



CONGRESSIONAL BUDGET OFFICE
U.S. Congress
Washington, DC 20515

February 23, 2006

Honorable Charles E. Grassley
Chairman
Committee on Finance
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

I am pleased to respond to your letter of February 10, 2006, inquiring about recent changes in the Congressional Budget Office's (CBO's) modeling assumptions and methods for projecting capital gains realizations. As reported in CBO's *The Budget and Economic Outlook: Fiscal Years 2007 to 2016*, released in January, capital gains realizations in calendar year 2004 appear to have been much stronger than had previously been projected. To help put those realizations into perspective, this letter summarizes recent data on capital gains realizations, describes the methods that CBO uses to project such realizations, and discusses several improvements in those methods made in recent years. Despite those efforts, however, the accurate forecasting of capital gains realizations—which are highly volatile—continues to be extremely difficult.

Recent Capital Gains Realizations and Tax Receipts

The attached table shows capital gains tax rates, realizations, tax liabilities, and tax receipts since 1990. Data on capital gains realizations and taxes on those gains become available only with significant lags. Final information about realizations, which comes from tax returns, is now available only through 2003. Tax liabilities and receipts for 2003 as well as all tax-return information for 2004 are preliminary; that information does not include data from some late returns and is based on returns that have been compiled but that have not yet been edited. Values for 2005 are projected; actual data for that year will not be available until the Internal Revenue Service (IRS) receives and reviews the tax returns that will be filed this year. On the basis of CBO's extrapolation of the available data for 2004, it appears that realizations increased by about 80 percent from 2002 to 2004.

Actual and Projected Capital Gains Realizations and Taxes

	Top Statutory Tax Rate on Long-Term Gains	Realizations ^a		Liabilities ^b		Receipts ^c	
		In Billions of Dollars	As a Percentage Change from Previous Year	In Billions of Dollars	As a Percentage Change from Previous Year	In Billions of Dollars	As a Percentage Change from Previous Year
1990	28	124	-20	28	-21	32	-14
1991	28	112	-10	25	-11	27	-17
1992	28	127	14	29	16	27	1
1993	28	152	20	36	25	32	20
1994	28	153	0	36	0	36	12
1995	28	180	18	44	22	40	10
1996	28	261	45	66	50	54	36
1997	28/20	365	40	79	19	72	33
1998	20	455	25	89	12	84	16
1999	20	553	22	112	26	99	19
2000	20	644	16	127	14	119	20
2001	20	349	-46	66	-48	100	-16
2002	20	269	-23	49 _d	-25	58 _d	-41
2003	20/15	323 _e	20	51 _d	4	50 _d	-14
2004	15	479 _f	48	71 _f	39	60 _f	20
2005	15	539	13	80	13	75	25

Sources: Congressional Budget Office; Department of the Treasury, Internal Revenue Service.

Note: The Taxpayer Relief Act of 1997 lowered the top statutory tax rate on long-term capital gains from 28 percent to 20 percent, effective in May 1997. The Jobs and Growth Tax Relief Reconciliation Act of 2003 further lowered that rate to 15 percent, effective in May 2003.

- a. Realizations, by calendar year, represent net positive long-term gains.
- b. Liabilities, by calendar year, are computed by the Treasury and CBO from a sample of tax returns.
- c. Receipts, by fiscal year, reflect CBO's estimate of when taxes are paid.
- d. Preliminary.
- e. Based on incomplete and unedited tax returns. Edited returns could report slightly higher realizations.
- f. Projected.

In January 2005, CBO expected that realizations in calendar year 2004 would be \$381 billion. On the basis of preliminary data from the IRS, CBO now estimates that realizations in calendar year 2004 were \$479 billion. Realizations in 2004 were thus \$98 billion higher than CBO had previously anticipated. In CBO's estimation, that unexpected rise in 2004 realizations (together with a revised estimate for calendar year 2005) added about \$19 billion in tax receipts for fiscal year 2005.

CBO has not systematically underestimated realizations after reductions in capital gains tax rates. In 2003, the Jobs and Growth Tax Relief Reconciliation Act (JGTRRA) cut capital gains tax rates to 15 percent, and realizations consequently increased. Combining CBO's baseline before the law's enactment with the Joint Committee on Taxation's (JCT's) revenue estimate for JGTRRA produces an estimate of capital gains receipts of \$53 billion.¹ Actual receipts for that year now appear to be \$51 billion. In 1997, when the top tax rate on long-term gains was cut from 28 percent to 20 percent, CBO projected higher realizations than actually occurred.

Those experiences point out an important lesson: projections of a revenue source characterized by high volatility are bound to be uncertain. Moreover, much of that volatility seems unrelated to changes in capital gains tax rates. CBO, however, has explored many avenues to improve the accuracy of its capital gains projections.

How CBO Projects Capital Gains Realizations

In constructing the annual budget baseline, it is CBO's responsibility to project revenue that would accrue to the federal government under current law. (JCT is responsible for estimating the effects of legislative proposals.) To estimate baseline revenues, CBO projects capital gains realizations, tax liabilities, and tax receipts. In doing so, it uses methods designed to explain past gains; that is, taxpayer responses to tax rate changes are estimated in conjunction with the effects of other economic factors that help explain historical changes in realizations. Information derived from those methods is used to estimate the degree to which gains can be expected to change from the levels most recently recorded.

When CBO prepares its *Budget and Economic Outlook* each January, no information is available on the level of realizations for the year just ended, and only preliminary, incomplete data are available for the year before that. CBO thus projects capital gains in two parts: it estimates

1. In its *Outlook* report issued in January 2003 in advance of JGTRRA's reductions in capital gains tax rates (which would become effective in May of that year), CBO's baseline projection of receipts from gains for fiscal year 2003 was \$54 billion. JCT subsequently estimated that if the act became law, it would lower gains receipts in that year by \$1 billion.

realizations for the year just finished using one method and then separately projects realizations for subsequent years using a second method.²

CBO estimates the change in realizations for the year just ended on the basis of information on the growth of the economy, state of the business cycle, changes in equity values, a measure of real estate market activity, and the tax rate on gains. Regression equations based on data from the 1950s to the present determine the relationship between the variables and the change in gains. The change in realizations estimated by the models is added to or subtracted from the best available estimate of realizations from tax-return data for the previous year. Since those data are not complete (primarily because of the late filing of some returns), realizations for that year are approximated by using the percentage of gains typically reported by that time of year.

Because stock market and other asset levels cannot be reliably predicted, CBO cannot use that same approach for subsequent years in the projection. Instead, CBO relies on its forecast of growth in economic output (gross domestic product, or GDP) and the historical tendency of gains to follow that growth. Thus, another equation is used to estimate the typical level of realizations relative to GDP, given the tax rate on gains (the lower the rate, the higher the ratio of gains to overall economic activity). Realizations from the most recent year are assumed to revert to that ratio steadily over the baseline period of 10 years—a method that causes estimated realizations to grow at rates approaching the forecast for GDP. The projections are further modified to take into account any changes in tax rates scheduled to occur over the period.

In analyzing the relationship between capital gains tax rates and capital gains realizations, it is important to distinguish between the temporary and permanent effects of tax rate changes. Investors can generally choose when to realize their gains; if they believe that tax rates will change in the future, they may try to time their realizations to occur during a period with lower tax rates. As a result of such timing decisions, capital gains realizations may increase shortly before scheduled tax increases or after tax reductions. Similarly, realizations may temporarily decline before scheduled tax reductions and after tax increases. Such timing effects are, by their nature, temporary. Over longer periods, the pace of capital gains realizations is also influenced by capital gains tax rates; realizations are higher when tax rates are lower.

In developing its projection methods, CBO has tested a variety of modeling strategies, employed the assistance of outside experts, and consulted widely with other professional revenue estimators.³ As a result of those efforts, CBO's projections models are well tested and thoroughly reviewed. Yet the inherent volatility of gains realizations means that CBO's projections are still subject to substantial uncertainty.

2. For additional detail on CBO's modeling approach, see Congressional Budget Office, *Description of Models and Methods for Projecting Federal Revenues* (May 2001). Several improvements to that approach are discussed later in this letter.

3. See Congressional Budget Office, *Estimating and Forecasting Capital Gains with Quarterly Models*, Technical Paper 2004-14 (September 2004) and *Forecasting Capital Gains Realizations*, Technical Paper 2000-5 (August 2000).

Capital gains realizations shift dramatically from year to year. For example, in 1954, 1979, and 1996, gains grew by 45 percent; in 2001, they fell by 46 percent. An important reason for such volatility is that realizations depend on both household decisions about the amount of assets to sell in a given year and the underlying accrual of capital gains in those assets. Both those factors, in turn, are influenced by changes in asset prices, individual circumstances, and capital gains tax rates (both current and anticipated). The substantial volatility in capital gains realizations makes it difficult to accurately project gains or discern from historical realizations how much taxpayers respond to changes in capital gains tax rates as distinct from their responses to other factors that influence realizations. For example, substantial increases in gains of 40 percent, 25 percent, and 21 percent occurred in the years immediately following the rate reduction enacted in 1997. Those increases might suggest a large behavioral response to the tax rate cut—except that realizations also increased by 45 percent in 1996, before the rate cut. Thus, changes in realizations are not necessarily the result of changes in taxes; other factors matter as well.

Recent Changes in CBO's Assumptions and Methods for Projecting Capital Gains Realizations

CBO regularly makes two kinds of changes to its models for projecting capital gains realizations. First, we continually update existing models with new data as they become available. Second, we experiment with new specifications and adjustments designed to improve the underlying methods. In addition, we research substantially different methods of making projections and compare their performance with our current methodology.

- **Additional data.** CBO's models are now based on final data on realizations through 2003 and preliminary data (from incomplete and unedited tax returns) through 2004. With the addition of those data, the models indicate that capital gains realizations are somewhat more responsive to tax changes than CBO had previously estimated. For example, in the January 2004 baseline (which was based on tax data through 2002), CBO projected that the capital gains tax reduction in JGTRRA would cause gains to grow by 14.9 percent between 2002 and 2004. The models used in preparing the January 2006 baseline (based on tax data through 2004), however, estimated that the tax reductions in JGTRRA caused gains to increase by 18.0 percent between 2002 and 2004.
- **Incremental model change.** As noted earlier, CBO's projections model uses measures of the strength of the housing market and the state of the business cycle (along with other variables) to estimate capital gains realizations in the year just ending. In recent work, we found that a measure of investment activity could be substituted for and perform as well as the business cycle and housing market variables in the model. CBO now uses a combination of both specifications of the estimating model.
- **Adjustment of results for carryover of past losses.** Investors sometimes realize more capital losses than they can use to offset other gains or other forms of income in a particular year. The tax code allows investors to carry those losses forward to subsequent years and use

them to offset future realized gains. In the wake of the poor performance of the stock market and the very low levels of realizations in 2001 to 2003, taxpayers began carrying forward unprecedented amounts of losses that could be used to reduce net taxable gains in later years. To take that phenomenon into account, CBO began to estimate separately the reserve of capital losses that might be available to offset gains in future years. We adjusted our estimates of net gains to reflect that information.

- **Alternative estimating methods.** CBO continues to explore other techniques that might eventually lead to refinements in our estimating approaches. For example, CBO has examined whether a specific statistical technique (Bayesian vector autoregression) might do a better job of projecting capital gains realizations over longer periods than does our current method of assuming that the ratio of realizations to GDP returns to its tax-rate-adjusted long-run average.⁴ CBO will continue to explore this and other ways of improving CBO's projections of capital gains realizations.

Conclusion

CBO has updated its latest models with available data through 2004. Those models, which incorporate changes in the tax rate, fall well short of explaining the surge in realizations that occurred in 2004. Roughly half of the growth in realizations between 2003 and 2004 remains unexplained. After examining the historical record, including that for 2004, we cannot conclude that the unexplained increase is attributable to the change in capital gains tax rates. Volatility in gains can stem from other factors, such as changes in asset values, investor decisions, or broader economic trends.

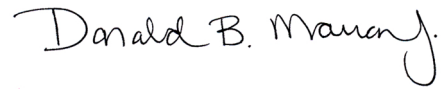
CBO will continue to refine its modeling in the light of newly available statistical methods and more recent tax-return information. Years such as 2004, for which current models substantially underestimate gains, present a particular challenge and are a focus for future research on capital gains.

4. See Congressional Budget Office, *Testing Alternative Methods for Forecasting Capital Gains*, Working Paper 2005-03 (March 2005).

Honorable Charles E. Grassley
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I will be happy to answer additional questions about the issues raised in your letter. The staff contact is Tom Woodward (226-2687).

Sincerely,

A handwritten signature in black ink that reads "Donald B. Marron". The signature is written in a cursive style with a large, looping 'M' at the end.

Donald B. Marron
Acting Director

cc: Honorable Max Baucus
Ranking Democratic Member

Honorable William "Bill" Thomas
Chairman
Committee on Ways and Means

Honorable Charles Rangel
Ranking Democratic Member