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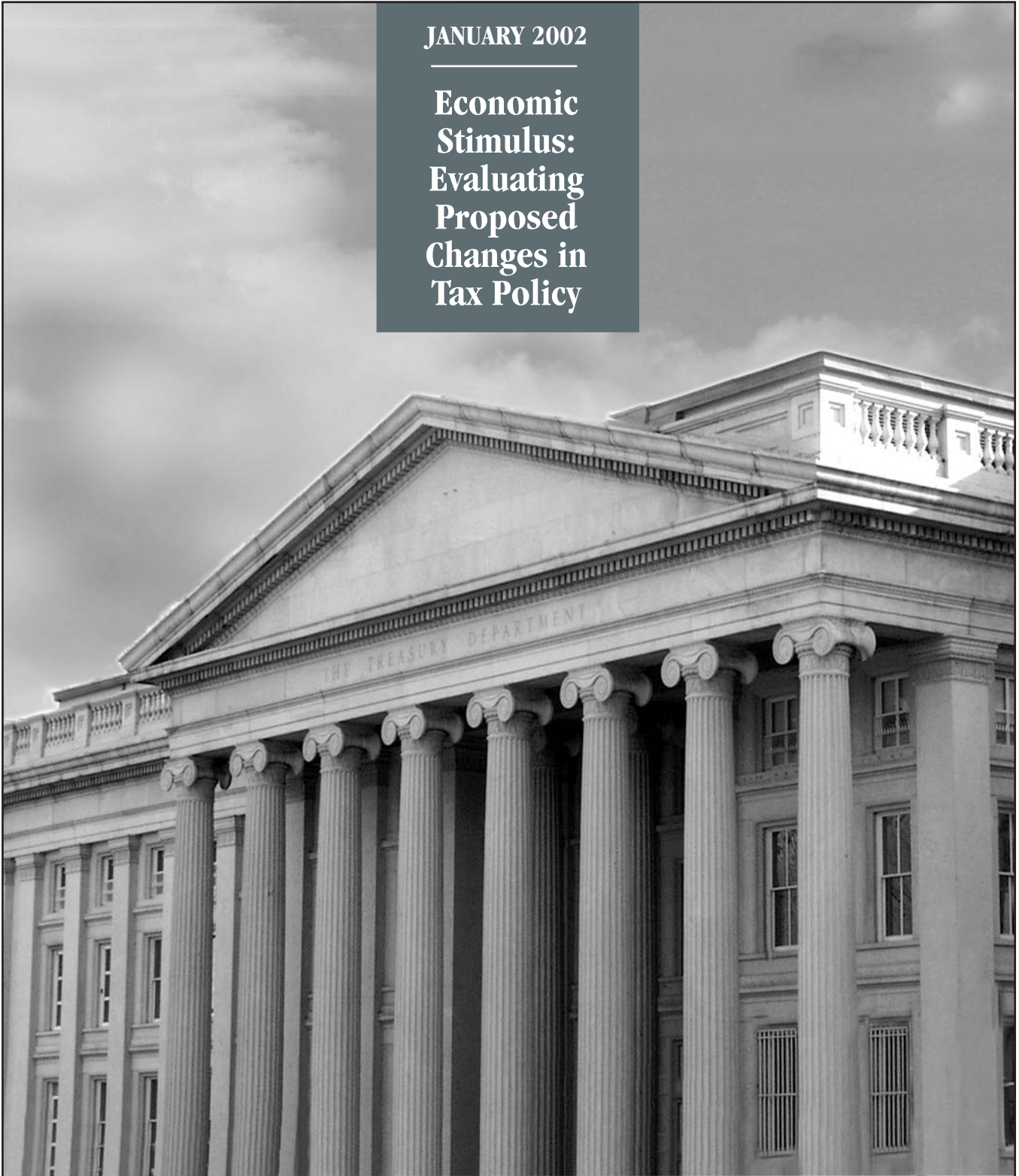
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CBO

PAPER

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**Economic
Stimulus:
Evaluating
Proposed
Changes in
Tax Policy**



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in Tax Policy**

January 2002

**The Congress of the United States
Congressional Budget Office**

Preface

The sustained slowdown in U.S. economic growth over the past year—despite interest rate cuts by the Federal Reserve and the passage, last summer, of the Economic Growth and Tax Relief Reconciliation Act—has prompted calls for additional stimulative action by the Congress. This Congressional Budget Office (CBO) paper discusses some general economic principles that underlie fiscal stimulus and assesses several proposed changes in tax policy intended to boost demand in the short term. The report responds to questions about fiscal stimulus raised by the Chairman of the Senate Budget Committee. In accordance with CBO's mandate to provide impartial analysis, the paper contains no recommendations.

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Dan L. Crippen
Director

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Summary

The U.S. economy is now in a recession, despite interest rate cuts by the Federal Reserve and the fiscal stimulus provided by tax rebates under the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA). Additional measures have been proposed to stimulate the economy, many of them in the form of tax cuts.

This Congressional Budget Office (CBO) paper analyzes those approaches to providing economic stimulus and also discusses some of the general economic principles that underlie it. The assessments that the report offers are limited to the short-run stimulative effect of tax policies and do not extend to the policies' possible value in promoting growth over the long run. And although some kinds of government spending may also stimulate the economy, the paper discusses only tax-related options. Similarly, it does not analyze other forms of stimulus, such as monetary policy or the possible interactions of monetary policy and fiscal policy. Nor does it address the question of the appropriateness of providing stimulus at this time. As with any CBO analysis of proposed economic policy, the assessments in this report are based on the assumption that the alternative for the purpose of comparison is the budget projection under current law. Effects could be different under different assumptions about the government's finances—that is, revenues, spending, and debt—in the absence of the proposed policy changes.

The paper focuses on cuts to personal taxes (income and payroll) in the form of rebates, withholding holidays, and acceleration of scheduled marginal rate cuts; it also discusses a state sales tax holiday. Among the business tax cuts that the report examines are proposals related to the alternative minimum tax, the treatment of subpart F income, accelerated depreciation or the expensing of new investment, and investment tax credits. It also assesses the stimulative effects of reducing capital gains taxes. The paper ranks the proposals according to cost-effectiveness—that is, their first-year stimulus “bang” per total budget “buck.” It concludes that most of the tax cuts that the report analyzes are unlikely to generate large first-year increases in gross domestic product.

Some General Principles of Fiscal Stimulus Through Tax Cuts

The effectiveness of tax cuts in stimulating an economy with slack capacity is largely determined by their ability to boost demand rather than supply. Tax cuts to stimulate economic activity in a recession do so by spurring additional demand. Supply-side incentives (that is, those that increase people's willingness to save or work) are essential for economic growth in the long run, but they do not directly address the current problem of the economy's short-term inability to use its existing capacity to produce goods and services. Consequently, the standard for judging the likely success of tax policy for countercyclical purposes is different from the standard for evaluating the policy's contribution to long-term growth. A tax cut is an effective fiscal stimulus if it creates sufficient demand to engage more of the economy's existing productive capacity. A number of tax policies that are potentially desirable over the long term would generate little short-term stimulus.

A tax cut provides short-term fiscal stimulus when it increases consumption or investment demand. Consumption by households is generally stimulated when either after-tax income or lifetime wealth rises because of a reduction in taxes. Investment by businesses is typically stimulated when a tax cut boosts the after-tax return on capital sufficiently to make it profitable to invest more.

In general, tax cuts designed to encourage more consumption are effective if they leave consumers with additional spending power. The bigger the chunk of their income that consumers are willing to spend instead of save, the more stimulus there will be from a particular tax reduction. But households do not predictably spend a fixed proportion of the extra income left in their hands when taxes are reduced. Rather, a household's propensity to consume appears to vary with its income and depends on expectations within the household of what will happen to that income over the longer term. But a household's consumption also varies for reasons that are little understood.

In the case of businesses, the motive behind cutting taxes is to create a stronger incentive to invest. Increasing the after-tax income of businesses typically does not create an incentive for them to spend more on labor or to produce more goods and services because production depends on the ability to sell output. But since taxing business income essentially lowers the return that firms earn from capital investment, reducing taxes on the income from new investment increases that return and firms' willingness to acquire more capital—that is, to invest. Tax cuts can also stimulate investment less directly, through a secondary channel, by making more internally generated funds available to firms that might otherwise have difficulty obtaining outside financing for investment. But in general, the more a business tax cut is focused on income from new capital as opposed to in-

come from old capital, the more effective it will probably be in stimulating new investment.

Whether a tax cut is temporary or permanent also influences its effectiveness. In deciding whether to spend, consumers consider not only their current income but also their expected income over a long period. Making a cut in income or payroll taxes temporary tends to reduce the stimulus it provides to consumption because the cut's effect on lifetime income is small. In contrast, the stimulus provided by some tax cuts for business investment can be increased by making them temporary. Firms may view them as one-time opportunities for tax savings, which may induce them to move up some of their future investment plans to the present. They might not take that step if they knew that the tax advantage would remain in place and be available to them later.

The economic effects of a tax cut, however, depend on the public's perception of its likely duration. A personal tax cut that is intended to be longer-lived may nonetheless be perceived as temporary, dampening some of its stimulative effect. Similarly, a business tax cut that is intended to provide only a temporary opportunity for investment may in fact be seen by firms as permanent and so lose some of its stimulative power.

Approaches to Cutting Personal Taxes

Proposals for cutting personal taxes include additional rebates to taxpayers who got less than the maximum rebate under EGTRRA, a payroll tax "holiday," an advance in the date of the marginal income tax rate cuts currently scheduled under EGTRRA, and a state sales tax holiday underwritten by the federal government.

Extending the Rebates Under EGTRRA

Two somewhat different proposals would provide fiscal stimulus by extending last summer's rebates under EGTRRA. One proposal would grant additional rebates so that every taxpayer who filed an individual tax return for 2000 would receive the maximum rebate allowed under the law, regardless of whether he or she had income tax liability. The other proposal would extend EGTRRA's rebates so that they were based not only on income taxes paid in 2000 but also on payroll taxes. Thus, individuals who did not receive the maximum rebate based on the income taxes they had paid would receive one based on their combined income and payroll tax liability. By their structure, both proposals would target much of the tax cut toward lower-income households, which, evidence suggests,

tend to spend more of any additional income they receive than do higher-income households.

These rebate proposals would have a moderate “bang for the buck”—that is, they would produce moderate stimulative effects relative to the total revenues lost over the lifetime of the provision. One positive feature is that these proposals direct the rebates toward the households that are more likely to spend them. As some available evidence has shown, however, consumers are generally less likely to spend rebates than they are to spend the income from tax cuts that leave them with bigger paychecks.

Instituting a Payroll Tax Holiday

A “payroll withholding holiday” would eliminate payroll tax withholding during a specific interval, probably a month. In comparison with the other options being considered, a payroll tax holiday would probably have a large bang for the buck, on the basis of the observation that higher paychecks induce spending more effectively than rebates do and that the stimulus reaches many families with lower earnings. Some of the option’s cost-effectiveness would be lost, however, if the employer’s share of payroll taxes was also eliminated during the holiday. That additional tax relief would add to the cost of the option without generating a significant increase in consumption.

Accelerating Rate Cuts Scheduled Under EGTRRA

Under one proposal, some of the cuts in marginal tax rates scheduled to take effect in 2004 and 2006 under EGTRRA would become effective immediately. EGTRRA’s marginal rate cuts were intended largely to stimulate economic growth over the long term. Compared with the other personal tax cuts, the first-year stimulus that this proposal would generate relative to its total revenue loss is probably small. Because the cost extends through 2005, the first-year stimulus from advancing the reductions (although marginally larger than that from the other cuts) is purchased at a substantially higher total loss of revenues over the life of the provision.

Implementing a Sales Tax Holiday

This proposal calls for the federal government to reimburse states for the revenue they would forgo by not assessing and collecting sales taxes for some interval, probably a month. The bang for the buck of this proposal is very uncertain. It

could be large because the holiday both leaves consumers with more after-tax income and reduces the cost of consumption. It also provides an incentive to shift future planned purchases to the present. But the lag in implementation that would occur while states' legislatures took the necessary actions could not only push much of the stimulus beyond the first year but actually slow sales during the period in which consumers would be awaiting the holiday.

Approaches to Providing Incentives for Businesses

Tax cuts for businesses may take two forms. They may be general, such as a cut in the corporate tax rate, or they may apply only to new investment, such as the investment tax credit. Because a general tax cut would apply to income generated from both old and new capital, only part of the cut would offer businesses an incentive to undertake new investment.

Repealing the Corporate Alternative Minimum Tax

One proposal for stimulating the economy would repeal the corporate alternative minimum tax (AMT). Under the AMT, a corporation pays an additional tax when its alternative minimum tax liability exceeds its regular tax liability. But after paying an AMT, a corporation is allowed an AMT credit in any subsequent tax year in which its regular tax liability exceeds its minimum tax. In the long run, eliminating the AMT may be useful as a permanent reform. It may also be necessary to make changes in the AMT to ensure the fullest effects from other corporate tax cuts, such as accelerated depreciation (discussed below). But eliminating the AMT does little by itself to change the near-term incentive for businesses to invest. Its bang for the buck is small because it is primarily a reduction in taxes on the return from capital that is already in place, not an incentive for new investment. In particular, the refunding of the accumulated AMT credits, a feature of some proposals, would involve substantial costs without providing any significant incentive to increase investment.

Changing the Treatment of Subpart F Income

Multinational corporations domiciled in the United States have a tax advantage that, in general, allows them to postpone recognizing—and paying taxes on—their income from subsidiaries abroad. (The advantage derives from the fact that a dollar today is worth more than a dollar in the future; thus, postponing tax liability is valuable to the taxpayer.) However, “passive” income from financial activities defined under subpart F of the Internal Revenue Code constitutes an exception

and is treated differently. A number of industry representatives advocate deferring recognition of subpart F income to stimulate economic growth. Such a deferral (even if it was desirable to meet other, possibly long-term, goals) would have virtually no effect on the cost of domestic investment and thus would provide little stimulus. Extending deferral would offer only a small bang for the buck because it would primarily affect income from existing capital and foreign, rather than domestic, economic activity.

Accelerating Depreciation or Expensing New Investment

These two proposed changes are incentives that encourage investment by helping postpone business tax liability. Current proposals include expanding the existing expensing incentive for small firms and instituting the partial expensing of all new equipment investment. (Under partial expensing, firms could deduct a percentage of the value of a qualifying investment during the first year in which it entered service.)

Although expensing would be an effective investment incentive, the current proposals to expand existing expensing would have little effect on investment demand, because they would affect relatively few investment decisions. In terms of stimulus, accelerated depreciation would work in much the same way as partial expensing. The bang for the buck from the partial expensing proposal would be moderate—but only for a temporary version of the incentive. Extending the period under which expensing could be used would reduce the option's cost-effectiveness because it would decrease businesses' incentive to invest in the first year and increase the total revenue cost.

Reviving Investment Tax Credits

An investment tax credit permits a firm to reduce its tax liability in a given tax year by a percentage of the cost of the qualifying investment it places into service during that year. The likely bang for the buck of investment tax credits would be similar to that of accelerated depreciation and expensing. However, the option's cost-effectiveness could be boosted by making the credit incremental (that is, by applying the tax benefit only to investment above some base amount).

Proposals Related to the Treatment of Capital Gains

Capital gains are subject to the individual income tax. But the gains typically result from business activities, and many advocates of cutting capital gains taxes favor that approach because of the salutary effect such cuts might have on saving, business investment, and entrepreneurship. Current proposals include cutting the rates, increasing the net losses deductible against ordinary income, and eliminating the conditions currently imposed on the new 8 percent and 18 percent rates. In general, little immediate fiscal stimulus would be provided by cutting capital gains tax rates or expanding capital loss provisions.

Relative Efficacy of the Proposals

The payroll tax and sales tax holidays are likely to have the greatest bang for the buck of the proposals assessed in this report. The delays inherent in implementing the sales tax holiday, however, substantially undercut its likely usefulness as a stimulative mechanism. It is also the smaller of the two proposals for tax holidays in terms of its dollar impact. The bang for the buck of a payroll tax holiday would be reduced if the holiday extended to the employer's share of payroll taxes; that extension would add to the cost of the option without generating a significant increase in consumption. Both of the holiday proposals are uncertain in their effects, with significant downside risks.

Next in ranking by likely cost-effectiveness are the extended EGTRRA rebates and the two marginal investment incentives (partial expensing and the investment tax credit). If the investment tax credit was made incremental, its cost-effectiveness would increase substantially. Again, however, both the rebates and the marginal investment incentives are characterized by significant uncertainty. Advancing the cuts in marginal income tax rates as provided under EGTRRA would have a relatively small bang for the buck because of the option's cost. The remaining incentives—modifications to the tax treatment of subpart F income, repeal of the corporate alternative minimum tax, and reductions in capital gains taxes—would be least likely to generate significant stimulus.

Economic Stimulus: Evaluating Proposed Changes in Tax Policy

The U.S. economy reached a cyclical peak in March 2001 and is now in recession. Gross domestic product (GDP) declined at an annual rate of 1.3 percent in the third quarter of calendar year 2001; virtually all forecasters believe that a similar or greater shrinkage is occurring in the fourth quarter. The Federal Reserve has countered that slowdown with monetary expansion in the form of a series of interest rate cuts, the most recent on December 11. The Congress has also acted, providing fiscal stimulus through income tax reductions and rebates in the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), passed early this summer.

With the continued slowing of the U.S. economy, policymakers have shown interest in additional fiscal stimulus. Many such proposals have centered on tax cuts. On October 24, the House passed H.R. 3090, a stimulus package with an estimated \$100 billion in cuts (for fiscal year 2002) that are intended to boost economic performance. On November 9, the Senate Finance Committee reported out its version of the bill, with an estimated \$38 billion in tax cuts for 2002. A second House stimulus bill, H.R. 3529, which was passed on December 20, has an estimated \$73 billion in 2002 cuts.¹ All variants of the package also propose to stimulate the economy by increasing spending.

This Congressional Budget Office (CBO) paper discusses how various tax-cutting proposals are likely to affect the economy's performance in the near term. It explains the basic economic principles that underlie fiscal stimulus and assesses how well specific proposals embody them. The report focuses on the major tax components of the House and Senate bills as well as on other proposals that have received prominent mention in debate and discussion. Where available, cost esti-

1. Those calculations of lost tax revenue include rebates and refunds that for budgetary purposes may be counted as outlays.

mates by the Joint Committee on Taxation (JCT) are provided. To the extent possible, the paper also presents qualitative assessments of the policies' likely economic impact. Those assessments are expressed in terms of comparative cost-effectiveness, or "bang for the buck"—that is, the amount of first-year stimulus that the policy would generate relative to its lifetime revenue loss.

Limitations of the Analysis

To limit the scope of the analysis, this paper focuses on tax policies as counter-cyclical tools, gauging their ability to boost short-term overall demand in the economy. But there are several other important questions that might also be raised. Does the economy need fiscal stimulus? How would a change in fiscal policy affect monetary policy? Could increases in spending also stimulate the economy? And what are the long-run effects of changing tax policy? Those issues are briefly discussed below.

The Need for Stimulus

A complete analysis of proposals calling for fiscal stimulus would evaluate the need for stimulus. Stimulus of any type has limitations: for example, implementing it may take time, and its effects may be delayed; it also has costs and risks. A downturn that was shallow or brief would not call for stimulus to the degree that a deeper or longer recession would.

In addition, the federal budget has within it a number of features that constitute automatic stimulus. As the economy slows, the decline in income, payrolls, profits, and production causes tax receipts to fall relative to spending—and causes outlays, such as for unemployment compensation and food stamps, to rise. A decline of 1 percent in the growth of GDP starting at the beginning of 2001, for example, would reduce tax receipts by \$30 billion in 2002 without any legislative action. Those automatic stabilizers can affect the economy in ways similar to legislated changes in taxes and spending. Additional considerations, such as budget constraints and other economic goals that may not be consistent with stimulative policies, might also enter into determining whether stimulus is appropriate at this time. However, that discussion is beyond the scope of this examination.

The Interaction of Monetary and Fiscal Policy

In general, stimulus can be provided through monetary or fiscal actions. Monetary policy, a Congressional function under the constitution, has been delegated to

the Federal Reserve. It takes the form of injecting additional money into the economy and lowering interest rates. Fiscal stimulus is determined by the Congress and the President. It takes the form of altering policies on taxes and government outlays that either directly or indirectly increase spending in the economy.

Monetary and fiscal policy are independent in the sense that no formal mechanism exists to coordinate them. But the Congress's fiscal policy can influence the Federal Reserve's monetary policy and vice versa. Consequently, assertions about the effects of fiscal policy depend on assumptions about monetary policy. If fiscal stimulus caused offsetting actions by the Federal Reserve, the impact of Congressional actions might be weaker than would otherwise be expected.

That statement is not meant to imply that officials of the Federal Reserve are in any way intent on undoing the Congress's actions. Rather, it recognizes that both are pursuing the same goal: restoring the economy to a level of employment consistent with sustainable long-term growth. The Federal Reserve continuously monitors economic conditions and stands ready to adjust monetary policy when the economy demonstrates ongoing weakness. Should the Congress implement an expansionary fiscal policy, the Federal Reserve might not cut interest rates to the same degree that it would have if the economy had continued to show weakness. To that extent, fiscal policy would to some degree displace monetary policy.

This paper makes no effort to discuss how offsets resulting from a change in monetary policy would affect the impact of fiscal policy. Rather, the report focuses solely on the effect of proposed fiscal actions.

Spending as an Alternative or Supplement to Tax Stimulus

Fiscal policy comprises actions related not only to taxes but also to government spending. An increase in spending can stimulate the economy in the short run in much the same manner as a tax cut can. One advantage of using increased spending for stimulus is that it directly raises demand for goods and services, whereas the stimulative effect of a tax cut depends on the public's willingness to spend: if the public chooses not to spend the money from the cut, no stimulus is forthcoming. A significant disadvantage of many spending proposals is their slow spend-out rates, which may make them less effective than tax cuts in boosting short-run demand. A problem common to both tax cuts and spending increases is that they may be difficult to reverse after the economy has recovered.

One advantage of tax cuts over increased spending is their potentially beneficial effect on economic efficiency—which, in simple terms, is the “right” mix of output and use of resources. Because taxes cause inefficiency, broadly based re-

ductions in them can increase efficiency in addition to providing stimulus. However, to be fully effective in improving economic efficiency, tax cuts generally must be permanent and not financed by additional government borrowing. And not all tax cuts are broadly based or efficiency-enhancing. Tax cuts favoring selected activities can have much the same effects on efficiency as government spending has—both can redirect the allocation of resources in the economy.

This paper focuses only on the efficacy of tax-policy changes in stimulating the economy, but that emphasis should not be construed as a preference for stimulus through tax cuts rather than through increased spending. Many of the issues that arise in comparing individual proposals to cut taxes differ from those that arise in comparing proposals to increase government outlays. This report is intended to help sort through some of those tax-related issues.

Short-Term Stimulus Versus Long-Term Growth

In evaluating the economic impact of proposed changes in tax policy, CBO has restricted its analysis to an option's usefulness in raising overall demand in the short term. Therefore, that assessment should not be taken as indicating how the proposal would affect growth and efficiency in the long term. Whereas longer-run tax policies designed to improve economic growth do so by increasing the economy's capacity to produce, the purpose of fiscal stimulus is to generate demand sufficient to engage more of the economy's existing productive capacity. Some policies, such as broadly based tax cuts, may help achieve both long- and short-run objectives. But some of the changes in tax law that are most effective in producing short-term stimulus provide little aid to—and may even retard—long-term economic growth if they are made permanent. At the same time, many options that promote long-term growth offer little short-term stimulus.

For example, in the short run, if slack capacity exists (that is, if the economy is underemployed), an effective stimulus would be one that increased consumption and decreased saving. Yet a decline in saving as a long-term policy would tend to slow economic growth because it would reduce capital accumulation and growth of the economy's capacity to produce. Similarly, a policy that increased worker productivity would be essential to economic growth in the long run because over that span, growth would depend on the economy's productive capacity. But in a recession, when demand is inadequate to employ all of that capacity, the same policy would produce little stimulus and, indeed, might further reduce the demand for the existing underemployed workforce.

In an underemployed economy, even policies that encouraged economic activity regarded as “wasteful” in the long run could be useful in providing stimulus.

In a period of slack capacity, the resources used for new expenditures—whether that spending is by government, consumers, or businesses—would otherwise have been unemployed. Consequently, even if those expenditures were not the most economically desirable, they could still be better than the alternative of the resources lying idle: they would still generate output of some value that would not otherwise have been produced. In the long run, though, the employment of resources to produce any output comes at the expense of other uses.

The degree of tension between long- and short-term policy goals varies with the stimulus option. For example, investment incentives that were broadly based and relatively neutral might help boost productivity. But investment incentives might reduce economic efficiency in the long run if they distorted the allocation of business capital. As a result, permanent investment incentives can simultaneously reduce the inefficiency caused by the taxation of business capital as a whole and increase the inefficient allocation of resources among various types of business capital.

Moreover, permanent tax cuts designed to boost consumption in the short run could slow the growth of the economy over the long term if they were financed by government borrowing. Unless the cuts increased private saving by more than the additional government borrowing, the policy would reduce national saving and the capital stock over the long term.

The discussion that follows emphasizes the effects that the various tax proposals for stimulating the economy would have on demand. Although a number of the proposals would increase supply—that is, increase the public's willingness to work or save—the paper describes their effects chiefly as they relate to the incentives to increase demand.

Some General Principles of Fiscal Stimulus Through Tax Cuts

A tax cut that provides short-term fiscal stimulus by increasing consumption or investment demand can have more impact than its initial size might suggest. The additional spending (by either households or businesses) that the stimulus generates engages some of the resources that are unemployed during a recession, and that new activity has further effects. Households whose income increases as a result of that additional economic activity subsequently consume more as well, adding to demand, and some of the firms that supply goods to satisfy the additional demand are encouraged to invest to add to their capacity. That process, by which an initial stimulus sets in motion repeated bouts of consumption and investment, is referred to as a multiplier effect.

The magnitude of the multiplier depends on how much of their income households tend to spend. The higher that proportion, the more powerful is the ultimate boost to demand. Hence, the efficacy of fiscal stimulus depends critically on households' tendency to spend the income placed in their hands. If the additional income that results from a tax cut is saved rather than spent, it will generate little extra demand and bring few resources into production. Consequently, tax cuts may have only a small effect in a period of high uncertainty, when households may be seeking to retrench.

The degree of stimulus that a tax cut can provide to the economy also depends on how much of the resultant spending goes to purchase domestically produced goods. If the additional consumption (or investment) demand is satisfied by imported goods, the income of foreign producers will rise, and the stimulus essentially will be exported. In general, it is difficult to determine whether a particular tax cut is more or less likely to generate demand for domestic as opposed to foreign goods. But in an open economy, some of the stimulus will benefit economies abroad instead of the domestic economy.

The timing of fiscal stimulus is also important. If the additional spending it generates is slow in coming, then it will provide little help to the economy when a boost is needed. Moreover, if it is so delayed that it takes place after the economy is substantially improved, it can contribute to overexpansion and higher inflation.

In general, most of the tax cuts surveyed in this paper are unlikely to generate large increases in GDP in their first year. Indeed, the boost in GDP from even the most effective of the proposed tax cuts is unlikely to substantially exceed the amount of revenue lost. The available evidence from economic models suggests that by the end of the year following implementation of a tax cut, GDP would probably rise by about 1.5 times the initial spending induced by the cut. But that initial spending may be substantially less than the additional funds that the cut leaves with taxpayers. For some of the proposals, the ultimate amount of stimulus provided would be much less than the revenue lost in the first year.

Differences Between Stimulating Household Consumption and Business Investment

The incentives associated with the initial stimulus of a tax cut are different for households and businesses. Consumption by households is generally stimulated when a tax cut raises either after-tax income or lifetime wealth. Investment by businesses is typically stimulated when a reduction in taxes boosts the after-tax return on capital sufficiently to make it profitable to invest more.

Households and Consumption. In general, tax cuts designed to encourage more consumption are effective because they allow consumers to keep more of their income and thus have more money to spend. And the greater the amount of their income that consumers are willing to spend instead of save, the more stimulus there will be from a given reduction in taxes. But households do not predictably spend a particular proportion of the extra income left in their hands as a consequence of a tax cut; rather, their propensity to consume appears to vary with their income and with their expectations of what will happen to their lifetime (as opposed to current) income. That propensity also varies for other reasons that are little understood.

As a general proposition, higher-income households save more of their income than do lower-income households. Although occasionally some data emerge to indicate otherwise, a large accumulation of evidence continues to show that as a household's income rises, the proportion of that income that is consumed falls.² Consequently, tax cuts that are targeted toward lower-income households are likely to generate more stimulus dollar for dollar of revenue loss—that is, be more cost-effective and have more bang for the buck—than those concentrated among higher-income households.

Because saving is often motivated by the need to provide for retirement and other future financial requirements, households take into account their expected income over a long period in choosing how much to spend. That makes the degree of stimulus from a tax cut less predictable than it would be if it simply depended on how much a cut increased households' after-tax funds; expectations of future fiscal changes may affect how much of the cut they are willing to spend. A tax cut now may call into question whether the government's long-term budget can stay in balance, and households may come to believe that taxes will be raised at some time in the future. As a result, the cut's effects on household consumption now might be smaller than those that could be expected if the cut was perceived as permanent.

A brief increase in a household's current after-tax income need not result in much additional spending because lifetime income—and therefore the average level of consumption over that lifetime—may not rise by much. Thus, the stimulative impact of a tax cut, especially a temporary one, may depend critically on households that make consumption decisions more on the basis of their current income than on their expected lifetime income.

2. See, for example, Martin Browning and Annmaria Lusardi, "Household Saving: Micro Theories and Micro Facts," *Journal of Economic Literature*, vol. 34, no. 4 (December 1996), pp. 1797-1855.

There are reasons that current income may play a more important role than lifetime income in some households' decisions about current consumption. Some households are constrained by their limited resources to spending no more than their current after-tax income. They may expect to have higher income in the future and would be willing to spend more based on that expectation, but they cannot, because they are already consuming all of their current after-tax income and have little ability to borrow to consume more. A tax cut in their case would not only increase their lifetime income and how much of it they might want to consume but would also permit them to consume now what they would otherwise have had to defer until later. Such households will tend to spend all or most of any tax cut they receive.

There are also other households that may intend to make their consumption decisions on the basis of lifetime income but in the short run use simple rules of thumb to determine how much to save and spend. They may periodically reevaluate their financial situation and then change their plans, but in the short term they have targets for the amounts that they will save or the proportion of their income that they will consume after taxes. When their after-tax income rises—even temporarily—they will consume most or all of it until some subsequent date, when they will reconsider their decisions about consuming and saving.

Despite substantial academic research, little is known about how households are likely to respond to a short-term or temporary addition to their after-tax income. In general, analysts believe that the taxpayers who are more likely to consume rather than save a temporary tax cut are those with lower income. It follows from that premise that a temporary cut in personal taxes most likely to produce economic stimulus would be one that put more resources in the hands of lower-income taxpayers.

Other factors can also influence the stimulative impact of a particular tax policy. For example, empirical evidence suggests that rebates are not as effective in stimulating spending as are tax cuts that result in less tax being withheld.³ (The reason may be that households are more likely to carefully consider how they dispose of a large sum than how they deal with small incremental changes to their paychecks.) Hence, households may tend to use rebates to pay down debt or to increase their saving in some other fashion. That conclusion appears to be supported by evidence from two surveys, one conducted in 1992 and the other conducted recently, that each asked a representative group of consumers what they would do with money generated by tax changes. The earlier survey asked respondents how much of the money they would spend from a reduction in their tax

3. See Nicholas Souleles, "The Response of Household Consumption to Income Tax Refunds," *American Economic Review*, vol. 89, no. 4 (September 1999), pp. 947-958; and Souleles, "Consumer Response to the Reagan Tax Cuts," *Journal of Public Economics* (forthcoming, 2001).

withholding; the more recent survey asked how much respondents would spend of the rebate they were supposed to get under EGTRRA. Consumers in the recent survey said that they would spend a smaller portion of any rebate they received than the consumers in the earlier survey said they would spend of their larger paycheck.⁴

Businesses and Investment. In the case of businesses, the motive behind cutting taxes is to create a stronger incentive for them to invest. Typically, increasing businesses' after-tax income does not encourage them to spend more on labor or to produce more because firms base their decision to produce output on their ability to sell it. But since taxes on business income essentially lower the return that firms receive from their capital investment, cutting such taxes can increase firms' willingness to acquire more capital—that is, to invest.

In the long run, a firm's decisions about investing depend largely on the profits it expects from its investments compared with the costs it incurs in making them (that is, its cost of capital). Efforts to stimulate investment typically concentrate on reducing the after-tax cost of capital by enough to make additional investments worth undertaking. The main route by which tax cuts encourage investment is by directly lowering the cost of capital. Cutting taxes on capital income raises a firm's return on its investment and makes new investment more attractive.

Tax cuts also affect the cost of capital through a secondary channel by making more internal funds available to firms for investment. Many firms either cannot readily raise funds to make their investments or face relatively high interest rates in borrowing. For them, there may be a variety of otherwise desirable investments that they cannot easily undertake except with funds they generate themselves. Tax cuts can increase the amount of internally generated funds available for investment.

Those two routes by which tax cuts encourage investment have different implications for policy. The direct route creates an incentive to invest only to the extent that the tax reduction lowers the cost of capital for prospective investment. Retrospective cuts that increase the returns from past investment do not necessarily contribute to the attractiveness of new capital spending. As a result, the more that a business tax cut is focused on income from new capital as opposed to income from old capital, the more effective it will probably be in stimulating new investment. Similarly, to provide stimulus, the cuts must apply to additional investment—that is, to investment that the firm might not otherwise have undertaken. Cuts that apply to the first few dollars of capital spending rather than the

4. See Matthew Shapiro and Joel Slemrod, "Consumer Response to Tax Rebates" (draft, University of Michigan and National Bureau of Economic Research, November 15, 2001).

last few are more likely to favor only investment that would have been undertaken anyway.

The secondary effects on investment that come from increasing the availability of internal funds for investment do not depend on the new/old capital distinction. Those effects occur whether the additional cash flow is generated by income from past investments or income from new ones; it is the availability of the funds that matters. However, the stimulative effects delivered through the cash flow channel are generally believed to be weaker, dollar for dollar, than a tax cut's direct effects on the cost of capital. Moreover, they work best for the class of firms that otherwise would have difficulty financing investments. Large, profitable firms that can borrow easily experience little change in their incentive to invest as a result of the cash flow channel.

The expectation of larger after-tax profits on investment, whether induced by the availability of internal financing or by direct reductions in the after-tax cost of capital, may not be enough to motivate firms to invest when the economy is lagging. Because demand for products is low during an economic slowdown, many firms may be reluctant to add capacity when they will have trouble selling the goods that they can produce with it. Hence, even very low taxes on capital may not greatly increase firms' desire to invest in the near term; firms may prefer to wait and invest later when demand for their goods will be higher and they will need more capacity to produce them.

Even a tax cut that is designed to lower the cost only of new investment will still reduce the cost of investment that would have taken place anyway. Thus, the cut produces windfall gains; that is, firms are rewarded for actions that they would have undertaken in any case. But favorable treatment for investment can be targeted toward expenditures that exceed some minimum value. Making the incentive incremental in that way potentially gives it more bang for the buck.

Creating an incremental tax incentive can be difficult, however. (Even an incremental investment tax credit, which is generally regarded as the easiest incentive to make incremental, can be hard to design and implement.) Since the level of investment that would have taken place without the incentive is unknown, some arbitrary rule—usually based on past levels—must be adopted to define how much investment has to occur to obtain the tax benefit. Defining the appropriate base level above which investment generates the benefit, especially for firms that are new, that have merged, or that have been subject to divestiture, is challenging. Other problems, such as how to treat leasing agreements, also make implementing an incremental incentive difficult.

Temporary Versus Permanent Cuts

Any tax cut alters the long-run fiscal position of the federal government. Consequently, cuts to provide fiscal stimulus are often temporary measures. Making a cut temporary, however, can alter its effectiveness.

As discussed earlier, consumers take into account their expected income over a long period in choosing whether to spend. And generally, a brief increase in a consumer's current after-tax income will not greatly affect his or her expected lifetime income. Thus, making temporary cuts in income or payroll taxes tends to reduce the stimulus they provide.

In contrast, some tax cuts for businesses can be made more stimulative by making them temporary. Temporarily cutting taxes on investment can provide one-time opportunities for saving that may induce firms to advance their investment plans to the present, a step they might not take if they knew that the tax advantage would remain in place and be available to them later. Thus, in contrast to income or payroll tax cuts, cuts aimed at investment can gain strength from being temporary.⁵

With respect to both personal taxes and business taxes, the economic effects of a cut depend on the public's perception of its likely duration. A personal tax cut that is intended to be permanent may nonetheless be perceived as temporary, reducing its stimulative effect. Similarly, a business tax cut that is intended to provide a brief temporary window of opportunity for investment may in fact be seen as permanent. Over the years, a number of temporary cuts have been repeatedly extended, effectively making them permanent in the eyes of the public. If firms believed that a temporary tax cut was likely to last, much of the stimulus it could offer might be lost. For example, firms would have little reason to accelerate investment if the tax benefit was likely to be available later. And even if they became sure that the tax cut was expiring, they might still delay their extra investment to the end of the time that the benefit was in effect.

The temporary-versus-permanent distinction highlights the tension between long- and short-term goals. Features built into tax cuts to reduce their long-term costs and make them effective as short-term stimulus can—if they are permanently maintained—detract from long-term growth. For example, because of the planning and implementation costs associated with long-lived investments, firms can most easily accelerate their plans for capital investments with short depreciable lives. Hence, most stimulus proposals exclude structures, an exception that

5. Some business tax cuts may have the opposite effect. A temporary cut in the corporate tax rate could cause firms to delay investing until the rate went back up and the resulting deductions were worth more.

reduces the revenue cost without much affecting the degree of stimulus. Such uneven treatment of assets, however, could be a source of inefficiency and wasted resources if it remained in the tax code permanently.

Approaches to Cutting Personal Taxes

Proposals for personal tax cuts involve income taxes and payroll taxes. Proposed cuts take the form of additional rebates to taxpayers who received less than the maximum amount under the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), a payroll tax “holiday,” and an advance in the marginal rate cuts currently scheduled under EGTRRA. A number of policymakers have also proposed a state sales tax holiday underwritten by the federal government.

Extending EGTRRA Rebates

The tax rebates issued last summer under EGTRRA depended on income tax liability in 2000. For a number of taxpayers, however, their income tax liability was insufficient to make them eligible for some or all of the rebate, even though their total federal tax liability was well in excess of the rebate’s maximum amount.⁶ That larger total tax burden was mainly due to payroll taxes, which for 40 percent of taxpayers exceed their income taxes.⁷

One way to place more cash in the pockets of consumers would be to extend EGTRRA’s provisions so that taxpayers’ rebates no longer depended solely on their income tax liability. Two current proposals would offer slightly different approaches to extending the rebates. One plan would grant additional rebates so that every taxpayer who filed an individual income tax return for tax year 2000 received the maximum rebate (\$600 for married taxpayers filing joint returns and \$300 for single taxpayers), regardless of whether he or she had income tax liability. The other proposal would extend EGTRRA’s provisions so that the amount of a taxpayer’s rebate was based not only on income taxes but also on the payroll taxes he or she paid. Thus, individuals who did not receive the maximum rebate

6. Over 85 million advance refund checks (based on tax liability for 2000) were mailed out to taxpayers. The total number of income tax returns filed for 2000 was about 130 million, and the number of households was about 105 million.

7. Economic theory and empirical evidence suggest that workers bear much of the employer’s portion of the payroll tax through lower wages and reduced fringe benefits. If the employer-paid portion of payroll tax receipts is counted as the contribution of the worker, roughly 80 percent of taxpayers pay more in payroll taxes than in income taxes.

allowed under EGTRRA could receive the full rebate based on their combined income and payroll taxes.

The Joint Committee on Taxation has estimated the cost of the rebate incorporated in both versions of H.R. 3090 and in H.R. 3529 at \$14 billion. That proposal is limited to taxpayers who filed income tax returns for tax year 2000—probably about 30 million of them; JCT has not estimated the second form of the rebate, the cost of which could be higher or lower. Many taxpayers who did not file a tax return for 2000 would be eligible under that second proposal to receive rebates based on payroll taxes, which would tend to increase the costs relative to the rebate proposed in H.R. 3090 and H.R. 3529. But many filers who would be eligible to receive a rebate under those bills do not have much payroll tax liability, which might make the cost of the payroll-based rebate smaller.

Under the proposal for rebates based on payroll tax liability, the task of determining who receives the rebate, the size of a taxpayer's specific rebate, and how the government delivers it would be complex. Detailed information about workers who paid payroll taxes in 2000 but did not file income taxes is not readily available. The Social Security Administration (SSA) processes the data for each taxpayer's payroll tax withholding, but compiling that information takes time. Further, the SSA does not have current addresses for some individuals.

Another factor that makes implementing a rebate proposal challenging is that a taxpayer's payroll and individual income tax payments are not tallied up in a single file. The files for individual taxpayers are separate—the one for payroll taxes resides at the SSA and the one for income taxes at the Department of the Treasury—which complicates determining how much an individual has paid overall. The need to generate such totals would slow down the return of funds to taxpayers.

Granting full rebates to all taxpayers who filed returns is much simpler. Indeed, in many ways, it is less complex than the rebate program implemented this past summer. The shortcoming of basing the rebates on tax returns is that the proposal would miss many families with low income. Households with little income and no tax liability are not required to file returns. If they pay no estimated taxes, have no income taxes withheld, and are not eligible for the earned income tax credit, they typically do not file.

The rebate proposals would have a moderate bang for the buck.⁸ As noted earlier, one of the drawbacks of a temporary personal tax cut is that it changes lifetime income very little. The proposed rebates would mitigate some of that

8. Table 1 on page 27 compares the level of stimulus provided by the options surveyed in this analysis.

shortcoming by directing the tax cuts at households that are more likely to spend a larger portion of the rebates. A remaining issue, however, is that on the basis of the available evidence, rebates are less likely to be spent than are tax cuts that leave households with bigger paychecks.

Instituting a Payroll Tax Holiday

A payroll tax withholding holiday would cancel payroll tax withholding during a specific interval, probably a month. That plan would redirect what otherwise would have been payroll deductions into current workers' paychecks. Although payroll tax cuts of that kind over a longer interval might be expected to increase the supply of labor, over a brief interval they would serve mostly to raise demand.

Estimates of the time that would be needed to implement a payroll tax holiday vary. Any change in payroll withholding takes time for employers to prepare. For those that use large payroll-processing firms, the costs and time required to make the changes might not be great. For smaller employers, reprogramming payroll systems could be both time-consuming and costly.

Relative to the proposal to extend the EGTRRA rebates, the payroll tax holiday would be somewhat more stimulative per dollar of lost revenue because of the tendency of households to spend more of a cut in withholding than of a rebate. Also, a larger share of the cuts in the payroll tax would reach people with lower earnings than would comparable cuts in income taxes.

The cost of a one-month payroll tax holiday would be higher than the cost of the extended EGTRRA rebates. One way to reduce the holiday's revenue cost while focusing even more of the cut on lower-income taxpayers would be to cap the amount of tax subject to the holiday. But that would further complicate the process of adjusting withholding and add to the time required for implementation.

The holiday approach has some other shortcomings. Only workers employed at the time of the holiday would receive the benefit; even if they had been employed for the previous 11 months, they would get nothing if they were unemployed for the month of the tax reduction. The holiday option might also encourage some firms to alter the timing of certain compensation in order to maximize the benefit for their workers.

A one-month holiday could cost roughly \$30 billion, assuming that both Medicare and Social Security taxes were forgone and only the employee's share

was subject to the holiday.⁹ As noted earlier, most analysts consider the employer's share of payroll taxes to be borne by employees; however, eliminating it for only a month would be unlikely to result in additional take-home income for workers because the time frame would be too short for the economy to adjust wages and salaries in response. Similarly, the reduction in wage costs that the employer experienced would be too brief to make it worthwhile to increase hiring. Consequently, a holiday for the employer's share is unlikely to produce much stimulus.

Among the options being considered for providing fiscal stimulus, a payroll tax holiday could have a comparatively large bang for the buck. That assessment is based largely on the observation that bigger paychecks might induce more spending than rebates would and that a payroll tax holiday would reach many lower-income working families. However, taxpayers receiving a one-month increase in take-home pay might not treat the extra money very differently from a rebate.

Accelerating Rate Cuts Scheduled Under EGTRRA

Under the provisions of EGTRRA, marginal income tax rates are scheduled to decline in 2004 and 2006. One current stimulus proposal would accelerate some of those changes to make them effective in 2002. The changes in the rates would be permanent, but this proposal would still be a temporary tax cut because it would only affect rates from 2002 to 2005. The rates are already scheduled to be at their proposed levels after 2005.¹⁰

The proposal has pluses and minuses from the perspective of fiscal stimulus. An advantage is that the rate changes would be reflected in withholding at the beginning of 2002; a disadvantage is that the cuts would miss a large number of taxpayers. Under the House version of H.R. 3090 and H.R. 3529, for example, the reduction of the 28 percent bracket to 25 percent, which was scheduled to be completed in 2006, would take effect in 2002. Approximately 30 percent of taxpayers would see their taxes fall. Those that did not would tend to be lower-income households that would probably respond relatively strongly to a tax cut.

9. That figure varies by month and reflects the cost for a holiday early in the calendar year. A late-year holiday, such as in December, would cost less because many taxpayers with higher earnings would no longer be paying Social Security taxes, having already reached the cap on wages subject to Social Security taxation.

10. The rate shifts might constitute a permanent change if taxpayers otherwise did not believe that the scheduled rate reductions would occur.

The rationale for concentrating the cuts among lower-income households is based on the goal of fiscal stimulus—that is, to boost demand. In contrast, the intent of EGTRRA’s marginal rate cuts as enacted was largely to encourage work and saving over the long run—that is, to boost supply. Thus, a disadvantage of the cuts for demand purposes should not be construed as a disadvantage for supply purposes.

The acceleration of the cuts would cost \$13 billion in 2002 and \$54 billion over the 2002-2006 period. The 2002-2011 cost would be the same, because there would be no additional revenue loss after 2006.

The bang for the buck from accelerating the marginal rate cuts scheduled under EGTRRA is probably relatively low compared with that from the other personal tax cuts. The bang for the buck is small in part because the costs of this approach to fiscal stimulus extend through 2005. Consequently, the marginally higher stimulus of the first year is purchased at a substantially higher total revenue loss over the life of the provision. One possible advantage of the option, though, is that its effects might be similar to those of a permanent tax cut because it could convince taxpayers that they will get the marginal rate cuts that are currently scheduled.

Implementing a Sales Tax Holiday

Some policymakers have proposed to stimulate consumption by inviting states to temporarily suspend (for a month, in most versions of the proposal) assessing and collecting sales taxes. The federal government would then reimburse the states for the forgone revenue.

The approach has several advantages. Like a withholding holiday, it would provide its tax savings to households in increments instead of in a lump sum, which would increase the chances that the funds would be spent rather than saved. In addition, the cut would be directly related to consumption, so that the greater the consumption of otherwise taxed goods, the greater would be a consumer’s savings. The tax holiday would effectively reduce the price of consumer goods, creating an incentive to purchase them in addition to providing more after-tax income to spend. Consumers would have a particularly strong incentive to buy so-called big-ticket items during the window of opportunity for escaping sales taxes. Since sales of those items often lag the most during economic slowdowns, a sales tax holiday would help target the extra spending toward those sectors of the economy in which it might smooth out the most severe cyclical reductions in demand.

Yet despite such positive features, the proposal has significant problems. Most important, it would require action by the states that have sales taxes, which in some cases would mean calling legislatures into special session. The delays inherent in that process might make it impossible to implement timely stimulus for the economy. Consumers might actually delay some of their spending while awaiting action by the states, thereby worsening the downturn. In addition, the incentive would not be uniform across the country. Sales tax rates and bases vary widely among the states, and in the five states that do not tax sales, a holiday from such a levy would provide no stimulus at all. It would also generate considerable disparity in the benefits going to people who live in different states.

A further factor to be considered is the care that must be taken in crafting the proposal. Provisions would be needed to prevent states and localities from “gaming” the arrangement—for example, by raising their sales tax rates during the period in which the federal government would be reimbursing them for the lost revenue. And some decision would have to be made about whether to apply the holiday to functionally equivalent levies such as gross receipts taxes.

Finally, the size of the cut itself is small relative to some of the other alternatives, such as a payroll tax holiday, since many goods and most services are not ordinarily subject to sales taxation. Moreover, some of the additional purchases spurred by the holiday may come at the expense of reduced consumption later.

The bang for the buck of this proposal is very uncertain. It could be quite large because it both leaves consumers with more after-tax income and encourages consumption. But the potential lag in implementation could not only push much of the stimulus beyond the first year but also slow sales during the period in which consumers were anticipating action.

Approaches to Providing Incentives for Businesses

Tax cuts for businesses may take two forms. They may be general, such as a cut in the corporate tax rate, or they may apply only to new investment, such as the investment tax credit. That distinction materially influences the proposed approaches’ effectiveness. A general cut may leave a corporation with more money, but its stimulative effect is likely to come principally from how much it increases the attractiveness of new investment. Because a general tax cut applies to income generated from both old and new capital, only part of the cut affects a firm’s decision to undertake new investment.

But even cuts focused on new investment may have only a limited effect on decisions to invest. For one thing, they may apply to investment that would have been undertaken anyway. Like general business tax cuts, their stimulative effect depends on firms having tax liability in the first place; without liability, such cuts generate no cost savings for firms. Moreover, the efficacy of some types of investment stimulus (such as accelerated depreciation) may be muted by the corporate alternative minimum tax (AMT), which can effectively undo cuts in regular corporate taxes.

Policymakers have several options for countering those drawbacks. Making incentives incremental by limiting them to investment above a certain amount could help focus them more narrowly on additional investment; however, it could also make the tax code more complex and difficult to administer. More firms might respond to investment incentives if the incentives were refundable or if the period was lengthened over which firms could carry back the value of the tax benefit and apply it against profits in earlier years. (The current carry-back period is two years; the current carry-forward time is 20 years.) And the AMT could be modified to make other incentives more effective.

Many proposals for stimulus that take the form of a general cut in business income taxes apply only to corporations. (Eliminating the corporate AMT is one such example.) Yet the output of the noncorporate sector—comprising proprietorships and partnerships—is substantial, equal to about one-third that of the corporate sector measured as value-added. Thus, tax stimulus that applied only to corporations would be less broadly applicable than stimulus applied to all businesses—for example, through accelerated depreciation, expensing, and investment tax credits. Such investment incentives could be used by corporations and by firms that do not have to pay corporate income taxes but still have to calculate income for taxation under the individual income tax.¹¹

Repealing the Corporate Alternative Minimum Tax

Repealing the corporate AMT is a widely advocated proposal for stimulating the economy. The Congress enacted the tax to ensure that no corporation with substantial income could avoid significant tax liability by using exclusions, deductions, and credits. Relatively few corporate taxpayers are subject to it. In 1997, only about 0.5 percent of corporate taxpayers paid the AMT.

11. S corporations would fall into that category. They do not pay the separate corporate tax; instead, their owners pay individual income tax on their share of the profits from the business.

Under the AMT's provisions, a minimum tax is imposed on a corporation when its alternative minimum tax liability exceeds its regular tax liability. The tax base of the AMT is more inclusive and therefore larger than that of the regular corporate tax. But the AMT's rate is 20 percent compared with a top marginal rate of 35 percent under the regular corporate tax. After paying an AMT, a corporation is allowed an AMT credit in any subsequent tax year in which its regular tax liability exceeds its minimum tax. The credit equals the amount by which the minimum tax liability exceeded the corporation's regular liability in the year in which the AMT credit was taken. Thus, in most instances, the credit effectively makes the corporate AMT a prepayment of tax rather than a separate levy.

Consequently, the AMT's primary effect is to increase the cost of investment by advancing the payment of tax. (Because a dollar today is worth more than a dollar in the future, any mechanism that advances tax liability is costly to the taxpayer.) A secondary effect is that the potential AMT credits lose value with inflation. Moreover, some may never be used, either because the firm never makes enough money to incur sufficient tax liability or because it remains subject to the AMT. Eliminating the minimum tax would tend over time to lower the cost of capital primarily by deferring the time when the corporation had to pay its tax.

Changes in tax law that occurred in 1993 and 1997 lessened the AMT's importance as a source of revenue. In 1998, gross tax receipts under the corporate AMT totaled \$3.3 billion, and credits for prior year payments amounted to \$3.4 billion. Thus, the credits from the AMT effectively offset the receipts and reduced revenues by \$0.1 billion. In 1997, receipts from the tax were \$3.9 billion, and the offsetting credits were \$4.1 billion, diminishing revenues by \$0.2 billion. As of 1998, the latest year for which data are available, approximately \$26 billion in credits were outstanding.

Eliminating the corporate AMT would have the advantage of reducing the uncertainty faced by firms that move on and off the tax. And it might also help other tax cuts, such as accelerated depreciation, deliver their full expansionary effect. But in terms of stimulus, it has many of the qualities of a general reduction in corporate taxes. On average, it raises the after-tax return on capital, but it does so for old as well as for new investment. Consequently, eliminating the corporate AMT does not have the bang for the buck of a tax reduction focused solely on new investment.

For some firms, repealing the AMT could make new investment more costly. A firm that is paying the AMT will be paying its marginal rate of 20 percent on the returns from new investment. Absent the minimum tax, the firm could face the higher corporate marginal rate of 35 percent on that income. Hence, with respect to new investment, it could see its marginal tax rate jump if the AMT was eliminated.

Discussions about repealing the corporate minimum tax raise the issue of the AMT credits that have been accumulated to date. Normally, a firm could not use those credits unless, until, and to the extent that its AMT liability fell short of its regular tax liability. For some businesses, that will never happen, and the credits are essentially lost to them. Refunding the credits, as the House version of H.R. 3090 proposes, would not directly reduce the cost of capital. The refunded credits would increase cash flow to the firms, which might make them more willing to invest. (In that case, the stimulus would operate through the secondary channel of making more internal funds available for investment.) However, much of the money from the refunded credits would go to firms that were not constrained in obtaining external funds and therefore would not be likely to invest a great deal more as a result. In addition, the refunds would provide no incentive to businesses to accelerate their investment plans. If firms wanted to use the funds for new investment, they could hold them until economic conditions improved.

At different times, the Joint Committee on Taxation has estimated the effect on revenues of permanently repealing the corporate AMT under two scenarios:

- *Without refundability*—JCT estimated that revenues would be \$11 billion less in fiscal year 2002, \$17 billion less for the five years from 2002 through 2006, and \$22 billion less for the 2002-2011 period.
- *With refundability* (as in the version of the repeal incorporated in H.R. 3090)—JCT estimated that revenues would be \$25 billion less in fiscal year 2002, \$23 billion less in 2002 through 2006, and \$24 billion less in 2002 through 2011. Of the cost in 2002 of the House bill, JCT attributes \$16 billion to the refundability feature.

JCT's cost estimates for the repeal without refundability are based on CBO's January 2001 baseline and assume that the policy would become effective for tax years beginning after December 31, 2000. Its estimates of H.R. 3090's version of the repeal with refundability are based on CBO's August 2001 budget baseline. Thus, the two sets of cost estimates are not directly comparable.

H.R. 3529 would modify the AMT with respect to depreciation, net operating losses, and foreign tax credits. JCT estimates the cost of those modifications to be \$1 billion in 2002, \$10 billion over the 2002-2006 period, and \$13 billion through 2011. The change in the treatment of depreciation under the AMT would serve to increase the incentive to invest but not to accelerate investment plans, because the change would be permanent. The revised treatment of net operating losses and foreign tax credits would do little to make new domestic investment more attractive to firms.

Eliminating the corporate AMT may be useful in the long run as a permanent reform or as a way to ensure that the economy derives the fullest effects from other corporate tax cuts. But it does little by itself to change the near-term incentive for businesses to invest. Its bang for the buck is small because it primarily reduces taxes on the return from capital already in place rather than provides an incentive for new investment. In particular, the refundability feature of some proposals would lead to substantial costs without a significant incentive to increase investment.

Changing the Treatment of Subpart F Income

For tax purposes, multinational corporations domiciled in the United States are generally able to defer recognizing income from their subsidiaries abroad—a significant tax advantage for such firms. An exception to that rule has been income from financial activities defined under subpart F of the Internal Revenue Code; that income must be recognized for tax purposes in the year in which it is earned.¹² Since 1998, income derived from the active conduct of certain banking, financing, and insurance activities has not been subject to subpart F recognition under a series of one-year exemptions. As a way to stimulate business investment, a number of industry representatives have advocated making that exemption permanent. The House version of H.R. 3090 would permanently allow firms to defer that income; the Senate Finance Committee’s version of the bill contains an additional one-year extension. H.R. 3529 would extend the exemption for five years.

JCT estimated the loss of revenue from the extension at \$300 million in 2002. The House version of the provision would cost \$6.5 billion from 2002 through 2006 and \$21.3 billion over the 2002-2011 period. The revenue loss that JCT estimated for the Senate version would total \$1 billion—because it would be a one-year extension of the current treatment and have costs only in 2002 and 2003. H.R. 3529 would have a five-year cost of \$7 billion and a 10-year cost of \$8 billion.

The argument advanced for changing subpart F treatment permanently is that it would lessen the incentives for multinational firms to move their headquarters abroad. Any influence, however, that changes in subpart F treatment might have on domestic employment in U.S. headquarters of multinational firms would

12. Subpart F income is mostly “passive” income of controlled foreign corporations. Passive income includes dividends, interest, royalties, and rents; gains from the exchange of property, commodities, and currencies; income from certain insurance activities; and other income. A controlled foreign corporation is one in which individual stockholders that each have more than 10 percent of the shares collectively control a majority of the shares.

be virtually impossible to exercise in the short term. Decisions to relocate corporate offices take time. Even a permanent change to subpart F treatment could have no effect on such employment over the time frame relevant to economic stimulus. In general, the treatment of subpart F income has little to do with overall domestic employment or output and primarily affects the attractiveness of investment abroad.

Although the change in tax treatment would have virtually no effect on the cost of domestic investment, it would increase cash flow to the affected corporations—mostly large multinational firms that are less likely than most to be constrained to investing internally generated funds. Thus, altering the tax treatment of subpart F income—even if it was desirable for other, possibly long-term, reasons—would provide little stimulus (because it would primarily affect income from existing capital and foreign rather than domestic economic activity).

Accelerating Depreciation or Expensing New Investment

As noted earlier, taxpayers benefit from any mechanism that defers tax liability. Some proposed incentives for investment therefore take the form of delaying the recognition of income (and thus the time when taxes are owed on it). Accelerated depreciation is an incentive of that kind.

Determining taxable income requires subtracting expenses—most of which are outlays made during the tax year—from receipts. But outlays for capital investment during the year are not a current expense; the corresponding expense is rather the value of the capital that is used up, or depreciated, during that year. Actual economic depreciation and depreciation allowed for tax purposes may differ, however. When depreciation reported for tax purposes is faster than actual economic depreciation, it is said to be accelerated. Accelerated depreciation is an advantage to firms because it reduces their reported taxable income in the near term, pushing it below their actual economic income.

The Internal Revenue Code's tax depreciation allowances make up the framework that determines how firms depreciate their investments for tax purposes. The allowances establish the length of time over which capital costs are to be recovered and a method by which the costs are to be allocated over that period. (Depreciation for tax purposes is based on the original cost of the asset and is not indexed for inflation.) Depreciation can be accelerated by shortening the recovery period or by changing the recovery method so that a greater proportion of the cost of an investment is deducted earlier within the investment's depreciable life.

The extreme case of accelerating depreciation is allowing the entire cost of an investment to be deducted as an expense in the year it is made, a method known as expensing. Under current law, taxpayers can expense up to \$24,000 (for tax years beginning in 2001) of the cost of equipment placed in service during a particular tax year. A firm's ability to expense its expenditures for equipment is reduced by the amount by which its total qualifying investment expenditures exceed \$200,000.

Current proposals to accelerate depreciation have mostly been some form of expensing and include expanding the existing expensing incentive for small businesses. Both the House and the Senate Finance Committee versions of H.R. 3090 as well as H.R. 3529 would raise the amount that is eligible for expensing to \$35,000 and the level of investment at which expensing phases out to \$325,000. The expansion would expire in two years in the House version of H.R. 3090 and in H.R. 3529 and in one year in the Senate version. JCT estimates that revenues would fall by \$850 million in 2002 under all versions. The cost over the 2002-2006 period would be about \$500 million under the Senate version and about \$1.3 billion under the House versions. Revenue loss over the 2002-2011 period would be \$300 million and \$100 million in the House and Senate versions, respectively.

All three versions would also provide for the partial expensing of new equipment investment, allowing all firms to deduct a percentage of the value of a qualifying investment during the first year in which it entered service.¹³ For a capital asset with a depreciable life of 20 years or less, H.R. 3529 and the House version of H.R. 3090 would allow firms to expense 30 percent of the asset's cost in the first year; both bills would then permit them to depreciate the remaining value of the asset during the year in which the property is placed in service and during subsequent years according to the schedules established for allowable depreciation. The provision would expire after 36 months. The Senate version of the bill would permit firms to expense 10 percent of the asset's cost and would expire after 12 months.

The estimated costs of the provisions in the bills differ. According to JCT, the House version of H.R. 3090 would reduce revenues by \$39 billion in fiscal year 2002 and by \$77 billion during the 2002-2006 period. Since new investment would be depreciated less over the remaining years of CBO's 10-year projection period, the loss in revenues under this provision would fall to \$18 billion for 2002 through 2011.¹⁴ The Senate version of the bill would reduce tax receipts by

13. That approach has been termed "partial expensing" instead of "accelerated depreciation" because the cost allowance in the first year is related solely to the outlay for the capital item regardless of its depreciable life.

14. Because of other differences between H.R. 3090 and H.R. 3529, the five-year cost of the latter would be more, \$82 billion, and the 10-year cost would be \$20 billion.

\$14 billion in 2002, with five- and 10-year costs of \$7 billion and \$2 billion, respectively.¹⁵

Although expensing for all firms would be a strong investment incentive, even as a temporary measure, the proposals to expand existing expensing provisions for small firms would have little effect on investment demand. Very little incremental investment (investment beyond what would have been undertaken anyway) would be affected, for example, by expanding the current ceiling for expensing from \$24,000 to \$35,000. It is the partial expensing available to all firms that would generate the stimulus under the proposal.

The effects of investment incentives can be uncertain and their influence depends heavily on the business outlook. Even very attractive incentives may be insufficient to induce firms to invest if they expect a downturn to be long or if other factors make them uneasy about the prospects for future sales or expenses. Partly as a consequence, the bang for the buck from the proposal for partial expensing would be moderate. Extending the period during which such expensing could be used would reduce the bang for the buck because it would decrease businesses' incentive to invest in the first year and increase the total revenue cost.

Reviving Investment Tax Credits

An investment tax credit (ITC) permits a firm to reduce its tax liability in a given tax year by a percentage of the qualifying investment it places into service during that year. In general, an ITC can be enacted permanently or temporarily, and it can apply to all of a firm's investment or only to the increment above a specified base amount.

From 1962 through 1985, the ITC was part of the tax code, and it was an important investment incentive. Over much of that period, the ITC was permanent—that is, it had no specific expiration date—and it applied to all qualifying investment in equipment. In general, firms were permitted to offset as much as 50 percent to 90 percent of their tax liability with the credit.

Before the ITC was repealed in 1986, firms received credits at a rate of 10 percent on qualifying equipment purchases. In 1985, the last year in which the ITC was allowed in full, such credits reduced firms' income tax liabilities by

15. Costs would go down as the time horizon increased because the depreciation would eventually have been deducted. The real (inflation-adjusted) costs to the federal budget would depend on timing. For the same reason that current tax benefits are more valuable to firms than those that come later, current tax receipts are more valuable to the government than later revenues—the government has to pay more interest on its debt than it otherwise would because of the deferral of revenues.

roughly \$20 billion. Since then, investment in equipment has roughly tripled. Implementing an ITC today would be expected to reduce revenues by substantially more than \$20 billion, depending on how firms responded to it.

Because only new investment would generate tax savings under the credit, its cost-effectiveness would be similar to that of other investment incentives such as expensing. There are two important differences, however. First, an incremental ITC—one that applied only to investment above a specific base level—would generally be easier to design than incremental versions of many other investment incentives. It would have a greater bang for the buck, too, because it would not offer as much of a tax break to investment that would have been undertaken without the incentive. (However, even an incremental ITC can be hard to design and implement.)

Second, if an ITC was large enough, it could produce negative tax rates on some classes of new capital investment. That is, the tax benefit from investing could be so large that it would more than offset taxes on income from existing capital—the equivalent of giving money to firms for investing in the classes of assets that the credit covers. Given current rates of tax depreciation and inflation, an ITC of even 10 percent would be large enough to produce a negative tax rate for some categories of investment. (In contrast, expensing can reduce the tax rate on new capital only to zero.)

Proposals Related to the Treatment of Capital Gains

Capital gains are subject to the individual income tax (and thus are part of the tax on personal income), although they are taxed at lower rates than those applied to ordinary income. But most of those gains result from business activities. Many advocates of cutting capital gains taxes favor such reductions because of the salutary effect they might have on saving, business investment, and entrepreneurship. Current proposals have taken two forms: one would reduce rates, and the other would increase the amount of capital losses that taxpayers could subtract from their other income (after netting them against their capital gains).

Under current law, capital gains on assets held for more than a year generally receive favorable tax treatment in the form of lower tax rates (20 percent or 10 percent, depending on the taxpayer's income). A new, lower capital gains tax rate of 8 percent (in lieu of the 10 percent rate) became effective this year for assets that have been held for more than five years. In 2006, a new 18 percent rate (in lieu of the 20 percent rate) will become effective for assets acquired after calendar year 2000 and held for more than five years. Assets acquired before the end

of 2000 can be eligible for the same treatment if they are “marked to market” (that is, treated as if they were sold and reacquired and the tax paid on the accumulated gains) and then held for five years or more.

A number of proposals meant to stimulate the economy call for additional reductions in capital gains tax rates. For example, the House version of H.R. 3090 would reduce long-term capital gains tax rates (gains realized on assets held for more than one year) to 8 percent and 18 percent immediately, without requiring that they be held for five years or that they be marked to market. JCT estimates the revenue lost by that proposal at \$1 billion in 2002, \$5 billion over the 2002-2006 period, and \$10 billion through 2011.

In general, however, capital gains tax cuts would provide little fiscal stimulus. Gains tend to be realized primarily by higher-income households, which are likely to spend a smaller fraction of any additional income than lower-income households might. Moreover, cutting capital gains tax rates raises the after-tax return from savings—the main reason that some policymakers have advocated it as a means of increasing saving. There is little consensus on the extent to which capital gains taxes affect saving or consumption, but whatever saving a cut in rates might generate would reduce its effectiveness as short-term stimulus.

H.R. 3090 would increase the net allowable losses for 2002 and 2003. The cost of that provision would be \$1 billion in 2002 and \$2 billion from 2002 through 2006. Increasing the limit on capital losses that could be subtracted from ordinary income would probably also have little effect on spending. Taxpayers are currently allowed to subtract their capital losses from their gains, but they cannot subtract more than \$3,000 of their net losses from their ordinary income. (However, losses in excess of that cap can be carried over to future tax years.) Investors do not typically invest with the intent or expectation that they will continually lose money on investments, so increasing the cap does not boost expected lifetime income by very much. The main effect of a higher cap would be to place tax savings in the hands of taxpayers earlier than would otherwise be the case.

Relative Efficacy of the Proposals

The relative bang for the buck of the proposals assessed in this paper differs widely (see Table 1). In general, approaches with the greatest estimated stimulus relative to lost revenue are also the most uncertain in their effects.

The payroll tax and sales tax holidays are likely to have the greatest cost-effectiveness, although both proposals are uncertain in their effects and have significant downside risks. The delays inherent in implementing the sales tax holi-

Table 1.
Cost-Effectiveness of Various Tax Policies as Economic Stimulus

Policy	Bang for the Buck ^a	Uncertainty About Policy's Effects	Comments
Personal Consumption			
Payroll Tax Holiday	Large	Large	Some evidence suggests that consumers spend more of a dollar rise in take-home pay than of a dollar rebate. But they might view a one-month increase in take-home pay as they would a rebate, which would reduce the stimulus.
Sales Tax Holiday	Large	Large	A short holiday would boost sales, especially of big-ticket items. But much of the boost would come at the expense of sales later in the year. Likely delays in implementation would significantly undercut effectiveness.
Extended EGTRRA Rebates	Medium	Large	A rebate is generally less effective than a bigger paycheck.
Accelerated EGTRRA Tax Rate Cut	Small	Medium	Acceleration would look more "permanent" than other policies, but the policy would incur revenue losses through 2005, diluting its bang for the buck.
Business Investment			
Temporary Investment Incentives ^b	Medium	Large	A longer period would give a bigger average yearly boost, but more of it would come at the end of the period than at the beginning, delaying the stimulative effect.
Repeal of the Corporate AMT	Small	Small	Repeal would primarily favor old capital, not new investment.
Deferral of Tax on Subpart F Income	Small	Small	Deferral would primarily favor old capital, not new investment, and affect foreign rather than domestic activity.
Capital Gains			
Tax Cut on Personal Capital Gains	Small	Small	Because a cut raises the after-tax return on assets, more of a capital gains tax cut might be saved than would be saved from other cuts in personal taxes, weakening any stimulative effect.

SOURCE: Congressional Budget Office.

NOTE: EGTRRA = Economic Growth and Tax Relief Reconciliation Act of 2001; AMT = alternative minimum tax.

a. The amount of stimulus that the policy would generate relative to its lifetime revenue loss.

b. Includes accelerated depreciation, expensing, and investment tax credits.

day substantially undercut its likely usefulness in providing stimulus. And the bang for the buck of a payroll tax holiday would be reduced if the holiday extended to the employer's share of payroll taxes. That extension would add to the cost of the option without generating a significant increase in consumption.

The extended EGTRRA rebates and the marginal investment incentives (accelerated depreciation, expensing, and the investment tax credit) are next in cost-effectiveness. If the investment tax credit was revived in an incremental form, it would have substantially more bang for the buck than that shown in the table. Again, however, the effects of the rebates and the investment incentives are highly uncertain. The remaining incentives offer fairly little bang for the buck. Advancing the cuts in marginal income tax rates provided under EGTRRA would have a relatively small bang for the buck because of the option's cost. Modifications to the tax treatment of subpart F income, repeal of the alternative minimum tax, and reductions in capital gains taxes are least likely to generate significant stimulus.

The tax holiday proposals and investment incentives would have the greatest likelihood of generating an increase in GDP within one year that exceeded the amount of total revenue lost. The EGTRRA rebates might also achieve that. The other proposals would have little prospect of generating first-year stimulus that exceeded the revenue forgone.



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