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BUSH'S FUZZY SURPLUSES

Tax cuts based on CBO's 10-year predictions are a gamble the economy can't risk

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Relying on a Congressional Budget Office (CBO) projection of a $5.6 trillion budget surplus, President Bush has proposed an aggressive $1.6 trillion tax cut as if the surplus had already filled the treasury's coffers. The CBO projections, though, are problematic because they are just that — rough guesses of what will happen in a hard-to-know future. The consequences of the tax cuts, on the other hand, are not at all uncertain. Such cuts are permanent changes in the tax code and mean permanent reductions in government revenue.

Budget projections are an art, not a science. The projections of a $3.1 trillion on-budget surplus over the next 10 years reflect a good faith estimate by CBO of what the world may look like. But, as is true of all predictions, CBO's contain a large amount of guesswork. Enacting permanent tax changes that will have the largest effect on the federal budget five to 10 years into the future, and that are based on uncertain predictions, is bad policy.

The CBO projections are risky for several reasons:

- Nobody knows the future. While it is reasonable to expect that future economic outcomes will reflect historic patterns, some of the crucial variables in projecting future outcomes for budget surpluses have widely fluctuated from one decade to another. Moreover, the degree of variability of CBO's forecast grows larger the further into the future CBO attempts to project. CBO acknowledges that the forecasts five to 10 years out, when most of the proposed tax cuts would occur, are less likely to become reality than the forecasts for a single year into the future.

- Rather than relying solely on historic averages to make assessments about future outcomes, CBO occasionally attempts to predict the future. For example, it assumes that the current slowdown will not turn into a recession. But CBO really doesn't know if a recession is imminent or not. Under a different scenario — say, one that resembled the pattern of the 1990s of recession, slow growth, and then fast growth — the

predicted surplus could be $1 trillion lower than predicted. Even more troubling is CBO's attempt to predict what will happen in the stock market: it implicitly assumes that stock prices will return to the high levels they attained before the recent correction.

- CBO does not have a well-established, time-tested history for making such projections, having issued such reports only since 1981. There just isn't enough statistical history to judge the probable accuracy of the CBO forecasts.

Uncertainty of 10-year outcomes

Forecasting economic outcomes depends on simplified assumptions that may or may not come true. Like a weather forecast, CBO's projections are valuable as rough guidelines for what the immediate future may look like, but they become increasingly unreliable in the long run.

One important assumption in the CBO projections illustrates the risks. CBO assumes that GDP growth will average 3.0% over the next 10 years. This is not widely off the mark when compared to long-term experience, but since 1959 the actual average growth rates over any 10-year period have fluctuated between a low of 1.95% (1973-83) and a high of 4.4% (1963-73). Given these historical fluctuations, growth may very well be below the assumed 3.0%. In fact, there is a nearly one-in-two chance that growth will average only 2.7%, instead of 3.0%, over the next 10 years.

With slower average growth, the surplus would also become significantly smaller. CBO estimates that with each drop in average growth of 0.1 percentage points, the cumulative surplus will be $245 billion lower. Consequently, average growth of 2.7% for the next 10 years means more than $700 billion less in surpluses.

Crystal ball forecasts for the stock market, the economy, and innovation

CBO's forecasts do not rely solely on past averages in predicting the future. Instead, the CBO has decided that some specific events will be more likely to occur than others. For instance, it predicts that the productivity boom of the last five years that resulted from increased investment in software and computers is a permanent addition to the economy. Also, it anticipates that today's economic slowdown will not turn into an all-out recession. And, finally, CBO forecasts that stock market growth will slow and then accelerate in the second half of the 10-year prediction period.

Other economic assumptions about inflation, unemployment, and growth depend crucially on the continuation of the productivity boom, which is largely based on investment in computers. However, by all accounts, it is too early to tell whether the so-called "new economy" has brought long-lasting, strong productivity growth of 2.7% in the non-farm business sector. If labor productivity amounts to only 2.2% (the average growth since the last business-cycle peak in the third quarter of 1990), GDP growth would amount only to 2.5% for the next 10 years[1] and the surpluses would be roughly $1.2 trillion lower.

In addition, CBO admits that "[a] major risk to CBO's short-term forecast is that consumers and businesses will curtail their spending much more than CBO assumes, leading to a recession this year" (CBO 2001a). But CBO does not include this possibility among its assumptions. Instead, it projects that the economy will grow by 2.4% in 2001 and, after regaining steam, by 3.4% in 2002. Yet, if a recession or a prolonged slowdown does occur, CBO's surplus projections will prove to be overly optimistic.

One factor that would mitigate a worse-than-projected slowdown is income growth. CBO argues that low unemployment and continuous real wage growth will help the U.S. economy regain its footing. So to compensate for tighter credit standards and the loss of the wealth effect, wage growth will have to accelerate (or unemployment will

have to fall further). Quarterly real wage growth, though, for all wage and salaried workers is already slowing, from a high of above 2.0% during 1998 and most of 1999 to 1.8% in 2000.

With real wage growth slowly falling, there is a good chance that real GDP growth will be lower than CBO predicts. To determine what this means for the surplus, assume that GDP grows at 2.0% for the next five years, and then grows at 3.3% (the average for all five-year periods) for the second five years (2006-11).[2] GDP growth for the next 10 years would then average 2.6% instead of the 3.0% that CBO assumes, implying a loss of about $1 trillion in projected surpluses.

The CBO projections also rely on a forecast of stock market performance for the next 10 years, which is obviously an extremely difficult prediction to make. It assumes realized capital gains (the difference between the purchase price and the sales price of an asset) of more than 4.0% of GDP between 2002 and 2011, an average considerably higher than the 3.0% of GDP experienced between 1954 and 2000.

Realized capital gains rise and fall with the stock market.[3] And so CBO's assumption that realized capital gains will rise again between 2006 and 2011 means that it is predicting the stock market's performance during that period.

CBO's stock market predictions seem optimistic. By all accounts, the stock market was overvalued in the late 1990s (Baker 1996; Diamond 1999; IMF 1998). Consequently, the decline in the stock market in 2000 and 2001 seems to be a long-awaited correction. The market value of all outstanding shares declined by 12.3%—or $2.4 trillion—from the end of 1999 to the end of 2000. For the household sector, which pays most of the capital gains taxes, equity holdings fell by 24.8% during the same period. For realized capital gains to regain levels close to those of previous years, CBO has to assume that the stock market will grow at above-average rates again. It seems at least as reasonable to assume that the stock market will grow at average historic rates, in which case capital gains realizations will also be at average historic levels relative to GDP—that is, 3.0% rather than the more than 4.0% of GDP that CBO assumes. Consequently, total tax revenues would be about $311 billion lower than projected.

Limited experience with economic forecasts

Economic forecasts, such as the CBO projections, serve a useful purpose. They give policy makers a rough indication of how an economy would react to changes in the underlying economic fundamentals. They cannot, however, be relied on as exact predictions of what the future will look like.

To account for the uncertainty associated with a specific projection, forecasters also give policy makers a worst-case and a best-case scenario. Hence, CBO shows a pessimistic and an optimistic scenario in addition to its main, or baseline, projection. Under the pessimistic scenario, for instance, the federal budget would show a deficit as early as 2004, and the total on-budget deficit would amount to $525 billion by 2011.

CBO also provides an indication of which scenarios are more likely to occur than others. According to its report, there is a 50% chance that the economy will do as well as the baseline scenario or even better. But there is also a 50% chance that reality will be worse than the baseline scenario.

While attaching probabilities to an outcome gives them an air of scientific solidity, this is misleading. To know how well it does in predicting the future, CBO itself compares its past projections with actual outcomes. Since 1981, CBO has made 19 one-year predictions and 14 five-year predictions. From these comparisons, CBO calculates how much it has been off on average.

There is one technical problem with this calculation, however. In using this prediction-error analysis to calculate the chance of being wrong in the future, CBO makes some simplifying assumptions about the probability distribution of its past forecasts. Most importantly, CBO assumes that the error in the forecast does not necessarily grow as the timeline

of the forecast is extended. Or, as CBO itself asserts, "the estimated uncertainty of CBO's five-year-ahead projection errors would be considerably larger than reported here" if the error in forecasting would grow with the projection horizon (2001b). When it comes to 10-year forecasts, the CBO's experience yields only nine comparisons, which is too few, by its own account, to provide any useful basis for predicting the accuracy of its 10-year projections.

Given this limited experience, CBO's conclusions about the accuracy of its own forecasts is suspect. In fact, history shows that CBO has consistently overestimated surpluses or underestimated deficits. The chance that the actual surpluses will be less than CBO's baseline scenario may well be greater than 50%.

Conclusion

In the end, budget projections are only well-educated guesses about what the economy may look like under one set of simplified assumptions. Since the budget surpluses forecast in this way may or may not materialize, to treat these surpluses as if they were real and allocate them almost entirely to permanent tax cuts is irresponsible. And since the uncertainty of the budget surpluses grows the further into the future they are projected, a proposal that back ends the biggest cuts seems even more questionable.

Instead, policy makers should focus on the most pressing needs and allocate what can be reasonably assumed to be available within the next few years. Thus, responsible budget policy allows for a temporary tax cut or increases in public spending to stimulate the economy, but not for a permanent reduction in tax revenue.

Technical notes

A simple regression model reveals that realized capital gains are determined by the contemporaneous equity holdings by households. (Capital gains realizations are not significantly determined by lagged values of stock market valuation, which have consequently been deleted. Results, though, are available from the author.) To check the sensitivity of capital gains relative to equity holdings, the log natural value of capital gains were regressed on the contemporaneous log natural of household equity holdings. The results are as follows:

$$\ln(CapitalGains)_t = \underset{(1.10)}{-4.98***} + \underset{(0.08)}{1.16***} \ln(Equity)_t + \varepsilon$$

where Capital Gains are the total realized capital gains, and Equity is the direct equity holdings by households at the end of each period. The standard deviations of the parameters are in brackets. The regression results indicate that a 1% increase in household equity holdings results in a 1.2% increase in realized capital gains.

Endnotes

1. The fact that GDP growth is substantially lower with the same productivity growth as during the 1990s results from CBO's assumption that unemployment will rise to an average of 5.0% during the next 10 years.

2. There is no reason to believe that five years of weak growth are more likely to be followed by five years of strong growth. We calculate first the deviation of each five-year average growth from the overall average for all five-year periods. Then we calculate the correlation coefficient for the deviation of any given five-year period with that of the subsequent five-year period. The correlation coefficient is negative, but rather low with -0.35.

3. See the technical notes section for further details.

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