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DO REVENUE SURPRISES TELL US MUCH
ABOUT THE COST OF TAX CUTS?

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The best answer to the question posed by the title of this paper is probably "no," revenue surprises do *not* tell us much about the cost of tax cuts. The reason is that revenues are extremely volatile and move up and down in response to a variety of factors that have nothing to do with tax policy. Indeed, the impacts on revenue levels that the most optimistic dynamic-scoring models predict are trivial in comparison to the unexpected swings in revenue levels that regularly occur for other reasons, whether taxes are cut, raised, or left unchanged.[1]

Another key point about drawing lessons based on revenue surprises is that if one wanted to use revenue surprises — i.e., how actual revenue levels differ from *predicted* revenue levels — in order to draw conclusions about the dynamic effects of tax cuts, one would need to use data on revenue levels for more than just a single year or a couple of years. Data for just one or two years often are quite ambiguous and can tell conflicting stories. For example, the cost estimates issued by the Joint Committee on Taxation (JCT), Congress' official scorekeeper on tax legislation, predicted that the tax cuts enacted since 2001 would reduce revenues by $196 billion in 2006. Since revenues in 2006 are coming in *$289 billion* below the Congressional Budget Office's January 2001 forecast, that might suggest that the tax cuts have cost *more* than originally estimated. At the same time, revenues in 2006 are coming in *above* CBO's January 2003 forecast of revenue levels for 2006, which might suggest that tax cuts have increased revenues. To draw *either* conclusion from such limited data — in which revenue levels for a single year are compared to a particular prediction of what revenues would be in that year — would not be valid.

Instead of picking revenue levels for particular years and revenue estimates made at particular points in time — which can yield whatever result one desires, depending on the particular years chosen — this analysis uses *every annual forecast* made by CBO since January 1981, in order to assess what revenue surprises can tell us about the costs of tax cuts. The story that these data tell is an intriguing one: on average, revenues have fallen *below* expectations in the years that have followed *tax cuts*, which, if anything, might indicate that tax cuts have had overall negative economic effects that produced larger-than-expected revenue losses. In addition, revenues have tended to *exceed* expectations in years following *tax increases*, which might suggest that tax increases have strengthened the economy, resulting in even larger revenue gains.

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[1] For a broader discussion of dynamic scoring see Jason Furman, "A Short Guide to Dynamic Scoring," Center on Budget and Policy Priorities, July 11, 2006.

As noted above, revenue surprises are *not* a sound way to estimate either the actual costs of tax policy changes or the economic effects of such changes. However, if one believes that revenue surprises *do* tell an important story and seeks to use them, it ought be noted that the revenue surprises over the past quarter century lead to the *opposite* conclusion from that which tax-cut supporters propound. To come up with data that appear to support their rosy conclusions about tax cuts generating powerful economic effects, tax-cut proponents have been citing data on actual revenue levels from *only one or two years*, as well as particular revenue forecasts from one or two carefully selected years, rather than using revenue levels and revenue forecasts for all recent years and letting the chips fall where they may.

What 25 Years of Revenue Surprises Tells Us About the Cost of Tax Cuts

In March 2006, CBO published an analysis of its past forecasting errors since January 1981.[2] CBO defined forecasting errors as the difference between actual revenues in a year and the each of the roughly six earlier forecasts of revenues for that year that CBO had published, adjusted for the estimated cost of subsequent tax cuts or tax increases.[3] For example, suppose CBO projected that revenues in two years' time would be $1 trillion, but Congress then passed a tax cut estimated to cost $100 billion in that year (reducing the "adjusted" revenue estimate for the year to $900 billion). If actual revenues turned out to be $930 billion, the forecasting error would be +$30 billion. This results in comparisons of more than 100 forecasts of revenues for the years 1981 through 2006 with the actual results for those years.

An examination of how CBO's revenue forecasts have compared with actual revenue levels since 1981 yields some interesting results. First, the CBO estimates are essentially unbiased, in that they have been as likely to *over*predict revenues as to *under*predict them. In 24 "year-ahead" revenue forecasts since 1981 (i.e., forecasts of what revenue levels would be in the following fiscal year), CBO overestimated revenues in 12 forecasts and underestimated revenues in the other 12 forecasts. Overall, the underestimates and overestimates (measured as percentages) largely offset each other.

Second, the average forecast error in these 24 estimates — the average amount by which CBO either overestimated or underestimated the following year's revenue level, regardless of whether the error was an overestimate or underestimate — is very large. The average error equals 6 percent of revenues, or the equivalent of *more than $150 billion* in 2006.[4] In fact, CBO's average error for estimates made three months into the fiscal year itself (as opposed to estimates made one or more years beforehand) is a surprisingly high 3 percent, equivalent to about $70 billion in 2006.

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[2] This analysis augments the CBO data with forecasting errors for 2006, using the Administration's latest projection of fiscal year 2006 revenues, $2.4 trillion.

[3] CBO does not attempt to forecast tax legislation that Congress might enact in the future. Hence, deviations due to subsequent legislation are not considered a forecasting error. This analysis follows the CBO study in considering only the first annual forecast that CBO issues each year, generally in January.

[4] This 6 percent figure is the "root mean square" of CBO's errors.

TABLE 1		
CBO's Revenue Forecasting Errors In Different Periods		
Period	**Net Average Revenue Surprise (as a Percentage of Revenues*)**	**Percentage of Forecasts With a Positive Revenue Surprise**
Reagan Tax Cuts (1982-90)	-4.7%	21%
Bush I & Clinton Tax Increases (1991-2000)	0.1%	57%
Bush II Tax Cuts (2002-06)	-3.2%	40%
Addendum		
Tax Cut Periods (1982-90 and 2002-06)	*-4.0%*	*29%*

* Positive values indicate that actual revenues exceeded projected revenues. These averages net positives errors against negative errors.

Note: The year 2001 is excluded because major tax changes were enacted with a mid-year effective date. The tax increases enacted in 1981 and 1990 were effective at the beginning of fiscal years 1982 and 1991, respectively.

Source: Calculations based on data from CBO 2006, with "actual" revenues for FY 2006 taken to be the Administration's new estimate of $2,400 billion.

Third, the overestimates and underestimates have tended to follow certain patterns. The period that followed the 1990 and 1993 tax increases (defined as 1991 through 2000[5]) turns out to have been a period, on average, without "revenue surprises." In this period, revenues came in an average of 0.1 percent *higher* than forecast.[6] In contrast, revenue levels generally were disappointing in the Reagan years and under the current administration — i.e., in years following tax cuts — falling an average of 4.0 percent *below* projections in these two time periods. (See Table 1.)

Conclusion

One possible interpretation of the 25 years of data is that tax increases may tend to benefit the economy and thereby bring in more revenues than expected, while tax cuts may tend to hurt the economy and result in larger losses than expected. This is the opposite of what many conservative tax-cut advocates assert about the effects of tax cuts. Yet it is based on far more data than a simple comparison of revenue levels in 2005 and 2006 to the revenue forecasts made at the start of those years, which are the comparisons that some tax-cut proponents (including Administration officials) recently have been making.

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[5] Taxes were cut in 1997, but the reduction was small in comparison to the earlier tax increases. The tax increases enacted in 1990 and 1993 totaled $117 billion in fiscal year 2000 (this estimate extends the original JCT estimates with nominal GDP growth). In contrast, the capital gains, estate, and IRA-related tax cuts enacted in 1997 totaled only $4 billion in fiscal year 2000. The other $23 billion in net tax cuts enacted in 1997 were mainly an expanded child tax credit, which would not be expected to have significant dynamic scoring effects.

[6] Table 1 pools together all of the forecasts for revenue in three periods (1982-1990, 1991-2000, and 2002-2006) for a total of 128 "data points." For example, the 1991 to 2000 period includes 60 different forecast errors comprising every CBO forecast for revenue in those periods. We can compare actual revenues in 1995 to the six CBO forecasts of revenues in 1995 that were published from January 1990 through January 1995. (The year that tax policy changed direction substantially in mid-year — 2001 — is excluded from the analysis. Including that year would have only a modest effect on the results.)

Of course, such an analysis of data for the last 25 years is unlikely to illuminate the issue much. Such an analysis does *not* make any attempt to control for other factors that affect the economy, lags in the effects of policy changes, or the fact that the timing of tax cuts may be a function of the state of the budget and the economy. More importantly, revenues are volatile; in any given year, they may move up or down a considerable amount for reasons entirely unrelated to tax cuts or tax increases. As noted earlier, over the past quarter century, the revenue projections that CBO has issued each January for the following fiscal year have been either too high or too low by an average of more than $150 billion (measured in 2006 terms).[7]

As a result, rather than relying on comparisons of revenue forecasts to actual revenue levels — even over a 25-year period and using over 100 data points — policymakers should continue to rely on a combination of official cost estimates and estimates of the macroeconomic impact of tax policy changes. Despite the heated criticisms of official cost estimates from some pro-tax-cut ideologues, a virtual unanimity of economists holds that tax cuts do *not* pay for themselves. Moreover, most dynamic scoring estimates indicate that the conventional cost estimates are reasonably accurate; using dynamic scoring results in only relatively small changes in the estimates. As former CBO Director Rudolph Penner recently commented, "for a very long time, the Congress will have to be satisfied with static scoring. That is not so bad. The CBO's dynamic analysis suggests that static scoring is usually pretty accurate."[8]

Finally, it must be noted that to the degree that dynamic-scoring analyses by economists do differ modestly from conventional cost estimates of tax legislation, even the "sign" of this difference is ambiguous. Research tends to find that if reductions in income taxes are *not* paid for, the resulting increase in the national debt will hurt the economy more over the long term than the tax cuts otherwise will help it, so that the net long-term effect of the tax cuts on the economy is likely to be negative. Conversely, estimates of the long-term economic effects of tax *increases* generally produce results consistent with the conclusion that income tax-increases can improve long-term economic growth if the savings from the revenue-raising measures are used to reduce the debt.

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[7] An optimistic dynamic-scoring model developed by former CEA Chairman N. Gregory Mankiw and Matthew Weinzierl implies that the positive macroeconomic revenue effects of the dividend and capital gains tax cuts enacted in 2003 will reduce revenue losses (relative to the revenue losses that are projected under conventional cost estimates) by less than $5 billion in 2006. Measuring such a small effect with such noisy data is likely to be impossible.

More specifically, JCT estimated that the capital gains and dividends tax cuts enacted in 2003 would cost $23 billion in fiscal year 2006. The forecasting model developed by Mankiw and Weinzierl estimates that the positive macroeconomic effects of capital tax cuts offset 21 percent of their cost after five years, or less than $5 billion in this case. The Mankiw-Weinzierl model is "optimistic," because it assumes that tax cuts are financed by contemporaneous lump-sum tax increases or contemporaneous spending reductions. The model thus likely overstates the positive economic effects of the 2003 tax cuts, since those tax cuts have been financed with more borrowing — which reduces national savings and thus national income — rather than through budget cuts or tax increases.

[8] Rudolph Penner, "Dynamic Scoring: Not So Fast!" Tax Policy Center, April 21, 2006.