Actual Budget Receipts	Forecasted Budget Receipts	Difference	Percentage Actual Revenue Exceeded Forecasts
1964	\$112.7	\$109.3	+\$3.4	3.1%
1965	\$116.8	\$115.9	+\$0.9	0.7%
1966	\$130.9	\$119.8	+\$11.1	9.3%
1967	\$149.6	\$141.4	+\$8.2	5.8%

Source: Congressional Budget Office, *A Review of the Accuracy of Treasury Revenue Forecasts, 1963-1978* (February, 1981), p. 4.

In addition, in 1965, one year following the tax cut, personal income tax revenue data exceeded expectations by the greatest amounts in the highest income classes (Table 6).

Table 6
Actual vs. Forecasted Personal Income Tax Revenue by Income Class, 1965
(calendar year, revenue in \$millions)

Adjusted Gross Income Class	Actual Revenue Collected	Forecasted Revenue	Percentage Actual Revenue Exceeded Forecasts
\$0 - \$5,000	\$4,337	\$4,374	-0.8%
\$5,000 - \$10,000	\$15,434	\$13,213	16.8%
\$10,000 - \$15,000	\$10,711	\$6,845	56.5%
\$15,000 - \$20,000	\$4,188	\$2,474	69.3%
\$20,000 - \$50,000	\$7,440	\$5,104	45.8%
\$50,000 - \$100,000	\$3,654	\$2,311	58.1%
\$100,000+	\$3,764	\$2,086	80.4%
Total	\$49,530	\$36,407	36.0%

Source: Estimated revenues calculated from Joseph A. Pechman, "Evaluation of Recent Tax Legislation: Individual Income Tax Provisions of the Revenue Act of 1964," *Journal of Finance*, vol. 20 (May 1965), p. 268. Actual revenues are from Internal Revenue Service, *Statistics of Income -- 1965, Individual Income Tax Returns*, p. 8.

Testifying before Congress in 1977, Walter Heller, President Kennedy's Chairman of the Council of Economic Advisors, summed it all up:

What happened to the tax cut in 1965 is difficult to pin down, but insofar as we are able to isolate it, it did seem to have a tremendously stimulative effect, a multiplied effect on the economy. It was the major factor that led to our running a \$3 billion surplus by the middle of 1965 before escalation in Vietnam struck us. It was a \$12 billion tax cut, which would be about \$33 or \$34 billion in today's terms, and within one year the revenues into the Federal Treasury were already above what they had been before the tax cut.

Did the tax cut pay for itself in increased revenues? I think the evidence is very strong that it did.³

The Reagan Tax Cuts

In August of 1981, Ronald Reagan signed into law the Economic Recovery Tax Act (ERTA, also known as Kemp-Roth). ERTA slashed marginal earned income tax rates by 25% across-the-board over a three-year period. The highest marginal tax rate on unearned income dropped to 50% from 70% immediately (the Broadhead Amendment) and the tax rate on capital gains also fell immediately from 28% to 20%. Five percentage points of the 25% cut went into effect on October 1, 1981. An additional 10 percentage points of the cut then went into effect on July 1, 1982, and the final 10 percentage points of the cut began on July 1, 1983.

³Walter Heller, in testimony before the Joint Economic Committee of Congress, 1977, quoted by Bruce Bartlett in the *National Review*, October 27, 1978.

Looking at the cumulative effects of ERTA in terms of tax (calendar) years, the tax cut provided a reduction in tax rates of 1.25% through the entirety of 1981, 10% through 1982, 20% through 1983, and the full 25% through 1984.

As a provision of ERTA, Reagan also saw to it that the tax brackets were indexed for inflation beginning in 1985.

To properly discern the effects of the tax-rate cuts on the economy, I use the starting date of January 1, 1983, given that the bulk of the cuts were in place on that date. However, a case could be made for a start date of January 1, 1984, the date the full cut was in effect.

These across-the-board marginal tax-rate cuts resulted in higher incentives to work, produce and invest, and the economy responded (Table 7 on the following page). Between 1978 and 1982 the economy grew at a 0.9% rate in real terms, but from 1983 to 1986 this growth rate increased to 4.8%.

Prior to the tax cut the economy was choking on high inflation, high interest rates and high unemployment. All three of these economic bellwethers dropped sharply after the tax cuts. The unemployment rate, which had peaked at 9.7% in 1982, began a steady decline, reaching 7.0% by 1986 and 5.3% when Reagan left office in January 1989.

Inflation-adjusted revenue growth dramatically improved. Over the four years prior to 1983, federal income tax revenue declined at an average rate of 2.8% per year, and total government income tax revenue declined at an annual rate of 2.6%. Between 1983 and 1986 these figures were a positive 2.7% and 3.5%, respectively.

The most controversial portion of Reagan's tax revolution was the big drop in the highest marginal income tax rate from 70% when he took office to 28% in 1988. However, Internal Revenue Service data reveal that tax collections from the wealthy, as measured by personal income taxes paid by top percentile earners, increased between 1980 and 1988 despite significantly lower tax rates (Table 8).

Table 8
Percentage of Total Personal Income Taxes Paid
by Percentile of Adjusted Gross Income (AGI)

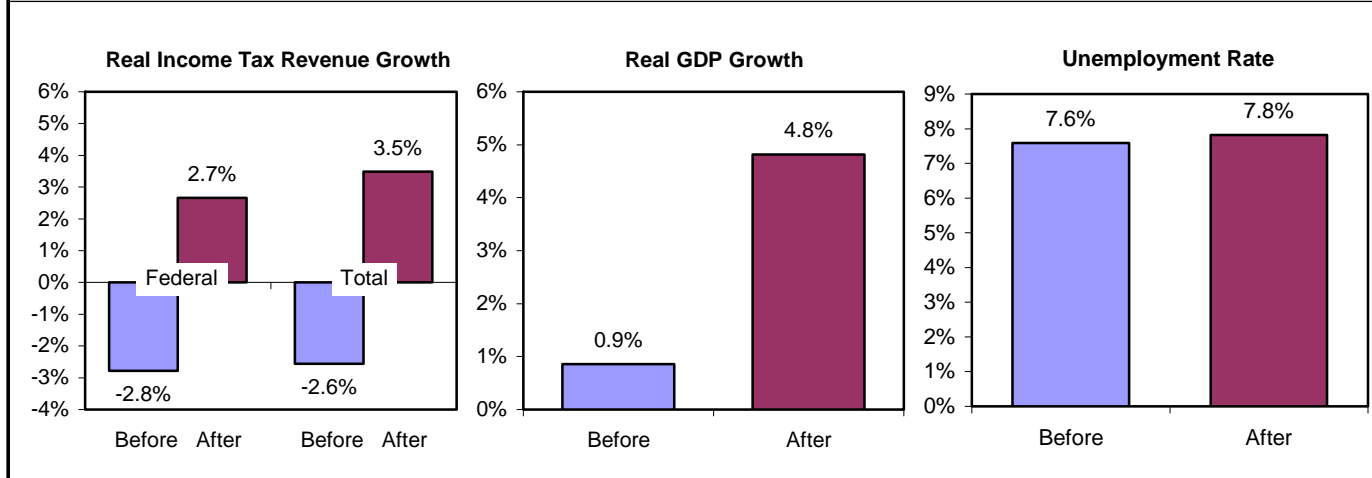
Calendar Year	Top 1% of AGI	Top 5% of AGI	Top 10% of AGI	Top 25% of AGI	Top 50% of AGI
1980	19.1%	36.8%	49.3%	73.0%	93.0%
1981	17.6%	35.1%	48.0%	72.3%	92.6%
1982	19.0%	36.1%	48.6%	72.5%	92.7%
1983	20.3%	37.3%	49.7%	73.1%	92.8%
1984	21.1%	38.0%	50.6%	73.5%	92.7%
1985	21.8%	38.8%	51.5%	74.1%	92.8%
1986	25.0%	41.8%	54.0%	75.6%	93.4%
1987	24.6%	43.1%	55.5%	76.8%	93.9%
1988	27.5%	45.5%	57.2%	77.8%	94.3%

Source: Internal Revenue Service

Table 7
A Look at the Reagan Tax Cut

Before and After: Total Income Tax Revenue (Personal and Corporate)									
<i>(in \$billions, calendar year BEA NIPA data)</i>									
	Year	Federal Government				Total Government (Federal, State and Local)			
		Revenue	yr/yr % change	Inflation-Adjusted Revenue	yr/yr % change	Revenue	yr/yr % change	Inflation-Adjusted Revenue	yr/yr % change
4-Year Average Before Tax Cut	1978	\$260.3		\$260.3		\$307.4		\$307.4	
	1979	\$299.0	14.9%	\$268.7	3.2%	\$350.8	14.1%	\$315.3	2.6%
	1980	\$320.3	7.1%	\$253.5	-5.7%	\$377.4	7.6%	\$298.7	-5.3%
	1981	\$356.3	11.2%	\$255.6	0.8%	\$419.6	11.2%	\$301.0	0.8%
	1982	\$344.0	-3.5%	\$232.5	-9.0%	\$410.0	-2.3%	\$277.1	-7.9%
			7.2%		-2.8%		7.5%		-2.6%
4-Year Average After Tax Cut	1983	\$347.5	1.0%	\$227.6	-2.1%	\$421.7	2.9%	\$276.2	-0.3%
	1984	\$376.6	8.4%	\$236.5	3.9%	\$462.9	9.8%	\$290.7	5.2%
	1985	\$412.3	9.5%	\$250.0	5.7%	\$504.6	9.0%	\$306.0	5.3%
	1986	\$433.9	5.2%	\$258.2	3.3%	\$534.0	5.8%	\$317.8	3.9%
				6.0%		2.7%		6.8%	

Before and After: Revenue, Output and Employment
annual average rate over four year period before and four year period after the tax cut



The Laffer Curve and the Capital Gains Tax

Changes in the capital gains maximum tax rate provide a unique opportunity to study the effects of taxation on taxpayer behavior. Taxation of capital gains is different from taxation of most other sources of income because people have more control over the timing of the realization of capital gains (i.e., when the gains are actually taxed).

The historical data on changes in the capital gains tax rate show an incredibly consistent pattern. Just after a capital gains tax-rate cut, there is a surge in revenues; just after a capital gains tax-rate increase, revenues take a dive. Also, as would be expected, just before a capital gains tax-rate cut there is a sharp decline in revenues, and just before a tax-rate increase there is an increase in revenues. Timing really does matter.

This all makes total sense. If you could choose when to realize capital gains for tax purposes you would clearly realize your gains before tax rates are raised (Figure 2). No one wants to pay higher taxes.

In the 1960s and 1970s capital gains tax receipts averaged around 0.4% of GDP, with a nice surge in the mid-1960s following President Kennedy's tax cuts and another surge in 1978-79 after the Steiger-Hansen capital gains tax-cut legislation went into effect.

Following the 1981 capital gains cut from 28% to 20%, nominal capital gains tax revenues leapt from \$12.5 billion in 1980 to \$18.7 billion by 1983—a 50% increase. During this period capital gains revenues rose to approximately 0.6% of GDP. Reducing income and capital gains tax rates in 1981 helped launch what we now appreciate as the greatest and longest period of wealth creation in world history. In 1981 the stock market tumbled at about 1,000, compared to nearly 10,000 today (Figure 3).

As expected, the increase in the capital gains tax rate from 20% to 28% in 1986 led to a surge in nominal tax revenues prior to the increase (\$52.9 billion in 1986) and a collapse in revenues after the increase took effect (\$24.9 billion in 1991). (Please note that Figure 2 displays inflation-adjusted revenue).

Figure 2
Top Capital Gains Tax Rate and Inflation-Adjusted Revenue
(1960-2000, federal, in billions of 2000\$)

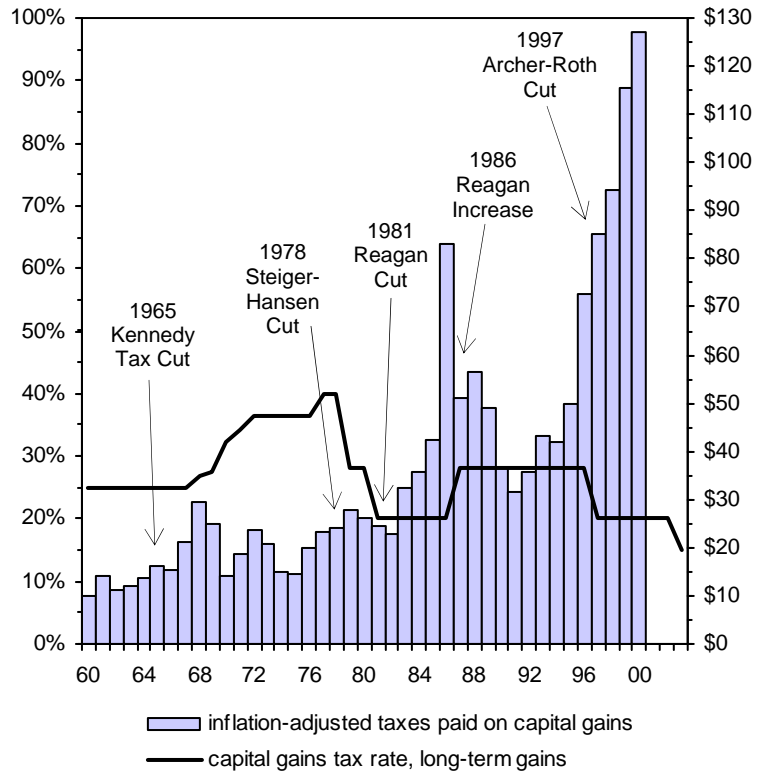
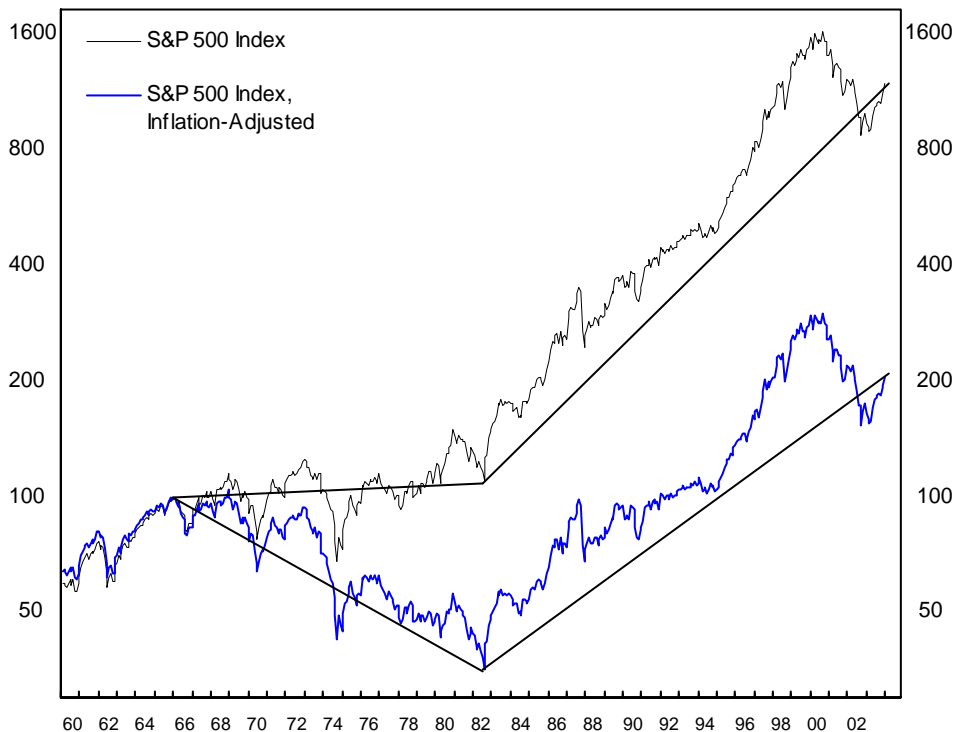


Figure 3
U.S. Stock Market: "Bull vs. Bear"
Nominal and Inflation-Adjusted Appreciation
(monthly, 12/31/59 -1/6/04)



The return of the capital gains tax rate from 28% back to 20% in 1997 was an unqualified success and every claim made by the critics was wrong. The tax cut, which went into effect in May of 1997, increased asset values and contributed to the largest gain in productivity and private sector capital investment in a decade. Also, the capital gains tax cut was not a revenue loser for the federal Treasury.

In 1996, the year before the tax rate cut and the last year with the 28% rate, total taxes paid on assets sold was \$66.4 billion (Table 9). A year later tax receipts jumped to \$79.3 billion, and they jumped again one year later to \$89.1 billion in 1998. The capital gains tax-rate reduction played a big part in the 91% increase in tax receipts collected from capital gains between 1996 and 2000—a percentage far greater than the most ardent supply-siders expected.

Table 9
1997 Capital Gains Tax Rate Cut: Actual Revenues vs. Government Forecast
(in \$billions)

	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
Long-Term Capital Gains Tax Rate	28%	20%	20%	20%	20%
Net Capital Gains:					
Pre-Tax Cut Estimate (Jan-97)	--	\$205	\$215	\$228	n/a
Actual	\$261	\$365	\$455	\$553	\$644
Capital Gains Tax Revenue:					
Pre-Tax Cut Estimate (Jan-97)	--	\$55	\$65	\$75	n/a
Actual	\$66	\$79	\$89	\$112	\$127

Seldom in economics does real life so conveniently conform to theory as this capital gains example does to the Laffer Curve. Lower tax rates change people's economic behavior and stimulate economic growth, which can create more, not less, tax revenues.

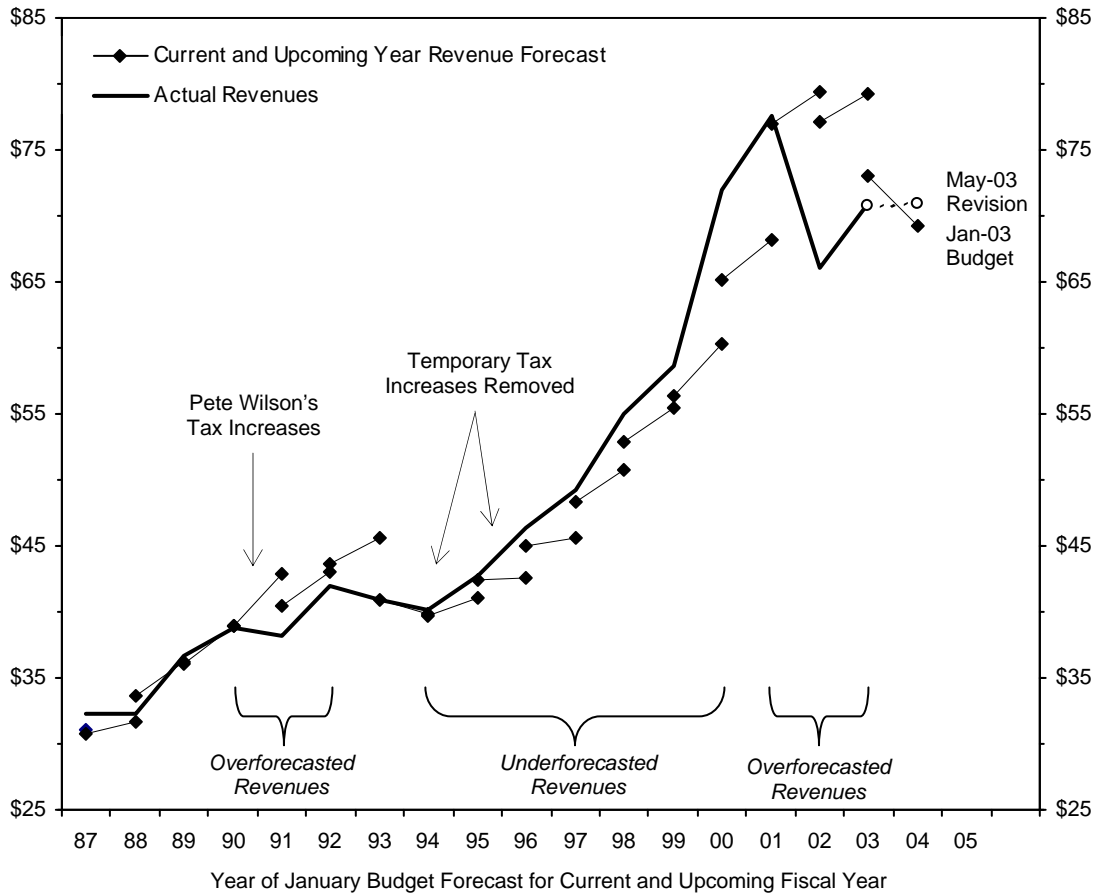
The Story in the States

i.) California

In my home state of California, we have an extremely progressive tax structure which lends itself to Laffer Curve types of analyses.⁴ During periods of tax increases and economic slowdowns, the state's budget office almost always overestimates revenues because they fail to take into account the economic feedback effects incorporated in the Laffer Curve analysis (the economic effect). Likewise, the state's budget office also underestimates revenues by wide margins during periods of tax cuts and economic expansion. The consistency and size of the misestimates are quite striking. Figure 4 demonstrates this effect by showing current-year and budget-year revenue forecasts taken from each year's January budget proposal compared to actual revenues collected.

⁴Our most recent research paper covering this topic: Arthur B. Laffer and Jeffrey Thomson, "The Only Answer: A California Flat Tax," Laffer Associates, October 2, 2003.

Figure 4
California General Fund Revenue (Plus Transfers): Forecast vs. Actual
 (in \$billions)



	Revenue Estimates as of						Actual
	Jan-01	May-01	Jan-02	May-02	Jan-03	May-03	
00-01 Revenues	\$76.9	\$78.0					\$77.6
01-02 Revenues	\$79.4	\$74.8	\$77.1	\$73.8			\$66.1
02-03 Revenues			\$79.3	\$78.6	\$73.1	\$70.8	\$70.9
03-04 Revenues					\$69.2	\$70.9	??

ii.) State Fiscal Crises of 2002/2003

The National Conference of State Legislatures (NCSL) conducts surveys of state fiscal conditions by contacting legislative fiscal directors from each state on a fairly regular basis. It is revealing to look at the NCSL survey from a little over one year ago (November 2002), just about the time when state fiscal conditions were hitting rock bottom. In the survey, each state's fiscal director reported its state's projected budget gap—the deficit between projected revenues and projected expenditures for the coming year—used when hashing out their state's FY2003 budget. As of November 2002, 40 states reported they faced a projected budget deficit, and eight states reported they did not. Two states (Indiana and Kentucky) did not respond to the survey.

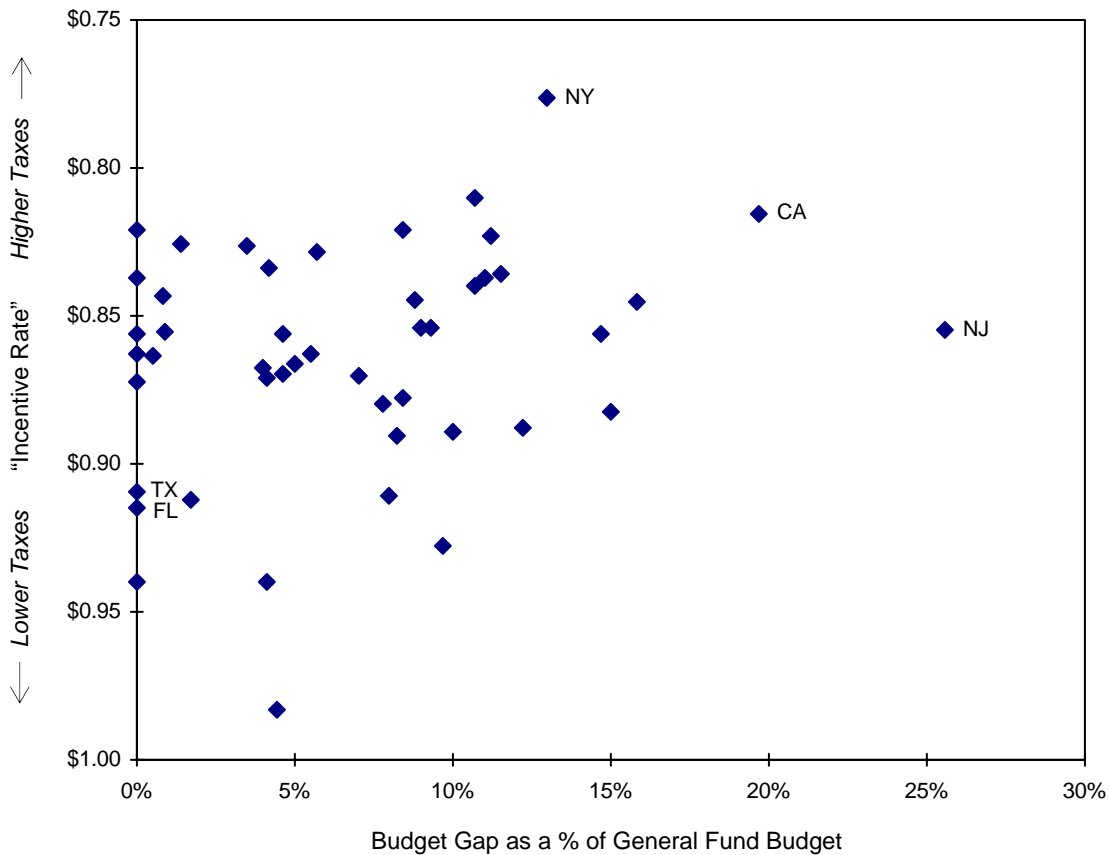
Figure 5 plots each state's budget gap (as a share of the state's general fund budget) versus a measure of the degree of taxation faced by taxpayers in each state, or the "incentive rate." This incentive rate is the value of one dollar of income after

passing through the major state and local taxes. This measure takes into account the state's highest tax rates on corporate income, on personal income, and on sales.⁵ (These three taxes account for 73% of total state tax collections⁶).

These data have all sorts of limitations. Each state has a unique budgeting process, and who knows what assumptions were made when projecting revenues and expenditures. As California has repeatedly shown, budget projections change with the political tides and are often worth less than the paper they're printed on. In addition, some states may have taken significant budget steps (such as cutting spending) prior to FY2003 and eliminated problems for FY2003. Also, each state has a unique reliance on various taxes, and the incentive rate below doesn't factor in property taxes and the myriad of minor taxes out there

That having been written, FY2003 was a unique period in state history given the degree that the states, almost without exception, all experienced budget difficulties, so it does provide a good opportunity for comparison. In this illustrative example, those states with high rates of taxation tended to have greater problems than those states with lower tax rates. California, New Jersey and New York, three large states with relatively high tax rates, were among those states with the largest budget gaps. In contrast, two "biggies" with no personal income tax at all—Florida and Texas—somehow found themselves with relatively few fiscal problems when preparing their budgets.

**Figure 5
Incentive Rate vs. Initial FY2003 Projected Budget Gaps:
The 50 States**



iii.) Impact of Taxes on State Performance Over Time

Over the years, Laffer Associates has chronicled the relationship between tax rates and economic performance at the state level. This relationship is more fully explored in our research covering the Laffer Associates State Competitive Environment

⁵For our purposes here we have arrived at the value of an after-tax dollar using the following weighting method: 80%, value of a dollar after passing through the personal tax channel (personal and sales taxes); 20%, value of a dollar after passing through the corporate tax channel (corporate, personal and sales taxes). Alaska is excluded from consideration due to the state's unique tax system and heavy reliance on severance taxes.

⁶U.S. Census Bureau, "State Government Tax Collections Report," 2002.

model.⁷ Table 10 is a perfect example of this relationship and reflects the importance of taxation—both the level of tax rates and changes in relative competitiveness due to changes in tax rates—on economic performance.

Combining each state's current incentive rate (the value of a dollar after passing through a state's major taxes) with the sum of each state's net legislated tax changes over the past 10 years (taken from our historical State Competitive Environment rankings) allows us to reach a composite ranking of which states have the best combination of low and/or falling taxes, and which have the worst combination of high and/or rising taxes. Those states with the best combination made the top 10 of our rankings (1=best), while those with the worst combination made the bottom 10 (50=worst). Table 10 shows how the "10 Best States" and the "10 Worst States" have fared over the past 10 years in terms of income growth, employment growth, unemployment, and population growth. The 10 best states have outperformed the bottom 10 states in each category examined.

Table 10
Taxation (Level and Change) vs. Economic Performance:
A Look at 10-Year Performance of the Top 10 and Bottom 10 States

The 10 Best States									
	Overall Rank¹	Incentive Rate and Rank² 2003		Net Change in Taxes and Rank³ 1994-03		10-Year Personal Income Growth⁴	10-Year Employment Growth⁵	Current Unemployment Rate⁶	10-Year Population Growth⁷
Washington	1	\$0.91	8	-\$5.74	4	75.3%	17.5%	6.8%	16.8%
Connecticut	2	\$0.88	14	-\$4.91	7	56.9%	7.4%	5.0%	6.4%
Hawaii	3	\$0.87	20	-\$11.56	2	33.9%	6.7%	4.1%	8.3%
Colorado	4	\$0.87	19	-\$7.96	3	91.5%	27.1%	5.6%	27.8%
Florida	5	\$0.91	5	-\$0.13	17	72.3%	30.4%	4.7%	24.1%
Wisconsin	6	\$0.87	22	-\$5.73	5	61.6%	13.8%	5.0%	8.2%
Massachusetts	7	\$0.88	13	-\$0.78	14	65.2%	11.3%	5.4%	7.0%
Delaware	8	\$0.91	7	\$0.54	22	62.7%	18.5%	4.1%	16.9%
Georgia	9	\$0.86	23	-\$1.69	10	84.8%	25.3%	4.2%	26.0%
Virginia	10	\$0.89	11	\$0.79	25	67.8%	19.7%	3.6%	14.3%
10 Best Average						67.2%	17.8%	4.9%	15.6%
U.S. Average						63.5%	16.3%	5.9%	12.8%
10 Worst Average						60.0%	15.3%	5.5%	9.8%
The 10 Worst States									
Michigan	41	\$0.87	18	\$10.93	48	52.2%	8.5%	7.0%	5.8%
California	42	\$0.82	48	\$0.30	20	66.2%	20.2%	6.4%	13.9%
Rhode Island	43	\$0.82	45	\$0.64	23	55.6%	11.5%	4.9%	7.8%
Maine	44	\$0.85	32	\$3.30	37	61.2%	15.1%	4.9%	5.4%
Louisiana	45	\$0.84	38	\$2.63	34	54.1%	13.0%	5.5%	4.9%
Oklahoma	46	\$0.83	42	\$4.22	40	54.4%	17.0%	5.3%	8.8%
Idaho	47	\$0.83	43	\$4.54	41	74.8%	29.4%	5.1%	24.1%
Alabama	48	\$0.83	44	\$6.86	45	55.3%	8.3%	5.8%	7.3%
Vermont	49	\$0.83	41	\$12.01	49	66.0%	16.0%	4.0%	7.9%
Arkansas	50	\$0.82	47	\$7.72	46	60.3%	13.7%	6.0%	12.5%

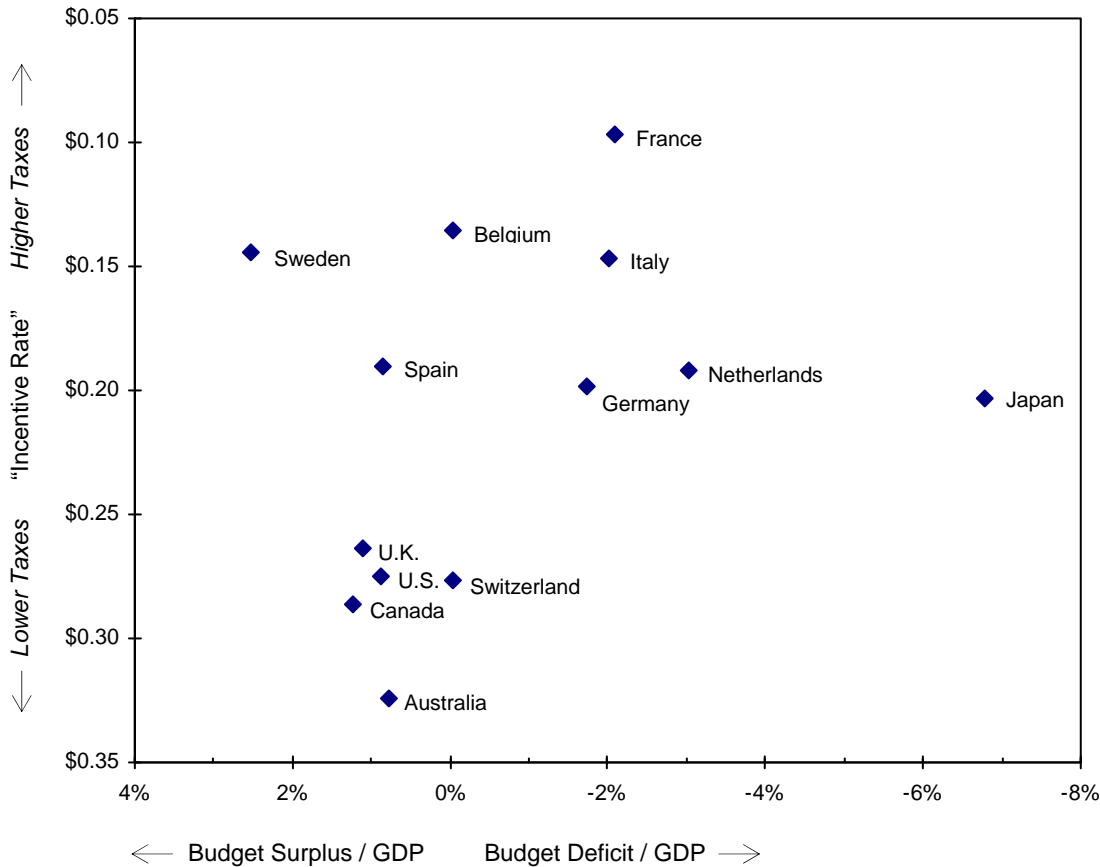
¹Ranking based on equal-weighted average of each state's incentive rank and net change in taxes rank; ²The incentive rate is the value of an after-tax dollar using the following weighting method: 80%, value of a dollar after passing through the personal tax channel (personal and sales taxes) and 20%, value of a dollar after passing through the corporate tax channel (corporate, personal and sales taxes); ³Equals the sum of Laffer Associates' relative tax burden rankings (change in legislated tax burden per \$1,000 of personal income relative to the U.S. change) over the 1994-2003 period, a negative indicates decreasing in taxes, a positive indicates increasing taxes; ⁴Nov-93 through Nov-03 (Bureau of Economic Analysis); ⁵Nov-93 through Nov-03 (Bureau of Labor Statistics); ⁶As of Nov-03 (Bureau of Labor Statistics); ⁷7/1/93 through 7/1/03 (U.S. Census Bureau).

⁷See Arthur B. Laffer and Jeffrey Thomson, "The 2003 Laffer State Competitive Environment," Laffer Associates, January 31, 2003; and previous editions.

Looking Globally

For all the brouhaha surrounding high tax rates, Maastricht and the like, it is revealing, to say the least, that the highest tax rate G-12 countries have as many, if not more, fiscal problems (deficits) than do those countries with lower tax rates (Figure 6). While not shown here, cases such as Ireland, where tax rates were dramatically lowered and yet the budget moved into huge surplus, are pretty commonplace. Also not shown here, yet probably true, is the fact that the highest tax rate countries probably have the highest unemployment rates as well. High tax rates surely don't guarantee fiscal solvency, that's for sure.

Figure 6
Degree of Taxation vs. 5-Year Average Government Budget Surplus(+)/Deficit(-) as a % of GDP:
The G-12^{8,9}



Tax Trends in Other Countries: The Flat Tax Fever

I have for many years lobbied for the implementation of a flat tax not only just here in California but also for the entire U.S. Hong Kong adopted their flat tax ages ago (and has performed like gangbusters ever since), and it is truly exciting that a flat-tax fever has seemingly infected Europe in recent years. In 1994 Estonia became the first country in Europe to adopt a flat tax, and their 26% flat tax dramatically energized what had been a faltering economy. Just prior to the adoption of the flat tax in 1994 Estonia had an impoverished economy which was literally shrinking—making the gains following the flat tax implementation all the more impressive. Over the eight-year period since 1994, Estonia has sustained real economic growth averaging 5.2% per year.

Latvia followed Estonia's lead one year later with a 25% flat tax. The five years before adopting the flat tax, Latvia's real GDP had fallen over 50%. The rest has been history (Figure 7). Lithuania has followed with a 33% flat tax, and has experienced similar positive results.

⁸The G-12 includes 13 countries: Australia, Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Spain, Sweden, Switzerland, the U.K. and the U.S.

⁹The "Incentive Rate" here is the value of \$1.00 once it has passed through a country's highest tax rates (national and sub-national combined) on corporate income, on personal income, on payrolls, and on value added/sales. For the U.S., Chicago, Illinois is used for the sub-national location.

Russia has become one of the latest Eastern Bloc countries to give the flat tax an opportunity to take hold. In the years since the advent of the 13% flat personal tax (on January 1, 2001) and the 24% corporate tax (on January 1, 2002), the Russian economy has had amazing results. Tax revenue in Russia has gone way up (Figure 8). And the Russian system is simple, fair, and much more rational and effective. An individual whose income is only from a wage doesn't have to file an annual return—the employer deducts tax from the employee and transfers it to the Tax Authority every month.

Largely due to Russia and other Eastern European nations' successes with flat tax reform, Ukraine and Slovak Republic just implemented their 13% and 19% flat taxes, respectively, on January 1, 2004.

Figure 7

**Average Annual Real GDP Growth (%) in Selected Countries
5 Years Before and 5 Years After Flat Tax Implementation**

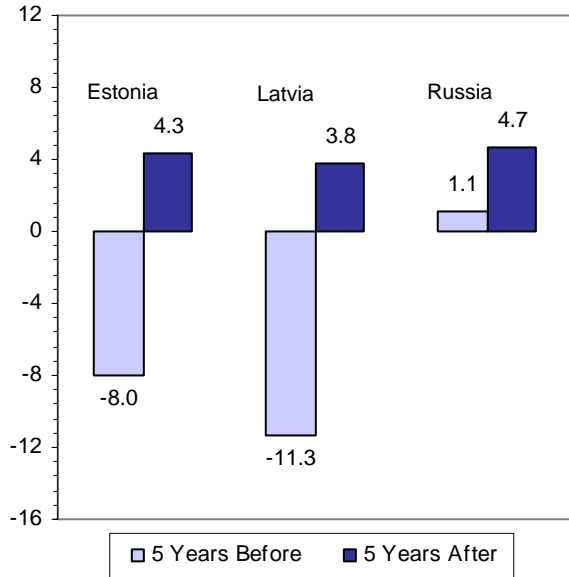


Figure 8

**Annual Russian Tax Revenue
(in billions of Rubles)**

