

PROVIDING FOR A PORTION OF THE ECONOMIC RECOVERY
PACKAGE RELATING TO REVENUE MEASURES,
UNEMPLOYMENT, AND HEALTH

January 27, 2009—Committed to the Committee of the Whole House on the State
of the Union and ordered to be printed

Mr. Rangel, from the Committee on Ways and Means,
submitted the following

R E P O R T

together with

DISSENTING VIEWS

[To accompany H.R. 598]

The Committee on Ways and Means, to whom was referred the bill (H.R. 598) to provide for a portion of the economic recovery package relating to revenue measures, unemployment, and health, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

C. **Macroeconomic Impact Analysis**

In compliance with clause 3(h)(2) of rule XIII of the Rules of the House of Representatives, the staff of the Joint Committee on Taxation provides the following macroeconomic analysis of the tax provisions in H.R. 598, the “American Recovery and Reinvestment Tax Act of 2009,” that amends the Internal Revenue Code of 1986.

Framework and summary

According to the National Bureau of Economic Research, the economy has been in a period of negative growth and growing unemployment, or recession, since December, 2007. The Congressional Budget Office has projected that under present law, the economy (as measured by gross domestic product) will decline by 2.2 percent in 2009, and the unemployment rate would grow from an average of 5.7 percent in 2008 to 8.3 percent in 2009 and 9.0 percent in 2010.¹ In a recession, unemployment grows because consumers reduce their purchases of goods and services, and businesses respond by reducing their production.

Consistent with the current economic environment, the tax provisions in H.R. 598 were primarily designed to promote short-term stimulus, or increase in demand for goods and services. The bill includes a number of changes to the individual income tax, most of them temporary, and most of them changing average tax rates more than marginal tax rates. The largest of these is the “making work pay” tax credit of 6.2 percent of earnings up to \$500 per single filer and \$1,000 for joint filers. We estimate that the changes in the individual income tax would decrease the income-weighted average individual income tax rate by one percentage point (to approximately 10.9 percent in 2009 and 11.0 percent in 2010). The income-weighted average tax rate for individuals after 2010 is essentially unchanged from present law. In contrast, because of interactions with phase-outs of credits and deductions, H.R. 598 has small increases in average marginal rates for 2009 and 2010. For example, the income weighted average marginal tax rate on wage income increases from 23.5 percent to 23.9 percent in 2009.

These reductions in individual tax liability result in more disposable income for individuals, and thus may be expected to increase their consumption. The increase in consumption is expected to create an improved market for more goods and services, thus increasing firms’ incentive to hire more workers, and generating additional output and employment. To the extent that the provisions increase the marginal tax rate on earnings, they may provide negative incentives for the individuals to work. As indicated by the rate changes enumerated above, H.R. 598 is expected to produce very little change in marginal tax rates. In the current economy with high unemployment, it is unlikely that this effect would be significant.

The bill also includes some temporary tax cuts for businesses designed to augment their ability to respond to this increased demand. The largest of these are the one-year bonus depreciation provision, a three year extension of production credits for certain renewable energy facilities, and the two year provision to allow a five-year carry back for the deduction of net

¹ Congressional Budget Office, *The Budget and Economic Outlook, Fiscal Years 2009 to 2019*, January 8, 2009, p.3.

operating losses. The combined effects of the changes to corporate and other business taxes is to temporarily reduce average tax rates on businesses by about 5 percentage points in 2009. Marginal tax rates are reduced by a considerably smaller amount, about 1 percentage point in 2009. In subsequent years, the effect is reversed. The reduction of average tax rates for businesses does not provide a direct incentive for a permanent increase in the business capital stock, but may provide businesses with needed liquidity in a time when investment capital is extremely expensive.

Finally, there are several provisions to provide various forms of tax-favored financing for the development of public and private infrastructure and housing. These provisions enter our analysis through their effects on average and marginal tax rates on capital for individual and businesses providing financing through these vehicles. The analysis does not incorporate the effects of these provisions on the activities financed by the instruments created.

Overall, the tax provisions in H.R. 598 have the potential to increase GDP by 0.3 to 0.8 percent and employment by 0.3 to 0.8 percent at their peak period of effectiveness in the fourth quarter of 2010. Effects decline rapidly after that. The range in estimated effects of these tax proposals on short-run growth derives primarily from uncertainty as to what portion of their increased disposable income consumers would spend. More details on these effects appear below in Tables 1-3. Each table corresponds to a different assumed tendency to spend, or “marginal propensity to consume” out of the disposable income generated by the tax cuts. The effects described above are only those attributable to the tax portions of H.R. 598; this analysis does not attempt to estimate the effects of government spending provisions on the economy. It is also important to note that these projected “increases” are relative to what GDP and employment would have been without the stimulus, not relative to their levels today. Because GDP and employment are projected to fall under present law, an increase in output and employment due to the stimulative effects of the tax title of H.R. 598 could still be associated with an overall decline in output and employment.

Modeling the stimulus proposal

In earlier analyses of the macroeconomic effects of various tax proposals, the Joint Committee staff has relied on several different models to simulate the short and long term growth effects of various tax proposals. These include the Joint Committee’s Macroeconomic Equilibrium Growth model (“MEG”), an overlapping generations model,² and in one recent analysis, a dynamic stochastic general equilibrium model.³

² Descriptions of the macroeconomic equilibrium growth model and the overlapping generations model may be found in Joint Committee on Taxation, *Overview of the Work of the Staff of the Joint Committee on Taxation to Model the Macroeconomic Effects of Proposed Tax Legislation to Comply with House Rule XIII.3(h)(2)*, JCX-105-03, December 22, 2003, pp.10-12.

³ The dynamic stochastic general equilibrium model is described in Joint Committee on Taxation, *Background Information about the Dynamic Stochastic General Equilibrium Model Used by the Staff of the Joint Committee on Taxation in the Macroeconomic Analysis of Tax Policy*, JCX-52-06, December 14, 2006.

Developmental work that Joint Committee staff has done with all of these models has been targeted at improving their ability to simulate the long-term growth effects of different types of tax policy. Long-term growth effects in these models are generated by incentives provided to individuals to supply labor and capital to the economy, and by willingness of firms to use the labor and capital to produce. During a recession, it is not clear how important these effects might be in promoting growth; they will depend in part on whether the stimulus creates a demand for the services of these workers. Because the overlapping generations and dynamic stochastic equilibrium models are constructed to simulate an economy that is always at full employment, these models are not helpful in analyzing the short-term effects of policies designed to provide stimulus to an economy that is in a recession.

In contrast, the MEG model is designed to allow simulations of policy in an economy with less than full employment in addition to simulating longer-run growth incentives, and therefore it is the model used for the purpose of this analysis.

JCT staff typically provides a range of possible macroeconomic outcomes, depending on variations in monetary and fiscal policy, and occasionally in the responsiveness of individuals to the incentives provided in the policy, particularly in the desire of potential workers to change the amount of labor they wish to supply in response to changes in marginal tax rates on labor compensation. In the current situation, there is little uncertainty about monetary policy response. The Federal Reserve Board is fully accommodating all stimulus policies. Joint Committee staff simulations assume fully accommodating monetary policy, both in the baseline simulations and policy alternative simulations. Nevertheless, private sector interest rates are assumed to be high through 2010, reflecting the current credit crunch in the economy. Since the perfect foresight general equilibrium models are not being used in this analysis, there is no need to make assumptions about future fiscal policy that would be necessary to bring the path of Government debt into a stable pattern. In addition, because changes in marginal tax rates generated by this policy are low, the responsiveness of individuals to labor incentives is also of small importance to the results. Consequently, the range of outcomes presented below is generated by assumed differences in the portion of the tax reduction consumers can be expected to spend.

Results

The three simulations below show the estimated effects of the tax policy in H.R. 598 on GDP, the capital stock, and employment under different assumptions about consumers' spending out of their increased disposable income. The simulation shown on Table 1 assumes that consumers spend the additional income due to the tax reduction in roughly the same proportion that they typically spend disposable income. Table 2 shows the results of assuming that consumers would spend a lower portion of the tax reduction because the tax cuts are temporary, and individuals tend to spend a smaller portion of temporary tax cuts than of permanent tax cuts. And Table 3 shows the results of assuming that recipients of the tax reduction would spend 50 percent more of the proceeds of the tax reduction relative to consumption out of overall income - based on the premise that the tax cuts are concentrated among lower income earners, who tend to spend larger shares of their income.

**Table 1.—Effects of Tax Provisions of H.R. 598 on Economy
Assuming Full Consumption Response**

	<u>Percent Change Relative to Baseline</u>	
	<u>2009-2014</u>	<u>2010: Q4</u>
GDP Change		
Real	0.1%	0.5%
Nominal	0.7%	1.1%
Capital Stock, Real		
Total capital	-0.2%	-0.0%
Producer's Capital	-0.2%	0.0%
Residential Capital	-0.1%	-0.1%
Real Consumption	0.2%	0.8%
Employment	0.1%	0.6%
Revenue Increase as Percent of Conventional Revenue Estimate	12%	

At the peak of the stimulus effect, in the fourth quarter of 2010, consumption is increased by .8 percent, real Gross Domestic Product (“GDP”) is increased by 0.5 percent, and employment by .6 percent relative to what they would have been without the tax stimulus. The growth effects of the stimulus decline quickly once most of the tax changes have expired, so that on average during the period from 2009-2014, consumption increases by just 0.3 percent, real GDP by 0.1 percent, and employment by 0.2 percent. Producers’ capital stock is increased by less than 0.1 percent at the peak, and reduced on average over the five-year period. This pattern is consistent with the theory that temporary bonus depreciation and other business tax cuts are more likely to change the timing of investment than the total level of investment. In addition, the decline in producers’ capital stock indicates the beginnings of crowding out effects on private investment due to growing government debt. The growth during this period generates a revenue feedback of 12 percent, relative to the cost of the tax provisions as estimated using conventional revenue analysis. The MEG model simulation indicates that in the years beyond this period, the effects of growing Federal government debt start to reverse the effects of the stimulus. However, this result may not fully take into account the role of the stimulus in restoring the economy to a more stable growth path.

**Table 2.—Effects of Tax Provisions of H.R. 598 on Economy
Assuming Reduced Consumption Response**

	<u>Percent Change Relative to Baseline</u>	
	<u>2009-2014</u>	<u>2010: Q4</u>
GDP Change		
Real	0.0%	0.3%
Nominal	0.4%	0.7%
Capital Stock, Real		
Total capital	-0.1%	0.0%
Producer’s Capital	-0.1%	0.1%
Residential Capital	-0.1%	-0.1%
Real Consumption	0.1%	0.5%
Employment	0.1%	0.3%
Revenue Increase as Percent of Conventional Revenue Estimate	7%	

Assuming that consumers spend additional disposable income out of the tax cut at roughly half the rate they normally would, the stimulus effects are significantly reduced. At the peak of the stimulus effect, in the fourth quarter of 2010, consumption is increased by 0.5 percent, real Gross Domestic Product (“GDP”) is increased by 0.3 percent, and employment by 0.3 percent relative to what they would have been without the tax stimulus. The growth effects of the stimulus decline quickly once most of the tax changes have expired, so that on average during the period from 2009-2014, consumption increases by just 0.1 percent, real GDP by less than 0.1 percent, and employment by 0.1 percent. Again, producers’ capital stock is increased by less than 0.1 percent at the peak, and reduced on average over the five-year period. The growth during this period generates a revenue feedback of 7 percent, relative to the cost of the tax provisions as estimated using conventional revenue analysis. Again, the MEG model simulation indicates that in the years beyond this period, the effects of growing Federal government debt start to reverse the effects of the stimulus fairly quickly.

**Table 3.—Effects of Tax Provisions of H.R. 598 on Economy
Assuming Increased Consumption Response**

	<u>Percent Change Relative to Baseline</u>	
	<u>2009-2014</u>	<u>2010: Q4</u>
GDP Change		
Real	0.1%	0.8%
Nominal	0.9%	1.5%
Capital Stock, Real		
Total capital	-0.2%	-0.1%
Producer’s Capital	-0.3%	-0.1%
Residential Capital	-0.1%	-0.1%
Real Consumption	0.3%	1.2%
Employment	0.2%	0.8%
Revenue Increase as Percent of Conventional Revenue Estimate	17%	

Assuming that spending out of the tax-induced increase in disposable income is 50 percent higher than average spending, the stimulus effects of the bill are increased. At the peak of the stimulus effect, in the fourth quarter of 2010, consumption is increased by 1.2 percent, real Gross Domestic Product (“GDP”) is increased by .8 percent, and employment by 0.8 percent relative to what they would have been without the tax stimulus. The growth effects of the stimulus decline quickly once most of the tax changes have expired, so that on average during the period from 2009-2014, consumption increases by just 0.3 percent, real GDP by 0.1 percent, and employment by .8 percent. This simulation illustrates the trade-off between short-term stimulus and investment. With the increased consumption out of disposable income, savings are reduced, and investment in producers’ capital actually declines by 0.1 percent in the fourth quarter of 2010, and by 0.3 percent in the first five years. As with the other simulations, in later years, the growth in government debt leads to increasing crowding out of private activity. The growth during this period generates a revenue feedback of 17 percent, relative to the cost of the tax provisions as estimated using conventional revenue analysis.

Conclusion

The modeling of short- and long-run responses of the economy to fiscal stimulus in the current economic environment is subject to a substantial amount of uncertainty. The results are sensitive to assumptions about how much of their increased disposable income consumers choose to spend rather than save, as discussed above. In addition, most macroeconomic simulation models are not structured to account for the types of factors that led to our current economic condition; for example, it is difficult to ascertain how large an asset bubble is, how much leveraging is behind it, and when it will burst before the fact. Much judgment was required to create simulations in the MEG model that roughly approximate current economic conditions so that the impact of the policy could be analyzed. Subject to these considerations, the

Joint Committee staff estimates that the tax provisions in H.R. 598 would result in a short-term increase in gross domestic product and employment ranging from approximately 0.3 to 0.8 percent (from 300,000 to 900,000 full-time equivalent jobs) at the tax stimulus peak of the fourth quarter of 2010, with five-year effects ranging from near zero to 0.1 percent increase in GDP, and 0.1 to 0.2 percent increase in employment, relative to what these variables would have been without the stimulus. Beyond the five year period, the effects of growing government debt on interest rates and the availability of private capital could be expected to reduce growth.