Moody's | Economy·com

Assessing the Macro Economic Impact of Fiscal Stimulus 2008

by

Mark M. Zandi

121 N. Walnut Street • Suite 500 • West Chester, PA 19380 • USA
help@economy.com • 866.275.3266 (inside the USA) • 610.235.5000 (outside the USA)

Assessing the Macro Economic Impact of Fiscal Stimulus 2008

The president and Congress are quickly coalescing around a fiscal stimulus plan to shore up the flagging economy. As currently envisioned, the plan is expected to cost at least $150 billion and include a sizable tax rebate, short-term tax incentives for business investment, and temporary increases in unemployment insurance benefits and food stamps. This stimulus will not prevent a recession if one is already on its way, as its benefits will not be realized until summer; however, it could substantially mitigate the severity of any downturn. Under reasonable assumptions, the stimulus will add 1½ percentage points to annualized real GDP growth during the second half of 2008. Employment will grow by an extra 700,000 jobs, and the unemployment rate will be as much as a half percentage point lower by mid-2009 than would be the case without Washington's help.

Why stimulus? With a presidential election fast approaching, policymakers have come to a quick consensus regarding the risks of recession and the need for fiscal stimulus. The economy is indeed struggling. Real GDP likely grew near 1% in the fourth quarter of 2007, and the economy appears to be contracting in early 2008. The job market has stalled, Christmas sales were soft, and industrial production has gone flat.

The threat of recession is evident in the recent substantial increase in unemployment. The jobless rate has risen 0.6 percentage points from its 4.4% cyclical low last March to 5% in December. Recessions are always preceded by such a rise, and one has never occurred without a recession ensuing (see Chart 1). Unemployment is typically the catalyst for a recession spiral because increased joblessness undermines consumer confidence and thus consumer spending. Businesses respond to flagging sales by cutting back investment and payrolls, and unemployment rises further. A negative, self-reinforcing cycle begins.

A number of large state economies are likely already in recession, including Arizona, California, Florida, Michigan and Nevada.[1] These states account for a fourth of national GDP. Alaska, Arkansas, Connecticut, Minnesota, Missouri, Ohio, Rhode Island, Vermont and Virginia are on the edge of recession. These states account for an additional 15% of national GDP. The large metro area economies of the Northeast from Boston to Washington, D.C. are still expanding, but growth is slowing sharply, particularly around New York City, which is being hurt by Wall Street's travails. If these economies begin to contract, a national recession will have begun (see Chart 2).

The need for fiscal stimulus is reinforced by the possibility that monetary policy has become less

[1] Regional economies are determined by Moody's Economy.com to be in recession using a methodology similar to that developed by the National Bureau of Economic Research for gauging national recessions. Payroll employment and industrial production are the two principal indicators of persistent, broad-based decline in economic activity. A list of metro areas in or near recession is available on request.

Chart 1: Rising Unemployment Signal Recession
Year-over-year % change in unemployment

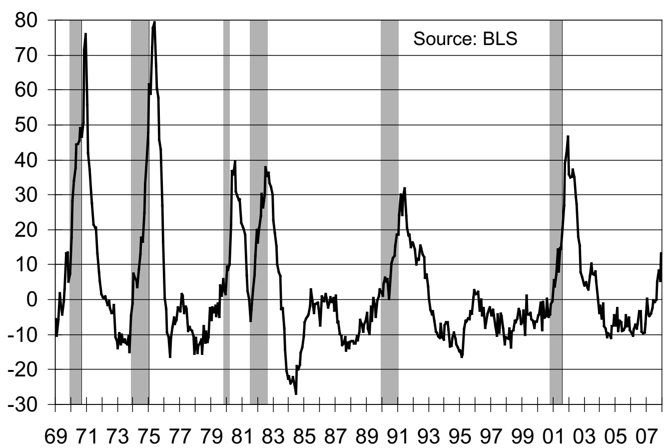


Chart 2: State Economies in or Near Recession

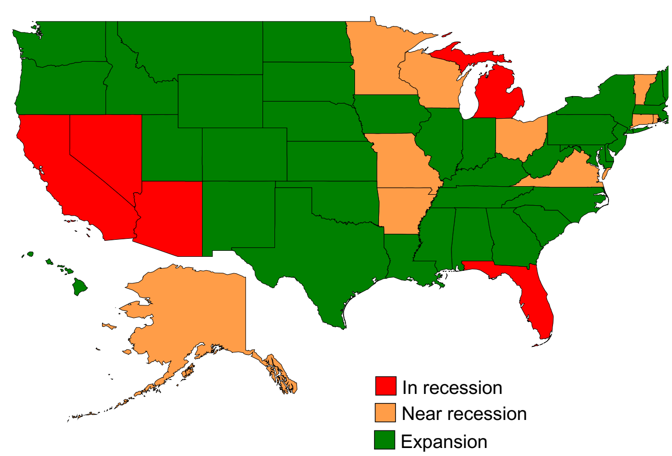


Chart 3: The Mortgage Securities Market Shuts Down
Bond issuance, $ bil, annualized

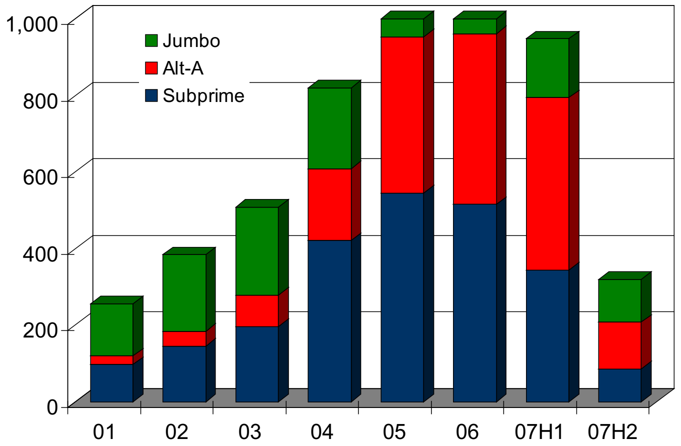
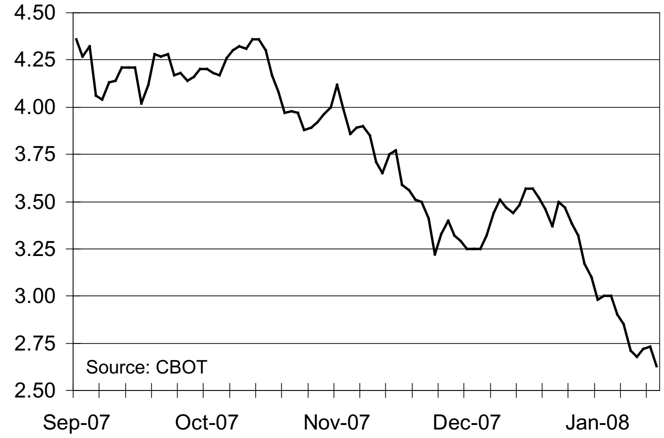


Chart 4: The Federal Reserve Must Turn More Aggresive
Federal funds future contract for Sepetember 2008



effective in stimulating growth. The most immediate conduit between monetary policy and the economy runs through the housing market. Housing is the most interest rate-sensitive sector of the economy, and historically it would receive a quick boost from monetary easing. This boost will be much more muted today given the ongoing problems in the mortgage securities market. Issuance of bonds backed by subprime, alternative-A, and jumbo mortgage loans has collapsed (see Chart 3). Save for conforming fixed-rate loans, which are only loosely tied to Fed actions, lenders are unable and unwilling to extend mortgage credit at any interest rate.

The Federal Reserve may also be constrained in its response to the economy's problems because of concerns with inflation, which remains elevated despite the weak economy. Commodity prices are at record levels, the exchange value of the U.S. dollar is falling, import prices are up and labor productivity has slowed. Financial markets have to date been disappointed with the Federal Reserve's reticent response to events. Investors may be even more disappointed in coming weeks as they are pricing in a near 2% federal funds rate target by late this year, down from 3.5% currently (see Chart 4). Well-timed and temporary fiscal stimulus could jump-start growth and give monetary authorities more latitude to focus on longer-term inflation objectives.

The use of fiscal policy to support a flagging economy has also regained credibility given its successful deployment in 2001. A valid criticism of fiscal stimulus is that it must be fashioned and implemented through the political process, making it difficult to put together a plan quickly enough to support a struggling economy. Historically, the action often took effect well after the economy had recovered, making such stimulus counterproductive.

This criticism should be at least partially stilled by the relatively rapid response of policymakers during and after the 2001 recession. Washington enacted a tax rebate, extended unemployment insurance benefits beyond the usual 26 weeks, accelerated depreciation for new business investment, and imposed other smaller tax cuts and benefits. The cost was approximately $100 billion, equal to about 1% of GDP. While subject to much debate then and afterward, this stimulus likely mitigated the severity of that downturn.

How big a plan? President Bush's currently proposed fiscal stimulus plan is a comparable 1% of GDP, equal to just under $150 billion. This is big enough to provide a meaningful economic boost. Assuming the $150 billion is distributed this summer, and that just half is actually spent by year's end, it would add well over a percentage point to annualized real GDP growth during the second half of 2008. How big a boost, of course, depends on the details of the stimulus plan.

Another way to gauge the magnitude and importance of the $150 billion stimulus package is to consider the looming potential increase in the cost of gasoline this spring. If oil prices remain near their current $90 per barrel, gasoline prices will increase sharply once refiners begin gearing up for this summer's driving season—a time when refiners' operating margins rise with consumer demand. If refiners' margins return to their long-run historical norms, a gallon of regular unleaded gasoline will sell for $4, up from just over $3 currently. Since every 1-cent per gallon increase in gasoline prices costs consumers more than $1 billion annually, Americans' driving bills are set to increase by $100 billion. That acts very much like a tax increase; if households must spend more to drive, they have less to spend on everything else. The impact is even more pernicious than a tax increase, since tax proceeds typically finance government spending, whereas much of what is spent on gasoline goes to overseas energy producers.

The $150 billion stimulus plan can also be thought of as making up for the difference between current consensus expectations this year and the economy's potential growth. While economists have quickly marked down their forecasts, according to the Blue Chip survey the consensus is for real GDP to advance less than 2% this year. Most economists have not assumed the passage of a fiscal stimulus plan, and most put potential growth at below 3%. If economists are correct about growth this year, then a $150 billion stimulus plan would simply put the economy back closer to its trend. If economists are wrong, it is likely they will have erred on the side of optimism, and the economy is already in recession. In that case fiscal stimulus would be especially helpful.

Tax rebate. The goal of a fiscal stimulus plan is to maximize the near-term boost to economic growth without weakening the economy's longer-term

Table 1: Fiscal Economic Bang for the Buck

One year $ change in real GDP for a given $ reduction in federal tax revenue or increase in spending

Tax Cuts	
Non-refundable lump-sum tax rebate	1.02
Refundable lump-sum tax rebate	1.26
Temporary tax cuts	
payroll tax holiday	1.29
Across the board tax cut	1.03
Accelerated depreciation	0.27
Permanent tax cuts	
Extend alternative minimum tax patch	0.48
Make Bush income tax cuts permanent	0.29
Make dividend and capital gains tax cuts permanent	0.37
Cut in corporate tax rate	0.30
Spending Increases	
Extending UI benefits	1.64
Temporary increase in food stamps	1.73
General aid to state governments	1.36
Increased infrastructure spending	1.59

Source: Moody's Economy.com

prospects.[2] This requires that the plan be implemented quickly; that its benefits go to those hurt most by the economy's problems; and that these benefits not damage longer-term fiscal conditions.[3] Yet given the number of political constituencies involved, these requirements may not serve as more than a rough guide for the stimulus plan currently being fashioned.

The most significant part of the proposed plan will be a tax rebate. The president favors a "non-refundable" rebate that would be based on the elimination of the 10% income tax bracket for this year. The maximum rebate would be $800 for an individual filer and $1,600 for joint filers. Those who do not earn enough to pay income tax would get no rebate (hence the "non-refundable" designation), and many with lower incomes that pay some taxes will get only a partial rebate. Over half of all U.S. households would thus get either no refund or only a partial one. Taxpayers would likely receive checks beginning in mid-June, as the IRS processes 2007 tax returns.[4] The checks would be mailed over a period extending into August.

The president's favored tax rebate plan would provide a measurable quick boost to the economy. Based on simulations of the Moody's Economy.com macroeconomic model, every dollar lost to the Treasury from the rebate would generate slightly more than one dollar in GDP within one year (see Table 1). Given that the president's rebate would cost around $100 billion, it would add a bit more than $100 billion to GDP by mid-2009.

There is significant debate about the economic efficacy of temporary tax cuts. Survey-based studies of the 2001 tax rebate concluded that only about a fourth of the rebate was spent; the rest was saved or used to pay down existing debt.[5] More recent data-based studies found the 2001 rebate to be more potent, with households spending two-thirds of their rebate within six months of receiving a check.[6] Moody's Economy.com's estimate of a tax rebate's potential stimulus is closer to these later estimates. A majority of households save little, and have modest if any net worth. They likely have very short-term financial-planning horizons—indeed, not much further than their next paycheck. Any tax benefit they receive will almost certainly be spent quickly.

The president has seemingly decided to separate the debate over a fiscal stimulus plan from the issue of whether to make the tax cuts passed early in his presidency permanent. Under current law, those tax cuts are set to expire at the end of the decade. Indeed, making them permanent would provide very little economic stimulus at this point. Some households would spend more freely given the certainty of their lower future tax rates, but most do not have the financial resources to do so. The benefit of making Bush's tax cuts permanent would also be mitigated by their impact on long-term interest rates. Bond investors holding government debt with maturities that extend for decades are highly sensitive to policy changes that will have long-run implications for the federal fiscal situation.

While the president's non-refundable tax rebate would help the struggling economy, a refundable rebate would be substantially more helpful. In a refundable tax rebate—favored by most Democrats—all households would receive the same size check regardless of how much they owe in income taxes. For example, at a cost of $100 billion, every U.S. household could receive a $900 check. The extra boost would come via the spending of very low income households, who will not receive a non-refundable rebate since they typically do not owe income taxes. Moreover, higher income households who are more likely to save their rebate check receive less under a refundable plan.

Investment incentives. The fiscal stimulus plan will likely also include tax incentives to stimulate business investment. This is not a particularly effective way to boost near-term economic

[2] A good review of the various potential tax and spending elements of a fiscal stimulus plan are provided in "Options for Responding to Short-Term Economic Weakness," Congressional Budget Office, January 2008.

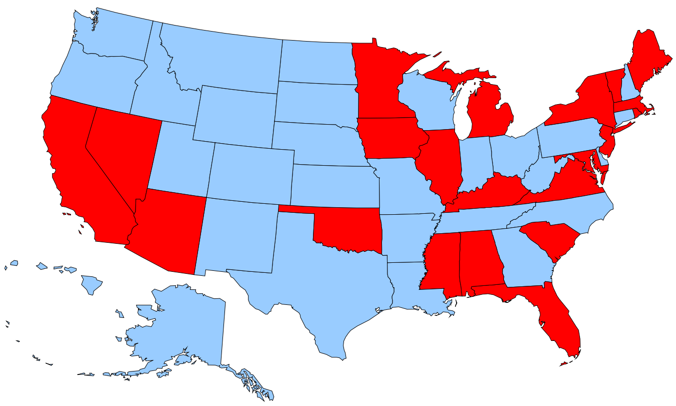
[3] The need for fiscal stimulus to be timely, targeted and temporary is very nicely described in "If, When, How: A Primer on Fiscal Stimulus," Douglas Elmendorf and Jason Furman, The Hamilton Project, Brookings Institution, January 2008.

[4] The tax rebate could be issued earlier if it were based on 2006 tax returns, but this would clearly create another set of issues.

[5] See "Consumer Response to Tax Rebates," Matthew Shapiro and Joel Slemrod, American Economic Review, Volume 93, No. 1, March 2003, pp. 281-396.

[6] See "Household Expenditure and the Income Tax Rebates of 2001," Johnson, Parker, and Souleles, *American Economic Review*, Volume 95, No. 6, December 2006, pp 1589-1610.

Chart 5: Mounting State Government Fiscal Problems
Red states have announced budget shortfalls for FY 2009



activity, but it will make any plan more politically palatable and thus smooth its quick passage.

Included in the 2001-2002 stimulus was bonus depreciation for new investment and increased expensing of investment for small businesses. Under bonus depreciation a business is able to more quickly depreciate new investment undertaken before a certain date. This lowers the firm's tax liability, raises the after-tax return on that investment, and should thus induce businesses to invest more quickly. Similar dynamics apply to small-business expensing. The economic efficacy of these incentives grows if there is a near-term expiration date. In the current stimulus plan, the investment incentives will likely include bonus depreciation of 50% and a doubling in expensing to $250,000 on investments made before the end of 2008.

The economic bang-for-the-buck of bonus depreciation is very modest (see table).[7] Indeed, of all the tax and spending policies considered, it provides the least amount of stimulus. Such incentives offer a limited boost because many businesses have difficulty quickly adjusting long-planned capital budgets. Moreover, most investment is made by businesses with no tax liability in the first place. Investment incentives also complicate matters for financially pressed state governments that base their business taxes on federal tax law.

Expanding UI and food stamps. While there will be some resistance from the Bush administration, it is likely the stimulus plan will include some temporary increases in federal spending. An extension of benefits for unemployed workers who exhaust their regular 26 weeks of unemployment insurance benefits has been part of the federal government response to most past recessions, and an expansion of food stamp payments also seems likely. Including these spending increases would assure more support among Democrats for a stimulus plan and thus facilitate its passage.

Extending UI and expanding food stamps are the most effective ways to prime the economy's pump. A $1 increase in UI benefits generates an estimated $1.64 in near-term GDP; increasing food stamp payments by $1 boosts GDP by $1.73 (see table). People who receive these benefits are very hard-pressed and will spend any financial aid they receive within a few weeks. These programs are also already operating, and a benefit increase can be quickly delivered to recipients.

The benefit of extending unemployment insurance goes beyond simply providing financial aid for the jobless, to more broadly shoring up household confidence. Nothing is more psychologically debilitating, even to those still employed, than watching unemployed friends and relatives lose benefits. The slump in consumer confidence in late 1991, after the 1990-1991 recession, may very well have been due in part to the first Bush administration's initial opposition to extending UI benefits for hundreds of thousands of workers. The administration ultimately acceded and benefits were extended, but only after confidence had waned. The fledgling recovery sputtered and the political damage extended through the 1992 presidential election.

Increasing food stamp benefits also has the added benefit of helping many low-income households ineligible for UI, such as part-time workers. It also helps those who do not pay income tax and thus will not receive a rebate.

Helping state governments. Another economically potent tool of the federal government is aid to financially-pressed state governments. This could take the form of general aid or a temporary increase in the Medicaid matching rate, to help ease the costs of health coverage. Such help appears unlikely in the current stimulus plan, but this could quickly change in coming weeks if the economy's problems grow more severe and widespread as the legislation is being fashioned.

Fiscal problems are already developing in nearly half the states. Fourteen states have announced specific budget shortfalls in fiscal year 2009, which begins this July, totaling close to $30 billion. Tax revenue growth has slowed sharply with flagging retail sales and corporate profits. Income tax receipts are also sure to suffer as the job market weakens. California and Florida are under the most financial pressure, but states as far-flung as Arizona, Minnesota, and Maryland are also struggling.

As most state governments are required by their constitutions to quickly eliminate their deficits, most are already drawing up plans to cut funding for programs ranging from healthcare to education and cutting grants to local government. Local governments are having their own financial problems; most rely on property-tax revenues, which are slumping with house prices. Cuts in state and local government outlays are sure to become a substantial drag on the economy later this year and into 2009.

Additional federal aid to state governments will fund existing payrolls and programs; thus it will also provide a relatively quick economic boost. States that receive a check from the federal government will quickly pass on the money to workers, vendors, and program beneficiaries.

Arguments that state governments should be forced to cut spending that has grown bloated and irresponsible, are strained at best. State government spending and employment are no larger today as a share of total economic activity and employment than they were three decades ago. Moreover, arguments that

[7] The economic efficacy of investment tax incentives provided earlier this decade is examined in "A Retrospective Evaluation of the Effects of Temporary Partial Expensing," Cohen and Cummings, Federal Reserve Board, Finance and Economics Discussion Series Working Paper No. 2006-19, April 2006.

Chart 6: Quick Fiscal Stimulus Would Support GDP...
Contribution to real GDP growth, average annual % change

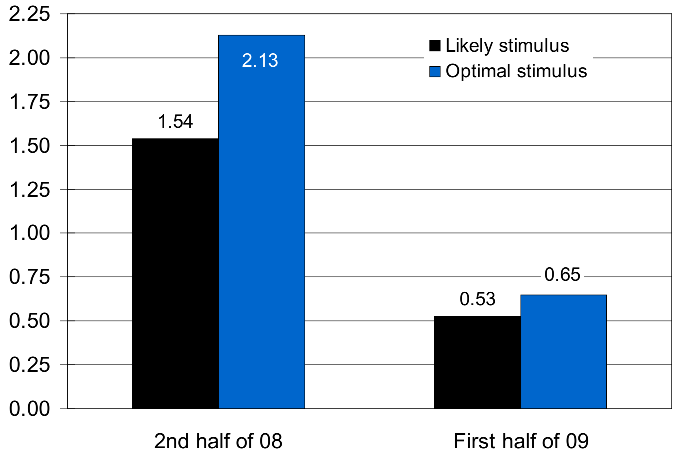
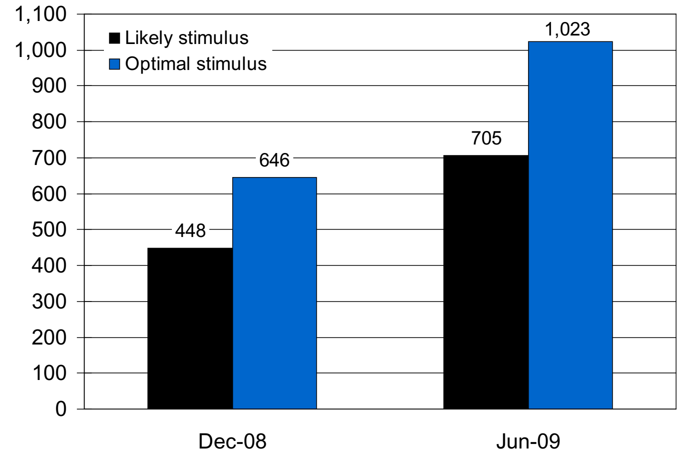


Chart 7: ...Lift Employment...
Change in payroll employment, thousands



helping states today would encourage more profligacy in the future also appear overdone. Apportioning federal aid to states based on their size (either by GDP or population), rather than on the size of their budget shortfalls, would substantially mitigate this concern.

Other options. Fiscal policymakers have a number of other options for providing stimulus, some of which have been used in the past, but have some significant shortcomings and are thus not likely to be included as part of the current stimulus plan. Most notable are spending on the nation's infrastructure and making the current tax rates on dividend income and capital gains permanent.

On the face of it, increased infrastructure spending appears to be a particularly efficacious way to stimulate the economy. The boost to GDP from a dollar spent on building new bridges and schools is estimated to be a large $1.59, and who could argue with the need for such infrastructure. The overriding limitation of such spending as a part of a stimulus plan, however, is that it generally takes a substantial amount of time for funds to flow to builders and contractors and into the broader economy (see Table 1). *It should be noted that the economic bang for the buck estimates shown in Table 1 measure the change in GDP one year after the spending actually occurs; it says nothing about how long it may take to cut a check to a builder for a new school.* Many infrastructure projects can take years from planning to completion. Even if the funds are only used to finance projects that are well along in their planning, it is very difficult to know just when the projects will get under way and the money spent. Also complicating the use of infrastructure spending is the politics of apportioning these funds across the country in a logical and efficient way. Simply allocating the funds proportionately could very well result in some poorly designed projects being funded.

Making the current dividend income and capital gains tax rates permanent would also make for poor economic stimulus. The current 15% tax rate that most investors currently pay is set to soon expire and tax rates will jump. There is an argument that making them permanent would create some certainty for investors who are currently very uncertain regarding the prospects for the stock and bond markets. Regardless of the longer-term benefits of taking such a policy step, however, the near-term economic boost would be small. The problems plaguing financial markets are broad and deep and unlikely to be measurably affected by such a policy change. Moreover, even under the best of circumstances in financial markets, the impact of such a move has a small estimated economic bang-for-the-buck of only $.37.

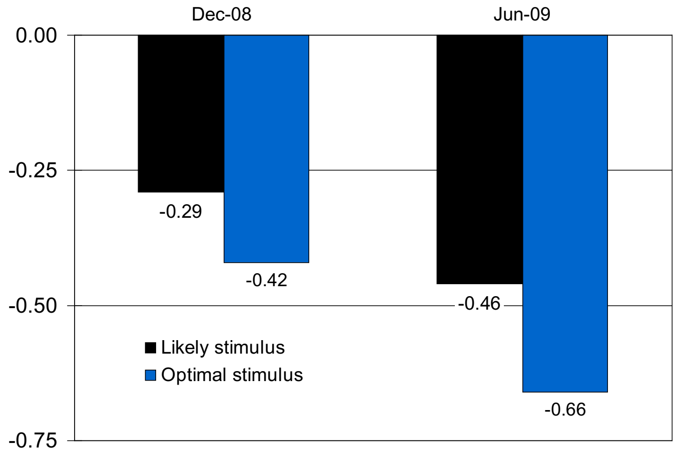
Macroeconomic impacts. To assess the macroeconomic consequences of fiscal stimulus, Moody's Economy.com simulated two different hypothetical plans. The first plan is the most likely to become law given current political realities, while the second is an idealized plan whose objective is maximizing near-term economic growth, without regard to politics. Both provide a measurable boost to the economy during the second half of this year and early in 2009. Neither plan will prevent a recession if one has already begun, because they will not benefit the economy until midyear at best. Yet they are substantive enough to significantly mitigate the severity and length of any downturn.

Taking the president's lead, Congress is most likely to pass a fiscal stimulus plan costing $150 billion. The plan will include a non-refundable $100 billion tax rebate; bonus depreciation and increased expensing for small businesses costing $25 billion; and an extension of UI benefits and an expansion of food stamps that together account for the remaining $25 billion. We assume the plan becomes law in March, and the tax rebate is issued between mid-June and mid-August. The investment incentives and the expanded UI and food stamp benefits are assumed to extend through mid-2009.[8]

This plan will lift annualized real GDP growth by 1.5 percentage points during the second half of 2008, and by 0.5 percentage points during the first half of 2009. (see Chart 6). The additional output growth translates into nearly 450,000 more jobs by year-end 2008 than would be created without the stimulus, and 700,000 more jobs by midyear 2009 (see Chart 7). Unemployment will be measurably lower as a result, with the jobless rate nearly half a percentage point lower by mid-2009 (see Chart 8).

[8] Monetary policy as measured by the federal funds rate is determined endogenously in the model based on a Taylor-rule reaction function.

Chart 8: ...And Lower Unemployment
Change in unemployment rate, basis points



Under our idealized stimulus plan, which we also assume to cost $150 billion, there is a refundable tax rebate worth $100 billion; $25 billion for increased spending on UI benefits and food stamps; and $25 billion in state government aid. The tax rebate is issued this summer, and the extra spending is assumed to take place through mid-2009. The key differences between the optimal and most likely stimulus plans are the refundable versus non-refundable tax rebate and state government aid instead of business investment incentives. The refundable tax rebate is assumed to be based on payroll tax rolls that are much broader than federal income tax rolls; the state government aid is provided to states' via grants to their general funds.

The boost to GDP growth from the idealized fiscal stimulus plan is substantial. Annualized real GDP growth is estimated to be 2.1 percentage points greater during the second half of 2008 than would be case without the stimulus, and 0.7 percentage points greater in the first half of next year. Payroll employment is more than 1 million jobs higher by mid-2009 as a result, and the unemployment rate is 0.7 percentage points lower. The idealized stimulus plan leads to 300,000 more jobs by mid-2009 than in the most likely plan, and an unemployment rate that is a quarter percentage point lower.

Conclusions. The U.S. economy may not be able avoid a recession in coming months; but with deft and aggressive monetary and fiscal policymaking, we can ensure that if the economy suffers a downturn it will be short and modest.

Indeed, the last two recessions in 2001 and 1990-1991 were short and mild by post-World War II standards, but only because of the aggressive monetary and fiscal stimulus provided to shore up the economy. In the early 1990s' downturn, the real federal funds rate fell from 5% to 0%, and the federal budget deficit increased from 3% to 5% of GDP. Early in this decade, the real funds rate fell from 4% to -1%, and the federal budget went from a surplus equal to 2% of GDP to a deficit of 4%. So far in the current period, the real funds rate has fallen from 3% to 1.25% and there has been no fiscal policy response.

Policymakers must act now to shore up the unraveling economy. The Federal Reserve has become much more aggressive, slashing the federal funds rate by 1.75% since the summer to a current target of 3.5%. Even more rate-cutting is likely on the way. Various fiscal automatic stabilizers are now beginning to kick in as the economy falters. Tax revenue growth is sure to soon slow sharply, and spending on various transfer programs will quickly ramp up. Even if the Bush administration and Congress do nothing in response to the eroding economy, the budget deficit will increase substantially.

Doing nothing would be a mistake, however. Fiscal policymakers have a window of opportunity to provide substantial help in a timely and targeted way. A well-designed tax rebate this summer, plus additional help to financially-pressed households reliant on unemployment insurance and food stamps would go far in boosting a flagging economy. The stimulus should be temporary, so that the resulting larger deficit this year and next does not exacerbate the nation's long-term fiscal challenges. A well-timed, targeted, and temporary stimulus could in fact cost the Treasury less in the long run, since a debilitating recession would severely undermine tax revenues and prompt more government spending for longer.

What policymakers decide to do or not do in the next few weeks will determine whether millions of Americans lose jobs this year, and will significantly affect the economic well-being of all of us.

About Moody's Economy.com

Moody's Economy.com, a subsidiary of Moody's Corporation, is a leading independent provider of economic, financial, country, and industry research designed to meet the diverse planning and information needs of businesses, governments, and professional investors worldwide. Our research has many dimensions: country analysis; financial markets; industrial markets; and regional markets. Moody's Economy.com information and services are used in a variety of ways, including strategic planning; product and sales forecasting; risk and sensitivity management; and as investment research.

We have over 500 clients worldwide, including the largest commercial and investment banks; insurance companies; financial services firms; mutual funds; governments at all levels; manufacturers; utilities; and industrial and technology clients.

Moody's Economy.com is headquartered in West Chester, Pennsylvania, a suburb of Philadelphia. We also maintain offices in London, England and Sydney, Australia. For more information on our worldwide offices, please visit www.economy.com.

Office Locations

LONDON
Moody's Economy.com
2 Minster Court
Mincing Lane
London, EC3R 7XB UK
Phone:+44 (0) 20 7772 1646
Fax: +44 (0) 20 7772 1700

SYDNEY
Moody's Economy.com
Level 10
1 O'Connell Street
Sydney, NSW, 2000, Australia
Tel: +61 (02) 9270.8111
Fax: +61 (02) 9252.3181

WEST CHESTER
Moody's Economy.com
121 N. Walnut Street, Suite 500
West Chester, PA 19380
Tel: 610.235.5000
Fax: 610.235.5302

Moody's | Economy·com