February 11, 2009

Honorable Judd Gregg
Ranking Member
Committee on the Budget
United States Senate
Washington, DC 20510

Dear Senator:

At your request, the Congressional Budget Office (CBO) has prepared a year-by-year analysis of the economic effects of pending stimulus legislation. This analysis is based on an average of the effects of two versions of H.R. 1—as passed by the House and as passed by the Senate. (The economic effects of those two bills are broadly similar.)

Short-Run Effects

The macroeconomic impacts of any economic stimulus program are very uncertain. Economic theories differ in their predictions about the effectiveness of stimulus. Furthermore, large fiscal stimulus is rarely attempted, so it is difficult to distinguish among alternative estimates of how large the macroeconomic effects would be. For those reasons, some economists remain skeptical that there would be any significant effects, while others expect very large ones.

CBO has developed a range of estimates of the effects of stimulus legislation on gross domestic product (GDP) and employment that encompasses a majority of economists' views. By CBO's estimation, in the short run the stimulus legislation would raise GDP and increase employment by adding to aggregate demand and thereby boosting the utilization of labor and capital that would otherwise be unused because the economy is in recession. Most of the budgetary effects of the legislation would occur over the next few years, and as those effects diminished the short-run impact on the economy would fade.

Long-Run Effects

In the long run, the economy produces close to its potential output on average, and that potential level is determined by the stock of productive capital, the supply of labor, and productivity. Short-run stimulative policies can affect long-run output by influencing those three factors, although such effects would generally be smaller than the short-run impact of those policies on demand.

In contrast to its positive near-term macroeconomic effects, the legislation would reduce output slightly in the long run, CBO estimates, as would other similar proposals. The principal channel for this effect is that the legislation would result in an increase in government debt. To the extent that people hold their wealth as government bonds rather than in a form that can be used to finance private investment, the increased debt would tend to reduce the stock of productive private capital. In economic parlance, the debt would "crowd out" private investment. (Crowding out is unlikely to occur in the short run under current conditions, because most firms are lowering investment in response to reduced demand, which stimulus can offset in part.) CBO's basic assumption is that, in the long run, each dollar of additional debt crowds out about a third of a dollar's worth of private domestic capital (with the remainder of the rise in debt offset by increases in private saving and inflows of foreign capital). Because of uncertainty about the degree of crowding out, however, CBO has incorporated both more and less crowding out into its range of estimates of the long-run effects of the stimulus legislation.

The crowding-out effect would be offset somewhat by other factors. Some of the legislation's provisions, such as funding for improvements to roads and highways, might add to the economy's potential output in much the same way that private capital investment does. Other provisions, such as funding for grants to increase access to college education, could raise long-term productivity by enhancing people's skills. And some provisions would create incentives for increased private investment. According to CBO's estimates, provisions that could add to long-term output account for between one-fifth and one-quarter of the legislation's budgetary cost.

The effect of individual provisions could vary greatly. For example, increased spending for basic research and education might affect output only after a number of years, but once those investments began to boost GDP, they might pay off over more years than would the average investment in physical capital (in economic terms, they have a low rate of depreciation). Therefore, in any one year, their contribution to output might be less than that of the average private investment, even if their overall contribution to productivity over their lifetime was just as high. Moreover, although some carefully chosen government investments might be as productive as private investment, other government projects would probably fall well short of that benchmark, particularly in an environment in which rapid spending is a significant goal. The response of state and local governments that received federal stimulus grants would also affect their long-run impact; those governments might apply some of that money to investments they would have carried out anyway, thus lowering the long-run economic return on those grants. In order to encompass a wide range of potential effects, CBO used two assumptions in developing its estimates: first, that all of the relevant investments together would, on average, add as much to output as would a comparable amount of private investment, and second, that they would, on average, not add to output at all.

In principle, the legislation's long-run impact on output also would depend on whether it permanently changed incentives to work or save. However, according to CBO's

estimates, the legislation would not have any significant permanent effects on those incentives.
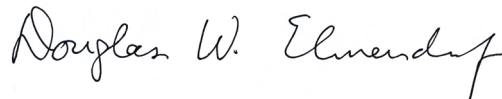
Net Effects on Output and Employment

Taking all of the short- and long-run effects into account, CBO estimates that the legislation implies an increase in GDP relative to the agency's baseline forecast of between 1.4 percent and 3.8 percent by the fourth quarter of 2009, between 1.1 percent and 3.3 percent by the fourth quarter of 2010, between 0.4 percent and 1.3 percent by the fourth quarter of 2011, and declining amounts in later years (see Table 1). Beyond 2014, the legislation is estimated to reduce GDP by between zero and 0.2 percent. This long-run effect is slightly smaller than CBO estimated in its preliminary analysis of the Senate stimulus legislation last week due to refinements in our methodology.

Correspondingly, the legislation would increase employment by 0.8 million to 2.3 million by the fourth quarter of 2009, by 1.2 million to 3.6 million by the fourth quarter of 2010, by 0.6 million to 1.9 million by the fourth quarter of 2011, and by declining numbers in later years. The effect on employment is never estimated to be negative, despite lower GDP in later years, because CBO expects that the U.S. labor market will be at nearly full employment in the long run. The reduction in GDP is therefore estimated to be reflected in lower wages rather than lower employment, as workers will be less productive because the capital stock is smaller.

I hope this information is helpful to you. If you have any further questions, I would be glad to answer them. The staff contacts for the analysis are Ben Page and Robert Arnold, who may be reached at (202) 226-2750.

Sincerely,

Douglas W. Elmendorf
Director

Identical letters sent to the Honorable Dave Camp and the Honorable Charles E. Grassley.

cc: Honorable Kent Conrad   Honorable Paul Ryan
    Chairman   Ranking Member
    Senate Committee on the Budget   House Committee on the Budget

    Honorable John M. Spratt   Honorable Daniel K. Inouye
    Chairman   Chairman
    House Committee on the Budget   Senate Committee on Appropriations

Honorable David R. Obey
Chairman
House Committee on Appropriations

Honorable Jerry Lewis
Ranking Member
House Committee on Appropriations

Honorable Thad Cochran
Vice Chairman
Senate Committee on Appropriations

Table 1.

Estimated Macroeconomic Impacts of a Stimulus Package (Average of House-Passed and Senate-Passed Versions of H.R.1), Fourth Quarters of Calendar Years 2009 Through 2019

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Real GDP (Percentage change from baseline)											
Low estimate of effect of plan	1.4	1.1	0.4	0.1	0.0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2
High estimate of effect of plan	3.8	3.3	1.3	0.7	0.4	0.3	0.0	0.0	0.0	0.0	0.0
GDP Gap[a] (Percent)											
Baseline	-7.4	-6.3	-4.1	-2.2	-0.7	-0.1	0.0	0.0	0.0	0.0	0.0
Low estimate of effect of plan	-6.2	-5.3	-3.7	-2.0	-0.6	-0.1	0.0	0.0	0.0	0.0	0.0
High estimate of effect of plan	-3.9	-3.2	-2.9	-1.7	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
Unemployment Rate (Percent)											
Baseline	9.0	8.7	7.5	6.4	5.5	5.0	4.8	4.8	4.8	4.8	4.8
Low estimate of effect of plan	8.5	8.1	7.2	6.3	5.4	5.0	4.8	4.8	4.8	4.8	4.8
High estimate of effect of plan	7.7	6.8	6.5	6.0	5.3	4.9	4.8	4.8	4.8	4.8	4.8
Employment (Millions of jobs)											
Baseline	141.6	143.3	146.2	149.3	152.1	153.9	154.9	155.7	156.4	157.0	157.7
Low estimate of effect of plan	142.4	144.5	146.8	149.6	152.2	154.0	154.9	155.7	156.4	157.0	157.7
High estimate of effect of plan	143.9	146.9	148.1	150.1	152.5	154.2	154.9	155.7	156.4	157.0	157.7

Source: Congressional Budget Office.

a. Real GDP is gross domestic product, excluding the effects of inflation. The GDP gap is the percentage difference between gross domestic product and CBO's estimate of potential GDP. Potential GDP is the estimated level of output that corresponds to a high level of resource--labor and capital--use. A negative gap indicates a high unemployment rate and low utilization rates for plant and equipment.