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ANOTHER MISDIAGNOSIS: Marginal Rate Reductions and Extensions of Tax Cuts Expiring in 2010 Not the Right Medicine for the Economy's Current Ills

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Six months ago, the economy was growing steadily, and the President gave an address in which he claimed that the 2001 and 2003 tax cuts had brought about strong economic growth and should be made permanent to ensure strong growth over the long run.¹ Prominent conservatives recommended a corporate rate cut to make U.S. businesses more competitive,² and the editorial board of the *Wall Street Journal* proposed cuts in marginal income tax rates.³

Now, most economists agree that economic growth is slowing markedly, and many fear a recession. But despite the change in economic conditions, some things have remained the same. Last week, the President gave an address in which he urged that the 2001 and 2003 tax cuts be made permanent to strengthen the weakening economy in the short run.⁴ Prominent conservatives are recommending a corporate rate cut to boost the weakening economy,⁵ and the editorial board of the *Wall Street Journal* is proposing cuts in marginal income tax rates as economic stimulus.⁶

There is a serious debate to be had about whether cutting corporate or individual tax rates or extending the 2001 and 2003 tax cuts would strengthen the economy in the long run. (As discussed in the box on page 3, these proposals are more likely to harm the economy

KEY FINDINGS

- Reductions in personal and corporate marginal income tax rates would do little to stimulate the economy – far less than other options like extending unemployment benefits, providing aid to states, temporarily increasing food stamp benefits, or providing tax rebates to low- and moderate-income households.
- Marginal rate cuts have low “bang-for-the-buck” as stimulus because they target dollars to groups unlikely to spend them quickly. Across-the-board cuts in personal income tax rates overwhelmingly benefit upper-income households, while corporate rate cuts direct funds to profitable corporations but offer no incentive for these businesses to boost investment or production in the near term.
- Extending the 2001 and 2003 tax cuts would have virtually no stimulus effect, since it would not put a dollar in anyone’s pocket until 2011. Meanwhile, it would substantially worsen the nation’s budget outlook, likely damaging the economy in the long run and possibly even depressing investment in the short run if it caused long-term interest rates to rise.
- If policymakers want to use the tax system to provide economic stimulus, rebate checks targeted to low- and moderate-income households are among the best available options. Contrary to a common misconception, the available evidence indicates that the rebates delivered to households during the 2001 recession were reasonably effective at boosting demand and stimulating the economy.

over the long run than to help it if they are deficit financed.) But corporate and individual rate cuts, and extensions of tax cuts that are not scheduled to expire until December 31, 2010, simply are not credible as economic stimulus proposals. Where proposals like temporary extensions of unemployment benefits, aid to state governments (to help them avoid cutting programs or raising taxes during a recession), temporary increases in food stamp benefits, and tax rebates to low- and moderate-income households would quickly direct funds to individuals and institutions likely to spend them,⁷ across-the-board marginal rate cuts and extension of the 2001 and 2003 tax cuts would do little or nothing to augment aggregate demand in the near term. Advocates of these policies are using the current economic situation as an opportunity to tout longstanding tax proposals, without regard for the fact that these policies constitute exceptionally poor short-term stimulus.

The Administration and other tax-cut advocates took a similar approach in 2001, when they responded to a weakening economy by relabeling President Bush's campaign tax proposals an economic stimulus package. The end result was a tax-cut bill that carried a staggeringly high cost and provided little stimulus.⁸ In 2001, moreover, the federal budget was in surplus, and large surpluses were projected for future years. Advocating ineffective — and expensive — stimulus measures is even less responsible in the current budget environment, where finding funds to address even the highest-priority needs is a challenge.

Given current budgetary realities, the overriding objective of any stimulus package should be to make every dollar count. If policymakers decide to devote resources to stimulus measures, they should choose measures that generate high bang-for-the-buck (that is, measures that produce a large economic boost per dollar spent), not longstanding tax-cut proposals that have merely been repackaged as stimulus. (The same admonition holds true on the spending side; longstanding proposals that may have other merits but do not constitute effective stimulus should not be included in a stimulus package.)

The remainder of this analysis examines three tax-cut proposals now being repacked as stimulus, as well as one tax-cut option that would actually help stimulate the economy.

Pseudo-Stimulus Tax Cut #1: A Cut in the Corporate Income Tax Rate

In the past, discussion of using business tax cuts as stimulus has centered mostly on proposals for accelerated depreciation and investment tax credits. These policies have a decidedly mixed track record,⁹ but they at least aim at the right goal: boosting business investment in the short run. In contrast, a corporate rate cut would have little or no effect — or even a negative effect — on business investment and production in the near term.

The problem is that, in the short run, a corporate rate cut goes almost entirely toward rewarding investment and other production decisions that have *already been made*; it does not benefit new investments, which take time to put into operation and to begin realizing returns. In fact, a temporary corporate rate cut might actually *discourage* new investment and production while it was in effect, since it would reduce the value of the deductions that companies claim when they invest, pay wages, or make other purchases. For example, a \$1,000 deduction is worth \$350 at the current 35 percent corporate tax rate. (A firm's taxes are reduced by \$350 — 35% x \$1,000 — for each \$1,000

Why Any Stimulus Measures Should Be Temporary

Stimulus measures, which are intended to address short-term slack in the economy, should be enacted on a temporary basis for three basic reasons:

- Making stimulus measures permanent greatly lowers their bang-for-the-buck. This is true *even if* permanent measures yield slightly greater stimulus up-front. For example, economists generally think that households will consume a larger share of a permanent tax cut than of a temporary one (though this is less true for low- and moderate-income households). Thus, a permanent tax cut might, under certain circumstances, generate modestly more spending up front than a temporary one. But this increase in up-front stimulus would come at the expense of a much greater increase in total cost; as a result, the stimulus *per dollar spent* would still be much lower for the permanent tax cut. This means that policymakers could achieve the same amount of stimulus at far lower total cost through a stimulus package consisting of temporary provisions.
- Making stimulus measures permanent is likely to harm the economy over the long run. Financing stimulus measures on a year-by-year basis with tax increases or spending cuts undoes or dampens their immediate stimulus impact, so stimulus provisions are typically deficit financed.* Temporary deficit-financed stimulus provisions do not significantly worsen the nation's long-term fiscal problems, but costly permanent provisions do. Moreover, by increasing long-term deficits and debt, these measures impose a drag on the economy over the long run that is often large enough to counterbalance or outweigh any long-term economic benefits they generate.**
- Because of their effect on long-term deficits, costly permanent spending increases or tax cuts can potentially increase long-term interest rates (relative to what they would otherwise be), weakening their stimulus effect. As Brookings economists Douglas Elmendorf and Jason Furman explain in a recent paper, “larger long-run budget deficits can undo part, or even all, of the direct stimulative effects of lower taxes and higher government spending. Financial markets’ anticipation of larger future deficits and thus larger government borrowing needs will tend to raise long-run interest rates, all else equal. Higher interest rates restrain investment — and net exports by pushing up the value of the dollar — which reduces aggregate demand and economic activity in the short run.”***

* Stimulus measures could, however, be paid for in later years without undoing their stimulus effect; for example, a 2008 tax cut could be paid for between 2010 and 2018.

** For instance, in a 2005 study, the Joint Committee on Taxation examined the economic effects of reductions in individual and corporate tax rates and an increase in the personal exemption. It concluded, “Growth effects eventually become negative without offsetting fiscal policy [i.e. without offsets] for each of the proposals, because accumulating Federal government debt crowds out private investment.” Joint Committee on Taxation, “Macroeconomic Analysis of Various Proposals to Provide \$500 Billion in Tax Relief,” JCX-4-05, March 1, 2005, <http://www.house.gov/jct/x-4-05.pdf>.

*** Douglas W. Elmendorf and Jason Furman, “If, When, How: A Primer on Fiscal Stimulus,” Hamilton Project, January 10, 2008, http://www.brookings.edu/papers/2008/0110_fiscal_stimulus_elmendorf_furman.aspx.

deduction the firm takes.) But the same deduction would be worth only \$300 at a 30 percent corporate tax rate. Thus, businesses would have some incentive to *delay* investments and other purchases that result in deductions until the corporate rate reverted to 35 percent.

While a *permanent* corporate rate cut would not have this disincentive effect, neither would it provide timely stimulus. As the Congressional Budget Office explains, “Most business investment

has a long lead time. The main effect of investment incentives designed to boost demand, therefore, comes from accelerating investment that was already planned.”¹⁰ But a permanent corporate rate cut provides no incentive for businesses to speed up investments already in the pipeline, since they can continue with these investments on the intended timeline and still get the benefits of the rate cut. And, even if the corporate rate cut induces businesses to *plan* new investments, these investments generally will not be made in time to provide effective stimulus (especially since a permanent rate cut provides no incentive for firms to move quickly). Firms may also choose to hold off on planning new investments until consumer demand strengthens, and the corporate rate cut provides no incentive for them to do otherwise.

Moreover, a permanent corporate rate cut, if deficit-financed, would worsen the long-run budget outlook, which could hurt the economy in the long term. Even in the short term, the specter of increased long-term deficits could raise interest rates (relative to what they would otherwise be) and thereby depress investment — the opposite of what is needed during an economic downturn. (See the box on page 3 for an explanation of why stimulus measures that are temporary are generally better for the economy in both the short and the long run.)

Just Increasing Businesses' After-Tax Incomes Does Not Boost the Economy in the Short Term

Given that it does not create an incentive for new investment in the near term, the main short-run effect of a corporate rate cut is to leave those corporations that are earning profits (and, thus, paying taxes) with higher after-tax incomes than they would otherwise have. By itself, however, higher after-tax income does not induce corporations to produce or invest more in the short run. As a recent Goldman Sachs analysis notes, “companies don’t spend money just because it’s there to spend. To justify outlays for new projects, the expected returns have to exceed the costs, and that usually requires growth in demand strong enough to put pressure on existing resources.”¹¹ The most promising strategy for boosting business production and investment during an economic downturn involves measures to boost *consumer* demand; just providing businesses with more cash generally will not help much.

The one exception to this rule would be if tax cuts could be targeted to those companies that would like to increase their investment or production but are constrained by low cash flows and borrowing constraints. The benefits of a corporate rate cut, however, go to the very firms that are *least* likely to be cash constrained or have difficulty borrowing. During a recession, the firms earning profits and owing taxes — and, thus, able to benefit from a corporate rate cut — are typically larger, established firms. As CBO explains, these “large, profitable firms that can borrow easily experience little change in their incentive to invest [from corporate tax cuts] as a result of the cash flow channel.”¹² (In addition, most corporations currently appear to have health cash balances.¹³)

In sum, a corporate rate cut carries some risk of actually *reducing* aggregate demand in the short run and, even in a best-case scenario, would have minimal stimulus impact.

Pseudo-Stimulus Tax Cut #2: Personal Income Tax Rate Cuts

The consensus among experts is that individual income tax rate cuts also have low bang-for-the-buck as stimulus: dollar-for-dollar, they generate far less of an economic boost than other options.

The key problem with cuts in personal income tax marginal rates is that they are heavily targeted to high-income households, which are more likely to save than to spend the bulk of any tax reduction. In the long run, increased saving can help the economy because it leads to higher investment and, eventually, to increased production capacity.¹⁴ But in the short run, an economy experiencing a slow-down or recession is suffering from underutilization of *existing* capacity due to insufficient aggregate demand. Boosting the economy in the short run therefore requires boosting spending, not saving.

Table 1: Value of a One Percentage Point Cut in All Individual Income Tax Rates to a Married Couple With Two Children at Various Income Levels, 2008	
<u>Income</u>	<u>Tax Cut</u>
\$15,000	\$0
\$25,000	\$1
\$50,000	\$251
\$75,000	\$501
\$100,000	\$751
\$200,000	\$1,751
\$500,000	\$4,751
\$1,000,000	\$9,751

Source: CBPP calculations. Assumes households do not itemize deductions and do not owe the Alternative Minimum Tax.

Low- and moderate-income households are the most likely to spend the bulk of any tax cut they receive. Even in good economic times, these households spend a larger fraction of their incomes than upper-income households, and during a recession they are likely to need every available dollar to finance basic needs. Thus, as Brookings Institution economist Douglas Elemendorf explains, “It’s very important that a significant share of any tax reduction go to middle- and lower-income people... They are living closer to the edge than most people. But also, tax cuts to them would have the most macroeconomic punch. You want to direct the tax cuts to people who are spending everything that’s coming in.”¹⁵ Tax cuts directed to low- and middle-income households *both* target those most likely to need help during a recession *and* have the highest bang-for-the-buck as macroeconomic policy.

As Table 1 shows, low- and moderate-income households would be largely or entirely shut out from the benefits of rate cuts, while upper-income households would receive a

Table 2: Near-Term Economic Bang-for-the-Buck From Various Stimulus Options	
Proposal	Demand Generated Per Dollar of Cost
Extend unemployment benefits	\$1.73
State fiscal relief	\$1.24
One-time uniform tax rebate	\$1.19
Reductions in marginal tax rates	\$0.59

Source: Mark M. Zandi, “The Economic Impact of the Bush and Congressional Democratic Economic Stimulus Plans,” *Economy.com*, February 2003.

vastly disproportionate share. Not surprisingly, when Moody’s *Economy.com*, a respected economic consulting firm, evaluated options for stimulus, marginal rate cuts scored low; on a dollar-for-dollar basis, they yielded less than half the increase in aggregate demand generated by the top-rated options. (See Table 2.) Chief economist Mark Zandi noted, “Reducing the economic potency of lower tax rates for higher-income households is the high rates of saving and other financial resources of these households. They are substantially less likely to spend any tax savings quickly than lower- and middle-income households.”¹⁶

Notably, even Harvard economist Martin Feldstein, Chair of the Council of Economic Advisers under President Reagan and a strong proponent of marginal rate cuts recently observed, “No matter how much you believe, as I do, in the importance of marginal tax rates... that’s not the way you stimulate the economy...”¹⁷

Pseudo-Stimulus Tax Cut #3: Extending the 2001 and 2003 Tax Cuts

In his fiscal year 2009 budget, the President is virtually certain to again propose making the 2001 and 2003 tax cuts permanent, and he is likely to argue that extending these tax cuts would help rejuvenate a weakening economy now.

Extending the 2001 and 2003 tax cuts would be virtually pointless as economic stimulus, however, since *it would have no direct impact on taxpayers until 2011*. Stimulus measures are supposed to be fast acting; the goal is to speed the end of the recession, not to boost spending once the recession is over. The Administration has criticized proposals for increased investment in infrastructure as too slow to succeed as stimulus; it has implied that funds authorized for these purposes now probably would not be spent until at least 2009.¹⁸ But extension of the 2001 and 2003 tax cuts would have no direct impact on the economy until two years *after* that.

One could perhaps argue that extending the 2001 and 2003 tax cuts would boost consumer or investor confidence and thereby affect the economy before 2011 (although it seems unlikely that extending the tax cuts would ease fears about turbulence in the housing market, a primary source of unease about the economy). But even if extension of the 2001 and 2003 tax cuts achieved the promised short-run benefits, it would be an astoundingly expensive confidence measure, reducing revenues by about \$3.5 trillion over the next ten years (2009-2018).¹⁹ As a result, even under the most charitable assumptions, its bang-for-the-buck would be extremely low. For example, suppose that extending the tax cuts boosted 2008 GDP by 0.5 percent, an extremely optimistic estimate. Even then, for each dollar spent over the next decade, this measure would produce just *two cents* of up-front stimulus. (0.5 percent of GDP is about \$75 billion; \$75 billion divided by \$3.5 trillion is about .02.)

Of course, proponents of the 2001 and 2003 tax cuts argue that these tax cuts will provide long-term as well as short-term economic benefits. But, as discussed in the box on page 3, the promised long-term gains are unlikely to materialize unless the tax cuts are immediately and fully paid for with spending cuts, an approach that would require cuts in government programs equal to the entire annual budgets of the Departments of Education, Homeland Security, State, and Veterans’ Affairs, *combined*. Assuming that the extension of the tax cuts instead were deficit-financed, as its supporters urge, studies by the Joint Committee on Taxation and the Congressional Budget Office and by economists at the Brookings Institution and at the University of California at Berkeley indicate that the economic drag from the resulting higher deficits would probably outweigh any positive effects from the tax cuts.²⁰

The projected increase in deficits and debt from making the tax cuts permanent could even prove a drag on the economy in the short run if it led to increases in long-term interest rates. In that case, rather than slightly boosting investment by boosting confidence, extending the tax cuts might actually depress investment, slightly worsening the recession or slowdown.

Using the Tax System to Provide *Actual* Stimulus

As noted above, low- and moderate-income households are the most likely to quickly spend whatever dollars reach them through stimulus measures. Thus, tax cuts will be most effective as stimulus if they are targeted to low- and moderate-income households.

One option for providing reasonably effective stimulus through the tax system would be to have the IRS send a rebate check (for some specified amount) to every household that filed an individual income tax return in 2006 (or 2007).²¹ While some low-income households would be left out under this approach because they do not file income tax returns,²² this option would reach the large number of low- and moderate-income families that qualify for the Earned Income Tax Credit (EITC).²³

An even higher bang-for-the-buck approach would be to limit rebates to households that reported adjusted gross income or earnings below some specified level. This option would target a larger share of funds to the low- and moderate-income households most likely to spend them.

2001 Rebates Were Reasonably Effective at Boosting the Economy

Rebates were used as an economic stimulus measure during the 2001 recession. The 2001 rebates, however, were limited to filers who had positive income tax liability in 2000. As a result, most low-income households were ineligible, a limitation that likely lowered the rebates' bang-for-the-buck.

Even so, the evidence suggests that the 2001 rebates were reasonably effective at boosting aggregate demand. Surprisingly, however, the widespread perception is that the rebates failed to help the economy.

This misconception may have arisen from an early study of the rebates, which simply asked taxpayers what they had done with their 2001 rebate checks. About three quarters of respondents said they had mostly saved the rebate or used it to pay down debt, while only a quarter said they had mostly spent their rebates.²⁴

Two later studies, however, utilized data that allowed researchers to examine more closely households' actual spending behavior in the months after they received their rebate checks. One of these studies looked at credit card balances. It found that households did indeed initially use their rebates to pay down debt, but in ensuing months, they built their credit card balances back up.²⁵

Another study looked at total household consumption, as reported in the Consumer Expenditure Survey, in the months following households' receipt of their rebates. This study concluded that households on average spent about two thirds of the total value of their 2001 rebates within six months.²⁶ Those low- and moderate-income households that were eligible to receive rebates spent a notably larger share.

Non-Tax Approaches Could Provide Even More Effective Stimulus, But Rebates Are More Effective Than Other Tax Options

It is likely that closer to 100 percent of the value of an increase in unemployment benefits or food stamp benefits would be spent quickly, and so the bang-for-the-buck of rebate checks is probably

lower than that of these other options. Rebates compare very favorably, however, with reductions in marginal income tax rates. For example, Brookings economists Douglas Elmendorf and Jason Furman calculate (based on estimates by Elmendorf and Federal Reserve Board economist David Reifschneider) that even if only half of a temporary tax rebate were spent quickly, it would provide more than twice the up-front stimulus generated by a reduction in personal income tax rates with the same annual cost.²⁷

If policymakers decide to use the tax system to provide economic stimulus, they should use an approach, like a rebate targeted to low- and moderate-income households, that provides high stimulus value per dollar spent — not one that consumes more resources while doing less to boost the economy and save jobs.

¹ “President Bush Discusses the Budget,” July 11, 2007, <http://www.whitehouse.gov/news/releases/2007/07/20070711-5.html>.

² See for example, R. Glenn Hubbard, “The Corporate Tax Myth,” *Wall Street Journal*, July 26, 2007, available at <http://www0.gsb.columbia.edu/faculty/ghubbard/Articles%20for%20Web%20Site/Wall%20Street%20Journal/07.26.07%20The%20Corporate%20Tax%20Myth.pdf>.

³ “How to Raise Revenue,” *Wall Street Journal*, August 24, 2007.

⁴ “President Discusses Economy in Chicago, Illinois,” January 7, 2008, <http://www.whitehouse.gov/news/releases/2008/01/20080107-7.html>.

⁵ See discussion in Edmund L. Andrews, “The Debate Over How and How Long,” *New York Times*, January 8, 2008.

⁶ “The Right ‘Stimulus,’” *Wall Street Journal*, January 11, 2008.

⁷ For a discussion of these and other policies, as well as of whether fiscal stimulus is needed, see Chad Stone and Kris Cox, “Economic Policy in a Weakening Economy: Principles for Fiscal Stimulus,” Center on Budget and Policy Priorities, revised January 11, 2008, <http://www.cbpp.org/1-8-08bud.htm>.

⁸ See William G. Gale and Peter R. Orszag, “Bush Administration Tax Policy: Short-Term Stimulus,” *Tax Notes*, November 1, 2004, available at http://www.brookings.edu/~media/Files/rc/articles/2004/1101taxes_gale/20041101orszaggale.pdf.

⁹ For further discussion, see Chad Stone and Kris Cox, “Economic Policy in a Weakening Economy: Principles for Fiscal Stimulus.”

¹⁰ Congressional Budget Office, “Options for Responding to Short-Term Economic Weakness,” January 2008, http://www.cbo.gov/ftpdocs/89xx/doc8916/01-15-Econ_Stimulus.pdf.

¹¹ GS Weekly, September 21, 2007.

¹² Congressional Budget Office, “Economic Stimulus: Evaluating Proposed Changes in Tax Policy,” January 2002, <http://cbo.gov/ftpdocs/32xx/doc3251/FiscalStimulus.pdf>.

¹³ According to Economy.com Chief Economist Mark Zandi, “businesses outside of housing are in great financial shape literally. I mean, if you look at a balance sheet, there’s not — there’s no problem there. They have a lot of cash on the balance sheet. Profits have doubled in the last five years. Yes, they’re starting to — they’re going to come down, margins, but margins are at record highs. So, there’s a lot of cash.” Transcript of Hamilton Project Forum, “If, When, How? Prospects for Fiscal Stimulus in the U.S. Economy,” Brookings Institution, January 10, 2008, http://www.brookings.edu/~media/Files/events/2008/0110_stimulus/20070110_stimulus.pdf.

¹⁴ Whether marginal rate cuts significantly increase private saving over the long-run is unclear, and, if deficit financed, they are highly unlikely to increase national saving. See Jane G. Gravelle, “Distributional Effects of Taxes on Corporate Profits, Investment Income, and Estates,” Congressional Research Service, updated May 7, 2007.

¹⁵ Edmund L. Andrews, “The Debate Over How and How Long.”

¹⁶ Mark M. Zandi, “Assessing President Bush’s Fiscal Policies,” Economy.com, July 2004.

¹⁷ Transcript of Hamilton Project Forum, “If, When, How? Prospects for Fiscal Stimulus in the U.S. Economy,” Brookings Institution, January 10, 2008, http://www.brookings.edu/~media/Files/events/2008/0110_stimulus/20070110_stimulus.pdf.

¹⁸ Peter Baker, “Lawmakers, Bush Face Test Over Economy: Parties Agree on Need for Quick Fix, Little Else,” *Washington Post*, January 14, 2008.

¹⁹ This estimate includes the portion of the cost of Alternative Minimum Tax relief that is due to the 2001 and 2003 tax cuts. For further explanation, see Aviva Aron-Dine and Robert Greenstein, “Why the Cost of AMT Relief Should Be Included in Estimates of the Cost of Extending the President’s Tax Cuts,” Center on Budget and Policy Priorities, revised February 20, 2007, <http://www.cbpp.org/2-6-07tax.htm>.

²⁰ See Joint Committee on Taxation, “Macroeconomic Analysis of H.R. 2, the ‘Jobs and Growth Reconciliation Tax Act of 2003’” May 8, 2003. Congressional Budget Office, “The Budget and Economic Outlook,” August 2003; William Gale and Peter Orszag, “Bush Administration Tax Policy: Effects on Long-Term Growth,” Tax Notes, October 18, 2004; Alan J. Auerbach, “The Bush Tax Cut and National Saving,” *National Tax Journal*, September 2002. See also Aviva Aron-Dine and Robert Greenstein, “The Economic Effects of the Pay-As-You-Go Rule,” Center on Budget and Policy Priorities, <http://www.cbpp.org/3-19-07bud.htm>.

²¹ 2007 data could be used if available, but rebates based on 2006 data could probably be mailed out more rapidly.

²² These households could best be reached through a temporary increase in food stamp benefits.

²³ Another option would be to provide a rebate to everyone who paid payroll taxes. This approach would reach the large number of low-income individuals who owe payroll but not income taxes, but it is not clear whether it is administratively feasible.

²⁴ Mathew D. Shapiro and Joel Slemrod, “Did the 2001 Tax Rebate Stimulate Spending? Evidence From Taxpayer Surveys,” National Bureau of Economic Research Working Paper No. 9308, October 2002.

²⁵ Sumit Agarwal, Chunlin Liu, and Nicholas S. Souleles, “The Reaction of Consumer Spending and Debt to Tax Rebates: Evidence From Consumer Credit Data,” National Bureau of Economic Research Working Paper No. 13694, December 2007.

²⁶ David S. Johnson, Jonathon A. Parker, and Nicholas S. Souleles, “Household Expenditure and the Income Tax Rebates of 2001,” *American Economic Review*, December 2006.

²⁷ Douglas W. Elmendorf and Jason Furman, “If, When, How: A Primer on Fiscal Stimulus,” Hamilton Project, January 10, 2008, http://www.brookings.edu/papers/2008/0110_fiscal_stimulus_elmendorf_furman.aspx.