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# Research on the Effects of Fiscal Stimulus: Symposium Summary

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*This Economic Letter summarizes the presentations at a symposium held at the Federal Reserve Bank of San Francisco on May 9, 2008, sponsored by the Bank's Center for the Study of Innovation and Productivity (CSIP). Presentations are listed at the end, and three of the four are available [online](#).*

On February 13, 2008, President Bush signed into law the "Economic Stimulus Act of 2008," which consisted of roughly \$100 billion of tax rebates and more than \$50 billion of investment incentives for businesses. The act was a response to weakness in the economy and prospects for more substantial deterioration in spending and in the labor market. Its enactment has prompted questions about its potential effects—will consumers spend or save the funds from the rebate checks? will the short-lived tax breaks boost business investment?—and has renewed the broader debate about the use of "activist" countercyclical fiscal policy.

On May 9, 2008, just as the first rebate payments were starting to land in taxpayers' checking accounts, the Center for the Study of Innovation and Productivity (CSIP) hosted a symposium on "Research on the Effects of Fiscal Stimulus." The symposium featured four of the foremost economic experts on fiscal policy who spoke about countercyclical fiscal policy and the likely impact of the most recent stimulus package. This *Economic Letter* summarizes their remarks.

## Perspectives on fiscal stimulus

Michael Boskin of Stanford University kicked off the symposium with an overview of the progression of economic thinking on the topic of fiscal stimulus. Stepping back from the particulars of the 2008 or earlier fiscal stimulus measures, Boskin considered how economic thinking has evolved about the desirability of countercyclical discretionary fiscal policy. “Discretionary” or “activist” fiscal policy means government expenditure and/or tax policy that is explicitly changed, typically through legislation, in response to current economic activity. This is distinct from nondiscretionary or “automatic” policy, by which expenditures and tax revenues change as a result of changes in economic activity without any action on the part of policymakers.

Until recently, the consensus view in mainstream economics was that such countercyclical discretionary fiscal policy actions were undesirable and/or ineffective. However, in the last few years, this consensus has unraveled and perhaps even begun to converge upon the opposite viewpoint, namely, that discretionary countercyclical fiscal policy can be effective and potentially more timely than monetary policy in counteracting the harm of economic downturns.

So, Boskin asked, what has changed? Is the current downturn more severe or otherwise qualitatively different from past downturns? Boskin first analyzed the causes and severity of the current downturn—and thus motivation for fiscal stimulus—relative to previous downturns, in particular, the recessions of 1990-1991 and 2001. The current downturn shares many of the same contributing factors with those past episodes but, at least so far, it is far milder. Economic growth in the current episode has not yet turned negative, and the level of job losses has been modest compared to the earlier downturns. In addition, in the current episode, monetary policy arguably has been at least as responsive as in the past, if not more so.

If the answer is not that the current downturn is more severe or qualitatively different than past downturns, what has changed? Boskin points to two changes in economic thinking. First, it is now widely recognized that economic agents (consumers, workers, investors, firms, etc.) are quite limited in the extent to which they save and borrow to smooth consumption over time. Such smoothing behavior would tend to mitigate the effectiveness of temporary fiscal stimuli. Second is the recognition that, while monetary policy's effects on the economy come at a substantial lag, the impact from prompt fiscal policy actions may be more immediate.

## Lessons from 2001-2004 and prospects for 2008

Matthew Shapiro of the University of Michigan discussed the empirical evidence on the effects of the fiscal stimulus measures of 2001-2004, which, like those of 2008, consisted primarily of tax rebates and investment tax incentives, and he presented some preliminary findings on the effects of the 2008 tax rebates. Looking at the effects of the earlier measures provides an indication of what can be expected from the current measures.

Roughly one-third of the cost of the fiscal stimulus package in 2008 comes from a temporary bonus depreciation allowance, aimed at reducing taxes for firms that invest in qualified equipment and structures during 2008. This allowance is essentially a repeat of the bonus depreciation allowances enacted in 2002 and 2003. His paper on the impacts of the 2002-2003 rebates on business investment (House and Shapiro 2008) analyzed data on quarterly investment over this timeframe broken out by the length of service life of the underlying assets. As in 2008, assets that have service lives above 20 years did not qualify for the tax incentives, but among qualifying asset types, the value of the incentives increased with their service lives. Comparing investment across assets of different service lives, House and Shapiro found that during the period in which the bonus depreciation allowances were in effect, aggregate investment shifted away from the nonqualifying assets and toward the qualifying assets, especially those with the longest service lives. Nonetheless, Shapiro concluded that while the effects on

the composition of investment were significant, the effect on the level of aggregate investment was modest and the overall effect on GDP likely was quite small.

Shapiro then discussed research he and others have conducted on the effectiveness of the 2001 tax rebates in terms of stimulating consumer spending. In particular, he discussed the results that he and his coauthor Joel Slemrod have obtained from surveying individuals directly (through the University of Michigan Survey of Consumers), asking them what they planned to do with their rebate payments (Shapiro and Slemrod, 2003). Shapiro reported that 45% of rebate-receiving respondents said they would mostly use their rebate to pay down debt; 34% said they would mostly save the rebate; and just 21% said they would spend it. A “mostly spend” proportion around 20%, according to Shapiro, translates into a marginal propensity to consume of about one-third, meaning that out of each \$1 of rebate payments, about 33 cents tends to go to consumption in the short run. Shapiro and Slemrod conducted a similar survey in 2008, and found strikingly similar results.

In both their 2001 and 2008 surveys, Shapiro and Slemrod also asked the “mostly save” and “mostly pay down debt” respondents whether that was a short-run response to be followed by increased spending later. The vast majority of respondents indicated that they planned for their saving or debt pay-down to be permanent. So even in the long run, less than 30% of survey respondents said they would eventually mostly spend their rebate payments.

### **Evidence on the 2001 rebates from credit card and consumer expenditures data**

What people say they will do and what people do are not always the same, however. As Shapiro points out, the survey evidence should be complemented with data on individuals’ actual consumption and savings behavior to get a full picture of the rebates’ effects. The third speaker of the symposium, Nicholas Souleles of the University of Pennsylvania, has been at the forefront of the research looking at such individual level data and has coauthored two of the most important papers in this area.

Both studies exploit a little noticed feature of the IRS’s rebate disbursement process. To minimize on logistical and mailing burdens, the IRS spaced out the check mailings over several months into separate batches according to the penultimate digit in the recipient’s social security number, a digit that is essentially random. This randomness in when people receive their rebates allowed Souleles and his coauthors to isolate the effect on an individual’s spending and saving behavior coming from the rebate from any macroeconomic effects that would affect all people at the same time.

In the first study, Johnson, Parker, and Souleles (2006), the authors looked at data on household expenditures from the Consumer Expenditure Survey. They found that, in terms of spending on nondurables, a little more than one-third of the average rebate was spent in the first quarter after receiving the rebate, a result closely matching the direct survey results of Shapiro and Slemrod. However, in contrast to those results, Souleles and his coauthors found that more than two-thirds is spent by the end of the third quarter after receipt.

In a second study, Agarwal, Liu, and Souleles (2007) looked at credit card data from a large, national credit card company. Using a representative sample of card customers over the 2000-2002 period, the researchers separated individuals in the sample according to the penultimate digit of their social security numbers. This allowed them to identify when each individual received the 2001 rebate check. They then looked at what happened to credit card spending and debt pay-down for the average credit card holder in the month of, as well as several months after, the receipt of the rebate. The results reveal that the typical credit card holder primarily paid down debt in the first couple of months but then began increasing spending and reaccumulating debt, returning to pre-rebate debt levels by six months after receiving the rebate.

These results suggest that the 2008 rebates could in fact provide a substantial boost to consumer spending. Souleles noted, however, that the 2008 rebate effect could be smaller because consumers’

overall balance sheets are weaker in 2008 given the declines in housing wealth.

### **The responsiveness of fiscal policy to economic activity**

Alan Auerbach of the University of California, Berkeley, closed out the symposium with a broad discussion of the extent to which fiscal policy historically has been countercyclical and whether countercyclical discretionary fiscal policy can actually be destabilizing. Auerbach first analyzed the extent to which discretionary fiscal policy in general responds to the state of the economy. He found that, at least over the last 25 years, discretionary changes to federal government revenues (tax policy) tended to be procyclical while discretionary changes in government spending were countercyclical. Thus, both revenue and spending (discretionary) policies have tended to have a stabilizing effect on the economy, pushing up economic activity in bad times and applying the brakes in good times.

Auerbach then discussed the cyclical properties of investment incentives over recent decades. His analysis indicated that tax incentives aimed at spurring investment, e.g., the recent bonus depreciation allowances, have tended to be countercyclical, as one might expect. Interestingly, though, he suggested that part of the countercyclicality of investment incentives may in fact be due to businesses holding back investment in anticipation of investment incentives rather than fiscal policy responding to weak (strong) economic activity by increasing (decreasing) investment incentives. In this sense, predictable investment incentives could actually be destabilizing since they contribute to lower investment during downturns and higher investment during recoveries. Along these lines, Auerbach discussed research that found that investment incentives, while perhaps countercyclical, do contribute to increased volatility of investment.

Lastly, Auerbach asked whether so-called “automatic stabilizers”—aspects of current fiscal policy (i.e., current tax code and current expenditure plans) that tend to weaken the government’s budget during downturns and strengthen the budget during booms—have become more or less stabilizing over time. Auerbach’s analysis of the responsiveness of the tax code to changes in output over the last several decades indicates that the responsiveness rose to a historical peak during the 1970s, fell during the 1980s, rose moderately during the 1990s, and fell sharply during 2001-2003. Since 2003, responsiveness has been rising again but is still far below the peak around 1981. The decline in the role of automatic stabilizers could be part of the explanation for why nonautomatic (discretionary) countercyclical fiscal policy has once again become an important instrument in the fiscal policymaking toolbox.

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*Senior Economist*

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### **Symposium presentations**

Auerbach, Alan. “How Much Should We Rely on Fiscal Stimulus?”

Boskin, Michael. “Perspectives on Fiscal Stimulus.”

Shapiro, Matthew. “Economic Stimulus: Lessons from 2001-2004 and Prospects for 2008.”

Souleles, Nicholas. “Consumer Spending and the 2001 Tax Rebates.”

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House, Christopher, and Matthew Shapiro. 2008. "Temporary Investment Tax Incentives: Theory with Evidence from Bonus Depreciation." *American Economic Review* 98(3) (June) pp. 737-768.

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