June 30, 2009

Honorable Paul Ryan<br>Ranking Member<br>Committee on the Budget<br>U.S. House of Representatives<br>Washington, DC 20515

## Dear Congressman:

As you requested, the Congressional Budget Office (CBO) has analyzed the impact of the three interest rate scenarios that you specified on deficits and debt held by the public. We have compiled such deficit and debt estimates relative to projections presented in the Analysis of the President's Budgetary Proposals for Fiscal Year 2010 (published in May 2009). The three interest rate paths assumed, which are shown in Table 1, are:

1. The rate on 10 -year Treasury notes would average 3.75 percent for calendar year 2009 and all interest rates would rise after 2009 such that the rate on 10year notes would approximate its average level over the 1991-2000 period (6.6 percent).
2. The rate on 10 -year Treasury notes would average 3.75 percent for calendar year 2009 and all interest rates would rise after 2009 such that the rate on 10year notes would approximate its average level over the 1981-1990 period (10.5 percent).
3. Interest rates would follow a path that is consistent with the average of the top 10 projections of the most recent Blue Chip economic forecast. That average for the latter part of the period is 6.4 percent for 10-year notes.

CBO calculated 3-month interest rates consistent with the assumptions specified for 10-year rates. For scenarios 1 and 2, CBO used the average 3month and 10-year interest rates during the 1990s and 1980s, respectively, to determine the steady-state levels for the latter part of the projection period. CBO assumed that rates would steadily rise-by no more than 2 percentage points a year—until they reached the specified average levels

## Honorable Paul Ryan

Page 2
and then remain constant through 2019. Scenario 3 uses the rates contained in the June 2009 Blue Chip economic forecast for 2009 and 2010; the projections for 2011 through 2019 come from the March 2009 Blue Chip report. Other interest rates necessary to calculate federal interest payments were interpolated using an econometric model.

Under each scenario, interest costs would be higher than CBO estimated in its analysis of the President's budget (see Table 2). The effects would be minimal for 2009, but between 2010 and 2019 interest payments in under both scenarios 1 and 3 would be about $\$ 1.3$ trillion higher; in scenario 2, interest payments would be $\$ 5.6$ trillion higher. The cumulative deficit and debt held by the public at the end of the 10-year period would rise by slightly smaller amounts. A small portion of the additional interest payments would be offset by larger remittances by the Federal Reserve on its earnings from holding Treasury securities.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Jared Brewster, who can be reached at 2262880.

Sincerely,


## Enclosure

cc: Honorable John M. Spratt Jr.
Chairman

Table 1.
CBO's Estimate of the Treasury Interest Rate Scenarios Requested by Congressman Ryan
(Percent by Fiscal Year)

| 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## 3-Month Bill Rates

| CBO's Baseline | 0.3 | 0.8 | 1.6 | 2.7 | 3.7 | 4.4 | 4.6 | 4.7 | 4.7 | 4.8 | 4.8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Scenario 1 | 0.4 | 1.6 | 3.1 | 4.3 | 4.9 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Scenario 2 | 0.4 | 1.6 | 3.1 | 5.0 | 7.0 | 8.6 | 8.9 | 8.9 | 8.9 | 8.9 | 8.9 |
| Scenario 3 | 0.4 | 1.3 | 3.4 | 4.4 | 4.8 | 5.1 | 5.2 | 5.1 | 5.0 | 5.0 | 5.0 |
| 10-Year Note Rates |  |  |  |  |  |  |  |  |  |  |  |
| CBO's Baseline | 2.9 | 3.3 | 3.9 | 4.5 | 4.9 | 5.2 | 5.4 | 5.5 | 5.6 | 5.6 | 5.6 |
| Scenario 1 | 3.6 | 4.3 | 5.3 | 6.1 | 6.5 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 |
| Scenario 2 | 3.6 | 5.1 | 7.0 | 9.0 | 10.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| Scenario 3 | 3.4 | 4.4 | 5.2 | 5.8 | 6.2 | 6.6 | 6.6 | 6.5 | 6.4 | 6.4 | 6.4 |

Source: Congressional Budget Office.
Note: Scenarios 1, 2, 3 were specified by Congressman Ryan as alternatives to the CBO baseline projections.

Table 2.
Effect of Interest Rate Scenarios Requested by Congressman Ryan on CBO's Estimate of the President's Budget
(Billions of Dollars by Fiscal Year)


| Effect on the Deficit |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Revenues | * | 2 | 7 | 8 | 8 | 8 | 8 | 7 | 6 | 6 | 5 | 33 | 66 |
| Interest |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Rate Effect | 5 | 36 | 78 | 113 | 124 | 116 | 113 | 115 | 111 | 107 | 111 | 466 | 1,023 |
| Debt Service | * | $\underline{1}$ | $\underline{3}$ | 8 | 16 | $\underline{24}$ | $\underline{33}$ | 41 | $\underline{50}$ | $\underline{60}$ | $\underline{69}$ | $\underline{52}$ | 305 |
| Subtotal, interest | 5 | 36 | 81 | 121 | 140 | 140 | 145 | 156 | 162 | 167 | 180 | 518 | 1,328 |
| Total Effect on the Deficit ${ }^{\text {a }}$ | -5 | -34 | -74 | -113 | -132 | -132 | -137 | -149 | -155 | -161 | -175 | -485 | -1,262 |
| Total Deficit Under Scenario 1 | -1,830 | -1,467 | -1,048 | -746 | -779 | -858 | -901 | -1,022 | -1,083 | -1,160 | -1,338 | -4,897 | -10,401 |
| Debt Held by the Public at the End of the Year Under Scenario 1 <br> $7,972 \quad 9,391 \quad 10,44211,29312,11413,081 ~ 14,07715,18716,35216,97918,393 \quad$ n.a. n.a. |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Scenario 2: Interest Rates Similar to Rates that Occurred Between 1981 and 1990

| Effect on the Deficit |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Revenues | * | 5 | 8 | 13 | 19 | 29 | 36 | 40 | 42 | 44 | 45 | 74 | 281 |
| Interest |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Rate Effect | 5 | 40 | 101 | 182 | 286 | 370 | 496 | 556 | 608 | 647 | 694 | 979 | 3,980 |
| Debt Service | * | $\underline{1}$ | 4 | $\underline{14}$ | $\underline{38}$ | 79 | 135 | 205 | $\underline{286}$ | 380 | 488 | 136 | 1,629 |
| Subtotal, interest | 5 | 41 | 105 | 196 | 324 | 449 | 631 | 760 | 894 | 1,027 | 1,182 | 1,115 | 5,609 |
| Total Effect on the Deficit ${ }^{\text {a }}$ | -5 | -36 | -97 | -183 | -305 | -421 | -595 | -720 | -851 | -983 | $-1,137$ | -1,041 | -5,328 |
| Total Deficit Under Scenario 2 | -1,829 | -1,468 | -1,071 | -816 | -951 | -1,147 | -1,359 | -1,594 | -1,779 | -1,983 | -2,300 | -5,454 | -14,467 |
| Debt Held by the Public at the End of the Year Under Scenario 2 | 7,972 | 9,393 | 10,467 | 1,388 | 2,382 | 13,637 | 15,091 | 16,773 | 18,634 | 20,083 | 22,459 | n.a. | n. |

Scenario 3: Interest Rates Similar to the Blue Chip Economic Forecast ${ }^{\text {b }}$

| Effect on the Deficit |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Revenues | * | 2 | 7 | 8 | 8 | 8 | 8 | 7 | 6 | 6 | 5 | 33 | 66 |
| Interest |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Rate Effect | 4 | 27 | 77 | 117 | 115 | 110 | 118 | 114 | 103 | 98 | 100 | 446 | 979 |
| Debt Service | * | * | $\underline{3}$ | 8 | 15 | $\underline{23}$ | $\underline{32}$ | 40 | $\underline{49}$ | $\underline{57}$ | $\underline{66}$ | $\underline{49}$ | $\underline{293}$ |
| Subtotal, interest | 4 | 27 | 80 | 124 | 130 | 133 | 150 | 155 | 151 | 155 | 166 | 495 | 1,272 |
| Total Effect on the Deficit ${ }^{\text {a }}$ | -4 | -25 | -73 | -117 | -122 | -125 | -142 | -147 | -145 | -149 | -161 | -462 | -1,206 |
| Total Deficit Under Scenario 3 | -1,829 | -1,458 | -1,047 | -750 | -769 | -851 | -905 | -1,021 | -1,072 | -1,148 | $-1,323$ | -4,875 | -10,345 |
| Debt Held by the Public at the End of the Year Under Scenario 3 | 7,971 | 9,381 | 10,432 | 11,287 | 12,098 | 13,057 | 14,058 | 15,167 | 16,322 | 16,936 | 18,336 | n.a. | n.a. |
| Memorandum: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Deficit Under the President's Proposals ${ }^{\text {c }}$ | -1,825 | -1,432 | -974 | -633 | -647 | -726 | -763 | -873 | -927 | -999 | -1,163 | -4,413 | -9,139 |
| Debt Held by the Public at the End of the Year Under the President's Proposals ${ }^{\text {c }}$ | 7,967 | 9,352 | 10,329 | 11,067 | 11,756 | 12,591 | 13,450 | 14,411 | 15,421 | 15,887 | 17,126 | n.a. | n.a. |

Source: Congressional Budget Office.
Note: * = between zero and $\$ 500$ million.
a. Negative numbers indicate an increase relative to the deficit estimated under the President's budgetary policies.
b. Based on the 10 highest interest rate projections in the Blue Chip economic forecasts of March 2009 and June 2009.
c. As reported in CBO's An Analysis of the President's Budget Proposals for Fiscal Year 2010 (June 2009).

