

A
CBO
PAPER

OCTOBER 2005

**Taxing Capital
Income:
Effective Rates
and Approaches
to Reform**

1120 U.S. Corporation Income Tax Return
For calendar year 2004 or tax year beginning in 2004, ending in 2004

1 Gross receipts or sales
2 Cost of goods sold (Schedule A, line 3)
3 Gross profit. Subtract line 2 from line 1c
4 Dividends (Schedule C, line 19)
5 Interest
6 Gross rents
7 Gross royalties
8 Capital gain net income (attach Schedule C (Form 1120))
9 Net gain or (loss) from Form 4797, Part I, line 17 (attach Form 4797)
10 Other income (see page 13 of instructions—attach schedule)
11 Total income. Add lines 3 through 10

12 Compensation of officers (Schedule E, line 4)
13 Salaries and wages (less employment credits)
14 Repairs and maintenance
15 Bad debts
16 Rents
17 Taxes and licenses
18 Charitable contributions (see page 14 of instructions for 10% limitation)
19 Other deductions (attach Form 4502)
20 Total deductions. Add lines 12 through 19
21a Taxable income. Subtract line 19 from line 11
21b Taxable income as shown on Schedule A and earnings on retirement plans, profit-sharing, etc. plans, and tax-deferred annuities. Add lines 12 through 20
22 Tax before net operating loss deduction and special use valuation election (see page 14 of instructions—attach Schedule C, line 20)
23 Net operating loss deduction (see page 14 of instructions—attach Schedule C, line 20)
24 Tax after net operating loss deduction. Subtract line 23 from line 22



Taxing Capital Income: Effective Rates and Approaches to Reform

October 2005

Note

Sample equations and sums of numbers in the text and tables of this report may not equal totals because of rounding.



Preface

This Congressional Budget Office (CBO) paper, prepared at the request of the Chairman of the House Ways and Means Committee, examines the taxation of capital income under current law and explores some potential alternatives to that system. In its analysis, CBO used the framework of effective tax rates to determine how heavily and uniformly capital income is taxed. It also used that framework to assess scenarios that would ultimately move the present system toward one that does not tax capital income. In keeping with CBO's mandate to provide objective, impartial analysis, the paper makes no recommendations.

Paul Burnham and Larry Ozanne of CBO's Tax Analysis Division wrote the paper under the direction of Roberton Williams and G. Thomas Woodward. David Weiner and Ed Harris provided input from the microsimulation model of individual income taxes. Within CBO, Robert Dennis, Douglas Hamilton, and William Randolph provided useful comments and assistance. In addition, Jane G. Gravelle, Kenneth L. Judd, and James B. Mackie III reviewed the results and provided valuable criticism and suggestions. (The assistance of external reviewers implies no responsibility for the final product, which rests solely with CBO.)

Loretta Lettner edited the manuscript, and Janey Cohen proofread it. Denise Jordan-Williams prepared early drafts of the text. Maureen Costantino prepared the report for publication and designed the cover. Lenny Skutnik produced the printed copies, and Annette Kalicki and Simone Thomas prepared the electronic version for CBO's Web site (www.cbo.gov).

Douglas Holtz-Eakin
Director

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Taxing Capital Income: Effective Rates and Approaches to Reform

Summary and Introduction

In the United States, roughly 60 percent of federal receipts derive from what are termed income taxes—either the individual income tax or the corporate income tax. Income taxes generally include income generated by capital as well as labor. A number of analysts argue that taxing capital income imposes significant costs on the overall economy because such taxation affects investment and the allocation of that investment. As a result, proposals for comprehensive tax reform at the federal level typically include options such as value-added taxes, retail sales taxes, and the so-called flat tax—none of which tax capital income—as possible replacements for income taxes.

Despite their nominal characterization, the individual and corporate income tax systems already possess a number of features that exempt some capital income from taxation. In effect, those features render the current system a hybrid—a mix of treatments that fully taxes some capital income while fully or partially exempting the rest. The system's hybrid nature and recurring interest in changing it lead to questions about the degree to which capital income is actually taxed under the present federal income tax system and the extent to which various alternative steps—such as providing for tax-exempt savings accounts or permitting the expensing of capital purchases—would move the system entirely away from the taxation of capital income.

In addition to analyzing the level of taxation currently applied to capital income, the Congressional Budget Office (CBO) considered the composition of capital income taxes: how uniformly capital is taxed under the present system and how potential steps toward eliminating the tax on capital income would affect that uniformity. A lack of uniformity can signal the potential for distortion in economic decisions.

The analysis detailed in this study informs those issues by computing effective tax rates for a broad range of investments in tangible capital.¹ CBO's findings are summarized below:

- Under a tax regime that assumes the indefinite extension of provisions in place in 2008 (the base case), the overall effective tax rate on income from capital is 13.8 percent, about midway between the zero percent tax rate under a consumption tax or a wage tax and the average statutory marginal rate in the current income tax (approximately 27 percent for noncorporate business income).²
- Effective tax rates on capital income under the base case are highly uneven. For instance, whereas the effective tax rate on debt-financed corporate investment is -6.4 percent, it is 36.1 percent on equity-financed corporate investment. Using typical mixes of debt and equity financing, the effective tax rate on corporate investment is 5.7 percentage points higher than that on noncorporate investment, and the rate on tenant-occupied housing is 23.3 percentage points higher than that on owner-occupied housing. Effective tax rates also differ significantly across different asset types.

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1. The effective tax rates in this paper apply to new (or marginal) investment. In other CBO reports, the term “effective tax rates” refers to total taxes paid in a year relative to total income—an average tax rate. Tangible capital consists of equipment, structures, land, and inventories. Intangible assets, such as cumulative knowledge and brand recognition, are not considered in this paper. For additional details, see Appendix A.
 2. More specifically, the base case incorporates those provisions of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) and of the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) that have not already expired and assumes that they will be extended indefinitely. Current law calls for a reversion to pre-EGTRRA law in 2011.

- Eliminating individual-level taxes on capital income and allowing businesses to expense new investments would produce an effective tax rate of -15.1 percent because of the continued deductibility of interest by businesses and homeowners. Thus, instead of taxing the return on capital investment, the tax system would, on balance, subsidize it.
- The above combination would also alter the unevenness of capital taxation. Not taxing capital income at the individual level would reduce the difference in tax rates that exists between corporate and noncorporate investment but would increase the difference between equity-financed and debt-financed corporate investment and between tenant-occupied and owner-occupied housing. Furthermore, adding the full expensing of the acquisition cost of capital assets would significantly increase the difference in rates between equity-financed and debt-financed corporate investments, although it would eliminate the variance across asset types.
- Eliminating the deduction for interest expenses in tandem with the above combination would set effective tax rates on all capital income to zero and achieve complete uniformity.

Capital Income and Its Taxation

Much of the interest that policymakers express regarding the tax treatment of capital income stems from concerns about economic efficiency. However, other considerations, such as compliance, fairness, and administrative costs, also enter any evaluation. The analysis detailed in this paper is restricted to the issue of efficiency.³

Taxation of Capital and Economic Efficiency

A perfectly efficient tax would raise revenue without affecting society's choices about how to allocate its resources. Inevitably, however, the tax system renders some endeavors more attractive than others. Those tax-induced distortions shift production and purchase patterns away from decisions driven purely by an activity's costs and benefits. A tax system's relative efficiency depends on the extent of the tax-induced distortions to prices and rates

of return and on the responsiveness of taxpayers to both of those factors. In the absence of consensus about the degree to which taxpayers respond, analysts often use the degree to which taxes create distortions in relative prices as a good starting point for measuring the potential of a tax system to create inefficiency.

Among its impacts, an income tax distorts the relative cost of consuming now versus waiting to consume in the future. In effect, taxing capital income reduces the return on saving, thereby increasing the cost of future consumption compared with current consumption. That distortion could result in reduced levels of saving (the means of shifting income to future consumption) and therefore a lowered rate of capital accumulation than would occur in the absence of the tax. Analysts disagree about the extent to which saving is distorted.

There is greater consensus that income derived from all types of capital should be taxed alike. Failure to do so distorts the relative returns on different forms of capital—some investments offer a higher rate of return purely for tax reasons—which can result in the inefficient allocation of capital. One straightforward method of ensuring uniformity is to not tax capital income at all, a strategy that is the primary focus of this report. A pure income tax (that is, one that is consistently applied), by contrast, would achieve uniformity by levying a single tax rate on capital income after allowing depreciation deductions equal to an asset's actual decline in value. Moving the federal tax system in such a direction would necessitate adjusting tax-depreciation rules, eliminating various capital income exemptions that exist under current law, indexing capital income for inflation, and integrating the corporate income tax with the individual income tax. In principle, it is possible to design a hybrid system that treats capital both favorably (relative to labor) and uniformly.

In some instances, the inefficiency of taxing capital income at different rates is the direct result of other policy goals. At present, lower effective tax rates are levied on savings that are channeled to state and local governments, homeowners, retirement plans, certain life insurance policies, college students and their families, and particular health care plans. In each case, eliminating the differential taxation, perhaps by not taxing capital income at all, would raise economic efficiency at the expense of a competing policy objective.

3. For a broader discussion of the issues involved in switching from the current income tax to a consumption tax, see Harvey S. Rosen, *Public Finance*, 7th ed. (New York: McGraw-Hill Irwin, 2005), pp. 473-490.

Two Ways to Achieve Nontaxation of Capital Income

Capital income is generated by business entities and received by savers. Producers purchase and employ capital assets in business endeavors. Those producers are then taxed on the profits (net of depreciation and interest paid) earned by using the capital asset. By buying either stock or debt instruments, savers provide funds for investment and ultimately pay taxes on the resulting interest, dividends, and capital gains. Taxes on capital income at either the saver or producer level will introduce distortions.

Two basic approaches could effectively eliminate the tax on capital income within the structure of the current tax system. The first focuses on the uses of income and removes from the tax base saving or the purchase of an asset—a consumed income tax approach. The second focuses on the sources of income and taxes only income that derives from labor—a labor income tax approach.

The Consumed Income Tax Approach. The structure of the traditional individual retirement account (IRA) serves as a model for a consumed income tax. That structure allows immediate deductions for contributions and does not tax capital income earned within the account—that is, it taxes only consumed income. To capture consumption financed by savings, it taxes all withdrawals. Under a consumed income tax, traditional IRA-style accounts would have to be available to all and allow unlimited contributions and unrestricted withdrawals. The tax base would be income minus net saving, which equals consumption.

For business entities, the corresponding treatment of capital income would be achieved by allowing the immediate expensing of newly acquired capital assets. Proceeds from any subsequent sale of such assets, however, would be fully taxable. Rental income would be taxable, and the expense of renting a capital asset would be deductible. Business entities would be allowed no deductions for interest and dividends paid.⁴

4. As a practical matter, people's investments in their own homes could not be taxed the same as investments by business. Investments in homes do not generate a cash rent that could be taxed. As a result, proposals for consumed income taxes typically do not allow a deduction for home purchases. This treatment is the same as that allowed under the labor income tax approach.

The Labor Income Tax Approach. The structure of the Roth IRA serves as a model for a labor income tax. That structure allows no deductions for contributions (that is, *all* labor income is taxed), but it does not tax capital income earned within the account and levies no tax on withdrawals (that is, *only* labor income is taxed). Under the labor income tax approach, Roth-type accounts would have no restrictions on eligibility, contributions, or withdrawals. The resulting tax base would consist primarily of wages but would also include other compensation, such as the labor portion of self-employment income.

An analogous approach to not taxing returns on capital, although difficult to implement, could also be applied to business entities. Under that approach, the sale of capital assets would be a nontaxable event. In other words, sellers (or, in the case of new assets, manufacturers) would not include the proceeds in their tax base, and buyers would not deduct the cost of the asset from their tax base. Similarly, the rental of a capital asset would not increase the tax base of the lessor or reduce that of the lessee.

Differences in the Two Approaches

Compared with an income tax system, those two approaches would both eliminate taxation of the expected return on capital. When the actual return differed from the expected return, however, the approaches would no longer be equivalent. Furthermore, the two approaches differ in how they would treat capital income derived from assets and savings in place at the time the approach was implemented.

The expected return on capital is the discount rate used to convert future income streams into present value.⁵ As a result, the value of capital today is worth the present discounted value of income that it is expected to generate in the future. Hence, eliminating the tax on the initial amount saved and invested (that is, the consumed income tax approach) equals the present discounted value of not taxing all future years' income expected from that investment (that is, the labor income tax approach).

5. Present value refers to the amount that must be invested today at a specified rate of return to equal an amount that becomes available at a specified time in the future. For example, if \$110 is to become available in one year, and the rate of return is 10 percent, then the present value of that future payment is \$100. That is, \$100 invested for one year will yield \$110. The rate of return is said to discount the future payment to its present value and so is referred to as the discount rate. Interest rates are often used as discount rates.

However, because the consumed income tax is levied when the income is consumed in the future, it collects a tax on the actual return. By contrast, the labor income tax does not tax the actual return. If savings earn an unexpectedly high return, the consumed income tax collects more revenue than a labor income tax because it taxes withdrawals. The reverse happens if savings earn below-normal returns or lose money. A labor income tax collects the same amount in either case because that tax is levied on labor income before it is saved or consumed.

Similarly, the consumed income tax is imposed on returns that are higher than normal because of monopolistic profits. Those profits are not part of the average expected return on investment but are additional earnings that result from limited supply (a typically temporary occurrence). A labor income tax would not capture those additional returns.

Another important difference between the two approaches is that in moving away from an income tax, the consumed income tax would still collect taxes on capital income derived from past investments. That would occur, for example, when savings accounts in existence at the time a consumed income tax was introduced became subject to a tax on withdrawals or when businesses could no longer claim depreciation deductions on assets already in service. Since those investments would already exist, there would be no potential distorting incentive effect from taxing them.⁶

Revenue Effects of Reducing the Tax Rate on Capital

Because both total consumption and total wages are smaller than total income, there would be a potential revenue loss associated with reducing taxes on capital.⁷ If the tax system were to collect the same amounts of revenue, higher tax rates would be required. Increasing tax rates on labor, however, would exacerbate another distortion that

affects overall efficiency: taxes on labor alter the relative attractiveness of working versus leisure. In that case, the desirability of not taxing capital income would hinge on the relative responsiveness to changes in the tax rate of the two taxed endeavors: labor and saving. Roughly speaking, if labor responded more negatively to higher taxes than saving did, it might be more efficient to maintain the tax on capital income. If saving responded more negatively, then the gain from reducing the tax on capital income could be greater than the loss from taxing labor income more heavily.

Eliminating existing tax breaks not directly related to capital income could reduce the need for a higher tax rate. For example, employer-provided health insurance could be included in the tax base of either a consumed income tax or a labor income tax. Furthermore, under a consumed income tax, the ability to tax capital income from past investments could mitigate the required tax rate increase. The need to maintain revenue neutrality could be lessened by reducing government spending. How that would affect efficiency depends on what types of spending would be cut. Finally, if not taxing capital income stimulated additional investment, then consumption and labor income—and hence tax revenues—would eventually rise. But evidence indicates that such an offset would represent only a fraction of the forgone revenue.

Other Ancillary Effects of Reducing the Tax Rate on Capital

Although moving toward the elimination of taxes on capital income would mean cutting taxes overall, the alteration of relative taxation would set in motion economic shifts that would generate losses for certain types of individuals and institutions and gains for others. There are two principal mechanisms by which those burdens would be imposed.⁸

First, as explained earlier, a consumed income tax approach would raise taxes on income from existing capital. Since the value of an existing asset is based on the expected flow of after-tax income, such assets would lose value relative to new ones. That would impose temporary, but significant, burdens on owners of existing financial and tangible assets.

6. Rules governing the transition to a consumed income tax could eliminate the taxation of capital income from past investments, thus approximating a labor income tax. Conversely, it would be possible to augment a labor income tax with other features that approximate the consumed income tax's levy on capital income from past investments.

7. Some analysts estimate that switching to a consumption tax would reduce revenues currently collected from taxing capital income by modest amounts. See Roger Gordon, Laura Kalambokidis, Jeffrey Rohaly, and Joel Slemrod, "Toward a Consumption Tax, and Beyond," *The American Economic Review*, vol. 94, no. 2 (May 2004), pp. 161-165.

8. More detailed discussion can be found in David Bradford, "Consumption Taxes: Some Fundamental Transition Issues," in Michael J. Boskin, ed., *Frontiers of Tax Reform* (Stanford, Calif.: Hoover Institution Press, 1996), pp. 123-150.

Second, as noted above, either approach to eliminating the taxation of capital income would mean that existing preferred investments were no longer favored. Even if taxed at the same rate as before, the loss of relative advantage would mean that less saving would be directed to such investments. Specifically, owner-occupied houses, tax-exempt state and local bonds, employment-based retirement plans, certain products of life insurance companies, various education savings programs, and health savings accounts would all lose their tax advantages.

Those ancillary effects would introduce additional considerations to any decision about whether and how to eliminate the taxation of capital income. To begin with, while the imposition of a burden on existing assets would not distort the return on new investment, it would raise issues of fairness. And mitigating those temporary burdens with transitional relief would lower government revenue (equivalent to making the consumed income tax more like a labor income tax). In essence, reducing the tax on new capital investment would entail either burdening the owners of existing capital or incurring larger short-term revenue loss. Furthermore, existing tax preferences for various kinds of saving reflect efforts to pursue particular policy goals, and eliminating the tax on capital income altogether would effectively neutralize those policy efforts. If those policy goals were to be implemented through spending programs, that too would generate additional costs.

How Is Capital Income Currently Taxed?

The federal government taxes capital income at different rates depending on the circumstances of the producer and the saver. Producers can be organized as C corporations—essentially, corporations that are subject to the corporate income tax—or other forms of businesses, or they can be homeowners. The tax system treats their investments differently depending on the legal form of organization, or in the case of housing, the tenure of the occupant. Savers can choose from a variety of account types. The income from those accounts may be fully taxable, taxable at lower-than-normal rates, or nontaxable.

Income of C Corporations

Corporations are subject to their own income tax. The federal corporate tax base consists generally of gross business receipts less deductions for the cost of raw materials, employee compensation, and normal operating expenses.

A portion of the cost of acquiring a capital asset is generally deductible each year (until the total acquisition cost is reached) to compensate for the depreciation of the asset as a result of wear and tear or obsolescence.⁹ Although graduated rates apply to lower net incomes, the maximum statutory corporate tax rate of 35 percent applies to the return on most investment.

Depreciation deductions allowed in current law do not necessarily match the actual decline in the value of the productive asset (economic depreciation), thus causing the statutory tax rate to deviate from the effective rate of taxation. Researchers have found that the allowed tax depreciation for most types of equipment is faster than its economic depreciation but that the allowed tax depreciation for most types of nonresidential buildings is slightly slower than their economic depreciation.¹⁰

Corporations that finance their capital acquisitions through debt—by issuing a bond or taking out a loan—may deduct the interest paid on the debt. By contrast, corporations that finance capital acquisitions through equity—by issuing new stock or reinvesting their profits—may not deduct their dividend payments, nor can they adjust their net income to reflect any increase in the value of their stock. The absence of any adjustment at the corporate level for dividends or capital gains raises the tax on income derived from equity-financed investments above that generated by debt-financed investments.

At the individual level, interest earned and dividends received are generally taxable, and capital gains are taxable when a stock is sold. Current law partially offsets the higher corporate tax on income derived from equity-financed investments by capping the individual tax rate on dividends and capital gains at 15 percent.¹¹ In addition, deferral of any tax on capital gains until the stock is sold tends to further reduce the effective tax rate.

9. Small firms are allowed to expense capital investment up to certain amounts.

10. See Jane G. Gravelle, *Capital Income Tax Revisions and Effective Tax Rates*, CRS Report RL32099 (Congressional Research Service); and Department of the Treasury, *Report to the Congress on Depreciation Recovery Periods and Methods* (July 2002).

11. Starting in 2009, when the Jobs and Growth Tax Relief Reconciliation Act is scheduled to expire, dividends will be taxable at regular individual statutory rates. The tax rate on capital gains will also increase, but it will still be lower than the regular individual statutory rate.

Other Business Income

Sole proprietorships, partnerships, and S corporations calculate net business income, including depreciation deductions, in the same way that C corporations do.¹² However, instead of being subject to their own income tax, all of their income is treated as if received by the firm's owners, regardless of whether any is retained within the firm for reinvestment. In effect, noncorporate profits are taxed only at the individual level, whereas equity-financed corporate profits are also taxed at the level of the business entity itself. Currently, the top individual statutory marginal tax rate is equal to the top corporate rate, but most noncorporate profits are taxed at lower rates because of the graduated rate structure.¹³

Owner-Occupied Housing

Although most homeowners do not view themselves as producing housing services, the incentives they face and the decisions they make with respect to investment in housing are analogous to those of other producers. If the house is a rental unit, for instance, the tenant pays the owner, and that rent, less expenses, is considered income. When the owner and the tenant are the same person, the economics are identical even though no cash changes hands. Homeowners, whether they live in their houses or not, are producers who make investment choices that are influenced by the tax treatment of their implied income.

Nonetheless, taxable income associated with owner-occupied housing is calculated very differently from that generated by other noncorporate business. In essence, owner-occupants exclude their implicit gross receipts (that is, the rental value of the home) from taxable income and may not claim most deductions, including depreciation. Owners may, however, deduct mortgage interest and property tax payments if they itemize their deductions. Most capital gains from the sale of an owner-occupied house are also exempt.

12. Other business (that is, noncorporate) income typically covers income from sole proprietorships and partnerships. In this paper, however, it includes S corporation income but excludes the portion of partnership income attributable to partners that are C corporations.

13. Beginning in 2011, when the Economic Growth and Tax Relief Reconciliation Act is slated to expire, the top individual rate will exceed the top corporate rate.

Capital Income of Savers

As a general rule, capital income that savers receive in the form of interest, dividends, or capital gains is taxed under the individual income tax. However, a variety of provisions in the tax code reduce the rates of taxation on particular types of capital income. Those provisions take several forms, most of which do not tax capital income in special accounts established for a specific purpose (such as retirement, education, or health care). Some apply the consumed income tax approach, some apply the labor income tax approach, and some simply defer the tax on capital income rather than eliminate the tax altogether.

The consumed income tax approach to eliminating the tax on capital income currently applies only to retirement saving.¹⁴ Specifically, contributions to traditional IRAs and employment-based retirement plans are made from pre-tax income; investment returns are not taxed, but tax must be paid on withdrawals.

Eliminating the tax on capital income using the labor income tax approach requires after-tax contributions but allows investment income to accrue tax-free. Withdrawals are not taxed. Principal examples of that approach include Roth IRAs, Roth 401(k)s (beginning in 2006), Coverdell Education Savings Accounts, 529 plans for higher education, and bonds issued by state and local governments.

Both approaches are used simultaneously in health savings accounts, which results in not just a zero tax rate for capital income, but a subsidy. Partial taxation of capital income can be found in vehicles that defer the tax on interest, dividends, or capital gains until funds are withdrawn. The most prominent examples are whole life insurance (and newer variants, such as universal life and variable life) and nonqualified annuities.

Effective Tax Rates on Capital Income

Effective tax rates are commonly used as a metric to evaluate the potential distorting effect of taxes on economic activity. The effective tax rate combines statutory tax rates with other features of the tax code into a single tax rate that applies to economic income over the life of an investment. In the context of capital income, the effective tax rate framework is applied to marginal investments; that

14. For further details, see Congressional Budget Office, *CBO's On-Line Guide to Tax Incentives for Retirement Saving* (August 2003).

is, prospective investments that are expected to earn just enough before taxes to pay taxes due and the return that savers anticipate receiving.¹⁵ The higher the effective tax rate, the greater the potential distortion to overall investment. The more variation in effective tax rates across different kinds of investment, the more potential there is for capital to be misallocated.

Because of the different tax treatments summarized in the previous section, effective tax rates vary by form of business organization, method of financing, asset type, and in the case of housing, the tenure of the occupant. To gauge the potential efficiency effects related to the disparate treatment of different kinds of investment, effective tax rates and measures of tax rate uniformity were computed in this analysis across those various dimensions. For most of the categories, the uniformity measure is simply the difference between the rates being compared. In the case of different types of corporate assets (there are 49), the measure is an interquartile range.¹⁶ For all measures of uniformity, higher absolute values (that is, values farther from zero in either direction) signal less uniformity; a score of zero indicates complete uniformity.¹⁷ The measures listed do not exhaust the dimensions across which effective tax rates could vary.

15. This paper generally follows existing conventions in constructing its effective tax rates but expands on those conventions in its treatment of saving incentives. Existing conventions capture major features of the federal tax code and investment environment, but they abstract from many other features, such as the estate tax and international capital movements. See Appendix A for details of the calculation and Appendix B for an analysis of alternative assumptions.

16. An interquartile range is the difference between the effective marginal tax rates at the 75th and 25th percentiles. Half of all assets have rates within that range, one-quarter have higher rates, and one-quarter have lower rates. This measure is not sensitive to changes at the extremes, nor does it pick up changes that occur within the middle two quartiles. Thus, although it is a good overall indicator of potential distortions across asset types, it is not a comprehensive indicator of all possible such distortions.

17. Research has generally found that efficiency is increased by substantially reducing differences in tax rates along the dimensions identified here. See, for example, Jane G. Gravelle, *The Economic Effects of Taxing Capital Income* (Cambridge, Mass.: MIT Press, 1994), pp. 76-90, and Don Fullerton, Yolanda K. Henderson, and James B. Mackie III, "Investment Allocation and Growth Under the Tax Reform Act of 1986," *Compendium of Tax Research 1987* (Department of the Treasury, Office of Tax Analysis), pp. 173-203.

Between 2006 and 2011, the taxation of capital income is scheduled to change under current law as a result of the phasing in and expiration of different statutory tax rates and other features that influence effective tax rates. To simplify the analysis, the effective tax rates presented here were computed under the assumption that any provisions of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) and the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) that had not already expired by 2008 would be made permanent. That assumption served to provide a constant tax law as a base.¹⁸

Those base-case effective tax rates on capital income were then reduced to zero in a series of three sequential simulations. Two of the steps correspond broadly to proposals to reduce the tax on income from capital for producers and savers. The third raises the after-tax cost of borrowing and effectively increases the tax on capital income. The simulations illustrate the impact on overall tax rates and on tax rate uniformity of implementing some of the steps but not others.¹⁹

Rates Under the Base Case

The overall effective tax rate on capital income under the base case is 13.8 percent (see Table 1). That rate, however, is strongly influenced by a negative rate on the implicit income from owner-occupied housing. For capital income generated by business, the overall effective tax rate is 24.2 percent. However, the tax rate on the return on business investment varies significantly depending on the type of asset, the form of business organization, and the source of financing.

In the corporate sector, the overall effective tax rate for all asset types is 26.3 percent, and the interquartile range among asset types is 12.3 percentage points. The variation among asset types generally arises from tax-depreciation rules that deviate from economic depreciation unevenly. The top quartile consists entirely of computers and peripheral equipment, inventories, manufacturing buildings, and land. The bottom quartile contains 19 different asset types. The major asset types with the lowest

18. Average statutory tax rates under the base case are shown in Appendix A. All represent federal taxes only. State and local taxes are treated in this analysis like any other operating expense.

19. Four stand-alone simulations representing other proposals are presented in Appendix C.

Table 1.
Effective Tax Rates on Capital Income
and Measures of Tax Rate Uniformity

	Base Case ^a
Effective Tax Rates (Percent)	
Overall	13.8
Business	24.2
Corporate	26.3
Debt financed	-6.4
Equity financed	36.1
Noncorporate	20.6
Housing	
Tenant occupied	18.2
Owner occupied	-5.1
Measures of Tax Rate Uniformity (Percentage points)	
Interquartile range across asset types— corporate ^b	12.3
Difference between equity financed and debt financed—corporate	42.5
Difference between corporate and noncorporate	5.7
Difference between tenant- and owner- occupied housing	23.3
Difference between all business and owner- occupied housing	29.3

Source: Congressional Budget Office.

- a. The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 will be permanently extended instead of being allowed to expire by 2011.
- b. An interquartile range is the difference between the effective tax rates at the 75th and 25th percentiles. Half of all assets have rates within that range, one-quarter have higher rates, and one-quarter have lower rates.

rates are mining structures, petroleum and natural-gas structures, railroad equipment, aircraft, specialized industrial machinery, fabricated metal products, ships and boats, and construction machinery (see Table 2).

The effective tax rates were computed assuming the currently observed mix of debt and equity financing in the corporate sector. To show the differences between the two sources of financing, effective tax rates were recomputed assuming either all equity or all debt financing.²⁰ The re-

sulting rate on equity-financed corporate capital income is 36.1 percent and that on debt-financed corporate capital income is -6.4 percent, a difference of 42.5 percentage points. The rate on equity-financed corporate capital income is higher than the statutory corporate tax rate because of the extra tax imposed on dividends and capital gains at the individual level.²¹ That effect is mitigated, however, by the fact that some of that capital income is received via retirement accounts. Considering only the corporate-level tax, the rate on equity-financed corporate capital income is 30.6 percent, lower than the statutory corporate rate by virtue of favorable depreciation rules.

The effective tax rate on debt-financed corporate capital income is negative in part because accelerated depreciation and interest payments generate tax deductions in excess of taxable income, which leads to corporate tax refunds. Taxes paid by savers on interest received do not entirely offset those refunds; again, much of that interest income is received in various accounts in which it is not taxed.²² In addition, even fully taxable interest is taxed at an average marginal rate of 22 percent because substantial interest income is earned by those taxed at less than the top rate, whereas corporations deduct interest at the 35 percent marginal tax rate.

On noncorporate capital income, the effective tax rate is 20.6 percent, 5.7 percentage points lower than the rate on corporate capital income. That difference arises for

20. Note that this is not the same as calculating the tax rate on assets that are actually equity financed versus those that are actually debt financed. Sufficiently detailed data were not available to perform that calculation.
21. The effective tax rates were computed under the assumption that the tax rate on dividends matters in proportion to the fraction of after-tax profits that are paid out as dividends (57 percent). Effective tax rates computed under an alternative view, which gives less weight to the dividend tax rate and more to the capital gains tax rate, are presented in Appendix B. Effective tax rates computed under both views are similar when the Jobs and Growth Tax Relief Reconciliation Act is in effect, as in the base case, because that law equalizes the statutory tax rates on dividends and capital gains. Rates computed under both views are also similar under some proposals to integrate the corporate and individual income taxes (see Appendix C).
22. If marginal saving occurs only outside of retirement accounts (as a result of contribution limits or withdrawal constraints), the effective tax rate on the return on debt-financed investment would be positive. Complete results reflecting that assumption are presented in Appendix B.

two reasons: first, there is no extra tax imposed on the income from equity-funded noncorporate investments; and second, in the graduated rate schedule of the individual income tax, most noncorporate business income (whether from equity-financed or debt-financed investments) is taxed at a rate lower than the statutory maximum. However, income from noncorporate capital (especially equity financed) is much less likely to be received in a retirement account than is income from corporate capital, making the difference less than it otherwise would be.

The effective tax rate on income from tenant-occupied houses is 18.2 percent, whereas the rate on the implicit income from owner-occupied houses is -5.1 percent, a difference of 23.3 percentage points. The negative rate on owner-occupied housing arises because most mortgage interest and property tax payments are deductible even though the (implicit) gross receipts are not taxable.²³ Furthermore, the recipients of the interest payments receive some of that income via accounts in which capital income is nontaxable. Even the rate on tenant-occupied housing is low relative to that paid on other business investment, however, because such structures are overwhelmingly noncorporate investments and are subject to more-generous depreciation rules.

Eliminating the Tax on Capital Income: An Illustrative Sequential Approach

The current hybrid tax system could be transformed, in a series of incremental steps, into one that does not tax capital income. For illustrative purposes, the approach is analyzed using the following three sequential steps:

1. Remove contribution, eligibility, and withdrawal restrictions on retirement accounts;
2. Allow the full expensing of capital acquisitions; and
3. Disallow interest deductions.

The first step would lower effective tax rates on capital income at the individual level, the next step would lower rates at the business-entity level, and the final step would

increase the rates at both levels. The effects of reordering the sequence are discussed below.

The analysis holds constant the total amount of investment and saving, the allocation of investment among asset types, the corporate-noncorporate split, the share of investment that is debt financed, and the share of housing that is owner occupied. All of those elements would change if behavioral responses were incorporated into the estimates.

Step 1: Remove Contribution, Eligibility, and Withdrawal Restrictions on Existing Retirement Accounts. This step could be undertaken using either the consumed income tax or the labor income tax approach described above. It would consist of expanding existing IRA-type accounts so that anyone could have them, allowing contributions to be made without limit, and allowing unrestricted withdrawals.

Expansion of the accounts in that way would reduce the overall effective tax rate on capital by 8.3 percentage points, to 5.5 percent (see Table 3). The rate on corporate capital would drop by 9.2 percentage points, to 17.1 percent. Because depreciation rules would be unaffected, the variation in rates across asset types would not change.

Statutory tax rates on dividends and capital gains are lower than those on interest income under the base case. Therefore, eliminating the individual-level tax on all capital income would lower the effective tax rate on equity income by less than that on debt income. Because the rate on income from debt-financed investments is already the lower of the two, the difference between the two sources of financing would increase by 16.0 percentage points, to 58.5 percentage points.

The difference in effective tax rates on capital income from corporate investment and that from noncorporate investment would decline from 5.7 percentage points to 1.3 percentage points. That result would occur because noncorporate investment is more likely to be equity financed, and this provision would not affect income from such investment (because it could not be held in either the existing or expanded accounts). Thus, the overall rate on income from noncorporate investment would decline by less (4.8 percentage points) than the higher rate on income from corporate investment (9.2 percentage points).

23. Owners of tenant-occupied housing can also deduct their property taxes, but they can pass those costs on to the tenants. That increases the owner's taxable income, offsetting the tax deduction. Owner-occupants cannot pass the cost of the property tax on to anybody else, so the deduction is not offset by any additional taxable income.

Table 2.**Effective Tax Rates on Capital Income of C Corporations, by Asset Type**

Asset Type	Effective Tax Rate	Cumulative Percentage of Assets in 2002
Computers and Peripheral Equipment	36.9	1.2
Inventories	34.4	11.8
Manufacturing Buildings	32.2	19.1
Land	31.0	33.5
Other Buildings	30.6	36.1
Commercial Buildings	30.4	44.5
Office Buildings (Including Medical)	30.2	51.2
Automobiles	29.7	52.2
Other Structures	29.5	53.4
Software	29.1	55.9
Hospitals and Special Care	28.4	56.6
Educational Buildings	28.4	56.9
Office and Accounting Equipment	28.4	57.0
Internal Combustion Engines	27.3	57.0
Electric Transmission and Distribution	24.9	59.4
Other Electrical Equipment	24.8	59.5
Residential Buildings	23.8	60.0
Steam Engines	22.9	60.5
Farm Tractors	22.7	60.6
Service Industry Machinery	22.2	61.2
Mining and Oil-Field Machinery	21.9	61.4
Other Equipment	21.5	62.5
Farm Structures	20.8	62.7
Medical Equipment and Instruments	20.4	63.4
Agricultural Machinery	20.2	63.6
Railroads	20.1	65.9

Continued

The effective tax rate on the implied income from owner-occupied housing would decline by about 4 percentage points more than that on income from tenant-occupied housing, increasing the difference between them to 27.4 percentage points. The step has no impact on equity-financed investment in either type of housing (income from owner-occupied housing is not taxed now, and virtually no tenant-occupied housing is held in corporate form), and owner-occupied housing is significantly more likely to be debt financed than is noncorporate business investment in general.²⁴

Step 2: Allow Full Expensing of Capital Acquisitions. The second step would allow the full expensing of all tangible

business capital, both equipment and structures. This step would reduce the overall effective tax rate on capital income by an additional 20.6 percentage points, to -15.1 percent. That rate is a composite of a zero rate on equity-financed investment and a substantial negative rate on debt-financed investment—that is, income from equity-financed investment would not be taxed, and that from debt-financed investment would be substantially subsidized.

24. The computations assume that tenant-occupied housing would be debt financed in the same proportion that other noncorporate businesses are. If debt financing of tenant-occupied housing is more extensive than for other forms of noncorporate business, however, this difference might be overstated.

Table 2.**Continued**

Asset Type	Effective Tax Rate	Cumulative Percentage of Assets in 2002
Nonmedical Instruments	20.0	66.7
Metal-Working Machinery	19.0	68.4
Other Power Structures	19.0	70.5
Photocopy and Related Equipment	18.8	70.8
Electric Structures	18.6	76.2
Other Furniture	18.5	77.7
Other Trucks, Buses, and Truck Trailers	18.2	78.6
Light Trucks (Including Utility Vehicles)	18.2	79.9
Communications Equipment	17.8	83.7
Household Appliances	17.5	83.8
Construction Tractors	17.4	83.8
General Industrial Equipment	17.3	86.8
Communication Structures	17.0	89.7
Construction Machinery	16.7	90.3
Ships and Boats	16.5	90.8
Residential Equipment	16.2	90.8
Fabricated Metal Products	15.5	91.6
Household Furniture	15.1	91.6
Specialized Industrial Machinery	14.9	93.8
Aircraft	14.5	95.8
Railroad Equipment	11.4	96.5
Mining Structures	9.5	96.8
Petroleum and Natural-Gas Structures	9.2	100.0

Source: Congressional Budget Office and Department of Commerce, Bureau of Economic Analysis.

Note: In addition to buildings, "structures" can include entities such as dams, mine shafts, petroleum pipelines, radio-transmission towers, and railroad tracks.

The zero rate on income from equity-financed investment arises because allowing the cost of an asset to be deducted in the year that it is purchased reduces taxes in that year by the same amount—after accounting for the time value of money—that taxing the resulting profits in later years would be expected to generate. That result holds for both corporate and noncorporate investments.

In the corporate sector, the effective tax rate on debt-financed investment would drop to -87.5 percent.²⁵ That effective subsidy arises from the continued deductibility of interest. The cost of the investment is deducted by the business (through expensing), but the capital income generated by the investment yields no tax at either the business-entity level (because it is offset by interest ex-

penses) or the individual level (because of unrestricted accounts in which capital income is not taxed).

Because expensing is permitted for all types of assets, the interquartile range of tax rates across asset types would

25. Such a subsidy would create a strong incentive to use debt financing more heavily. Corporations would be encouraged to expand their debt-financed investments until their interest deductions offset their taxes on all existing investment. Noncorporate businesses would be encouraged to expand their debt-financed investments until their interest deductions offset not only their taxes on existing investments but also the taxes that their owners pay on labor income.

Table 3.**Successive Steps Toward Eliminating the Tax on Capital Income**

	Base Case ^a	Step 1: Eliminate Individual-Level Taxes	Step 2: Allow Full Expensing	Step 3: Eliminate Interest Deductions
Effective Tax Rates (Percent)				
Overall	13.8	5.5	-15.1	0
Corporate	26.3	17.1	-19.5	0
Debt financed	-6.4	-28.0	-87.5	0
Equity financed	36.1	30.5	0	0
Noncorporate	20.6	15.8	-10.5	0
Owner-occupied housing	-5.1	-14.1	-14.1	0
Measures of Tax Rate Uniformity (Percentage points)				
Interquartile range across asset types— corporate ^b	12.3	12.3	0	0
Difference between equity financed and debt financed—corporate	42.5	58.5	87.5	0
Difference between corporate and noncorporate	5.7	1.3	-9.0	0
Difference between tenant- and owner- occupied housing	23.3	27.4	3.5	0

Source: Congressional Budget Office.

- a. The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 will be permanently extended instead of being allowed to expire by 2011.
- b. An interquartile range is the difference between the effective marginal tax rates at the 75th and 25th percentiles. Half of all assets have rates within that range, one-quarter have higher rates, and one-quarter have lower rates.

fall to zero. Of necessity, the zero effective tax rate on all equity-financed investment would produce that result, but the same conclusion would hold for debt-financed investment because all asset types would be subject to the same depreciation rules.

Expensing would have no effect on owner-occupied housing but would reduce the rate on tenant-occupied housing. Those factors would reduce the difference in effective tax rates between the two types of housing tenure by 23.9 percentage points, to 3.5 percentage points.

Step 3: Disallow Interest Deductions. This step would disallow the deduction of interest expenses by businesses and homeowners (and of property tax payments by homeowners). That change, combined with the first two, would eliminate the subsidy for debt-financed invest-

ment, rendering a zero effective tax rate for such investment income. Because the tax rate on equity-financed investment would have been reduced to zero by the previous step, eliminating interest deductions would eliminate the difference in effective rates for different sources of financing. Furthermore, without interest deductions, the different tax rates at the corporate and noncorporate levels would no longer matter. Therefore, this step would also eliminate the difference in rates that exists between different forms of business organization.

The differences that occur in effective tax rates between owner-occupied and tenant-occupied housing were largely eliminated in the previous step. Disallowing the property tax deduction for owner-occupants would complete the elimination of that difference.

Table 4.**Alternative Combinations of Steps Toward Eliminating the Tax on Capital Income**

	Base Case ^a	Steps 1 and 2: Exempt Capital Income, Retain Interest Deduction	Steps 1 and 3: Tax Capital Income Only at Business-Entity Level	Steps 2 and 3: Tax Capital Income Only at Individual Level
Effective Tax Rates (Percent)				
Overall	13.8	-15.1	18.0	9.4
Corporate	26.3	-19.5	30.6	11.1
Debt financed	-6.4	-87.5	30.6	16.9
Equity financed	36.1	0	30.6	8.0
Noncorporate	20.6	-10.5	23.9	8.3
Owner-occupied housing	-5.1	-14.1	0	8.6
Measures of Tax Rate Uniformity (Percentage points)				
Interquartile range across asset types—corporate ^b	12.3	0	12.3	0
Difference between equity financed and debt financed—corporate	42.5	87.5	**	-8.9
Difference between corporate and noncorporate	5.7	-9.0	6.7	2.8
Difference between tenant- and owner- occupied housing	23.3	3.5	21.9	-2.1

Source: Congressional Budget Office.

Note: ** = between -0.05 percentage points and 0.05 percentage points.

- The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 will be permanently extended instead of being allowed to expire by 2011.
- An interquartile range is the difference between the effective marginal tax rates at the 75th and 25th percentiles. Half of all assets have rates within that range, one-quarter have higher rates, and one-quarter have lower rates.

Changing the Sequence of the Steps. The analysis detailed in steps 1 and 2 showed the distortions that would be introduced if capital income were not taxed while interest remained deductible. Reversing the order of steps 1 and 2 would reduce the distortions caused by expensing but would increase those caused by expanding retirement accounts, leaving the same net impact from the two steps. Other illustrative partial steps would pair the ending of interest deductibility with either an expansion of retirement accounts or full expensing (see Table 4). Combining steps 1 and 3 would increase the effective tax rate on

capital income to 18.0 percent but would apply the tax only at the business level, thereby eliminating the bias against equity financing. Combining steps 2 and 3 would eliminate the business-level tax but would leave interest, dividends, and capital gains taxed at the individual level. That option would reduce the effective tax rate on capital income to 9.3 percent and substantially move the tax system toward uniformity along all four dimensions considered here. Nevertheless, neither alternative would achieve the same level of uniformity as combining all three steps.

A

The Methodology Behind Effective Tax Rates

The methodology of effective tax rates shows how features of the tax code interact with one another and with the economy to affect the rate of return on new investment. Because of differences in the way the tax code treats investors, correct application of the rates distinguishes between investments by corporations, unincorporated businesses, and individuals investing in their own homes.¹ Whenever possible, the analysis utilized data from 2002 (the latest year such information was available) but gathered that data from a wide variety of sources.

Defining Effective Tax Rates

Taxes on capital income are most easily analyzed in terms of their effect on the rate of return on capital. For example, a tax that takes 2 percentage points of a 6 percent before-tax rate of return leaves the investor with a 4 percent after-tax rate of return. The tax rate would be 33 percent, measured as $(.06-.04)/.06$. The 2 percentage point difference between the before-tax rate of return and the after-tax rate of return is referred to as the tax wedge.

The term “effective” distinguishes those tax rates from statutory tax rates. Statutory tax rates apply to taxable income in a given year; effective tax rates summarize in a single measure provisions of the tax code that apply to economic income over the entire life of an investment. Specifically, an effective tax rate is a constant rate that, if applied to the return on an investment over its lifetime, would yield the same after-tax rate of return as applying statutory rates to taxable income according to the law.

For example, federal law allows trucks used locally for commercial purposes to be depreciated by 35 percent of their purchase price during the first year they are placed in service.² Under normal usage, the value of those trucks would depreciate by about 15 percent during that time, based on studies of used-truck prices. Because tax depreciation exceeds economic depreciation in the first year, taxable income from the investment would be less than economic income. That would reduce taxes and raise the after-tax return from what it would be if tax rates were applied to economic income. The situation would reverse itself in later years. Tax law allows trucks to be fully depreciated after five-and-a-quarter years, although they normally would still retain some value by that time. Trucks that remain in use after five years would receive no tax-depreciation deductions even though they would continue to depreciate. That imbalance would raise taxable income from the trucks above economic income, which would raise taxes and reduce after-tax returns relative to what would occur if tax rates were applied to economic income. Effective tax rates provide a constant tax rate applied to economic income over the life of the trucks that evens out the overstated and understated tax burdens in particular years.

Depreciation allowances are not the only source of differences between effective tax rates and statutory rates. The deferral of taxation of capital gains and traditional individual retirement account (IRA) contributions is another example. Furthermore, inflation causes differences for many types of capital income.

1. For further explanation of the methodology and examples of its use, see Jane G. Gravelle, *The Economic Effects of Taxing Capital Income* (Cambridge, Mass.: MIT Press, 1994), and James B. Mackie III, “Unfinished Business of the Tax Reform Act of 1986,” *National Tax Journal*, vol. 55, no. 2 (June 2002), pp. 293-338.

2. In the example, trucks are assumed to be placed in service at the middle of the first quarter of a year. That is done to match a convention of tax-depreciation rules that allows seven-eighths of a full year’s tax depreciation for assets placed in service during the first quarter of a year. For simplicity, the example also assumes that the rate of inflation is zero.

In this analysis, effective tax rates were computed for a prospective investment that would just break even. That is, the cost of the investment is expected to just equal the present value of the return that the business would have to distribute to its investors after paying the taxes that would be due on the profits. Such tax rates are an important factor in the decision to invest. Businesses tend to invest in the most profitable projects first and continue investing in others of declining profitability until they reach the break-even or marginal project. Additional projects are not undertaken because they would not be profitable. A reduction in the effective tax rate on the marginally profitable new investment would make more investment projects profitable, encouraging such investment, whereas an increase in the tax rate on a marginal investment would make fewer projects profitable.

Prospective marginal tax rates are better guides to investment incentives than are average tax rates computed from actual taxes paid by businesses on profits in a past year. As noted above for trucks, existing profits on old capital can be understated or overstated because the age of existing assets may place them in more or less accelerated portions of the tax-depreciation schedule. Inflation distorts taxable profits so that average tax rates do not reflect effective tax rates, even on existing activities. Recent changes in tax laws will make average tax rates from earlier years inapplicable; even changes in law from several years ago can cause average tax rates in recent years to differ from the rates on new investment because existing investments or activities can be protected from subsequent legislative changes. Finally, average tax rates on current profits can fluctuate depending on the losses that profitable businesses carry into the current year and the losses that unprofitable businesses carry back to earlier years.

Just as the business investments considered here are those that are marginal, so too are the sources of saving new or marginal. Thus, the tax rates that apply to them can differ from those paid on existing savings. Consider an individual who has saved up to the limit in his or her retirement savings account. The investment earnings within the account are not taxable, but if the individual saves an additional dollar, it cannot be within that account, so the investment returns on that dollar will be taxed.

Calculating Effective Tax Rates

Different calculations of effective tax rates were applied to C corporations, noncorporate businesses, and homeowners. Like any summary measure, however, the calculations do not capture the full complexity of tax laws or the investment environment.

C Corporations

A corporation considering an investment must expect to earn enough to pay investors the rate of return that they could obtain from other investments. In particular, a market interest rate must be paid on borrowed funds, and a competitive rate of profit must be expected on equity raised from new stock sales or reinvestment of profits from previous investments.³ (Profits from the investment under consideration would be returned to stockholders through some combination of dividends and additional reinvestment intended to enhance the value of the stock.)

In addition to paying investors the return they demand, the expected earnings on an investment must be sufficient to recover the capital contributed by investors and to pay any corporate income taxes. The rate at which the initial contribution must be recovered depends on how fast the asset's earning power depreciates. The amount needed to cover the corporate income tax depends on the corporate tax rate, the value of allowable depreciation deductions, and how the investment is financed. To the extent that it is financed with equity, it must earn enough to pay the corporate tax on the profits. To the extent that funds are borrowed, the return need not cover the corporate tax because interest expenses are deductible. The anticipated inflation also affects the required return. Inflation raises the return by reducing the value of depreciation deductions; it lowers the return by raising the interest deductions relative to earnings.

3. The real return (that is, the return net of inflation) required by investors— r —can be expressed as a weighted average of the real interest rate and the real return on equity. The real interest rate is measured here as the market interest rate less the inflation rate.

$$r = f \cdot (i - \pi) + (1 - f) \cdot E$$

Where f is the fraction of the investment financed by debt,
 i is the market interest rate,
 π is the inflation rate, and
 E is the real return on equity.

An investment whose return is just sufficient to cover those costs is the marginal investment. Its return, net of cost recovery, is that which is necessary to cover both the corporate tax and the return to investors.⁴ The difference between that real before-tax return and the real return paid to investors is the corporate tax wedge. Finally, the effective tax rate is the tax wedge relative to the before-tax return. Algebraically, when ρ represents the real before-tax return on the marginal investment and r represents the real return paid to investors, the tax wedge is $\rho - r$ and the effective tax rate, or ETR, is:

$$ETR = \frac{\rho - r}{\rho}$$

The pretax rate of return (ρ) and the ETR typically vary among asset types because of differences in the relationship between economic and tax depreciation. The more accelerated an asset's tax-depreciation allowances are relative to its economic depreciation, the lower its required return before-tax and the lower its effective tax rate. In two important cases, however, the ETRs will be uniform for all asset types. One instance occurs when tax depreciation equals economic depreciation for all asset types, and the other occurs when tax depreciation is replaced with an immediate deduction (expensing). Furthermore, for investments financed by equity, the uniform effective tax rate in the former case would be the statutory tax rate and in the latter case would be zero.

4. The real before-tax rate of return covering the costs discussed in the text can be expressed as:

$$\rho = (r' + \delta)(1 - uz)/(1 - u) - \delta$$

Where $r' = f \cdot [i(1 - u) - \pi] + (1 - f) \cdot E$ is the corporate discount rate, which reflects the deductibility of interest.

u is the corporate tax rate,

δ is the rate at which the economic value of the asset depreciates, and

z is the present value of tax-depreciation allowances measured as a share of investment.

Other terms are as defined in the previous footnote.

The expression $r' + \delta$ is the cost of paying the investor's return and recovering capital. The expression $1 - uz$ adjusts those costs for the value of tax depreciation. Their product divided by $1 - u$ gives the profit that must be earned before tax to cover taxes, investor return, and cost recovery. Subtracting δ limits the profit to just that needed to cover investor return and corporate taxes.

The earnings of the corporate investment are generally taxed again when paid out to savers. That introduces a second level of tax on corporate profits. The rate of taxation on such payouts depends on their form: interest, dividends, or retained profits. It also depends on inflation. Inflation raises nominal interest payments and capital gains above their real values, thereby raising tax rates on real earnings.⁵ The form in which people save also affects taxation of the investment. Capital income in certain accounts established for retirement, education, or health care is not taxed; the tax on capital income in nonqualified annuities or whole life insurance is temporarily deferred; and other capital income is immediately taxed.⁶ The real after-tax return that individuals end up with on the marginal investment, therefore, depends on how the marginal investment is financed and the type of account in which the marginal dollar of saving is deposited. Specific distributions of financing and saving are described later; here the average real after-tax return of savers is simply labeled as s . That label allows CBO to define the total tax wedge as $\rho - s$ and the marginal effective total tax rate (ETTR) as:⁷

$$ETTR = \frac{\rho - s}{\rho}$$

Noncorporate Businesses

Investments by noncorporate businesses also need to pay investors competitive rates of return. For debt finance, that would be the market interest rate. For equity, the investor-operator of a noncorporate business will want to earn on a marginal investment as much after tax as he or she could earn by buying corporate equity. Given those earnings requirements and the tax law, the rate of return required before tax to just break even can be computed in a parallel fashion to the before-tax rate of return on a

5. Anticipated inflation raises market interest rates to compensate for the erosion of a loan's repayment. That inflation premium reduces corporate income taxes through higher deductions for interest paid and raises taxes for savers through higher nominal interest income. The net effect is a reduction in tax because individuals, on average, pay the tax on interest at a lower marginal rate than corporations deduct it.

6. Retained earnings of corporations are an exception to the immediate taxation of other capital income. They are taxed as capital gains when the saver sells the corporation's stock.

7. References in the main text, tables, and other appendixes to effective tax rates of corporations are to ETTRs unless explicitly noted otherwise.

marginal investment in the corporate sector (ρ). No tax is imposed directly on the noncorporate business, but the interest and profits paid out are subject to tax at the individual level.

The after-tax return received by marginal lenders is not generally the same as that received by marginal lenders to corporations because funds loaned to noncorporate businesses are less likely to be held in nontaxable vehicles.⁸ Because of that difference for lenders, the average real after-tax return on savings invested in the noncorporate sector need not be the same as that invested in the corporate sector (labeled s above). Although the values for ρ and s are different for noncorporate investments than they are for corporate investments, the formulas for calculating the tax wedge and effective tax rate are similar.

Owner-Occupied Housing

A homeowner making a marginal investment in his or her house also has to pay the market interest rate on debt financing. As for equity financing, it is assumed that owners want to earn the same benefit from equity invested in their home that they would get in their other equity investments. The main difference in computing the required pre-tax rate of return is that no tax is owed on equity earnings, and no depreciation deductions are allowed. Another difference is that interest is deductible only for homeowners who itemize. A third difference is that federal income taxes are reduced to the extent property taxes are deductible. Those features mean that the before-tax rate of return needs to be only a little higher than the return paid to savers (just enough higher to cover the portion of interest that is not deductible) and can be lower (if the deduction for property tax payments is large enough). The tax wedge, therefore, typically will be much closer to zero than it is for marginal investments in the other two sectors, and it may even be negative.

Limitations of the Effective Tax Rate Framework

The effective tax rate framework necessarily omits many features of the tax code that factor into the investment decision. One limitation is that it assumes all savers and

investors are subject to the U.S. income tax. That would mean that foreigners supply no savings and that investments are located in the United States. Foreign savers are not subject to the U.S. individual income tax, so allowing foreigners to funnel savings to investments in the United States would mean that changes in the individual income tax in the United States would not necessarily influence the effective total tax rates on U.S. businesses. Furthermore, investments located abroad are not subject to the U.S. income tax unless and until profits are brought back. Including investments abroad in this analysis would mean that U.S. business tax laws would not necessarily affect effective tax rates faced by businesses. The simplification of a closed economy still provides useful insights because the U.S. economy is so large that most savings invested in the United States originate with U.S. residents. The growing globalization of businesses and capital flows, however, is lessening the validity of the closed economy assumption.⁹

Narrowing the focus to individuals and firms in the United States still leaves a broader range of taxation than can be addressed within the scope of the effective tax rate framework. The effective tax rate framework omits estate and gift taxes, self-employment contributions to Social Security, and many features of the tax code affecting specific industries, assets, or types of activities. Furthermore, all investments are assumed to be fully compliant with the tax law. The analysis also excludes state and local taxes to focus on the incentive effects of federal tax options. Because of the above limitations, it is best to think of effective tax rates as examples of how the main features of the federal tax system affect investment incentives.

Implementing Effective Tax Rates

To calculate numerical effective tax rates, a host of assumptions must be made. Presented here are the major assumptions involving which investments are made, which businesses make them, how they are financed, what returns investors require, how marginal savings are held, and what statutory tax rates apply.

8. The marginal equity-financed investment in noncorporate businesses cannot be held in a nontaxable account. That difference from savings supplied to corporations is reflected in the before-tax rate of return that the noncorporate business must earn.

9. For an analysis of the international implications of corporate income taxation and effective tax rates, see Congressional Budget Office, *An International Comparison of Corporate Income Tax Rates* (forthcoming).

Table A-1.**Distribution of Assets in 2002, by Type and Form of Organization**

(Percentage of total, all types)

	Corporate	Noncorporate	Housing ^c	Total
All Equipment ^a	10.7	2.3	n.a.	13.0
Computers and software	1.3	0.2	n.a.	1.5
Communications equipment and instruments	1.9	0.3	n.a.	2.2
Office equipment and furniture	0.7	0.3	n.a.	1.0
Automobiles	0.4	0.1	n.a.	0.4
Other vehicles and transportation equipment	1.8	0.3	n.a.	2.1
Machinery	1.9	0.6	n.a.	2.6
Fabricated metal products and general industrial equipment	1.3	0.2	n.a.	1.5
Other equipment	1.4	0.2	n.a.	1.7
All Structures ^b	15.4	11.7	31.5	58.6
Residential buildings	0.2	7.9	31.5	39.6
Nonresidential buildings	9.0	2.9	n.a.	11.9
Mining and drilling structures	1.2	0.1	n.a.	1.3
Other structures	4.9	0.9	n.a.	5.8
Inventories	3.7	1.4	n.a.	5.1
Land	5.0	5.7	12.7	23.3
All Types	34.8	21.1	44.1	100.0

Source: Congressional Budget Office calculations based on data from Department of Commerce, Bureau of Economic Analysis; Department of Labor, Bureau of Labor Statistics; and Internal Revenue Service, Statistics of Income Division.

Notes: n.a. = not applicable.

In addition to buildings, "structures" can include entities such as dams, mine shafts, petroleum pipelines, radio-transmission towers, and railroad tracks.

- a. The eight types of equipment are aggregated from 32 of the categories listed in Table 2.
- b. The four types of structures are aggregated from 15 of the categories listed in Table 2.
- c. Owner occupied.

The Investments

In this analysis, the Congressional Budget Office (CBO) considered investments in 49 types of assets, which represent the full range of equipment, inventories, land, software, and structures that make up private tangible capital stock in the United States.¹⁰ Residential buildings comprised the largest category, accounting for about 40 percent of the total value of the capital stock (see Table A-1). Land was next, at 23 percent, followed by structures other than residential buildings, at 19 percent, and equip-

ment and software, at 13 percent. Inventories accounted for 5 percent.

Most of the effective tax rates reported in this paper combine those 49 asset types into a single aggregate statistic (rates on housing are the only exception). The aggregates were constructed by averaging before-tax rates of return for asset types within a category (for example, corporations). The averages weight each individual asset type by its share of the existing capital stock in the category.

10. Values for most categories of capital stock were obtained from the Bureau of Economic Analysis in the Department of Commerce. Figures pertaining to land came primarily from the Bureau of Labor Statistics in the Department of Labor. The capital stock was measured as of 2002.

Intangible assets, such as cumulative knowledge and brand allegiance that comes from advertising, were omitted because little is known about their value and rates of depreciation. One study suggests that omitting intangible

assets makes the reported effective tax rates a few percentage points too high and alters the impacts of most policy changes by smaller amounts.¹¹

The Producers

Investments were distributed among C corporations, noncorporate businesses, and homeowners. Businesses that invest were assumed to be profitable, and unincorporated investors (whether businesses or homeowners) were assumed to have positive taxable income.¹² Marginal investments were assumed to be undertaken by different investor types in proportion to their ownership of existing assets.

Corporations accounted for about 80 percent of the existing stock of equipment and nonresidential structures, and about 70 percent of inventories (see Table A-1).¹³ Their share of residential structures, in contrast, was less than 1 percent; other businesses accounted for about 20 percent, and homeowners accounted for about 80 percent. Land was more evenly divided, with corporations and other businesses holding between one-fifth and one-fourth each and homeowners holding a bit over half.

Financing and Rates of Return

Corporations funded more of their assets with debt than did noncorporate businesses but not quite as much as homeowners. Corporations financed 41 percent of their assets through debt, compared with 32 percent for noncorporate businesses and 43 percent for homeowners.¹⁴ Marginal investments were assumed to be financed in

11. See Mackie, "Unfinished Business of the Tax Reform Act of 1986," p. 310.

12. Including investments by unprofitable firms and individuals with no taxable income would complicate the computation of average statutory tax rates in ways that would shed little light on effective tax rates.

13. Ownership by form of business organization was estimated on the basis of data obtained from the Bureau of Economic Analysis in the Department of Commerce and from the Internal Revenue Service.

14. The percentages of assets that are debt financed were derived from the Flow of Funds Accounts of the Federal Reserve Board for 2002.

Table A-2.

Assumed Rates of Return

	Percent
Baa Corporate Bond Rate (i)	7.2
Inflation Rate Measured by GDP Deflator (π)	1.8
Real Equity Return After Corporate Tax (E)	7.0

Source: Congressional Budget Office.

Note: GDP = Gross domestic product.

proportion to those existing patterns of finance. C corporations were assumed to pay out about 57 percent of their after-tax profits on equity-financed investments as dividends and to reinvest the remaining 43 percent.¹⁵

Interest rates, inflation rates, and returns paid by C corporations on equity were set at levels consistent with trends in the recent past and with CBO's macroeconomic forecast for the decade 2006-2015 (see Table A-2).¹⁶ The interest rate and real equity return are higher than the interest rate on 10-year Treasury bonds of 5.5 percent (or 3.7 percent after inflation). The Treasury bond rate is lower because the government has a much lower risk of default than do businesses and homeowners. The methodology for computing effective tax rates does not adequately treat the taxation of risky returns, so some analysts recommend a rate with less risk, such as the yield on Treasury bonds. Use of the Treasury bond rate would not change the qualitative findings of the report, although the differences in effective tax rates between equity-financed and debt-financed investments would be larger.

Sources of Marginal Savings

At the individual level, the return on saving can be treated in one of three ways: nontaxable (as in IRAs and employment-based retirement plans), temporarily deferred (as in nonqualified annuities and whole life insurance), and fully taxable. Within the nontaxable category, however, some accounts, particularly IRAs and 401(k)s, have binding contribution limits and others, such as

15. The percentages paid out and retained are determined on the basis of returns earned by common stocks and the growth rates of the corporate capital stock.

16. Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2006-2015* (January 2005).

defined-benefit plans, do not.¹⁷ In general, marginal saving was assigned to each of the four groups in proportion to the distribution of assets in 2002.¹⁸ However, the statutory limits on contributions to IRAs and 401(k)s require that an exception be made to that rule: that once the statutory limit has been hit, marginal saving otherwise destined for such an account must be directed elsewhere.

Prior to the enactment of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), the number of families constrained by contribution limits and their share of marginal saving were estimated using the 2001 Survey of Consumer Finances (SCF).¹⁹ According to that simulation, 46 percent of marginal saving was done by families constrained by a limit. Their saving was reshuffled so that the amount that would ordinarily have been assigned to the constrained account was redirected to the fully taxable and temporarily deferred groups. For the 54 percent of marginal saving done by families that were not constrained by a limit, the distribution among groups was left unchanged (see Table A-3).

Consider, for example, saving in corporate equity. Approximately 24 percent of the return on such assets was nontaxable in accounts with binding limits, 16 percent was nontaxable in accounts without binding limits, 5 percent was temporarily deferred, and 55 percent was fully taxable. The following equations show how marginal saving was distributed among those groups separately for the constrained and unconstrained families, then reaggregated:

	Unconstrained		Constrained	Total
Nontaxable/ Binding Limits	(0.54×0.24)	+	(0.46×0.00)	= 0.13
Nontaxable/ No Binding Limits	(0.54×0.16)	+	(0.46×0.16)	= 0.16
Temporarily Deferred	(0.54×0.05)	+	$[(0.46 \times (0.05 + 0.02))]$	= 0.06
Fully Taxable	(0.54×0.55)	+	$[(0.46 \times (0.55 + 0.22))]$	= 0.64

To represent the base case, the higher contribution limits under EGTRRA had to be incorporated. Implementing the exception to the general rule under such circumstances required estimating how saving would have been distributed under those higher limits. First, unconstrained contributions to 401(k)s were estimated on the basis of an age-specific percentage of income, then reestimated as if the EGTRRA limits had been in place. Next, IRA contributions in 2002 were estimated on the basis of actual IRA deductions reported in 2002, then extrapolated to represent unconstrained contributions and those under the fully phased-in EGTRRA limits. Under EGTRRA, the percentage of marginal saving done by families constrained by a limit dropped from 46 percent to 29 percent. That 29 percent was redistributed so that amounts that would otherwise have been saved in constrained accounts were directed to fully taxable or temporarily deferred accounts. That left 17 percent switching from being constrained to unconstrained. It was estimated that the higher limits under EGTRRA would stimulate a 57 percent increase in contributions to nontaxable accounts, so the existing distribution of assets among the groups was adjusted to shift that amount from the fully taxable and temporarily deferred groups into the nontaxable group. The remaining 54 percent of marginal saving was unaffected by EGTRRA, so its distribution among groups did not change.

Statutory Tax Rates

All of the actual and proposed tax laws considered in this paper keep the federal corporate tax rate schedule that was in effect just before EGTRRA was enacted. Furthermore, taxable profits from a marginal investment made under that structure were assumed to be subject to the top statutory rate of 35 percent because that rate is the marginal rate for most corporate profits. The analysis omitted the recently enacted deduction for productive

17. Private defined-benefit plans are subject to limits on the amount of benefit that can be funded with before-tax dollars, but those limits are high enough that contributions are rarely affected.

18. The distribution of savings by type of account was derived from the 2002 Flow of Funds.

19. The Survey of Consumer Finances does not cover IRA contributions, so such contributions were imputed based on percentages calculated using CBO's microsimulation model of individual income taxes. Marginal saving was assumed to be distributed in proportion to the sum of capital income and 401(k) contributions.

Table A-3.**Distribution of Assets and Marginal Saving, by Tax Status**

(Percent)

	Assets		Marginal Saving	
	2002 Flow of Funds	Base Case ^a	Current Law After 2010	
Corporate Equity				
Nontaxable	40.4	35.8	29.4	
Temporarily deferred	5.4	5.8	6.4	
Fully taxable	54.2	58.4	64.2	
Corporate Debt				
Nontaxable	35.7	32.7	28.8	
Temporarily deferred	20.4	21.3	22.5	
Fully taxable	43.9	46.0	48.7	
Noncorporate Debt				
Nontaxable	18.5	16.7	14.5	
Temporarily deferred	13.9	14.2	14.6	
Fully taxable	67.6	69.1	70.9	
Homeowner Debt				
Nontaxable	23.0	21.3	19.4	
Temporarily deferred	7.0	7.1	7.3	
Fully taxable	70.0	71.6	73.3	

Source: Congressional Budget Office based on data from Federal Reserve Board, *Flow of Funds Accounts* (March 10, 2005) and the Survey of Consumer Finances (2001); and Internal Revenue Service, *Statistics of Income—2002: Individual Income Tax Returns* (2004).

a. The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 will be permanently extended instead of being allowed to expire by 2011.

activity that essentially reduces the tax rate to 32 percent for many investments by corporations.

Individual income tax rates were set according to two alternative schedules: one representing the base case, and an alternative representing pre-EGTRRA law that is scheduled to resume in 2011 (see Table A-4). The tax rate on a particular type of capital income was set at the average of the tax brackets faced by taxpayers with both positive amounts of that particular source and positive taxable income overall. The rate is referred to as an average marginal tax rate. For example, before EGTRRA was enacted, the average recipient of dividends with positive taxable

income paid a tax rate of 28 percent on additional dividends. That rate was below the top individual rate of 39.6 percent because many recipients were in lower tax brackets. Under the base case, the average recipient of dividends was estimated to pay 12 percent on additional dividends, reflecting the new 5 percent and 15 percent rate structure. Note also that before EGTRRA was enacted, homeowners who deducted their mortgage interest payments had an average marginal tax rate of 22 percent, which was lower than the rate for people with interest income of 26 percent. The latter tended to have higher taxable incomes than the former.

Table A-4.**Average Statutory Marginal Tax Rates**

(Percent)

Source of Income	Base Case ^a	Current Law After 2010
Corporate Profits (u)	35	35
Dividends	12	28
Long-Term Capital Gains ^b	15	20
Short-Term Capital Gains ^b	28	34
Interest Income	22	26
Mortgage Interest Deductions ^c	19	22
Unincorporated Business Income	27	31
Distributions from Nonqualified Annuities	21	24

Source: Congressional Budget Office based on its microsimulation model of individual income taxes at 2002 income levels.

- a. The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 will be permanently extended instead of being allowed to expire by 2011.
- b. The short-term rate is applied to 3.6 percent of total gains. The long-term rate is applied to 48.2 percent of total gains. The remaining 48.2 percent of gains are assumed to avoid taxation by being held until the taxpayer's death.
- c. The rate is applied only to amounts paid by itemizers, which are estimated to be 94 percent of all mortgage interest paid on the basis of data from Department of Commerce, Bureau of Economic Analysis; and Internal Revenue Service, Statistics of Income Division.

B

Alternative Assumptions

The implications of three assumptions underlying the Congressional Budget Office's (CBO's) main analysis warrant further investigation. One such assumption is that the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) and the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) will be made permanent. Another assumption involves the way that dividend taxes are handled in the analysis. The last affects how marginal saving is allocated among nontaxable, temporarily deferred, and fully taxable accounts.

The Effects of the Expiration of EGTRRA and JGTRRA

EGTRRA is scheduled to expire after 2010. Although its extension has been widely debated, multiple tax bills since 2001 have not altered that expiration date. In fact, when JGTRRA was enacted, some of its provisions were scheduled to expire even earlier. Hence, the possibility that those laws will expire as scheduled should be considered.

Under the tax law in place prior to the enactment of EGTRRA (which would resume were EGTRRA to expire), the overall effective tax rate on capital income would be 17.4 percent, 3.6 percentage points higher than under the base case (see Table B-1). For corporate capital income only, the effective tax rate would be 31.9 percent, 5.6 percentage points higher than under the base case. In both instances, the higher effective tax rates would result from the expiration of the following provisions:

- The general reduction in individual income tax rates;
- The additional reduction in the rates on dividends and capital gains under JGTRRA; and
- The higher caps on retirement-account contributions.

Neither EGTRRA nor JGTRRA addressed depreciation deductions, which account for most of the variation in effective tax rates across asset types. Therefore, the interquartile range of effective tax rates among asset types in the corporate sector would remain unchanged at 12.3 percentage points.

The reduced statutory tax rates on dividends and capital gains under JGTRRA were intended to help level the playing field between debt- and equity-financed corporate capital. In isolation, they reduced the difference in effective tax rates by approximately 4 percentage points, but other provisions of EGTRRA and JGTRRA nearly offset that improvement. For example, the general rate reduction lowered the statutory tax rate on interest from 26 percent to 22 percent. The higher caps on retirement plan contributions also favored debt financing because the resulting individual income tax reduction was greater for debt (dropping from 22 percent to zero) than for equity (in the case of dividends, dropping from only 12 percent to zero). The net result is that expiration of EGTRRA and JGTRRA would increase the difference in effective tax rates between income derived from debt- and equity-financed corporate capital by only 0.3 percentage points, to 42.8 percentage points.

Table B-1.**The Effect of the Expiration of EGTRRA and JGTRRA**

	Base Case ^a	Current Law After 2010	Difference
Effective Tax Rates (Percent)			
Overall	13.8	17.4	3.6
Corporate	26.3	31.9	5.6
Debt financed	-6.4	-1.1	5.3
Equity financed	36.1	41.7	5.7
Noncorporate	20.6	24.2	3.6
Owner-occupied housing	-5.1	-5.7	-0.6
Measures of Tax Rate Uniformity (Percentage points)			
Interquartile range across asset types—corporate ^b	12.3	12.3	0
Difference between equity financed and debt financed—corporate	42.5	42.8	0.3
Difference between corporate and noncorporate	5.7	7.6	2.0
Difference between tenant- and owner-occupied housing	23.3	27.0	3.7

Source: Congressional Budget Office.

- a. The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) and the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) will be permanently extended instead of being allowed to expire by 2011.
- b. An interquartile range is the difference between the effective marginal tax rates at the 75th and 25th percentiles. Half of all assets have rates within that range, one-quarter have higher rates, and one-quarter have lower rates.

The reduced statutory tax rates on dividends and capital gains met with more success in shrinking the tax differential between corporate and noncorporate investment. If EGTRRA and JGTRRA were to expire, the difference in effective tax rates between income from corporate and noncorporate investments would increase by one-third, to 7.6 percentage points. Two factors would help magnify the difference:

- Because income generated by corporate investments is more likely to be nontaxable or deferred in retirement accounts than is income from noncorporate investments, reducing the cap on contributions would raise the effective tax rate on corporate capital income by more than that on noncorporate capital income; and
- Eliminating the special reduction in the statutory rate on dividends and capital gains would increase the extra layer of tax on corporate capital income but have little impact on noncorporate capital income.

Eliminating the general reduction in statutory tax rates, however, would tend to reduce the difference between

corporate and noncorporate effective tax rates because it applies only to individual income taxes, which are lower than corporate taxes.

Finally, the difference in effective tax rates between income from owner-occupied and tenant-occupied housing would increase by 3.7 percentage points to 27.0 percentage points. Eliminating the general reduction in individual tax rates would increase the tax on income from noncorporate tenant-occupied housing and simultaneously reduce the tax on the implicit income from owner-occupied housing by increasing the value of the mortgage interest and property tax deductions claimed by owner-occupants.

Old and New Views of Taxes on Dividends

The analysis of effective tax rates presented in the main text of the paper and the discussion in Appendix A treat the dividend tax along with all other taxes as a contributor to the tax wedge. That approach, which views the dividend tax as part of the disincentive to save and invest

through corporate equities, has been known as the “old view” since the development of an alternative “new view” in about 1980. The new view holds that investments funded through reinvested earnings are not deterred by the tax on dividends. If profits are paid as dividends when earned, the dividend tax must be paid immediately. If, instead, profits are reinvested and increase future profits and dividend payments, the dividend tax must be paid then. After accounting for the time value of money, the tax on dividends is the same in both cases. Therefore, under the new view, reinvesting profits does not increase the tax on dividends.¹ It does increase the tax on capital gains, however. Reinvested profits raise the price of the firm’s stock to reflect the increased value of the firm, so when individuals sell shares, they face a higher capital gains tax. Under the new view then, only the capital gains tax reduces the return on investing with retained earnings. Although the dividend tax does not reduce the return on reinvested earnings under the new view, it does reduce the value of corporate stock because it reduces the after-tax amount of dividends that stockholders retain.²

The logic of the new view does not apply to investment funded through the sale of new shares. Investing elsewhere would avoid the tax on dividends; thus, the dividend tax is a barrier to investment that is funded through the issuing of new shares. As a result, under the new view, the weight given to the tax rate on dividends in determining the effective tax rate was not the total share of corporate profits after tax that is paid out as dividends (57 per-

cent), but rather the share of investment that is funded through new share issues. CBO’s analysis offers an illustration of the new view by assuming that 10 percent of new equity funding in the corporate sector is financed by issuing new shares.³

As long as the tax rate on capital gains is less than the tax rate on dividends, the effective tax rate on corporate equity will be lower under the new view than it would be under the old view. That lower tax on corporate equity reduces the size of the disadvantage that investments in corporate equity face relative to investments in corporate bonds, noncorporate businesses, and owner-occupied housing. Thus, under the new view, the double taxation of corporate equity creates a smaller disincentive.

Applying the new view’s weighting of dividends and capital gains to effective tax rates under the alternative case in which EGTRRA and JGTRRA expire most starkly illustrates the magnitude of the new view’s implications. The most direct repercussion would be that the tax rate on corporate equity would be lower: the effective tax rate on income from corporate equity would be 41.7 percent under the old view and 37.4 percent under the new view (see Table B-2). Both views find the same tax rate on income from debt-financed investment in the corporate sector, so the new view shows a smaller difference between equity and debt financing. The lower tax rate on income from corporate equity would also lead to a lower tax rate on investment income in the corporate sector financed by the normal mix of debt and equity. The effective tax rate on investment income in the corporate sector with the average mixture of debt and equity would be 28.5 percent under the new view instead of 31.9 percent. That difference alone implies a smaller disincentive imposed by the corporate-level tax relative to that placed on investment in noncorporate activity or owner-occupied housing. Likewise, a slightly higher effective tax rate on investment income in noncorporate activity and owner-occupied housing implies a smaller disincentive. Those higher rates reflect a higher required return on equity in the two sectors to compete with the higher return earned in the corporate sector under the new view. Finally, the effective tax rate on all investment income would be

1. That conclusion rests on the assumption that profits cannot be paid out to stock owners without paying the dividend tax. The validity of that assumption has been challenged by the growing practice of companies of repurchasing their shares—a practice that has exceeded new-share issues almost continuously since 1984. Repurchases are an alternative way for companies to distribute profits to shareholders that avoids the dividend tax but incurs the capital gains tax. In fact, the new view could be restated in terms of share repurchases and their associated capital gains taxes instead of dividend payments and their associated taxes. The implications are basically the same.
2. Like the tax on dividends under the new view, the property tax on land can, in some circumstances, reduce the price developers pay for land rather than adding to the cost of development. Those circumstances consist primarily of land development (or redevelopment) occurring in an environment with a significant number of similar jurisdictions competing for the development. In such cases, it would be appropriate—in the context of the new view—to ignore a portion of the property tax deduction in the effective tax rate formula for owner-occupied housing. The effect, however, would be small and geographically uneven.

3. The share of investment funded by new-share issues is difficult to measure. The illustrative value picked is the same as that used in James B. Mackie III, “Unfinished Business of the Tax Reform Act of 1986,” *National Tax Journal*, vol. 55, no. 2 (June 2002), p. 326.

Table B-2.**Old and New Views of Dividend Taxes**

	Base Case Law ^a			Current Law After 2010		
	Old View: Base Case	New View	Difference	Old View	New View	Difference
Effective Tax Rates (Percent)						
Overall	13.8	13.4	-0.4	17.4	15.8	-1.6
Corporate	26.3	25.3	-1.0	31.9	28.5	-3.4
Debt financed	-6.4	-6.4	0	-1.1	-1.1	0
Equity financed	36.1	34.8	-1.3	41.7	37.4	-4.4
Noncorporate	20.6	20.7	0.1	24.2	24.5	0.2
Owner-occupied housing	-5.1	-5.0	0.1	-5.7	-5.4	0.3
Measures of Tax Rate Uniformity (Percentage points)						
Interquartile range across asset types—corporate	12.3	12.3	0	12.3	12.3	0
Difference between equity financed and debt financed—corporate	42.5	41.2	-1.3	42.8	38.5	-4.4
Difference between corporate and noncorporate	5.7	4.6	-1.0	7.6	4.0	-3.6
Difference between tenant- and owner-occupied housing	23.3	23.3	0	27.0	27.0	0

Source: Congressional Budget Office.

- a. The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 will be permanently extended instead of being allowed to expire by 2011.

lower under the new view (15.8 percent) than under the old view (17.4 percent).

The importance of which view is correct diminishes as the difference between the tax rates on dividends and capital gains shrinks. EGTRRA and JGTRRA narrow that difference so they also reduce the impact on effective tax rates from changing views. Before enactment of EGTRRA and JGTRRA, the average marginal tax rate on dividends was 28 percent, and the average marginal tax rate on capital gains was 15 percent, about half as big.⁴ Under the base case (with both laws fully in place), the statutory tax rate on dividends equals that on capital gains, thus eliminating most of the advantage of realizing capital gains. The average marginal tax rate on dividends falls to 12 percent and that on capital gains falls to 11 percent, leaving the gains rate almost as high as the dividend rate.

4. The effective tax rate on capital gains includes the effects of taxing long-term gains at lower rates than dividends and short-term gains, the benefits of deferral and step-up in basis at death, and the disadvantage of taxing inflationary gains.

With the lower differential under EGTRRA and JGTRRA, the assumptions of the new view lead to an effective tax rate on income from equity-financed investment in the corporate sector of 34.8 percent instead of 36.1 percent under the old view (see Table B-2). That 1.3 percentage point difference is less than a third of the 4.4 percentage point difference under tax law before EGTRRA and JGTRRA. Correspondingly small impacts under the new view appear on the effective tax rate for investment income with mixed debt and equity financing in the corporate sector and in the overall effective tax rate on investment income.

Finally, the impacts of EGTRRA and JGTRRA differ under the new view. The reduction in tax rates on dividends in JGTRRA has a smaller effect on the effective tax rate for corporate equity under the new view than under the old view, while the reduction in the tax rate on capital gains has a greater effect. Because the latter was the smaller change, the net impact of EGTRRA and JGTRRA is smaller under the new view than under the old view. Under the new view, those two tax laws reduce the effective tax rate on income from corporate equity by

2.6 percentage points (from 37.4 percent to 34.8 percent in Table B-2). Under the old view, the laws reduce that tax rate by 5.6 percentage points (from 41.7 percent to 36.1 percent).

Sources of Marginal Saving

The actual source of marginal saving is not particularly clear cut. The results presented so far assume that marginal saving would be distributed in proportion to existing assets except when contribution limits prevent that. Alternative assumptions could range between two extremes: that marginal saving would come entirely from taxable accounts; or that they would be distributed in proportion to existing assets without regard to contribution limits.

The latter assumption would not be dramatically different in its execution from the base case assumption that recognizes contribution limits. The assumption that marginal saving would come entirely from taxable accounts, however, generates markedly different results from those reported in Table B-1, producing higher effective tax rates across the board. Overall, the effective tax rate under the base case would be 4.0 percentage points higher (17.8

percent) and the corresponding rate for income from corporate investments would be 5.6 percentage points higher (31.9 percent, see Table B-3). Most notable is the change in the effective tax rate for income derived from debt-financed corporate investment from negative to positive—a difference of 16.1 percentage points. That difference, coupled with the much smaller difference in the effective tax rate for income from equity-financed corporate investment of 2.6 percentage points, narrows the gap between income from equity-financed and debt-financed corporate investment by 13.6 percentage points to 28.9 percentage points. The difference between effective tax rates for corporate and noncorporate investment income, however, would be 9.7 percentage points—4.1 percentage points higher than under the base case.

Under the assumption that marginal saving comes from taxable accounts, the expiration of EGTRRA would have larger effects, increasing the corporate effective tax rate by 7.6 percentage points instead of 5.6 percentage points. The effect of the expiration of EGTRRA on the noncorporate effective tax rate, however, would be virtually unchanged by the assumption about the source of marginal financing.

Table B-3.**Alternative Assumptions About Sources of Marginal Saving**

	Base Case Law ^a			Current Law After 2010		
	From All Types of Accounts ^b (Base Case)	From Taxable Accounts Only	Difference	From All Types of Accounts ^b	From Taxable Accounts Only	Difference
Effective Tax Rates (Percent)						
Overall	13.8	17.8	4.0	17.4	22.7	5.3
Corporate	26.3	31.9	5.6	31.9	39.5	7.6
Debt financed	-6.4	9.7	16.1	-1.1	16.5	17.6
Equity financed	36.1	38.7	2.6	41.7	46.4	4.6
Noncorporate	20.6	22.2	1.6	24.2	26.0	1.7
Owner-occupied housing	-5.1	-1.9	3.2	-5.7	-1.9	3.8
Measures of Tax Rate Uniformity (Percentage points)						
Interquartile range across asset types—corporate	12.3	12.3	0.0	12.3	12.3	0.0
Difference between equity financed and debt financed—corporate	42.5	28.9	-13.6	42.8	29.8	-13.0
Difference between corporate and noncorporate	5.7	9.7	4.1	7.6	13.5	5.9
Difference between tenant- and owner-occupied housing	23.3	21.8	-1.5	27.0	25.0	-2.0

Source: Congressional Budget Office.

- a. The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 will be permanently extended instead of being allowed to expire by 2011.
- b. According to the distribution of marginal saving in Table A-3 on page 22.

C

Alternative Proposals

Many recent proposals for reducing taxes on capital income would maintain the structure of an income tax but adopt features of a consumption tax or a wage tax. Using the framework of effective tax rates, the Congressional Budget Office (CBO) analyzed four such proposals, assessing each independently of the others:

- Restore the 30 percent expensing provisions from the Job Creation and Worker Assistance Act of 2002 (JCWAA);
- In addition to the retirement plan contributions allowed in the base case, allow \$5,000 annual contributions to lifetime savings accounts (LSAs), as detailed in the President's 2006 budget;
- Allow unlimited contributions to individual retirement accounts (IRAs); and
- Integrate the corporate and individual taxes by eliminating the individual-level tax on dividends and reducing the capital gains tax by 60 percent.

Restore 30 Percent Partial Expensing

JCWAA allowed businesses to expense 30 percent of the acquisition cost of assets with an assumed life of 20 years or less that were purchased between September 10, 2001, and May 6, 2003. Firms would depreciate the remainder of the acquisition cost as usual. The Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) increased the proportion to 50 percent and extended the time period for acquisitions to be placed in service through the end of 2004. Although the provision as enacted was intended to stimulate the economy during a downturn, this proposal would restore and make permanent 30 percent expensing.

The proposal would lower the overall effective tax rate on capital income relative to the base case by 1.3 percentage points, to 12.5 percent (see Table C-1). The rate on corporate capital income would drop by 2.4 percentage points, to 23.9 percent.

This proposal would also increase the variation in effective tax rates across asset types, raising the interquartile range of effective tax rates by 6.2 percentage points, to 18.5 percentage points. The proposal would indeed make effective tax rates more uniform across the affected asset types (for example, equipment, utility structures, mining and drilling structures, railroad structures, and farm structures), but those asset types have lower rates to begin with than do asset types with longer lives. Thus, the provision would increase the difference between the affected assets and those not eligible for partial expensing (see Table C-2). That increased difference between short- and long-lived assets would outweigh the reduction in difference across shorter-lived assets affected by the proposal, thus increasing the interquartile range of effective tax rates over all types of assets.

The difference in effective tax rates between income from equity-financed and debt-financed corporate investments would increase by 1.5 percentage points, to 44.0 percentage points. That small difference is largely an artifact of the effective tax rate formula and does not represent a significant change in investment incentives.

The difference in effective tax rates between corporate and noncorporate investment income would decrease by 1.8 percentage points, to 3.9 percentage points. That result occurs because the proposal would cover a much larger share of corporate than noncorporate assets. Assets of the real estate industry in general, and tenant-occupied housing in particular, are held overwhelmingly by the

Table C-1.**Selected Proposals to Reduce the Tax on Capital Income**

	Base Case ^a	Allow 30 Percent Expensing of Equipment	Allow \$5,000 LSA Contributions	Allow Unlimited IRA Contributions	Partially Integrate Individual and Corporate Taxes
Effective Tax Rates (Percent)					
Overall	13.8	12.5	9.2	12.7	12.5
Corporate	26.3	23.9	21.1	24.4	23.2
Debt financed	-6.4	-10.0	-18.4	-9.9	-6.4
Equity financed	36.1	34.0	32.9	34.6	32.1
Noncorporate	20.6	20.0	17.9	20.3	20.8
Owner-occupied housing	-5.1	-5.1	-9.8	-5.7	-4.9
Measures of Tax Rate Uniformity (Percentage points)					
Interquartile range across asset types—corporate	12.3	18.5	12.3	12.3	12.3
Difference between equity financed and debt financed—corporate	42.5	44.0	51.3	44.5	38.5
Difference between corporate and noncorporate	5.7	3.9	3.2	4.1	2.4
Difference between tenant- and owner-occupied housing	23.3	23.3	25.2	23.5	23.4

Source: Congressional Budget Office.

Notes: LSA = lifetime savings account; IRA = individual retirement account.

- a. The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 will be permanently extended instead of being allowed to expire by 2011.

noncorporate sector and would be unaffected by the proposal. Because the effective tax rate on corporate investment income exceeds that on noncorporate investment income to begin with, the larger decrease in the former would reduce the difference between the two.

Allow \$5,000 Annual Contributions to Lifetime Savings Accounts

The President's 2006 budget calls for the creation of LSAs. Those accounts would be structured like Roth IRAs—that is, contributions would be from after-tax income but withdrawals would be tax-free—except that the funds could be withdrawn without tax or penalty at any time and for any reason. Also, instead of being limited to workers and their spouses, accounts could be established by parents for their children. Annual contri-

butions would be limited to \$5,000 per account and would be in addition to existing retirement accounts.¹ As is the case with IRAs, LSAs could not hold noncorporate equity, including the participant's house.

Using the 2002 Survey of Consumer Finances, CBO estimated that the proposed LSAs would exempt 47 percent of the capital income that would become nontaxable un-

1. Actually, the President proposed consolidating most IRAs into a single type of plan known as a retirement savings account (RSA). Similarly, the budget proposed consolidating most types of defined-contribution plans sponsored by employers into a single type of plan known as the Employee Retirement Savings Account (ERSA). Because RSAs would be virtually indistinguishable from Roth IRAs, and ERSAs would be virtually indistinguishable from 401(k)s—both of which are already represented in the data—the analysis excludes them.

Table C-2.**The Effect of Partial Expensing on C Corporations, by Asset Type**

	Percentage of Corporate Assets	Effective Tax Rates	
		Base Case ^a	With 30 Percent Expensing of Equipment
All Equipment	30.8	20.8	14.2
Computers and software	3.7	31.8	23.6
Communications equipment and instruments	5.4	18.5	12.4
Office equipment and furniture	2.0	18.9	12.7
Automobiles	1.0	29.7	21.8
Other vehicles and transportation equipment	5.3	15.8	10.3
Machinery	5.6	17.7	11.7
Fabricated metal products and general industrial equipment	3.7	16.9	11.1
Other equipment	4.1	23.8	16.8
All Structures	44.2	26.1	24.4
Residential buildings ^b	0.5	23.8	23.8
Nonresidential buildings ^b	26.0	30.8	30.8
Mining and drilling structures	3.5	9.2	5.1
Other structures	14.2	19.7	14.3
Inventories ^b	10.6	34.4	34.4
Land ^b	14.3	31.0	31.0
All Types	100.0	26.3	23.9

Source: Congressional Budget Office.

Note: In addition to buildings, “structures” can include entities such as dams, mine shafts, petroleum pipelines, radio-transmission towers, and railroad tracks.

- a. The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 will be permanently extended instead of being allowed to expire by 2011.
- b. Not eligible for partial expensing.

der step 1 in the main text—a scenario that, in an effective tax rate framework, is equivalent to allowing unlimited contributions to LSAs. Therefore, the parameters for the percentage of marginal saving coming from fully taxable and temporarily deferred accounts were reduced by 47 percent of the reduction (to zero) in step 1. The parameters for the percentage of marginal saving coming from nontaxable accounts were increased to exactly offset those reductions (see Table C-3).

The overall effective tax rate on capital income under the President’s proposal for LSAs would be 9.2 percent, 4.6 percentage points lower than the base case but 3.7 percentage points higher than with unlimited LSAs (see Table C-1 and the second column of Table 3 on page 12).

Similarly, the effective tax rate on corporate capital income would be 21.1 percent—a reduction of 5.2 percentage points from the base case but 4.0 percentage points higher than the unlimited version.

The differences in effective tax rates would be as follows:

- Between income from equity-financed and debt-financed capital, 51.3 percentage points;
- Between income from corporate and noncorporate investments, 3.2 percentage points; and
- Between income from tenant-occupied and owner-occupied housing, 25.2 percentage points.

Table C-3.**Distribution of Marginal Saving Under Selected Proposals, by Tax Status**

	Base Case ^a	Allow \$5,000 Contributions to LSAs	Allow Unlimited IRA Contributions	Allow Unlimited Contributions to LSAs <i>or</i> Unrestricted Withdrawals from Unlimited IRAs
Corporate Equity				
Nontaxable	35.8	72.3	53.0	100.0
Temporarily deferred	5.8	2.5	4.2	0
Fully taxable	58.4	25.2	42.8	0
Corporate Debt				
Nontaxable	32.8	70.0	43.5	100.0
Temporarily deferred	21.3	9.5	17.9	0
Fully taxable	45.9	20.5	38.6	0
Noncorporate Debt				
Nontaxable	16.7	62.0	23.1	100.0
Temporarily deferred	14.2	6.5	13.1	0
Fully taxable	69.1	31.5	63.8	0
Homeowner Debt				
Nontaxable	21.3	64.1	26.8	100.0
Temporarily deferred	7.1	3.2	6.6	0
Fully taxable	71.6	32.7	66.6	0

Source: Congressional Budget Office, based on data from Federal Reserve Board, *Flow of Funds Accounts* (March 10, 2005) and Survey of Consumer Finances (2001); and Internal Revenue Service, *Statistics of Income—2002: Individual Income Tax Returns* (2002).

Notes: LSA = lifetime savings account; IRA = individual retirement account.

a. The base case assumes that the tax provisions in place in 2008 under the Economic Growth and Tax Relief Reconciliation Act of 2001 and the Jobs and Growth Tax Relief Reconciliation Act of 2003 will be permanently extended instead of being allowed to expire by 2011.

All of those differences fall roughly halfway between the base case and the unlimited LSA scenario (see step 1 in Table 3). Only the difference between corporate and noncorporate investments would represent an improvement over the base case. The explanations are the same as those offered in the discussion of step 1 in the main text.

Allow Unlimited Contributions to IRAs

This proposal would eliminate three restrictions on IRA contributions: the eligibility restrictions on the deductibility of contributions to traditional IRAs; the eligibility restrictions on contributing to a Roth IRA; and the dollar caps on allowable IRA contributions of either type. Withdrawal restrictions would continue to impose significant liquidity constraints, so not all marginal saving would be

directed to fully sheltered accounts. Eliminating the withdrawal restrictions in addition to the restrictions on contributions would be the equivalent of step 1 in the main text.

The simulation of this proposal distributed the marginal saving of the 71 percent of families that were not constrained by contribution limits under the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) among types of accounts in proportion to existing assets. The remaining 29 percent were freed of constraints. Using the imputations of unconstrained contributions described in Appendix A, the analysis estimated that lifting those constraints would stimulate a 114 percent increase in contributions to nontaxable accounts relative to pre-EGTRRA law. Therefore, a corresponding

amount of marginal saving previously allocated to the fully taxable and temporarily deferred groups was shifted to the nontaxable group (see Table C-3).²

By allowing more marginal saving to be directed to nontaxable accounts, this proposal would reduce the overall effective tax rate on capital income to 12.7 percent, 1.1 percentage points lower than in the base case (see Table C-1). The effective tax rate on corporate capital income would drop to 24.4 percent (a reduction of 1.9 percentage points). The fact that those drops are much smaller than the declines resulting from step 1 (see Table 3 on page 12) implies that restricting withdrawals from retirement plans imposes a greater tax burden on capital income than does capping contributions.

The differences in effective tax rates under this proposal would be as follows:

- Between income from equity-financed and debt-financed capital, 44.5 percentage points;
- Between income from corporate and noncorporate investment, 4.1 percentage points; and
- Between income from tenant-occupied and owner-occupied housing, 23.5 percentage points.

Only the difference between corporate and noncorporate investment represents an improvement over the base case. The other two would represent only about a 5 percent shift in the direction of IRAs with unrestricted withdrawals (the equivalent of step 1 in the main text). The explanations are the same as those offered in the discussion of step 1.

Partially Integrate the Individual-Level and Corporate-Level Taxes

Investments in corporate equity face taxation at both the corporate and individual level, as discussed in the main text of the paper, typically placing them under a higher tax burden than other investments. In early 2003, the President proposed reducing the tax burden on corporate equity to a single level, often referred to as integrating the two taxes. His proposal would accomplish integration by

allowing individuals to exclude from their adjusted gross income all dividends paid out of profits that had been taxed at the corporate level. Furthermore, the proposal would increase the basis of an investor's corporate stock to reflect the corporate level tax. On average, that increase should reduce the taxable capital gain to the portion caused by inflation. Later in 2003, the Congress moved partway toward the President's proposal by including provisions in JGTRRA that lowered the tax rates on dividends and corporate equity to 5 percent or 15 percent, through 2008. Details of the President's proposal are complicated, but in the effective tax rate framework the simulation was straightforward—the tax rate on dividends was reduced to zero and that on capital gains was reduced to two-fifths of its value under JGTRRA (that is, the inflation component of the capital gain).

Eliminating the second layer of tax on corporate equity would reduce the effective tax rate on income from corporate equity by 4.0 percentage points, to 32.1 percent, compared with the base case (see Table C-1). By reducing the tax rate on income from corporate equity, integration would also reduce the advantage of corporate debt finance to 38.5 percentage points and the advantage of noncorporate investment over corporate investment to 2.4 percentage points.

The increased uniformity of taxation brought about by the integration proposal would be larger if the base case did not already include a reduction in the tax rates on dividends and capital gains to 5 percent or 15 percent. If the 5 percent and 15 percent rates expire as scheduled in 2009, the effective tax rate on income from corporate equity, for example, would rise to 41.7 percent (see Table B-1 on page 26) and the integration proposal would reduce it to 32.1 percent, a 9.6 percentage point reduction. (Compare effective tax rates under pre-EGTRRA law in Table B-1 to those of the integration proposal in Table C-1.)

The increased uniformity of taxation achieved by the integration proposal, particularly relative to the law before EGTRRA and JGTRRA were enacted, depends on the importance given to the taxation of dividends. Under the old view, dividends account for 57 percent of the tax burden on corporate equity at the individual level and under the new view, only 10 percent (see Appendix B). Thus, under the old view, integration would reduce the effective tax rate on income from corporate equity by 9.6 percentage points, as noted above, but under the new view it

2. Under the alternative assumption that all marginal saving comes from fully taxable accounts (see Appendix B), this proposal would have no impact on effective tax rates.

would reduce the effective tax rate by 5.3 percentage points (compare Tables B-2 and C-1). In essence, the double taxation of income derived from corporate equity creates less of a distortion under the new view, so integration would accomplish less.

By reducing the tax rate on dividends and capital gains, the integration proposal would encourage people to place more of their interest-earning assets and fewer of their

corporate stocks in nontaxable or temporarily deferred accounts. Interest earned outside those accounts would be subject to tax, but dividends and capital gains would be largely exempt. The effective tax rates under the integration proposal in Table C-1 ignore the likely reshuffling of debt and equity investments between taxable and nontaxable or deferred accounts and therefore somewhat understate the overall reduction in tax rates that the integration proposal would cause.