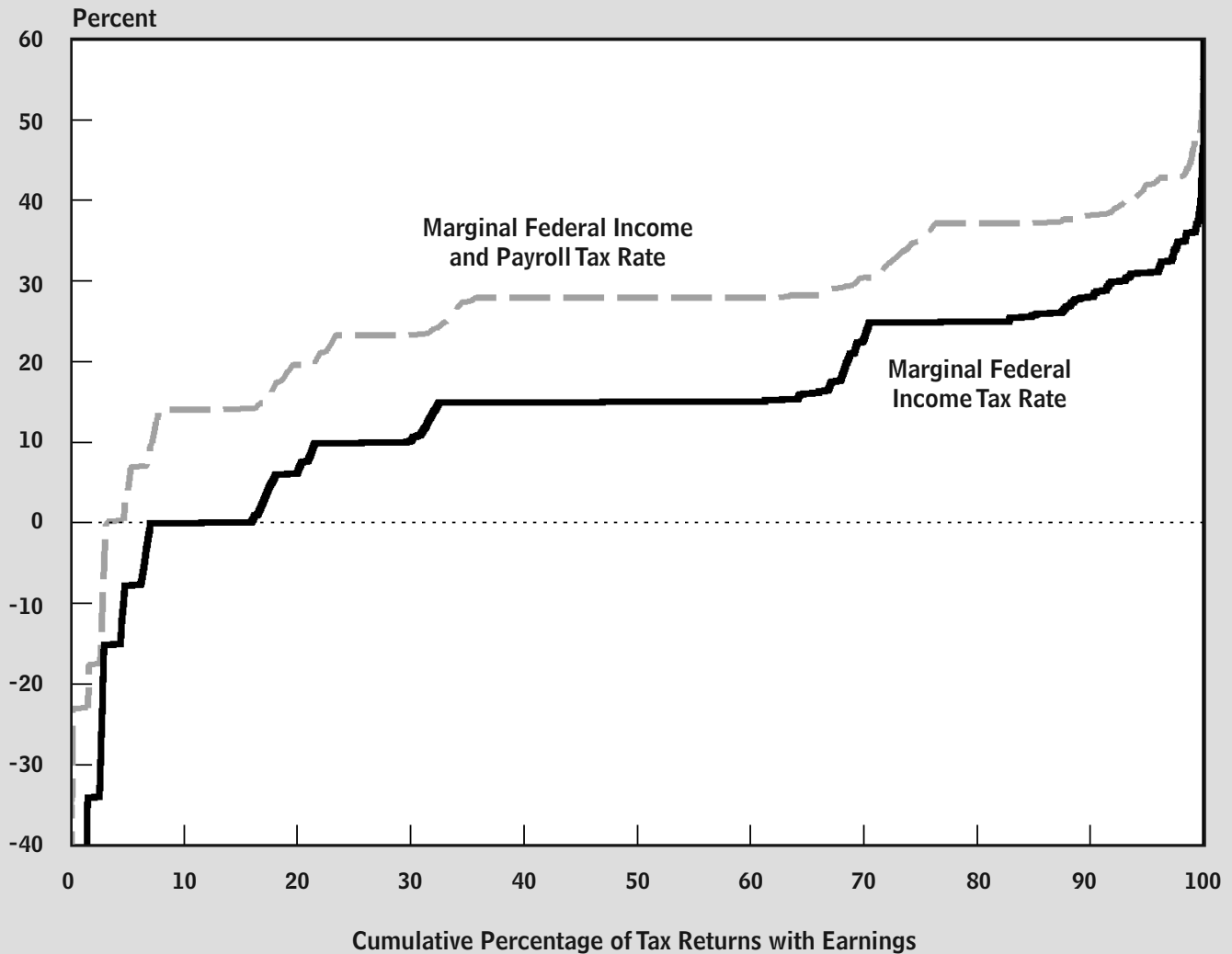


Effective Marginal Tax Rates on Labor Income



NOVEMBER 2005



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November 2005

Note

Numbers in the text and tables of this paper may not add up to totals because of rounding.



Preface

The system of marginal tax rates (the share of an additional dollar of income that will have to be paid in taxes) created by the tax code determines how taxes affect people's economic behavior. This Congressional Budget Office (CBO) paper—prepared at the request of the Chairman of the Senate Finance Committee—examines the marginal tax rates on labor income that currently exist and how those rates will change if tax legislation enacted in 2001, 2003, and 2004 expires as scheduled. In keeping with CBO's mandate to provide objective analysis, this paper makes no recommendations.

Edward Harris of CBO's Tax Analysis Division wrote the paper under the direction of David Weiner, Robertson Williams, and G. Thomas Woodward. David Brauer and Kevin Perese of CBO provided useful comments.

Christian Spoor edited the paper, and Leah Mazade proofread it. Denise Jordan-Williams prepared early drafts of the text, tables, and figures. Maureen Costantino produced the cover, and Christian Spoor prepared the report for publication. Lenny Skutnik produced the printed copies, and Simone Thomas prepared the electronic version for CBO's Web site (www.cbo.gov).

Douglas Holtz-Eakin
Director

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Effective Marginal Tax Rates on Labor Income

Introduction and Summary

Taxes influence many of the economic decisions that people make: whether to work, in what occupation, and to what extent; what fringe benefits employers offer and how much value workers place on those benefits relative to wages; how much to consume or save; what type of investments to make; whether to buy a home; and how much to donate to charity. By altering the returns from working and investing and by changing the relative prices of goods and services, taxes favor some activities over others, which can lead to economic inefficiencies—too much activity in areas favored by the tax system and too little activity in areas treated less favorably. Those inefficiencies impose costs on taxpayers (beyond the money actually paid in taxes) and result in lower levels of national well-being.

In general, the type of tax rate that most directly affects decisions about whether to engage in more of an activity is the effective marginal tax rate—the percentage of an additional dollar of income that will have to be paid in taxes. Higher marginal rates tend to cause more behavioral changes than lower rates do, leading to larger inefficiencies. Taxes on activities about which people are very flexible in how much of them to pursue will tend to create greater distortions than taxes on activities about which people have less discretion. And taxes that affect broad aspects of the economy—such as how much work is done—can have the greatest distortionary impact.

This paper examines the effective marginal tax rates that people face on income from labor—federal and state individual income taxes as well as payroll taxes for Social Security and Medicare—under current law. The analysis points to several conclusions:

- Provisions of tax law, such as the different tax rate brackets and the phasing in and out of various credits and deductions, interact with taxpayers' individual

characteristics to create a wide range of effective marginal tax rates on labor income. Moreover, marginal rates can vary substantially for taxpayers with comparable incomes, because many factors other than income level, such as filing status or eligibility for a credit, affect the marginal tax rate on earnings.

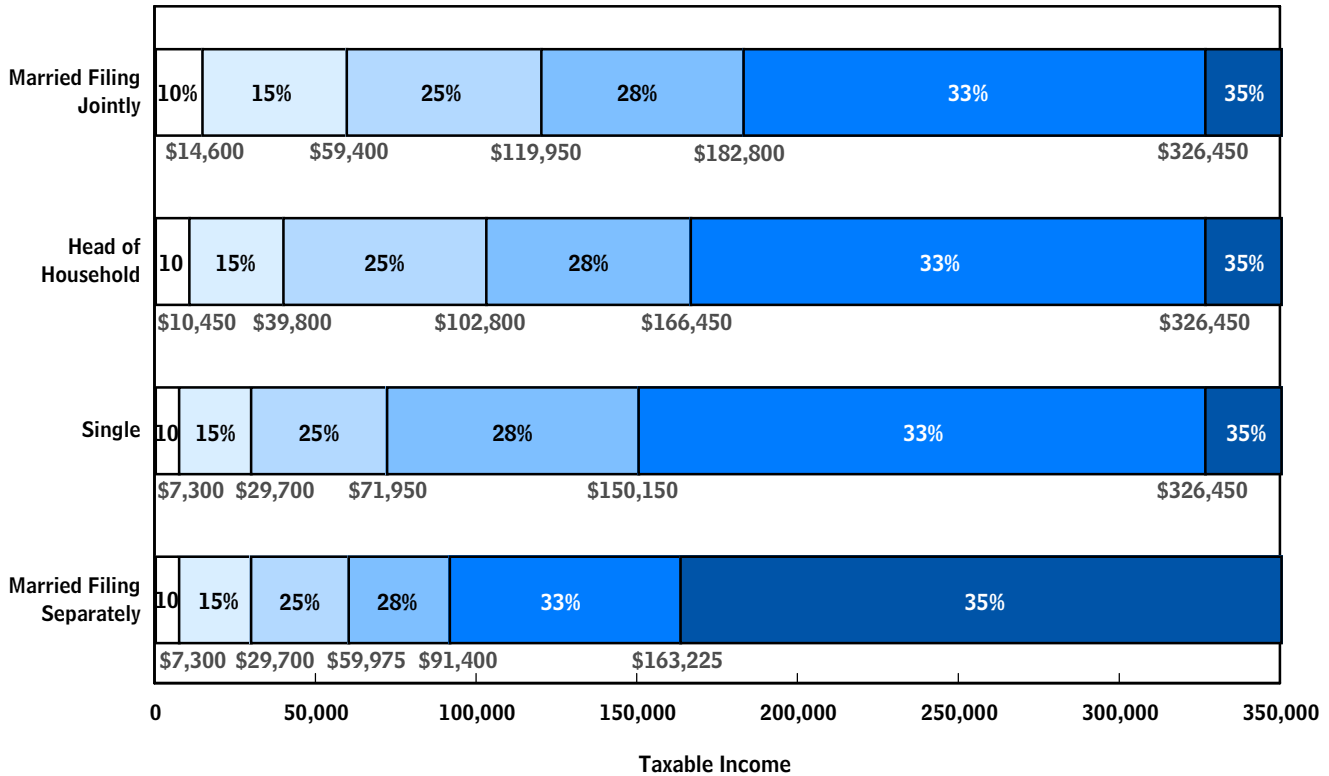
- In terms of federal individual income taxes, most taxpayers face effective marginal rates of 15 percent or less. Less than one-fifth face rates of more than 25 percent, and about 7 percent of taxpayers face rates in excess of 30 percent. Taxpayers who are subject to higher rates tend to be disproportionately high earners: the one-fifth of taxpayers with marginal rates above 30 percent account for one-fifth of total earnings, whereas the two-thirds with marginal rates of 15 percent or less account for just one-third of earnings.
- Payroll taxes and state income taxes significantly raise effective marginal rates. For example, the median marginal federal income tax rate is 15 percent, but the median rate including payroll and state income taxes is more than twice as high: 31.6 percent. (Payroll taxes account for most of the difference.)
- If tax provisions enacted in 2001, 2003, and 2004 expire as scheduled over the next five years, marginal rates will increase across most of the income distribution. Compared with a fully phased-in version of existing law, expiration would raise effective marginal tax rates by an average of almost 3 percentage points. Roughly half of taxpayers would face higher marginal rates; most other taxpayers would see no change in their marginal rates.

Types of Tax Rates

Various ways exist to describe the tax rates that people pay on their income. Three common measures are statutory rates (those written into the tax system); effective

Figure 1.

Statutory Federal Income Tax Rates, by Filing Status, in 2005



Source: Congressional Budget Office.

marginal rates (the percentage of an additional dollar of income that is paid in taxes, taking into account all aspects of tax law); and average rates (the amount of tax paid as a percentage of a taxpayer’s total income). This analysis focuses on the second measure, effective marginal rates.

Statutory rates are the schedule of six tax rate brackets—currently 10, 15, 25, 28, 33, and 35 percent—found in the individual income tax system (see Figure 1). For any taxpayer, the portion of taxable income that falls within a given bracket faces the tax rate for that bracket, regardless of the taxpayer’s total income level. For example, in 2005, the first \$14,600 of a married couple’s taxable income is subject to a rate of 10 percent. That rate rises to 15 percent on the next \$44,800 of taxable income, to 25 percent on the next \$60,550, to 28 percent on the next \$62,850, and to 33 percent on the next \$143,650. All income in excess of \$326,450 is taxed at a rate of 35 percent. The statutory marginal rate is the rate that applies to the last dollar of a taxpayer’s taxable income.

The effective marginal tax rate depends on features of tax law besides statutory rates. Most taxpayers’ effective marginal rate is the same as their statutory marginal rate. But in some cases, the two rates differ because of the phasing in or out of particular tax provisions. For example, the earned income tax credit phases out at a rate of 21.06 cents for each dollar of earnings between \$14,370 and \$35,263 for a taxpayer with two children. In other words, if that taxpayer earned an additional dollar of income, his or her credit would shrink by 21.06 cents, increasing the taxpayer’s effective marginal rate by 21.06 percentage points. A married couple with two children in that income range might face a statutory tax rate of 10 percent but an effective marginal rate of 31.06 percent because of the phaseout of the credit.

A person’s effective marginal tax rate influences many different decisions about working: whether to take on an overtime shift, bargain for wages or fringe benefits, get a second job, or enter the labor force at all. In principle, calculations of marginal rates would be customized to

measure the relevant labor force decision. The effective marginal rate associated with small changes in income from overtime work may differ from the rate associated with larger changes, such as deciding whether to work in the first place. In this analysis, the Congressional Budget Office (CBO) measures the marginal rate as the change in taxes associated with small increments of income. That rate might misstate the rate relevant to taxpayers who are making more-basic labor force decisions, such as whether to enter the workforce.

If taxpayers do not clearly perceive their effective marginal tax rate, the relationship between that rate and various labor force decisions may be weaker. Indeed, the income tax system does not make effective marginal rates very apparent, even when people use tax-preparation software.

The third measure, the average tax rate, equals the amount of tax that an individual pays divided by income. A taxpayer who pays \$2,500 in federal income taxes on total income of \$20,000 has an average tax rate of 12.5 percent. Average tax rates are only loosely related to statutory rates, in part because total income differs from taxable income by the exemptions and deductions that taxpayers claim and because income can fall into multiple statutory brackets, as described above. Average rates are often used as an indicator of the fairness of the distribution of tax burdens, but they are less important for determining the effect of the tax system on people's behavior.¹

Factors That Affect Marginal Tax Rates

Many factors interact to determine how much of an additional dollar of earnings a taxpayer gets to keep. Provisions of income tax law obviously play an important role. But a taxpayer's personal circumstances play an equally large part. Federal payroll taxes, state income taxes, and the rules of federal benefit programs can also affect a taxpayer's effective marginal rate on earnings.

Taxpayers' Characteristics

To determine tax liability, a taxpayer adds together income from all sources; subtracts allowable adjustments,

exemptions, and deductions to determine taxable income; applies a schedule of statutory tax rates to taxable income to calculate the amount owed; and reduces that tax liability by any credits for which the taxpayer is eligible. Anything that affects taxable income can alter the marginal tax rate: income (whether from the taxpayer's earnings, a spouse's earnings, or other sources), itemized deductions (such as interest payments on a mortgage or charitable contributions), number of children (which determines the number of personal exemptions and eligibility for several credits), and filing status (since, as shown in Figure 1, statutory tax rates apply at different income levels depending on whether a taxpayer files as single, head of household, or married).

Individual Income Taxes

Many provisions in the individual income tax system also affect a taxpayer's marginal tax rate. In addition to the statutory rate brackets, many deductions and credits apply only over specific income ranges (see Table 1). As noted above, the phasing in and out of those items can cause taxpayers' effective marginal rate to differ from their statutory rate.² Since various deductions and credits phase out over similar income ranges, taxpayers in those ranges can face multiple phaseouts on top of their statutory rate.

In the case of many deductions or exclusions from income, the allowed amount gradually phases out over an income range, so as a taxpayer earns more, allowable deductions shrink and taxable income rises faster than earnings. The taxpayer pays taxes on the additional taxable income at the applicable statutory rate. Thus, he or she faces an effective marginal rate on additional earnings

1. For a discussion of average tax rates (sometimes called effective tax rates), see Congressional Budget Office, *Effective Federal Tax Rates, 1979-1997* (October 2001) and *Effective Federal Tax Rates, 1997 to 2000* (August 2003), as well as Web-only updates that extend the period of analysis to 2001 and 2002.

2. In 2001, the Joint Committee on Taxation identified 22 provisions of the income tax code that would cause a taxpayer's effective marginal rate to differ from the statutory rates. Changes to the tax code since then have added some provisions affecting marginal rates, removed some, and changed the income range over which others apply. See Joint Committee on Taxation, *Overview of Present Law and Economic Analysis Relating to Marginal Tax Rates and the President's Individual Income Tax Rate Proposals*, JCX-6-01 (March 6, 2001). See also Joint Committee on Taxation, *Present Law and Analysis Relating to Individual Effective Marginal Tax Rates*, JCS-3-98 (February 3, 1998); and Thomas A. Barthold, Thomas Koerner, and John F. Navratil, "Effective Marginal Tax Rates Under the Federal Individual Income Tax: Death by One Thousand Pin Pricks?" *National Tax Journal*, vol. 51, no. 3 (September 1998), pp. 553-564.

Table 1.

Selected Provisions of the Federal Individual Income Tax That Affect Effective Marginal Tax Rates in 2005

Provision	Description	Income Range ^a	Impact on Effective Marginal Rate ^b	
Provisions Involving Tax Rates				
Statutory Tax Rates	The schedule of six brackets in the individual income tax. The portion of taxable income falling into a bracket faces the tax rate for that bracket.	The range of taxable income for each statutory bracket is:		
		Tax Rate	Single Filer	Joint Filers
		10%	\$0 to \$7,300	\$0 to \$14,600
		15%	\$7,300 to \$29,700	\$14,600 to \$59,400
		25%	\$29,700 to \$71,950	\$59,400 to \$119,950
		28%	\$71,950 to \$150,150	\$119,950 to \$182,800
		33%	\$150,150 to \$326,450	\$182,800 to \$326,450
	35%	\$326,450 and up	\$326,450 and up	
			For most taxpayers, their marginal rate equals their statutory rate. For taxpayers affected by other provisions of tax law, their marginal rate is still a function of their statutory rate.	
Alternative Minimum Tax (AMT)	An alternative method of computing taxes. Taxpayers must pay the higher of the AMT or the regular income tax. The AMT is calculated by applying AMT tax rates to alternative maximum taxable income (AMTI), which is equal to regular taxable income with certain deductions added back and an AMT exemption subtracted instead. The AMT exemption is \$40,250 for single filers and \$58,000 for joint filers.	AMTI up to \$175,000 is taxed at 26 percent; AMTI above that is taxed at 28 percent. Additionally, the AMT exemption phases out at AMTI of between \$112,500 and \$273,500 for single filers and between \$150,000 and \$382,000 for joint filers.		
			For taxpayers subject to the AMT, the marginal rate is the statutory AMT rate. For taxpayers in the AMT phaseout range, the marginal rate is 1.25 times the AMT rate (32.5 percent for taxpayers in the 26 percent AMT bracket and 35 percent for those in the 28 percent bracket).	
Provisions Involving Exclusions, Deductions, and Exemptions from Income				
Taxation of Social Security Benefits	As their income rises, taxpayers must include increasing amounts of Social Security benefits in their taxable income. Benefits are included at one of two rates. In the first tier, the amount of benefits subject to tax is equal to 50 percent of income above a threshold, with no more than 50 percent of benefits included. In the second tier, the amount of benefits subject to tax is equal to 85 percent of income above a threshold, capped at 85 percent of benefits.	For a single filer, the first tier begins at \$25,000 of modified adjusted gross income (AGI), and the second tier begins at \$34,000. For joint filers, the first tier begins at \$32,000 of modified AGI, and the second tier begins at \$44,000.		
			In the first tier, each \$1.00 of additional income raises taxable income by \$1.50, so the marginal rate is 1.5 times the statutory rate. In the second tier, each \$1.00 of additional income increases taxable income by \$1.85, so the marginal rate is 1.85 times the statutory rate.	
Limit on Itemized Deductions	Itemized deductions are reduced by 3 percent of the amount of AGI above a threshold. Deductions cannot be reduced by more than 80 percent.	Itemized deductions begin to phase out for all taxpayers at \$145,950 of AGI. The end of the phaseout depends on the amount of itemized deductions a taxpayer has.		
			In the phaseout range, an additional \$1.00 of income increases taxable income by \$1.03, so the marginal rate is 1.03 times the statutory rate.	
Phaseout of Personal Exemptions	The value of personal exemptions is reduced by 2 percent for each \$2,500 of AGI above a threshold.	Exemptions phase out between \$145,950 and \$268,450 of AGI for single filers and between \$218,950 and \$341,450 for joint filers.		
			The effect depends on the number of exemptions. For each exemption, an additional	

Continued

Table 1.**Continued**

Provision	Description	Income Range ^a	Impact on Effective Marginal Rate ^b
Provisions Involving Exclusions, Deductions, and Exemptions from Income (Continued)			
Phaseout of Personal Exemptions (Continued)			\$1.00 of income increases taxable income by \$1.0256. The marginal rate is 1.0256 times the statutory rate for a taxpayer with one exemption, 1.0512 times the statutory rate for a taxpayer with two exemptions, and so forth.
Floors on Itemized Deductions	Some itemized deductions are allowed only to the extent that they exceed a floor, or minimum percentage of AGI: medical deductions in excess of 7.5 percent of AGI are allowed, casualty losses in excess of 10 percent of AGI are allowed, and miscellaneous deductions in excess of 2 percent of AGI are allowed.	All income ranges.	An additional \$1.00 of income raises the floor, reducing the deduction (and thus increasing taxable income) by the relevant percentage of AGI. The floor on medical deductions causes the marginal rate to be 1.075 times the statutory rate; the floor on casualty losses causes the marginal rate to be 1.1 times the statutory rate; and the floor on miscellaneous deductions causes the marginal rate to be 1.02 times the statutory rate.
Individual Retirement Account (IRA) Deduction	Taxpayers with income below certain levels can deduct up to \$4,000 in contributions to an IRA.	Eligibility to deduct contributions phases out between \$50,000 and \$60,000 of AGI for single filers and between \$70,000 and \$80,000 for joint filers.	An additional \$1.00 of income increases taxable income by \$1.40, so the marginal rate is 1.4 times the statutory rate.
Roth IRA	Taxpayers with income below certain levels can make contributions to Roth accounts. Investment earnings in the accounts are not taxable.	Eligibility to make contributions phases out between \$95,000 and \$110,000 of AGI for singles filers and between \$150,000 and \$160,000 for joint filers.	Roth accounts reduce tax liability in future years. The impact on marginal rates depends on how long the account will be held, the rate of return, and the taxpayer's tax rate in future years.
Deduction of Interest on Student Loans	Taxpayers with income below certain levels can deduct up to \$2,500 of student loan interest from their AGI. Taxpayers do not have to itemize to claim the deduction.	The deduction phases out between \$50,000 and \$65,000 of AGI for single filers and between \$105,000 and \$135,000 for joint filers.	The effect depends on the size of the deduction. For a single filer claiming the maximum deduction, each additional \$1.00 of income reduces the deduction by \$0.167, so the marginal rate is 1.167 times the statutory rate.

Continued

Table 1.

Continued

Provision	Description	Income Range ^a	Impact on Effective Marginal Rate ^b
Provisions Involving Exclusions, Deductions, and Exemptions from Income (Continued)			
Deduction of Tuition and Fees	Taxpayers with income below certain levels can deduct up to \$4,000 of higher education expenses from their AGI. Taxpayers do not have to itemize to claim the deduction.	Taxpayers with income below \$60,000 for single filers or \$130,000 for joint filers can take the full deduction of \$4,000; taxpayers with income below \$80,000 for single filers or \$160,000 for joint filers can take a deduction of \$2,000; and those with higher income levels cannot take any deduction.	Taxpayers who move past one of the income thresholds lose \$2,000 of deductions. The effect on marginal rates depends on the income increment but can be quite high. If a taxpayer's income grew by \$1,000 and that increase caused the person to lose a \$2,000 deduction, the effective marginal rate would be three times the statutory rate.
Deduction of Rental Losses	Taxpayers with income below certain levels can deduct up to \$25,000 in rental losses from their income.	The maximum deduction is phased out for taxpayers with AGI of between \$100,000 and \$150,000.	The effective marginal rate is 1.5 times the statutory rate.
Provisions Involving Tax Credits			
Earned Income Tax Credit	A refundable credit based on taxpayers' earnings and number of children. For taxpayers with no children, the credit phases in and out at a rate of 7.65 percent. For taxpayers with one child, the phase-in rate is 34 percent and the phaseout rate is 15.98 percent. For taxpayers with two or more children, the phase-in rate is 40 percent and the phaseout rate is 21.06 percent.	For a single filer with no children, the credit phases in from zero to \$5,220 in earnings and phases out from \$6,530 to \$11,750. For a single filer with one child, the credit phases in from zero to \$7,830 in earnings and phases out from \$14,370 to \$31,030. For a single filer with two or more children, the credit phases in from zero to \$11,000 in earnings and phases out from \$14,370 to \$35,263. Joint filers face the same phase-in ranges, but both the beginning and end points of the phaseout ranges are \$2,000 higher than for single filers.	The marginal rate equals the statutory rate minus the credit phase-in rate (for income in the phase-in range) or plus the phaseout rate (for income in the phaseout range).
Child Credit	A partially refundable credit of \$1,000 for each child under age 17. The credit phases out above certain income levels.	The refundable portion can be as much as 15 percent of earnings over \$11,000. The credit phases out at a rate of \$50 per \$1,000 of income for single filers with income above \$75,000 or joint filers with income above \$110,000. The end point of the phaseout depends on the number of children.	The refundable portion of the credit can reduce the marginal rate to 15 percentage points less than the statutory rate. In the phaseout range, the marginal rate equals the statutory rate plus the phaseout rate (5 percent).
Dependent Care Credit	A credit of up to 35 percent of child care expenses. Expenses are capped at \$3,000 per child.	The credit rate is reduced by 1 percentage point for each \$2,000 of income above \$15,000 until the minimum credit rate of 20 percent is reached (at income above \$43,000).	The effect of the credit on the marginal rate depends on the amount of child care expenses. At the full \$3,000 of expenses, the marginal rate equals the statutory rate plus 1.5 percentage points.

Continued

Table 1.**Continued**

Provision	Description	Income Range ^a	Impact on Effective Marginal Rate ^b
Provisions Involving Tax Credits (Continued)			
Hope and Lifetime Learning Credits	The Hope credit equals 100 percent of the first \$1,000 of education expenses and 50 percent of the next \$1,000. The Lifetime Learning credit equals 20 percent of the first \$5,000 of expenses.	The credits phase out between \$40,000 and \$50,000 of income for single filers and between \$80,000 and \$100,000 for joint filers.	For single filers, the effective marginal rate is the statutory rate plus 10 percentage points. For joint filers, the effective marginal rate is the statutory rate plus 5 percentage points.
Savers Credit	A credit equal to either 50, 20, or 10 percent of the first \$2,000 of a taxpayer's contributions to a retirement plan.	Single filers with income below \$15,000 are eligible for the 50 percent credit; those with income below \$16,250 are eligible for the 20 percent credit; and those with income below \$25,000 are eligible for the 10 percent credit. For joint filers, the income range is double that for single filers.	The effect depends on the amount of retirement contributions, the income threshold crossed, and the dollar increment of additional earnings that causes the taxpayer to cross the threshold. A taxpayer with \$2,000 in contributions who earned an additional \$1,000 and crossed from the 20 percent to 10 percent credit rates would face an effective marginal rate equal to the statutory rate plus 20 percentage points.
Tax Credit for the Elderly and Disabled	A credit for elderly or disabled taxpayers with income below certain levels. The maximum credit is \$750 for single filers and \$1,125 for joint filers.	The credit phases out between \$7,500 and \$17,500 of income for single filers and between \$10,000 and \$25,000 for joint filers.	The effective marginal rate is the statutory rate plus 7.5 percentage points.
Adoption Credit	A credit equal to 100 percent of adoption expenses, up to \$10,650 per child.	The credit phases out between \$159,450 and \$199,450 of AGI.	The effect depends on the size of the credit. With a \$10,000 credit, the effective marginal rate equals the statutory rate plus 25 percentage points.

Source: Congressional Budget Office adapted from Joint Committee on Taxation, *Overview of Present Law and Economic Analysis Relating to Marginal Tax Rates and the President's Individual Income Tax Rate Proposals*, JCX-6-01 (March 6, 2001).

Note: The descriptions in this table focus on two types of taxpayers: individuals who file singly and married couples who file a joint return. The parameters of the provisions described here may differ for taxpayers with other filing statuses.

- a. In general, income range is defined in terms of adjusted gross income (AGI), but for several provisions, modified definitions of AGI are used.
- b. Assumes that the taxpayer currently faces a statutory rate. Taxpayers can be affected by multiple provisions, causing the effect on marginal rates to cumulate.

equivalent to the statutory rate plus the statutory rate multiplied by the rate at which the deduction phases out.

Similarly, with tax credits, taxpayers often gradually lose the ability to claim a credit as their income nears the upper limit of the specified range for the credit. In that case, an additional dollar of earnings still faces the statutory rate, but in addition, the credit that can be subtracted from tax liability is reduced at the rate of the credit phaseout. Those taxpayers face an effective marginal rate equal to the sum of their statutory rate and the credit phaseout rate.

A few tax benefits disappear immediately once a taxpayer reaches a certain income level rather than gradually phasing out over a range of income. Those “cliffs” can create very high effective marginal rates. For example, single taxpayers with income between \$60,000 and \$80,000 can deduct up to \$2,000 of tuition from their income, but those with income above \$80,000 cannot claim the deduction at all. Someone who earned an additional \$1,000 that pushed income over that threshold would lose \$2,000 in deductions, causing taxable income to rise by \$3,000. The taxpayer would face an effective marginal rate three times his or her statutory rate: for instance, a taxpayer in the 25 percent bracket would face an effective marginal rate of 75 percent.

Although many provisions of the individual income tax have an effect on marginal rates, some—such as the student loan interest deduction or the dependent care credit—apply to relatively narrow groups of taxpayers. Others are wider in scope. The broadest provision is statutory tax rates, which apply to everyone with taxable income. Other provisions that affect the largest number of people or have the greatest impact on marginal rates are described below.

Earned Income Tax Credit. The earned income tax credit (EITC) reduces tax liability on the basis of the taxpayer’s earnings and number of children. The credit is refundable; in other words, if it exceeds a person’s tax liability, the excess is paid to the taxpayer. Below a threshold level of income, the EITC phases in as earnings increase, until the maximum credit amount is reached. Taxpayers receive that maximum credit until their earnings exceed a second threshold, at which point the credit begins to phase out gradually as earnings rise, until it reaches zero. The main features of the EITC—the rate at which it phases in and out, the maximum amount of the credit, and the two

income thresholds—depend on whether the taxpayer has no children, one child, or more than one child.³

The EITC can dramatically alter marginal tax rates for taxpayers who claim it, especially taxpayers with children. For people with income in the credit’s phase-in range, the EITC reduces marginal rates below statutory rates, usually to negative levels. For example, for taxpayers with two children, each additional dollar of earnings increases their credit by 40 cents (34 cents for taxpayers with one child and 7.65 cents for taxpayers without children). Throughout the plateau—the income range between the two thresholds, where taxpayers receive the maximum credit—the EITC has no effect on taxpayers’ marginal rate. In the phaseout range, their marginal rate exceeds their statutory rate by the phaseout rate: 21.06 percentage points in the case of a taxpayer with two children, 15.98 percentage points in the case of a taxpayer with one child, and 0.765 percent for a childless taxpayer.

CBO expects that 23 million taxpayers will claim the EITC in 2005. Of those, roughly 6 million will be in the phase-in range, which means their marginal tax rate will be below their statutory rate. About 13 million taxpayers will have income in the phaseout range and thus face a marginal rate above their statutory rate. (More taxpayers are in the phaseout range partly because it covers a wider swath of income and partly because more taxpayers have income at those levels.) The other 4 million taxpayers will receive the maximum credit, so the EITC will have no impact on their marginal rate.

Child Tax Credit. Taxpayers can claim a credit of up to \$1,000 for each child under 17 years old. The credit is partially refundable—people who owe no taxes can receive a credit equal to 15 percent of their earnings above \$11,000. In that income range, an additional dollar of earnings increases the credit by 15 cents, lowering the marginal tax rate by 15 percentage points. The refundable portion of the child credit begins after taxpayers have reached the income range for the maximum EITC; thus, it mitigates the large increases in marginal rates that occur as taxpayers enter the EITC plateau and phaseout ranges.

3. Those features are generally the same for taxpayers filing singly, jointly, or as a head of household, with one notable exception: under the Economic Growth and Tax Relief Reconciliation Act of 2001, the income level at which the EITC begins to phase out is higher for married couples filing jointly than for other taxpayers.

In some instances, the child credit can lower a taxpayer's marginal rate to zero. Some taxpayers are unable to claim the full amount of the credit because it more than offsets the taxes they would otherwise owe. If such taxpayers earned more income, their tax liability (before the credit) would increase, but that additional liability could be offset by the portion of credit they cannot claim now. Thus, the taxpayers would see no change in their taxes, regardless of their statutory marginal rate.

The child credit phases out at a rate of 5 percent for single filers with income of more than \$75,000 and joint filers with income over \$110,000. For every \$1,000 in additional income above those thresholds, taxpayers lose \$50 of their child credit. Since the credit phases out at a constant rate until it is exhausted, the income range over which taxpayers are affected depends on the size of the credit, which in turn depends on the number of children. Taxpayers in the phaseout range face an increase of 5 percentage points in their marginal tax rate.

CBO expects that 32 million taxpayers will claim the child credit in 2005. The phaseout provisions will increase marginal rates for about 2 million of them, and the refundability of the credit will lower marginal rates for about 6 million others. (The rest will be in neither the phase-in nor the phaseout range and will see no change in their marginal rate.)

Limit on Itemized Deductions and Phaseout of the Personal Exemption. Taxpayers with adjusted gross income (AGI) above certain levels face limits on the amount of itemized deductions and the size of the personal exemption they can claim.⁴ The restriction on itemized deductions reduces deductions by 3 percent of the amount of AGI over \$145,950 for all taxpayers in 2005, up to a maximum reduction of 80 percent. For taxpayers with income in the affected range, that provision increases the marginal tax rate by 3 percent. The reason is that an additional \$1,000 of earnings reduces itemized deductions by \$30 and increases taxable income by \$1,030. A taxpayer in the 25 percent bracket would pay additional tax of

\$257.50, the equivalent of an effective marginal rate of 25.75 percent (25 percent x 1.03). CBO expects the limit on itemized deductions to affect about 3 million taxpayers this year.

The personal-exemption phaseout reduces the value of exemptions by 2 percent for each \$2,500 of AGI above \$145,950 for single filers in 2005. Unlike the case with the limit on itemized deductions, however, a separate threshold (\$218,950) exists for married couples filing a joint return. Personal exemptions are completely phased out for single filers with income of more than \$268,450 and joint filers with income over \$341,450.

The effect of that provision on marginal tax rates depends on how many exemptions a taxpayer claims. For taxpayers with only one exemption, the provision increases their marginal rate by a factor of 1.0256; for taxpayers with four exemptions, their marginal rate rises by a factor of 1.1024. Thus, taxpayers in the 25 percent statutory bracket would face an effective marginal rate of 25.64 percent if they had one exemption and 27.56 percent if they had four exemptions. CBO estimates that in 2005, the personal-exemption phaseout will affect 1 million taxpayers.

Alternative Minimum Tax. The individual alternative minimum tax (AMT), as its name implies, is an alternate method of computing federal income tax liability. To determine AMT liability, a taxpayer must recalculate taxable income by adding back several items that are not regularly included in it (such as the deduction for state and local taxes, personal exemptions, and the standard deduction) and subtracting an AMT exemption instead. The resulting measure, alternative minimum taxable income, is taxed at two rates: 26 percent on the first \$175,000 and 28 percent on the remainder. Taxpayers must pay the higher of their AMT liability or their liability under the regular individual income tax. Additionally, they may not take certain tax credits if those credits would make their individual income tax liability lower than their AMT liability.

Taxpayers subject to the alternative minimum tax face one of the two statutory AMT rates, but they can face higher effective marginal rates if their income is in the phaseout range for the AMT exemption. That exemption (\$40,250 for single filers and \$58,000 for joint filers in 2005) phases out at a rate of 25 percent at higher levels of income. Taxpayers in the phaseout range—\$112,500 to

4. Under the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), those provisions are scheduled to be repealed gradually between 2006 and 2010. In 2006 and 2007, the limitations will be reduced by one-third from the current level, and in 2008 and 2009, by two-thirds. In 2010, they will be eliminated. However, the limitations would return in full in 2011 if EGTRRA expired that year as scheduled.

\$273,500 for single filers and \$150,000 to \$382,000 for joint filers—can face effective marginal rates under the AMT of 32.5 percent and 35 percent.

CBO expects 3 million taxpayers to be subject to the AMT in 2005. Over the coming decade, the tax is likely to grow rapidly in importance as rising incomes push more and more taxpayers onto its rolls. In addition, under current law, a temporary increase in the AMT exemption is scheduled to expire at the end of 2005.

Payroll Taxes

Most income from wages and self-employment is subject to payroll taxes that help fund Social Security's Old-Age, Survivors, and Disability Insurance (OASDI) programs and Medicare's Hospital Insurance (HI) program. Employers and employees each pay an OASDI tax of 6.2 percent on earnings up to a certain amount (\$90,000 in 2005) and a 1.45 percent HI tax on all earnings. Public-finance theorists generally agree that the employer's share of those taxes is passed on to workers in the form of lower wages. CBO follows that assumption and treats payroll taxes as if employees paid both shares.

Because Social Security taxes are linked to benefits, including them in a calculation of marginal tax rates is problematic. On one hand, payroll taxes involuntarily reduce the return from working just as an income tax does, and as such they should affect people's decisions about how much to work. On the other hand, earning more and thus paying more in Social Security taxes (up to the taxable maximum) will eventually entitle workers to higher Social Security benefits. The net effect—the true “tax”—is the portion of the OASDI tax not offset in the future by increased benefits. CBO has not attempted to divide the tax into its gross and net components; instead, for simplicity, this paper presents marginal tax rates with and without payroll taxes.

The proper treatment of the HI tax is less ambiguous. Under the Medicare program, once workers have earned credit for 40 quarters of contributions, they are eligible to start receiving benefits at age 65. In 2005, workers receive a credit for each \$920 in earnings and can accumulate up to four credits per year. Because workers receive no benefit for earnings above \$3,680 per year, any amount beyond that can be viewed as a pure tax. Once workers have accumulated 40 quarters, any additional HI tax paid over their lifetime does not affect benefits. Thus, the HI por-

tion of payroll taxes is much closer to a pure tax than the OASDI portion is.

State Income Taxes

Most states (and some localities) levy income taxes.⁵ Several states conform, to varying degrees, to federal definitions of income and apply their own rate schedule. State income tax rates tend to be much lower and less varied than federal rates, with top statutory rates rarely exceeding 10 percent. In 2004, total collections of state income taxes were about one-fourth the size of federal income tax collections. However, state income taxes do affect the returns from working, and they interact with federal taxes in influencing people's labor force decisions.

Benefit Programs

Federal programs outside the tax system that provide benefits to low-income people produce an effect similar to a tax as the benefits are phased out for people with higher income. That situation typically occurs with programs that are means-tested (that is, in which benefits are based on a household's level of income or wealth). For example, eligible Food Stamp recipients at certain income levels lose 24 cents of their Food Stamp benefits for each additional dollar of wages, until their benefits decline to zero. Including the effects of benefit phaseouts on marginal tax rates is beyond the scope of this analysis. However, it is important to recognize the role that those phaseouts play in determining the returns from work for low-income people. Ignoring the effects of benefit phaseouts may substantially understate effective marginal tax rates.

Stylized Examples of Marginal Tax Rates

The provisions of the federal individual income tax that are described above and shown in Table 1 influence effective marginal tax rates over various income ranges. Moreover, taxpayers in certain ranges can be affected by multiple provisions. This analysis illustrates the interactions among those provisions by examining their impact on a hypothetical taxpayer as his or her earnings increase from zero to \$500,000.

5. For a description of income tax provisions in each state, see Faith Russell, *Individual Income Tax Provisions in the States*, Informational Paper 4 (Madison, Wis.: Wisconsin Legislative Fiscal Bureau, January 2005), available at www.legis.state.wi.us/lfb/Informationalpapers/4.pdf.

The analysis uses three stylized examples: a single person with no dependents, a single parent with one child (someone who typically files as a head of household), and a married couple with two children. For simplicity, CBO assumes that all income comes from wages and that the taxpayers have itemized deductions equal to 18 percent of their earnings. Forty percent of those deductions are assumed to be state and local taxes (which are not deductible under the AMT), and the other 60 percent are charitable contributions and mortgage interest (which are deductible under the AMT). CBO chose to include only some of the most common features of the tax code in the examples; making assumptions about retirement savings or tuition payments for a student in college could lead to much more complex examples.

Single Filer

At the lowest income levels, the income of a single taxpayer with no dependents is less than the combined standard deduction and personal exemption, so his or her taxable income—and tax liability before credits—is zero under the federal individual income tax (see the top panel of Figure 2). However, the taxpayer can claim the refundable earned income tax credit. The taxpayer's initial effective marginal rate is a subsidy equivalent to the EITC phase-in rate: 7.65 percent for taxpayers without children. (That phase-in rate is intended to offset the employee's share of payroll taxes in that income range.) As income increases, the taxpayer briefly moves onto the EITC plateau, where additional earnings do not affect the size of the credit. The taxpayer still has no taxable income, so his or her effective marginal rate rises to zero. At higher levels of income, the person enters the EITC phaseout range, where each additional dollar of earnings brings a 7.65 percent reduction in the credit.

At \$8,200 of earnings, the taxpayer's income exceeds the combined standard deduction and personal exemption and enters the first statutory tax bracket (10 percent). Because income is still in the EITC phaseout range, the taxpayer faces an effective marginal rate of 17.65 percent. At \$11,750 of earnings, the EITC is completely phased out, and marginal tax rates begin to equal the statutory rates (10, 15, 25, and 28 percent).

Once income exceeds \$145,950, two provisions—the limitation on itemized deductions and the phaseout of the personal exemption—alter the effective marginal tax rate of single filers (see the bottom panel of Figure 2). Together, those provisions add 1.56 percentage points to

the 28 percent statutory rate, yielding an effective marginal rate of 29.56 percent. Both provisions remain in effect when the taxpayer enters the 33 percent bracket, at which point his or her effective marginal rate equals 34.83 percent.

At higher levels of income, the alternative minimum tax begins to affect marginal rates. At income of just over \$250,000, the taxpayer's AMT liability exceeds regular income tax liability, so the AMT rate defines the effective marginal rate. At that income level, the statutory AMT rate is 28 percent and the AMT exemption phases out at a rate of 25 percent, producing an effective marginal tax rate of 35 percent. The AMT exemption is fully phased out for single filers with no children when income exceeds \$300,000, at which point the marginal rate drops to the AMT rate of 28 percent. As income grows further, liability under the regular income tax starts to exceed AMT liability, so the taxpayer again faces the regular income tax. At that point, the 33 percent tax bracket and the itemized-deduction phaseout combine to create an effective marginal rate of 33.99 percent.⁶ (The personal exemption has completely phased out.)

The marginal rate faced by a taxpayer who is subject to the AMT can be higher or lower than the marginal rate under the regular income tax. The two AMT rates, 26 percent and 28 percent, are generally less than or equal to the statutory rates that apply to people in the same income range. However, the phaseout of the AMT exemption means that taxpayers in the exemption phaseout range face effective marginal tax rates under the AMT of 32.5 percent and 35 percent, which often exceed the statutory rates applicable over comparable income ranges.

Head of Household with One Child

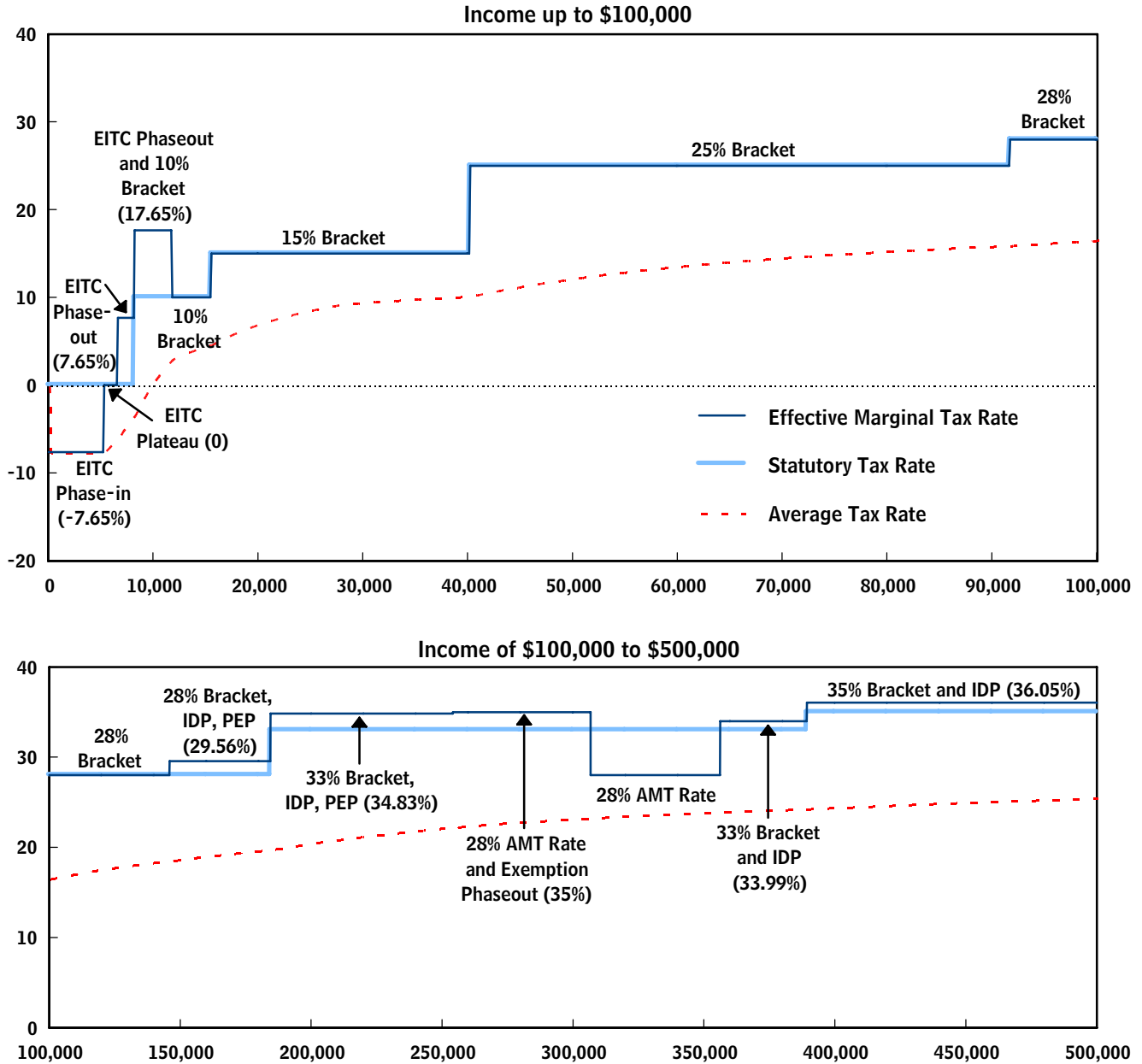
Families with children have considerably more variation in their effective marginal tax rates than single filers do, especially at lower income levels. With earnings below \$7,830, a taxpayer filing as a head of household with one dependent faces the EITC phase-in rate: a subsidy of 34 percent (see the top panel of Figure 3). When income exceeds that level, the taxpayer enters the EITC plateau, and his or her marginal rate jumps to zero. When income reaches \$11,000, the taxpayer begins to claim the refund-

6. In these hypothetical examples, itemized deductions are assumed to increase proportionally with income, so the maximum reduction in itemized deductions is never achieved.

Figure 2.

Effective Marginal Federal Income Tax Rates for a Single Filer in 2005

(Percent)



Source: Congressional Budget Office.

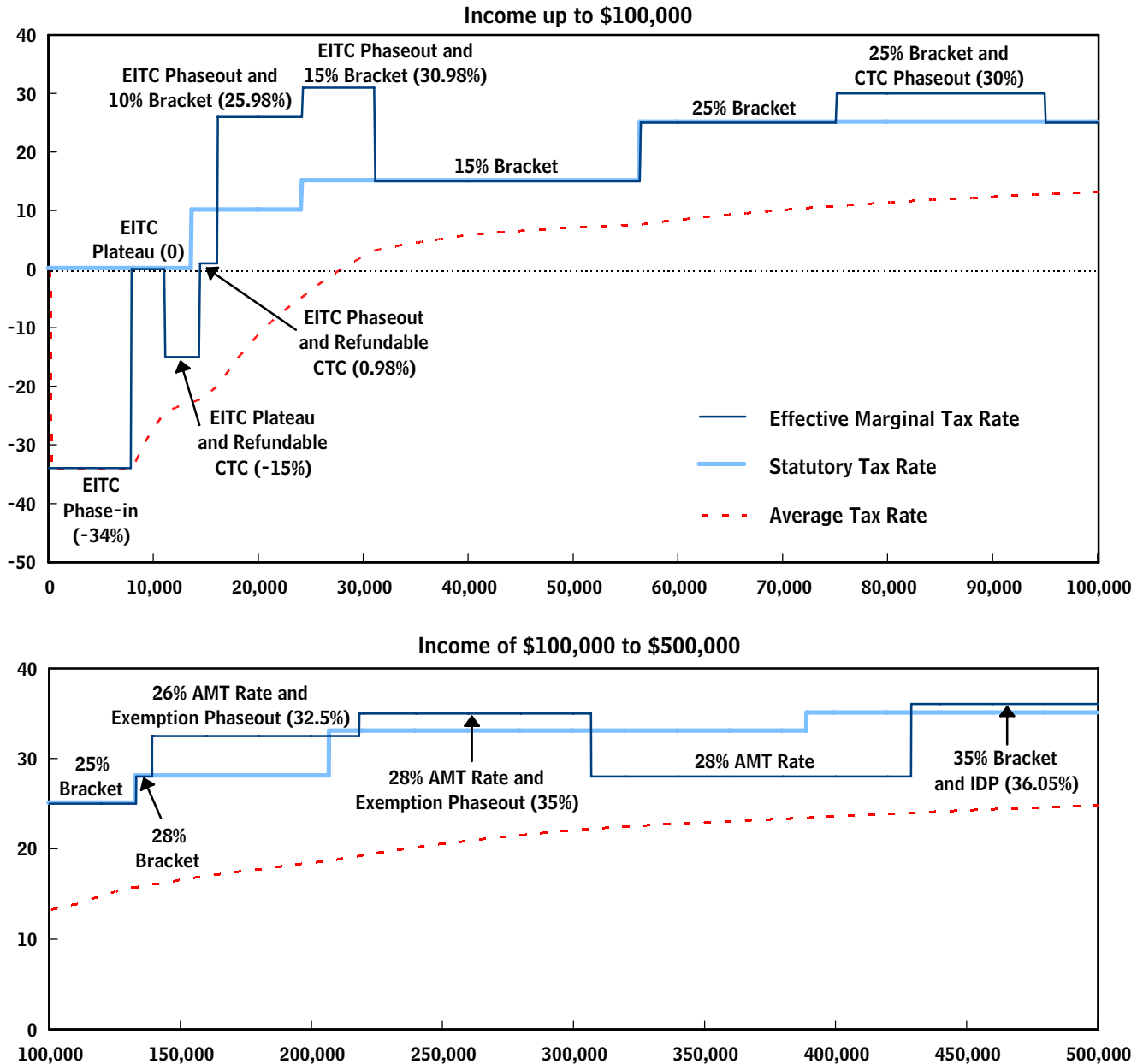
Notes: This example assumes that the taxpayer has no dependents, that all income is from wages, and that the taxpayer has itemized deductions worth 18 percent of income and claims the greater of those deductions or the standard deduction. (Forty percent of the itemized deductions are assumed to be state and local taxes, and the rest are charitable contributions and mortgage interest.)

EITC = earned income tax credit; IDP = itemized-deduction phaseout; PEP = personal-exemption phaseout; AMT = alternative minimum tax.

Figure 3.

Effective Marginal Federal Income Tax Rates for a Head of Household with One Child in 2005

(Percent)



Source: Congressional Budget Office.

Notes: This example assumes that the taxpayer has one dependent and files as a head of household, that all income is from wages, and that the taxpayer has itemized deductions worth 18 percent of income and claims the greater of those deductions or the standard deduction. (Forty percent of the itemized deductions are assumed to be state and local taxes, and the rest are charitable contributions and mortgage interest.)

EITC = earned income tax credit; CTC = child tax credit; AMT = alternative minimum tax; IDP = itemized-deduction phaseout.

able portion of the child tax credit in addition to the maximum EITC, dropping the effective rate to -15 percent.

The taxpayer enters the 10 percent statutory bracket when income exceeds the \$13,700 combined personal exemption and standard deduction. In the absence of any credits, the taxpayer would begin to owe taxes at that point. However, the taxpayer is not yet claiming the full child credit, so each additional dollar of taxes can be offset by a dollar of nonrefundable credit.

The marginal rate for such taxpayers next changes when income reaches the beginning of the EITC phaseout range. That phaseout adds 15.98 percentage points to the marginal rate, which, coupled with the -15 percent rate created by the refundable child credit, produces an effective marginal rate of 0.98 percent. At slightly higher income levels, the taxpayer receives the entire child credit, and thus the credit no longer offsets additional dollars of income taxes owed. At that point, the effective marginal rates jumps by the size of the statutory rate (10 percent) and the lost refundability of the child credit (15 percent) to 25.98 percent. Earning an additional dollar would increase taxes by the statutory rate and reduce the EITC by nearly 16 cents. The taxpayer is still in the EITC phaseout range when he or she reaches the 15 percent statutory bracket (with income of \$24,200); at that point, the effective marginal rate is 30.98 percent—the highest rate the person will face until his or her income approaches \$150,000.

Throughout the lowest portion of the income range, the taxpayer receives a net subsidy from the income tax system, mainly because of the EITC and the child credit. If income is on the EITC plateau, the subsidy can be as large as \$2,662. At around \$27,500 of income, the taxpayer's net income tax bill turns positive. The head of household owes taxes of about \$1,550 under the statutory tax rates, although that tax liability is offset by a \$1,000 child credit and an EITC that has been phased down to around \$550.

The EITC phases out completely when the taxpayer's income reaches \$31,030. From that point, the taxpayer's marginal tax rate equals the statutory rate (15 percent or 25 percent) until income reaches \$75,000, when the phaseout of the child credit begins. That phaseout raises the effective marginal rate 5 percentage points above the statutory rate, to 30 percent. The phaseout ends when

income reaches \$95,000, and the taxpayer again faces the 25 percent and then 28 percent statutory rates.

When income exceeds \$139,000, the taxpayer becomes subject to the AMT and an effective rate of 32.5 percent—the combination of the 26 percent AMT bracket and the phaseout of the AMT exemption (see the bottom panel of Figure 3). Higher income moves the taxpayer into the 28 percent AMT bracket and an effective marginal rate of 35 percent. Once the AMT exemption is completely phased out, the marginal rate declines to the AMT rate of 28 percent. At even higher levels of income—more than \$429,000 in 2005—the taxpayer's liability under the regular income tax exceeds that under the AMT, so he or she moves back to the ordinary income tax. At that income level, the taxpayer is in the highest statutory bracket and faces the limitation on itemized deductions, creating an effective marginal rate of 36.05 percent.

Married Couple with Two Children

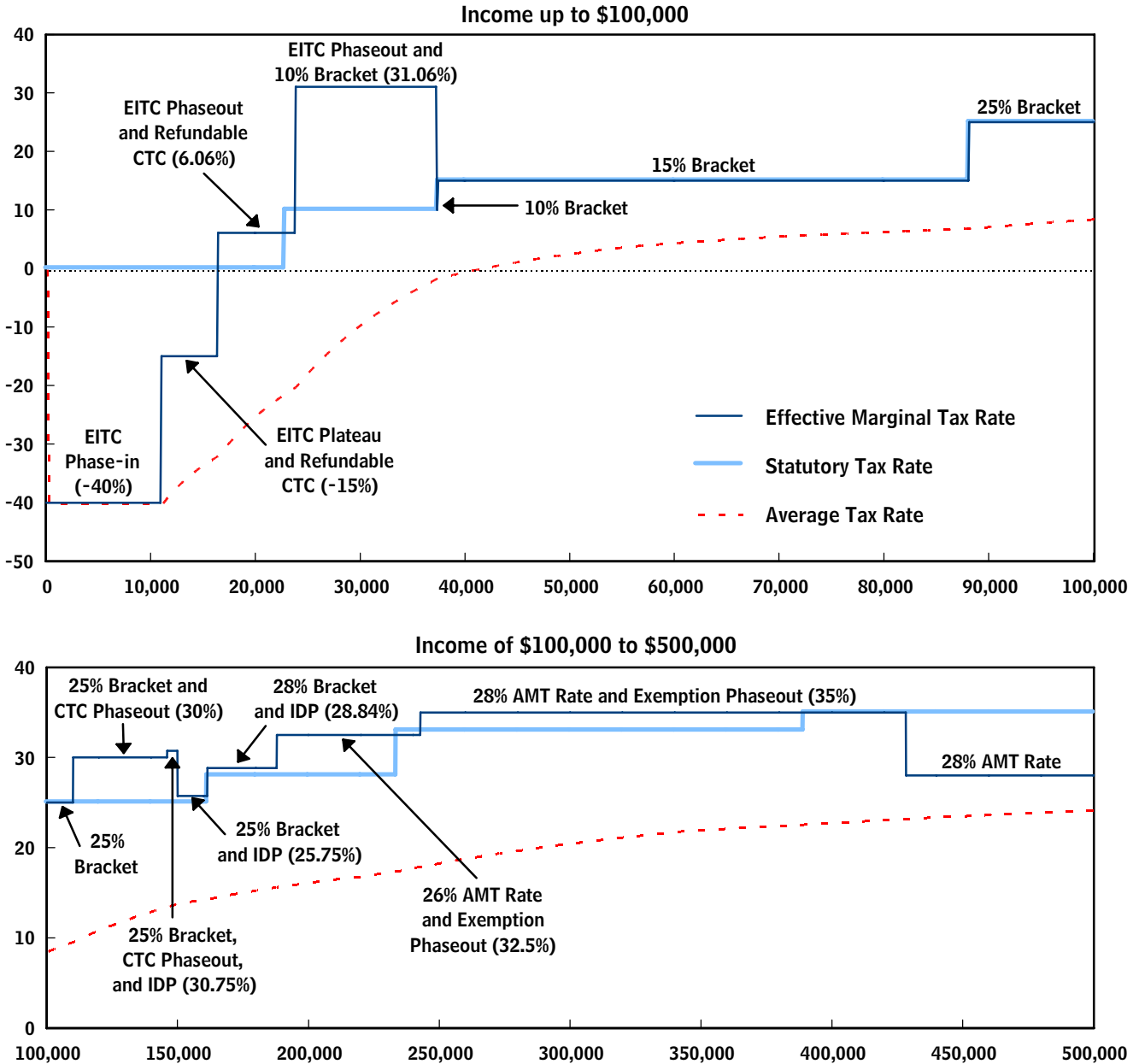
At the lowest income levels, a married couple with two children is affected by the same tax provisions as a single parent with one child filing as a head of household. However, those provisions become effective at different income levels and are more integrated, resulting in a smoother pattern of effective marginal tax rates (see the top panel of Figure 4). The couple reaches the EITC plateau at exactly the same income at which the refundable child credit becomes effective, so its marginal rate goes from -40 percent to -15 percent. Similarly, the EITC phaseout ends just before the 15 percent bracket begins, so the couple never faces those two provisions at the same time.

Once income exceeds the point at which the couple is no longer eligible for the EITC, its marginal rate equals the statutory 15 percent rate for a broad swath of the income range—from roughly \$37,000 to \$88,000. As income increases above that level, the family faces the 25 percent tax bracket. When income reaches \$110,000, the child credit begins to phase out, raising the marginal rate by 5 percentage points to 30 percent (see the bottom panel of Figure 4). The phaseout continues until the couple's income reaches \$150,000. That phaseout range is twice as long as the range for a family with one child because the child credit is twice as large. (The credit phases out at a constant rate of 5 percent, so a \$2,000 credit phases out over a \$40,000 income range, whereas a \$1,000 credit phases out over a \$20,000 range.)

Figure 4.

Effective Marginal Federal Income Tax Rates for a Married Couple with Two Children in 2005

(Percent)



Source: Congressional Budget Office.

Notes: This example assumes that the taxpayers are a married couple filing jointly with two dependents. All of the couple's income is from wages earned by one spouse. The couple has itemized deductions worth 18 percent of income and claims the greater of those deductions or the standard deduction. (Forty percent of the itemized deductions are assumed to be state and local taxes, and the rest are charitable contributions and mortgage interest.)

EITC = earned income tax credit; CTC = child tax credit; IDP = itemized-deduction phaseout; AMT = alternative minimum tax.

Box 1.**Including the Employer's Share of Payroll Taxes in Calculations of Marginal Tax Rates**

The Congressional Budget Office (CBO) assumes that employees bear the burden of both their and their employers' shares of Social Security and Medicare payroll taxes (because research suggests that employers pass on their share of those taxes to workers in the form of reduced wages). Consistency with that assumption requires calculating the marginal payroll tax rate on an additional dollar of compensation measured before the payment of the employer's payroll taxes. The employee, of course, actually pays income and payroll taxes on income measured after the employer's share of payroll taxes has been paid.

Suppose an employer pays a worker \$13,934 in cash wages. Both the employer and the employee must pay \$1,066 in payroll taxes (7.65 percent of \$13,934), and the employee, who is in the 10 percent statutory bracket, must pay \$573 in federal income taxes (after various deductions). The employee's share of payroll taxes is deducted from cash wages, but the employer's share is in addition to those wages, making the pretax amount of compensation \$15,000 (see the table at right). If the employer spent an additional \$1,000 to compensate the worker, cash wages would rise by only \$929 because the employer would have to set aside \$71 to pay its share of payroll taxes. The employee would also pay

an additional \$71 in payroll taxes and \$93 in federal income taxes. From that extra \$1,000 of compensation, therefore, the federal government would receive \$235 in taxes—thus, the worker's marginal tax rate would be 23.5 percent. That rate is less than the sum of all of the applicable tax rates ($7.65 + 7.65 + 10 = 25.3$ percent) because those rates are applied after the employer's share of payroll taxes has been deducted.

Computing marginal tax rates with respect to pretax compensation alters the marginal income tax rate as well as the marginal payroll tax rate. In the example above, although the employee is in the 10 percent tax bracket, his or her marginal income tax rate is 9.3 percent.

When this paper discusses a marginal rate that includes payroll taxes, the rate is computed with respect to pretax compensation. That approach is consistent with CBO's assumption that the employee bears the full burden of payroll taxes. However, when the analysis considers individual income taxes in isolation, the marginal rate is computed with respect to wages received after payroll taxes have been paid. That formulation aligns effective marginal rates with the rates specified in income tax law.

As income approaches \$200,000, the family begins to face the AMT, with an effective rate of 32.5 percent (the combination of the 26 percent AMT bracket and the phaseout of the AMT exemption). Higher income moves the couple into the 28 percent AMT bracket and an effective marginal rate of 35 percent. Once the AMT exemption is completely phased out, their marginal rate falls to the AMT rate of 28 percent. The couple's liability under the regular income tax does not again exceed that under the AMT until their income is greater than \$500,000, so the taxpayers do not move back to the regular income tax in the income range shown in Figure 4.

Payroll and State Income Tax Rates

To provide a fuller picture of marginal tax rates on labor income, CBO also calculated rates including payroll taxes and state income taxes. The resulting combined effective marginal rate assumes that workers bear the full burden of both their and their employers' shares of payroll taxes. To maintain consistency with that assumption, marginal tax rates that include payroll taxes are based on an additional dollar of compensation measured before the payment of employers' payroll taxes, not an additional dollar of wages (see Box 1). State income taxes are simplified: a fixed 5 percent rate is applied to the federal measure of taxable income. That rate approximates the marginal rate in an average state.

Box 1.**Continued****Example of How Employers' Payroll Taxes Affect Marginal-Rate Calculations**

	At Base Compensation	With \$1,000 Increase in Compensation	Difference
Employer's Costs			
Wages Paid to Employee	13,934	14,863	929
Employer's Share of Payroll Taxes (7.65 percent of wages paid)	<u>1,066</u>	<u>1,137</u>	<u>71</u>
Total Compensation	15,000	16,000	1,000
Employee's Tax Computation^a			
Employee's Share of Payroll Taxes (7.65 percent of wages paid)	1,066	1,137	71
Employee's Taxable Income			
Wages	13,934	14,863	929
Standard deduction	-5,000	-5,000	0
Personal exemption	<u>-3,200</u>	<u>-3,200</u>	<u>0</u>
Taxable Income	5,734	6,663	929
Federal Income Tax (10 percent bracket)	573	666	93
Employee's and Employer's Share of Payroll Taxes ^b	<u>2,132</u>	<u>2,274</u>	<u>142</u>
Total Taxes Paid	2,705	2,940	235

Source: Congressional Budget Office.

a. Assumes a single filer with no children.

b. Assumes that the employee ultimately bears both shares of payroll taxes because the employer will pass on its share in the form of lower wages than would otherwise be the case.

Payroll taxes raise the effective marginal rate by approximately the combined employee and employer statutory payroll tax rate (see Figure 5). Because the OASDI tax is capped, the effect of payroll taxes is larger for low- and middle-income earners than for high-income earners. Workers with earnings below the OASDI maximum—\$90,000 in 2005—face a total statutory payroll tax rate of 15.3 percent, consisting of a 12.4 percent OASDI tax and a 2.9 percent HI tax. Once earnings exceed the OASDI maximum, only the HI tax applies.

Payroll taxes have the same effect on marginal tax rates in each of the three stylized examples. For the married couple, CBO's assumption that only one spouse has earnings drives that result. Payroll taxes are levied on individual workers, not married couples, so spouses can face different marginal payroll tax rates. At the extreme, if earnings

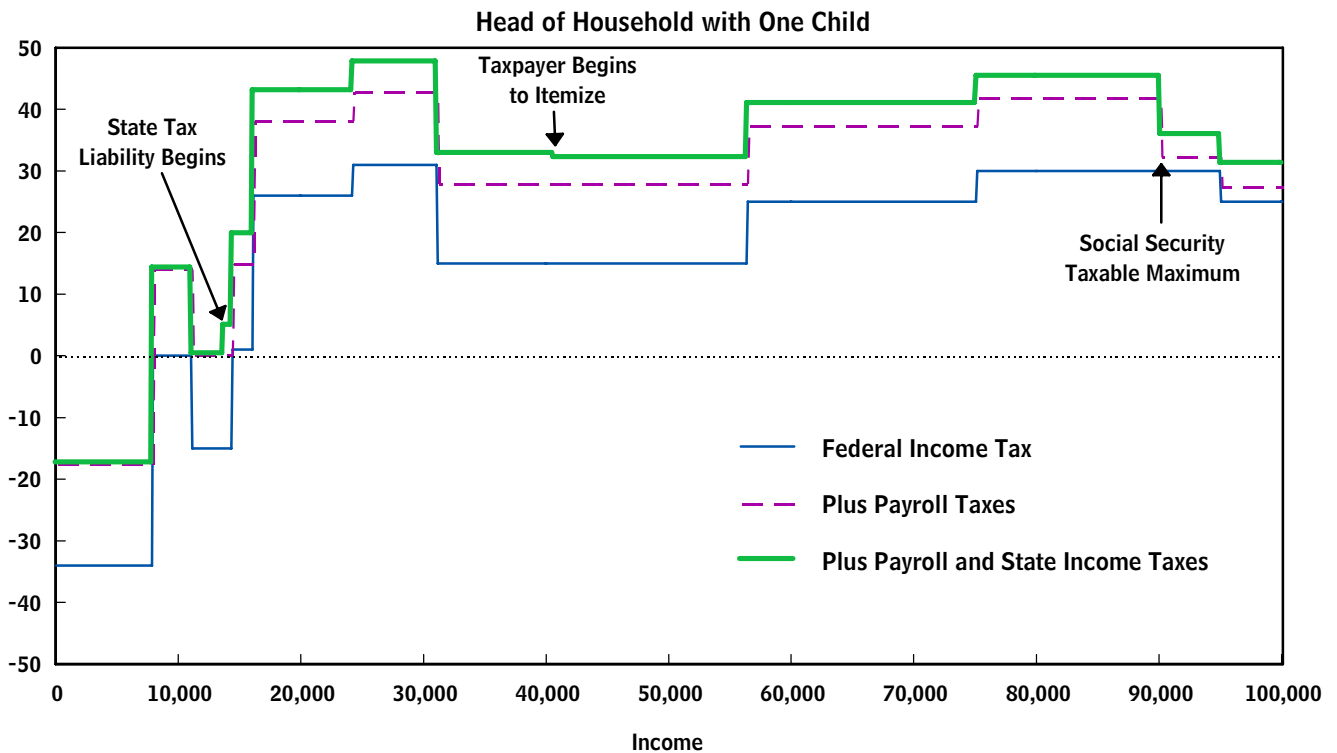
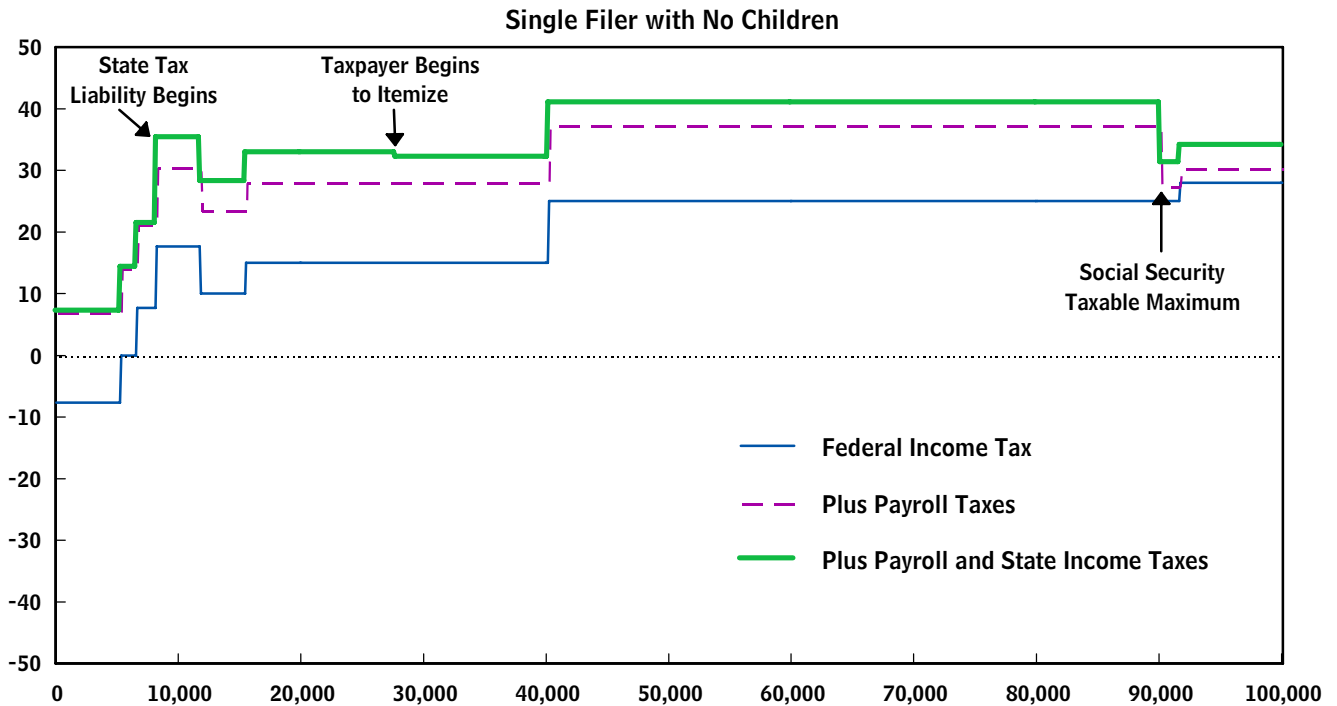
are equally split between the spouses, the couple can face the combined 15.3 percent OASDI and HI tax rate until both workers reach the OASDI maximum (at combined earnings of \$180,000).

Because CBO's analysis assumes a single state tax rate of 5 percent, state income taxes add basically a fixed amount to the marginal-rate calculation. At the lowest income levels, families have no state taxable income and hence owe no state taxes. Once taxable income becomes positive (which CBO assumes happens at the same thresholds as for federal income taxes), the effective marginal rate increases by about 5 percentage points (the assumed state marginal rate). State taxes interact with the federal marginal rate if the taxpayer itemizes deductions: when a taxpayer earns more, deductible state income taxes rise, so federal taxable income rises less than earnings, reducing

Figure 5.

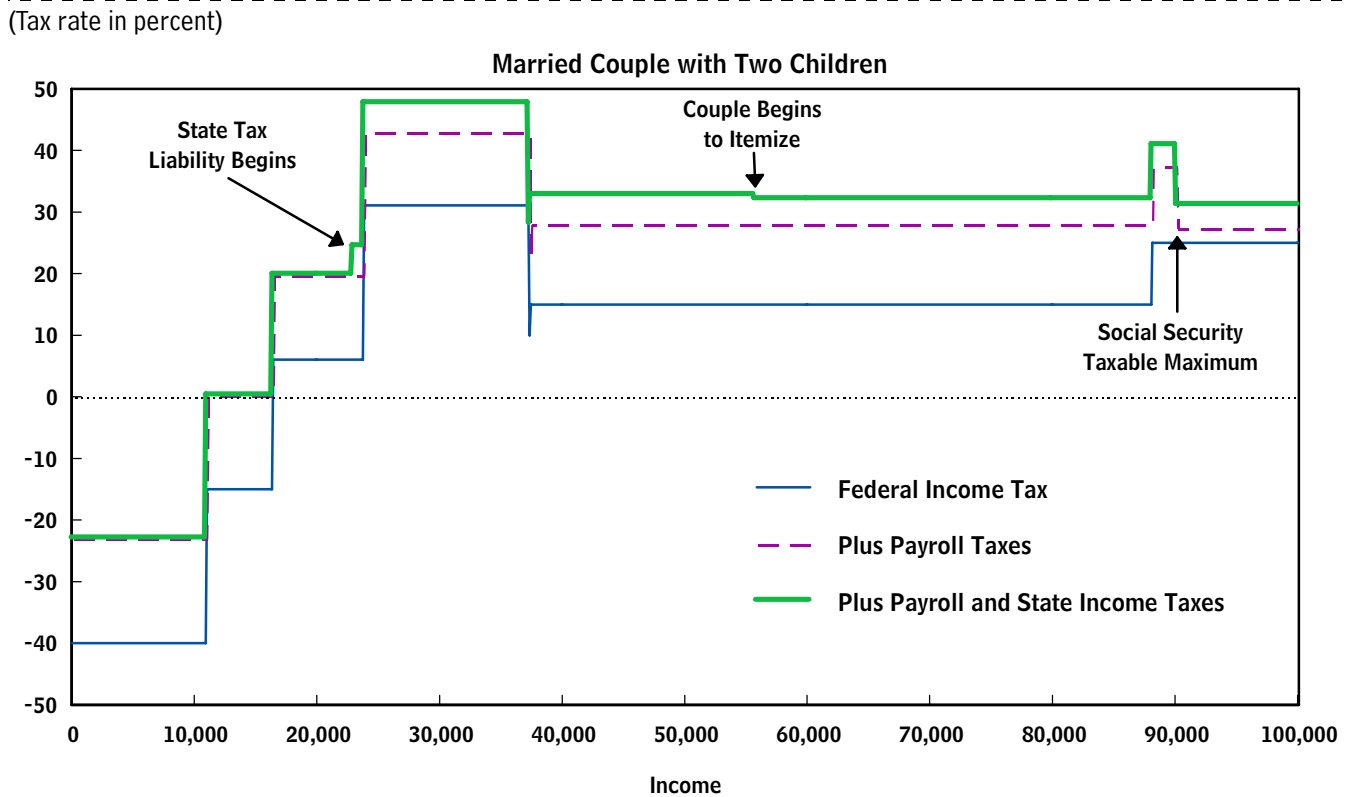
Effect of Payroll Taxes and State Income Taxes on Effective Marginal Tax Rates in 2005

(Tax rate in percent)



Continued

Figure 5.
Continued



Source: Congressional Budget Office.

Notes: These examples assume that the taxpayers are a single filer with no dependents, a single filer who has one dependent and files as a head of household, or a married couple filing jointly with two dependents. All income is from wages (in the case of the married couple, those wages are earned by one spouse). The taxpayers have itemized deductions worth 18 percent of their income and claim the greater of those deductions or the standard deduction. (Forty percent of the itemized deductions are assumed to be state and local taxes, and the rest are charitable contributions and mortgage interest.)

State taxes are assumed to be 5 percent of federal taxable income.

Marginal rates are computed as a percentage of compensation before the employer's share of payroll taxes has been paid.

the federal marginal rate. Because of that interaction, the incremental effect of including state income taxes shrinks for taxpayers who itemize deductions. That effect disappears if taxpayers become subject to the AMT, because state and local income taxes cannot be deducted under the AMT.

In reality, of course, the state marginal income tax rate depends on the laws in each state. Those laws vary in many ways, including the definition of income, the structure of tax rates, and the availability of deductions and credits. In general, however, state tax laws define income similarly to federal tax law, and state tax rates tend to be lower and less diverse than federal rates. The examples shown in Figure 5, although an oversimplification, give a

rough indication of the effect of state income taxes on marginal tax rates.

Distribution of Effective Marginal Tax Rates

Stylized examples of taxpayers can illustrate interactions among provisions of the tax code at different levels of income, but they provide little information about the marginal tax rates that actual households face or how many households fall into each income range. Simulating the taxes paid by actual filers provides information about the distribution of effective marginal rates across the population.

Methodology

CBO simulated tax liabilities using information from a sample of income tax returns filed in 2002 (the most recent data available at the time of the analysis). The sample was designed to be representative of the population that filed tax returns in that year. For each return in the sample, CBO simulated income tax liability under 2005 tax law.⁷ The analysis then calculated marginal rates by adding \$1,000 to the earnings on each return and recomputing the amount of income tax owed. The difference between the two tax liabilities, divided by \$1,000, equals the household's marginal tax rate.⁸ The tax-simulation model that CBO used to perform those calculations accounts for most, but not all, of the provisions that affect people's effective marginal federal income tax rate.

Since the analysis focuses on marginal tax rates on labor income, it considers only tax returns with earnings. Ideally, the analysis would also include potential workers (those who might join the labor force), but such people cannot be readily identified. One possibility would be to include all households in the analysis in order to capture potential workers. However, that approach would also include many people who have permanently left the work force, such as those who have retired or become disabled. The appendix to this paper shows how expanding the population under consideration affects the distribution of marginal tax rates.

CBO included payroll taxes in parts of the distribution analysis (again using the assumption that the employer's share of those taxes is passed on to employees). Most workers are in jobs covered by Social Security and Medicare and thus face the OASDI and HI taxes, but around 5 percent of employees are exempt from those taxes. CBO's model contains information from W-2 forms about which workers were exempt from payroll taxes.⁹

Because payroll taxes are levied on the worker, not the tax-filing unit, each earner in a married couple filing jointly can face a different payroll tax rate—if, for example, one spouse is above the OASDI taxable maximum and the other is not. In those cases, CBO assumed that the \$1,000 in additional earnings is divided between spouses in proportion to their actual earnings. The calculated marginal payroll tax rate for the couple is the average of the rate that each spouse faces, weighted by his or her earnings.

CBO also included state income taxes in the distribution analysis. It estimated those tax rates by applying a set of state income tax calculators to a sample of federal tax returns, using state tax laws in place in 2002.¹⁰ That method provides a good estimate of state income tax rates, but it is more approximate than CBO's estimates of federal income tax rates because of limitations in the federal income tax data.¹¹

7. The analysis simulated taxes after adjusting for inflation and real income growth by deflating unindexed tax parameters by the nominal annual rate of per capita income growth and deflating indexed parameters by the real annual rate of per capita income growth. Applying those adjusted tax parameters to fixed 2002 income yields the same effective tax rates that taxpayers would face, under current law, if income grew at a constant rate of 4.5 percent per year and inflation was 2.2 percent per year.

8. That method produces many estimates of marginal rates that are hybrids of rates in the tax code. For example, for a taxpayer near the top of a tax bracket, part of the additional \$1,000 could be taxed at one statutory rate and part at another. That situation would yield an estimated marginal rate that was the weighted average of the two statutory rates.

9. Certain government employees are the main class of workers exempt from either or both payroll taxes. All federal employees have been covered by HI since 1983, but many people who have been continuously employed by the federal government since before 1984 are not covered by OASDI and therefore do not pay OASDI taxes. Similarly, some employees of state and local governments (the relevant categories differ from state to state) are covered by a public retirement system other than OASDI. In addition, people continuously employed by those governments since before April 1, 1986, are not covered by HI. For more details about groups exempt from payroll taxes, see Congressional Budget Office, *Differences in Wage and Salary Income Included in Various Tax Bases* (June 2005).

10. Jon Bakija of Williams College created the state tax calculator used by CBO. For more details, see Jon Bakija, *Documentation for IncTaxCalc: A Federal-State Personal Income Tax Calculator Covering the Years 1900-2002* (working paper, Williams College Department of Economics, December 2004), available at wso.williams.edu/~jbakija/.

11. Three factors limit the accuracy of the state tax estimates. First, a federal income tax return may lack the information necessary to calculate state income taxes. For instance, many states exempt pension income of state employees from taxation. Since federal tax law makes no such exemption, federal tax returns do not contain any information about the source of pension income, which makes it impossible to properly model state law. Second, federal tax returns contain the taxpayer's home address, which may differ from the state in which the taxpayer owes taxes. CBO assumes that all income is earned in the home state, even though many taxpayers have to apportion their income among states. Third, the sample of federal tax returns that CBO used may not be representative of every state. Nevertheless, on balance, the benefit of having a more complete measure of marginal tax rates outweighs the fact that the state estimates are approximations.

State and local income taxes are deductible on federal tax returns, and some states allow taxpayers to deduct federal income taxes on state returns. The simulations account for that deductibility, which reduces marginal tax rates for taxpayers with itemized deductions. For example, consider a taxpayer who faces a state marginal rate of 5 percent and a federal marginal rate of 25 percent and who itemizes deductions. If that taxpayer earns an additional \$1,000, his or her state taxes rise by \$50. After deducting that \$50, the person pays federal taxes on only \$950 in additional taxable income. Federal tax liability increases by \$237.50—less than the \$250 rise that would occur without the deductibility of state taxes.

After computing marginal rates for every taxpayer in the sample (and weighting the sample to represent the entire population), CBO ranked taxpayers with labor income by each of three marginal rates: for individual income taxes alone, for individual income plus payroll taxes, and for individual income plus payroll and state income taxes. CBO then divided taxpayers into 100 person- or dollar-weighted percentiles. Person-weighted percentiles contain equal numbers of people; dollar-weighted percentiles are based on a taxpayer's total earnings and contain equal amounts of earnings, although the number of taxpayers in each percentile varies.

Distribution of Statutory Federal Income Tax Rates

As noted above, statutory tax rates are a major component of effective marginal rates, and for many taxpayers, the two rates are the same. Almost one-fifth of taxpayers with earnings have no taxable income and face a statutory marginal rate of zero (see Table 2). Many of those taxpayers have total income that falls short of the combined standard deduction and personal exemption, but they file a return in order to receive a refundable credit or a refund for withheld taxes. Another one-fifth of taxpayers face the 10 percent statutory rate, implying taxable income of less than \$7,300 for single filers and \$14,600 for joint filers. The 15 percent bracket contains the largest proportion of taxpayers: more than one-third. Most of the remaining taxpayers fall in the 25 percent bracket, and smaller numbers fall into the 28, 33, or 35 percent brackets or face the AMT.

Dollar-weighted measures of statutory marginal rates, which give more weight to taxpayers with high earnings than to those with low earnings, may better reflect the effects of the tax system on labor income throughout the

Table 2.

Distribution of Individual Income Tax Returns and Earnings, by Statutory Marginal Tax Bracket, in 2005

(Percent)

	Percentage of Taxpayers Facing That Rate	Those Taxpayers' Share of Total Earnings
Statutory Marginal Rate		
0 ^a	19.7	3.8
10	21.6	7.7
15	36.9	33.8
25	16.5	28.4
28	2.1	6.1
33	0.4	1.8
35	0.4	7.5
Alternative Minimum Tax ^b	2.5	11.0
Total	100.0	100.0

Source: Congressional Budget Office.

a. Includes returns with no taxable income.

b. Taxpayers subject to the alternative minimum tax face a statutory rate of 26 percent or 28 percent.

economy than do person-weighted measures, which give everyone equal weight. Because income tax rates rise with income, dollar-weighted measures of statutory marginal rates are higher than person-weighted measures. The one-fifth of taxpayers facing a zero statutory rate earned only 3.8 percent of total labor income, whereas the 3 percent of taxpayers who fell into the 28, 33, and 35 percent brackets together earned more than 15 percent of wages (see Table 2). The person-weighted average statutory rate (the average rate that would apply if each taxpaying unit increased its income by an equal dollar amount) is 13 percent. The dollar-weighted average statutory rate (the average rate that would apply if each taxpaying unit increased its earnings by an equal percentage) is significantly higher: 20 percent.

Distribution of Effective Marginal Federal Income Tax Rates

Effective marginal rates vary much more than statutory marginal rates do. In CBO's simulations, marginal tax rates on earnings ranged from -40 percent (the EITC phase-in rate for a family with two or more children) to over 50 percent (the top statutory rate plus several phase-outs). About 7 percent of taxpayers with earnings face

negative marginal federal income tax rates (see the top panel of Figure 6). Thus, if they were to earn more, their income taxes, net of credits, would decline or the net amount of money they receive from the tax system would increase. Those taxpayers are in the phase-in ranges of the EITC and the refundable portion of the child tax credit. Consequently, their marginal tax rates are clustered at the credit phase-in rates (-40, -34, -15, and -7.65 percent).

Another 9 percent of taxpayers face a marginal rate of zero. They either have no taxable income—meaning that deductions and exemptions exceed their adjusted gross income—or they have credits that completely offset their tax liability. Almost half of all taxpayers with earnings face marginal rates equal to the first three statutory rates: 10, 15, and 25 percent. (Over one-fourth of taxpayers are in the 15 percent bracket.) Only about 3 percent of taxpayers have a marginal rate equal to the 33 percent or 35 percent statutory rate. In all, about 40 percent of taxpayers have marginal rates that differ from statutory rates, either because of the various phase-ins and phaseouts in the income tax system or because an additional increment of income crosses tax brackets.

On balance, more than 60 percent of taxpayers with earnings have marginal income tax rates of 15 percent or less. Fewer than 20 percent of taxpayers face marginal rates in excess of 25 percent, and about 7 percent face rates in excess of 30 percent. The lower-to-middle portion of the income range, where households tend to face the first two statutory marginal rates, is densely populated. The upper reaches of the income range, where statutory rates are high and phaseouts drive up marginal rates, contains fewer people. Consequently, many of the tax provisions that create high marginal rates apply to relatively few taxpayers.

Because marginal rates generally rise as income does, ranking taxpayers in dollar-weighted percentiles shifts the distribution of marginal tax rates higher (see the bottom panel of Figure 6). The marginal rate at the 25th percentile is 15 percent under the dollar-weighted measure, compared with 10 percent under the person-weighted measure. The median marginal rate jumps from 15 percent to 25 percent when using dollar weighting, and the marginal rate at the 75th percentile rises from 25 percent to 28 percent.

Distribution of Combined Federal and State Tax Rates

Payroll and state income taxes add significantly to effective marginal rates. With those included, substantially fewer earners—only 5 percent—face no tax (or a subsidy) on additional earnings, compared with 16 percent when only federal income taxes are considered (see the top panel of Figure 6). The taxpayer in the 25th person-weighted percentile faces a combined marginal rate of 23.5 percent, more than double the marginal federal income tax rate of 10 percent. Likewise, the median taxpayer has a combined marginal rate of 31.6 percent, compared with a federal marginal rate of 15 percent. Taxpayers at the top end of the distribution can face combined marginal tax rates of more than 65 percent.

Federal income taxes account for most of the variation in combined marginal tax rates, however. The pattern of combined rates essentially parallels that of federal individual rates. On average, federal individual income taxes are larger than the other taxes—in 2004, federal individual income tax receipts totaled \$809 billion, and federal payroll tax receipts amounted to \$686 billion, whereas state individual income tax receipts totaled just under \$200 billion.¹² Federal individual income taxes also have a tremendous amount of variation, with effective marginal rates ranging from roughly -40 percent to more than 50 percent. By contrast, payroll tax rates vary only from zero to 15.3 percent. State income tax rates also vary less than federal income tax rates: from around -2 percent to 10 percent.¹³

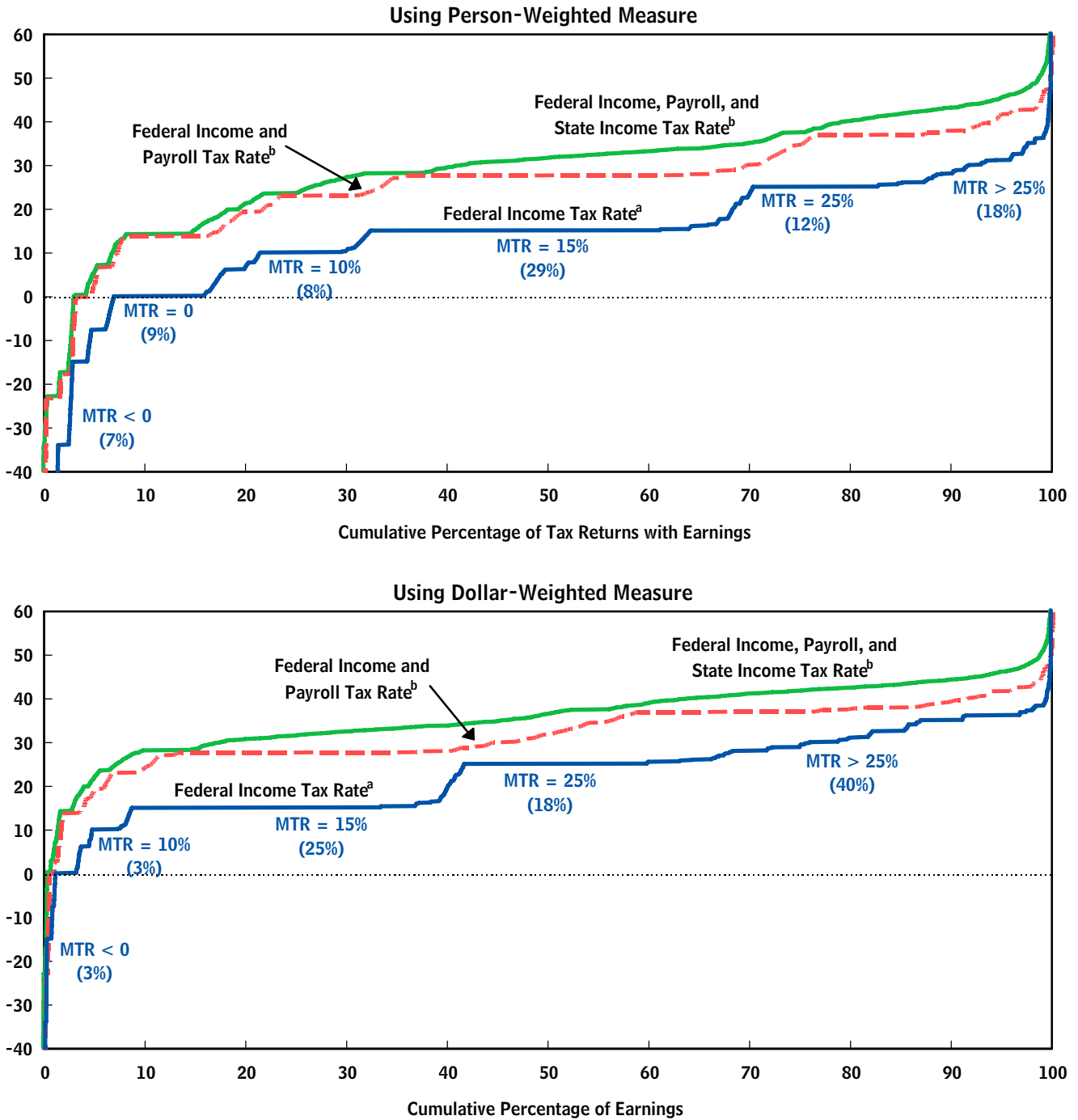
Payroll tax rates significantly increase marginal rates but by a relatively constant amount. For most taxpayers, the inclusion of payroll taxes simply raises their marginal rate by the OASDI and HI statutory rates (adjusted to account for the employer's share of those taxes). Only about 5 percent of taxpayers are not in employment covered by OASDI or HI and hence do not pay federal payroll taxes. Another 5 percent or so earn wages above the OASDI taxable maximum and face only the HI marginal rate.

12. See Nicholas W. Jenny, *State Finances Begin Recovery: Fiscal Year 2004 Tax Revenue Summary*, State Fiscal Brief No. 72 (Albany: State University of New York, Nelson A. Rockefeller Institute of Government, February 2005), available at www.rockinst.org/publications/fiscal_studies/FB_72.pdf. The state figure is based on each state's fiscal year, which generally ends on June 30.

13. Those figures are for the first and 99th percentiles, excluding the most extreme values.

Figure 6.
Distribution of Effective Marginal Tax Rates in 2005

(Tax rate in percent)



Source: Congressional Budget Office simulations using data from the Internal Revenue Service’s Statistics of Income database.
 Notes: MTR = marginal tax rate. Numbers in parentheses indicate the percentage of taxpaying units or earnings facing that marginal rate.
 The person-weighted measure divides taxpayers into 100 percentiles that all contain equal numbers of people. The dollar-weighted measure divides taxpayers into 100 percentiles that all contain equal amounts of earnings.

- a. As a percentage of wages paid.
- b. As a percentage of compensation before the employer’s share of payroll taxes has been paid.

State tax rates are much lower than federal rates and thus have a smaller impact on combined marginal rates. Eight states, including populous ones such as Florida and Texas, have no income tax, so taxpayers in those states face a state marginal rate of zero. Several states have earned income tax credits, but they tend to be much smaller than the federal credit. State rates also tend to be slightly progressive, gradually increasing as income (and federal income tax rates) rise.

As with marginal individual income tax rates, the dollar-weighted distribution of combined marginal rates is higher than the person-weighted distribution (see the bottom panel of Figure 6). Most of that difference comes from individual income taxes. Marginal payroll tax rates are lower under the dollar-weighted measure than under the person-weighted measure because people with the highest income (whose earnings exceed the OASDI taxable maximum) face a lower marginal payroll tax rate than do people with lower earnings. The 5 percent of taxpayers with earnings above that maximum account for 16 percent of earnings. Marginal state income tax rates, by contrast, are slightly higher under the dollar-weighted measure than under the person-weighted measure, reflecting some increase in state tax rates as income rises.

Effective Marginal Tax Rates by Income Group

Effective marginal rates on labor income differ both among and within income groups. Taxpayers with different earnings face different marginal rates both because statutory tax rates change with income and because some provisions of the tax code apply only over limited income ranges. Marginal rates can also vary with earnings if other tax-related characteristics are systematically related to earnings. For example, higher-earning taxpayers tend to have more income from investments (which generally increases the effective marginal rates on earnings) and more itemized deductions (which generally decreases effective marginal rates).

In addition, taxpayers with similar earnings can face widely varying marginal rates depending on their personal circumstances, because many factors other than earnings affect people's tax liability. Taxpayers who can file jointly as a married couple may face different marginal rates than single taxpayers with the same amount of earnings. Taxpayers who have many children may face different rates than those with fewer children. Taxpayers with large amounts of nonlabor income face different marginal rates than those without such income, and tax-

payers with large itemized deductions have different marginal rates than those with smaller deductions.

To examine how effective marginal tax rates on labor income vary among and within income groups, CBO divided taxpayers into deciles (tenths of the income distribution) on the basis of their earnings and analyzed the range of marginal rates within each decile. Like the person-weighted measure described above, the deciles contain equal numbers of taxpaying units, considering only tax returns with some earnings.

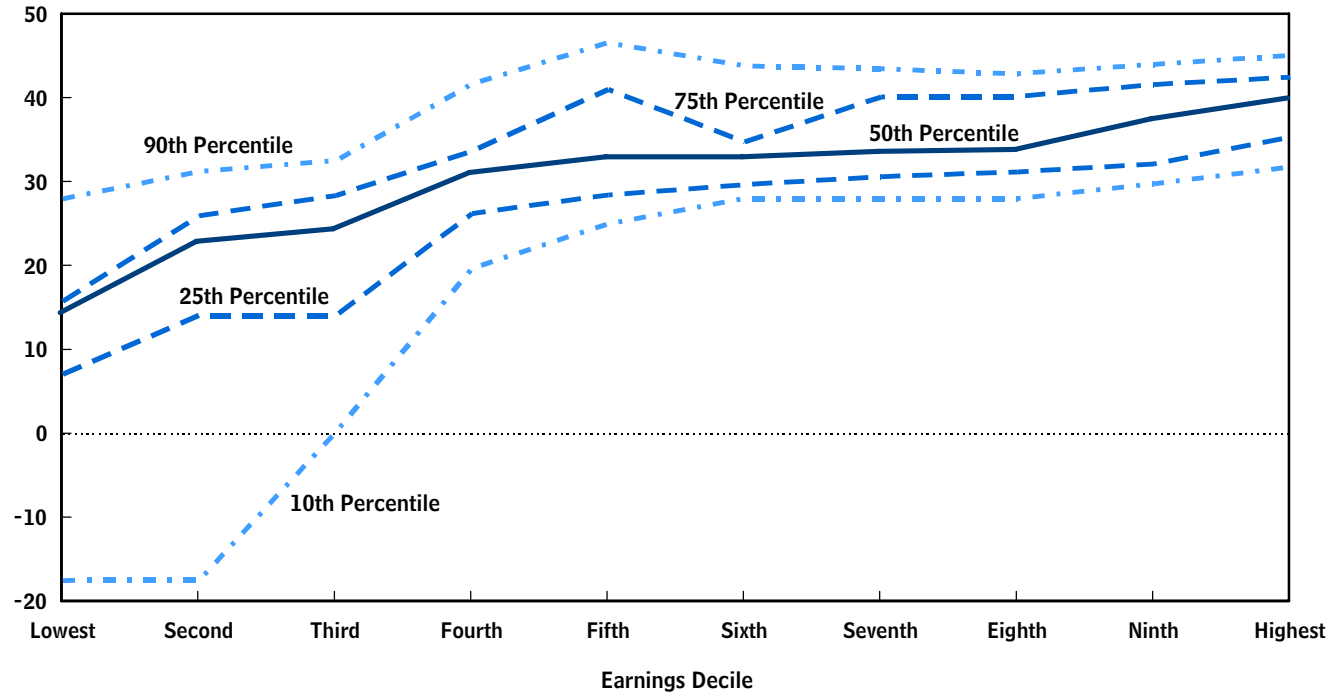
The median marginal tax rate rises rapidly over the first four earnings deciles, from a little more than 14 percent in the first decile to 31 percent in the fourth decile (see Figure 7). The increase is more gradual over the next four deciles, with the median marginal rate climbing to 34 percent. It then jumps to 37 percent in the ninth decile and 40 percent in the top decile. That pattern largely reflects the progressive nature of federal taxes. Low-income taxpayers move rapidly through the EITC and into the regular tax system. Most middle-income taxpayers face the 15 percent statutory rate plus payroll taxes plus state taxes. Those taxpayers have a federal marginal rate of 28 percent plus their state tax rate.¹⁴ Effective marginal rates climb for taxpayers at higher income levels because of higher statutory rates and the phaseouts of various credits and deductions.

Marginal rates vary widely within deciles, especially in the lower deciles. In fact, the variation within those deciles often exceeds the variation in median marginal rates between deciles. For instance, in the second decile, more than 45 percentage points separate the marginal rates at the 10th and 90th percentiles, and more than 12 percentage points separate the rates at the 25th and the 75th percentiles (see Figure 7). Much of the variation within the lower deciles is caused by the very low and high marginal rates associated with the phase-in and phaseout, respectively, of the EITC. Taxpayers in the EITC phase-in range can face marginal rates as low as -25 percent (a -40 percent EITC rate coupled with a 15.3 percent payroll tax rate), whereas taxpayers in the EITC phaseout range can face rates as high as 45 percent (a 10 percent statutory rate plus a 21.06 percent phaseout rate plus the 15.3 percent payroll tax rate).

14. That 28 percent rate is measured as a percentage of income before the employer's share of payroll taxes has been paid.

Figure 7.**Effective Marginal Tax Rates, by Earnings Level**

(Tax rate in percent)



Source: Congressional Budget Office simulations using data from the Internal Revenue Service's Statistics of Income database.

Notes: Deciles (tenths of the income distribution) were constructed by ranking tax returns by their level of earnings. Only returns with earnings were included. The dark line in the center (the 50th percentile) represents the median marginal rate for a given decile. The area between the 25th and 75th percentiles is the range containing the middle half of tax returns in each decile. The area between the 10th and 90th percentiles is the range containing the middle 80 percent of tax returns in each decile.

These results are based on 2005 federal tax law and 2002 state tax law. The marginal rates include federal and state individual income taxes and federal payroll taxes. They are computed as a percentage of compensation before the employer's share of payroll taxes has been paid.

The Change in Marginal Tax Rates If Current Laws Expire

Between 2001 and 2004, the Congress and the President enacted three major tax laws that affect marginal tax rates on labor income. The Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) lowered statutory rates, increased credits, and lessened the impact of the marriage penalty and the alternative minimum tax. The Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) accelerated some of the provisions in EGTRRA, reduced taxes on capital gains and qualified dividends, and temporarily raised exemption levels for the AMT. The Working Families Tax Relief Act of 2004 (WFTRA) accelerated some of the provisions in EGTRRA and extended others in EGTRRA and

JGTRRA. (For more details about those laws, see Box 2.) Most of the tax provisions in those laws are temporary, phasing in and out between 2001 and 2010 and then expiring at the beginning of 2011. Since the laws lowered effective marginal tax rates, such rates will rise significantly if the laws expire as currently scheduled.

This analysis compares marginal tax rates under current law (including scheduled expirations) with an alternative measure under which each tax provision is set at its most generous scheduled level. The analysis refers to that measure as fully phased-in EGTRRA, even though some of the specifics of the measure were created by WFTRA or JGTRRA. For example, under EGTRRA, the phaseout of itemized deductions and the personal exemption is fully repealed only in 2010. By contrast, the highest AMT

Box 2.**Recent Tax Laws That Alter Marginal Rates on Labor Income**

Three major tax laws enacted between 2001 and 2004 significantly affect marginal tax rates on labor income. (A fourth law, the Job Creation and Worker Assistance Act of 2002, primarily affects business taxes.) The provisions of those laws phase in and out over multiple years and generally expire by 2011.¹

■ **The Economic Growth and Tax Relief Reconciliation Act of 2001** (EGTRRA) lowered individual income taxes for all taxpayers by restructuring tax rates and brackets, increasing the child credit and dependent care credit, lessening the impact of the marriage penalty and the alternative minimum tax (AMT), and increasing the earned income tax credit (EITC) for married couples. Specifically, the law created a 10 percent tax bracket and lowered the rates for the top four brackets in four steps between 2001 and 2006. It raised the child credit from \$500 to \$1,000, also in four steps between 2001 and 2010. EGTRRA increased the maximum expenditure eligible for the dependent care credit from \$2,400 to \$3,000 per child, beginning in 2002, and raised the maximum credit

from 30 percent to 35 percent of eligible expenditures. To ease the marriage penalty, the law widened the 15 percent tax bracket for joint filers from 167 percent of the bracket for single filers to twice that bracket in four annual steps beginning in 2005. It also increased the standard deduction for joint filers from 167 percent to 200 percent of the standard deduction for single filers in five annual steps between 2005 and 2009. Relief from the AMT came through an increase in the income exemption of \$4,000 for joint filers and \$2,000 for single filers in 2001 through 2004. EGTRRA removed the limitation on itemized deductions and personal exemptions in three steps between 2006 and 2010. Finally, the law increased the EITC for married couples by raising the income level at which benefits phase out by \$1,000 in 2002, 2005, and 2008 and by indexing the final value for inflation beginning in 2009. All of those provisions are set to expire in 2011, at which point the provisions of individual income tax law revert to those in effect before 2001.²

1. For a more detailed description of the changes in those laws and a schedule of how their provisions phase in and out, see Congressional Budget Office, *Effective Federal Tax Rates Under Current Law, 2001 to 2014* (August 2004).

2. EGTRRA also expanded various education incentives and tax benefits for retirement saving and eliminated the estate tax (reducing it in stages between 2001 and 2009 and then fully repealing it in 2010). As with all other provisions in the law, those changes expire in 2011.

exemption amount, set by JGTRRA and extended by WFTRA, is in effect from 2003 through 2005. CBO's fully phased-in measure assumes the highest AMT exemption and the full repeal of both phaseouts, even though they will not apply at the same time under current law. Marginal rates both under fully phased-in EGTRRA and with EGTRRA's expiration are simulated using 2005 income levels.

Across much of the income distribution, a hypothetical married couple with two children would see its marginal tax rate increase if EGTRRA expired. Some of the largest increases would occur for couples who are now affected by the refundability of the child tax credit—those with

earnings between \$11,000 and \$24,000 (see the top panel of Figure 8). Under EGTRRA, the refundability of the child credit begins at the same point as the EITC plateau and continues into the EITC phaseout range, which mitigates the jump in marginal rates associated with the credit. For couples at that income level, effective marginal rates would rise by 15 percentage points if EGTRRA expired.

EGTRRA actually increased marginal rates for some taxpayers with income of less than \$50,000 in two ways. First, the refundability of the child credit under EGTRRA means that taxpayers receive some child credit even when they owe no taxes, so they obtain the maxi-

Box 2.**Continued**

■ **The Jobs and Growth Tax Relief Reconciliation Act of 2003** (JGTRRA) accelerated the pace at which some EGTRRA provisions phase in, reduced taxes on capital gains and qualified dividends, raised the AMT exemption, and increased first-year depreciation deductions. Specifically, the law broadened the 10 percent tax bracket in 2003 and 2004 and lowered the tax rates for the top four brackets, starting in 2003, to the levels that EGTRRA had set to begin in 2006. It also raised the child credit to \$1,000 in 2003 and 2004 (from the \$600 and \$700, respectively, that would have occurred under EGTRRA). It widened the 15 percent tax bracket for joint filers in 2003 and 2004 to twice that for single filers and set the standard deduction for joint filers equal to double that for single filers in those years. JGTRRA also raised the AMT exemption in 2003 and 2004 to \$58,000 for joint filers and \$40,250 for single filers—higher than the levels

set in EGTRRA by \$9,000 and \$4,500, respectively. For 2003 through 2008, the law lowered the tax rate on capital gains and qualified dividends from 20 percent to 15 percent for taxpayers above the 15 percent bracket and from 10 percent to 5 percent (and to zero in 2008) for taxpayers in lower brackets. The provisions of JGTRRA all expire in 2009 or earlier.

■ **The Working Families Tax Relief Act of 2004** (WFTRA) accelerated some of the provisions in EGTRRA and extended others in EGTRRA and JGTRRA. It raised the child credit to \$1,000 in 2005 to 2009 and increased the amount of the credit that is refundable in 2005. The law also extended the marriage-penalty relief and 10 percent bracket at the levels set by JGTRRA through 2010. Finally, WFTRA kept the AMT exemption at the level set by JGTRRA through 2005.

maximum child credit at lower income levels. Additional earnings above that point face the statutory rate. Second, the longer income range over which taxpayers receive the maximum EITC under EGTRRA means that some taxpayers whose income would disqualify them from getting the EITC without EGTRRA instead face the EITC phaseout—and hence higher marginal tax rates.

Taxpayers with income between \$38,000 and \$76,000—a part of the income distribution that contains many households—face the 15 percent statutory bracket under either current law or fully phased-in EGTRRA and would see no change in their marginal rate with expiration. Taxpayers with income between \$76,000 and \$88,000 benefit from EGTRRA's lengthening of the 15 percent bracket; their marginal rate would jump from 15 percent to 28 percent if EGTRRA expired.

Higher-income taxpayers would generally face a more complex—and higher—schedule of effective marginal tax rates if EGTRRA expired (see the bottom panel of

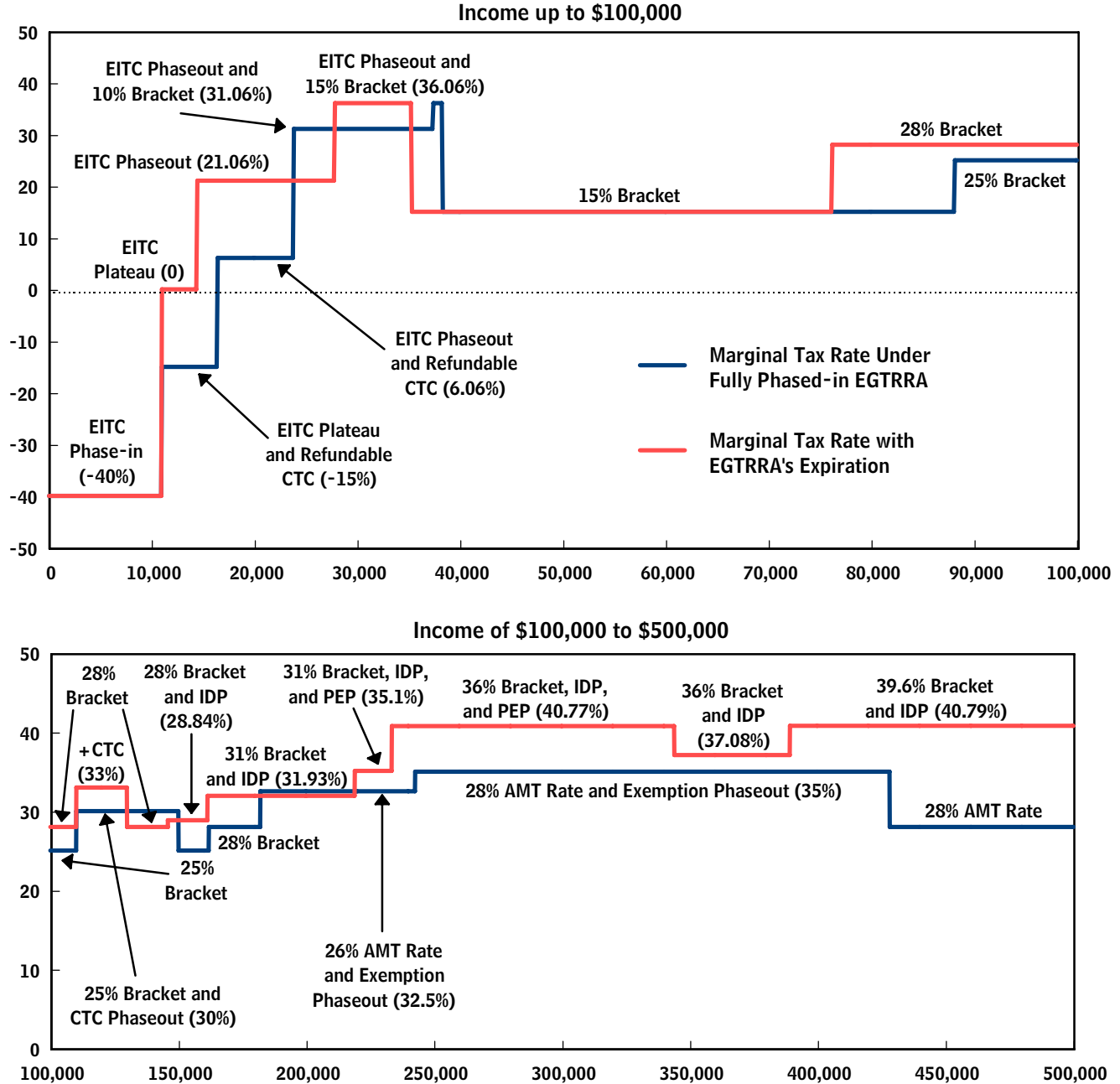
Figure 8). Those taxpayers benefit from the reduced statutory tax rates and the repeal of the phaseouts of itemized deductions and personal exemptions under fully phased-in EGTRRA. However, some higher-income taxpayers would see their marginal rate decline if EGTRRA expired. For example, EGTRRA doubled the size of the child credit and thus lengthened the income range over which it phases out. Taxpayers with income between \$130,000 and \$150,000—who would be ineligible for the child credit if EGTRRA expired—now face the higher marginal rate caused by the credit's phasing out. In addition, by lowering regular income taxes, fully phased-in EGTRRA subjects taxpayers to the AMT over a much longer portion of the income range. Their marginal tax rate under the AMT, even with the phaseout of the AMT exemption, is still generally lower than it would be under the regular income tax if EGTRRA expired.

On balance, the expiration of EGTRRA would shift the distribution of marginal rates higher (see Figure 9). EGTRRA's lower statutory rates, marriage-penalty relief,

Figure 8.

Effective Marginal Federal Income Tax Rates for a Married Couple with Two Children Before and After the Expiration of EGTRRA

(Percent)



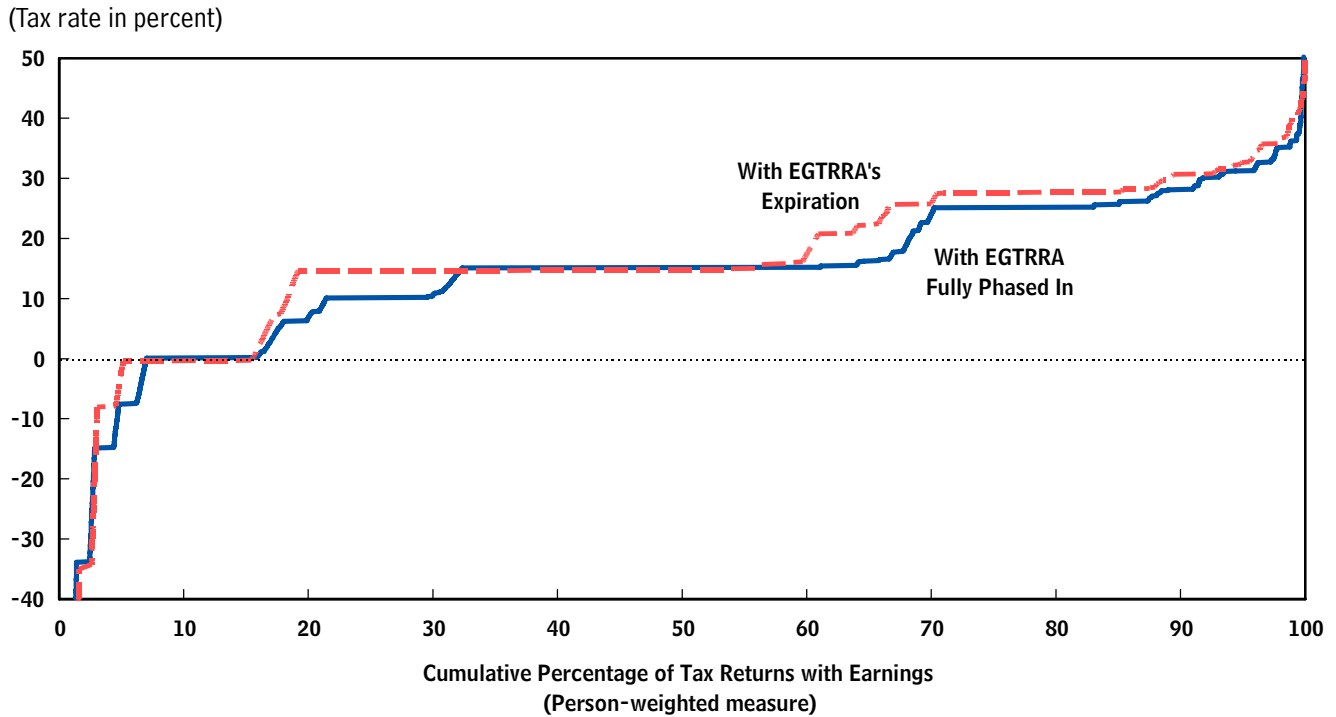
Source: Congressional Budget Office.

Notes: This example assumes that the taxpayers are a married couple filing jointly with two dependents. All of the couple's income is from wages earned by one spouse. The couple has itemized deductions worth 18 percent of income and claims the greater of those deductions or the standard deduction. (Forty percent of the itemized deductions are assumed to be state and local taxes, and the rest are charitable contributions and mortgage interest.)

EGTRRA = Economic Growth and Tax Relief Reconciliation Act of 2001; EITC = earned income tax credit; CTC = child tax credit; IDP = itemized-deduction phaseout; PEP = personal-exemption phaseout; AMT = alternative minimum tax.

Figure 9.

Distribution of Effective Marginal Federal Income Tax Rates Before and After the Expiration of EGTRRA



Source: Congressional Budget Office simulations using data from the Internal Revenue Service's Statistics of Income database.

Note: EGTRRA = Economic Growth and Tax Relief Reconciliation Act of 2001.

and expanded child credit have reduced marginal rates for a majority of taxpayers. However, some taxpayers—such as those phasing into the EITC or in the 15 percent bracket—would see no change in their marginal rates with expiration because fully phased-in EGTRRA does not alter those aspects of tax law. Smaller numbers would see their marginal rates decline if EGTRRA expired.

The average taxpayer's marginal federal individual income tax rate would climb by 2.7 percentage points—from 14.0 percent to 16.7 percent—with EGTRRA's expiration. The dollar-weighted average marginal rate would increase even more—by 3.3 percentage points, from 22.2 percent to 25.5 percent.

Distribution of Marginal Income Tax Rates for Different Populations

For the analysis in this paper, the Congressional Budget Office (CBO) calculated effective marginal tax rates using information from a sample of 2002 federal individual income tax returns, supplemented with data from the Census Bureau's Current Population Survey. The calculations considered only tax returns that reported earnings. Because the analysis focuses on marginal tax rates on labor income, ideally it would consider potential workers as well as people with labor income. However, the population of people who could enter the labor force is impossible to identify precisely. This appendix compares the distribution of marginal tax rates for three different groups: people with earnings, people who filed a tax return, and all households.

None of those categories exactly matches the desired population. The narrowest group—taxpayers with labor income—excludes people who could be part of the workforce but are temporarily not working. Both of the broader groups—people who filed a tax return and all households—include some potential workers, but they also contain many people who are out of the workforce permanently because of retirement or disability. For example, half of the households that did not file a tax return in 2002 were headed by someone elderly, and almost 90 percent of those households received Social Security benefits. Much of that group is likely to be permanently retired. In addition, a significant share of the nonelderly households reported income from Supplemental Security Income, a program for people unable to work. Marginal

tax rates on labor income for people who are permanently out of the workforce are of little use in understanding how the tax system affects decisions about working.

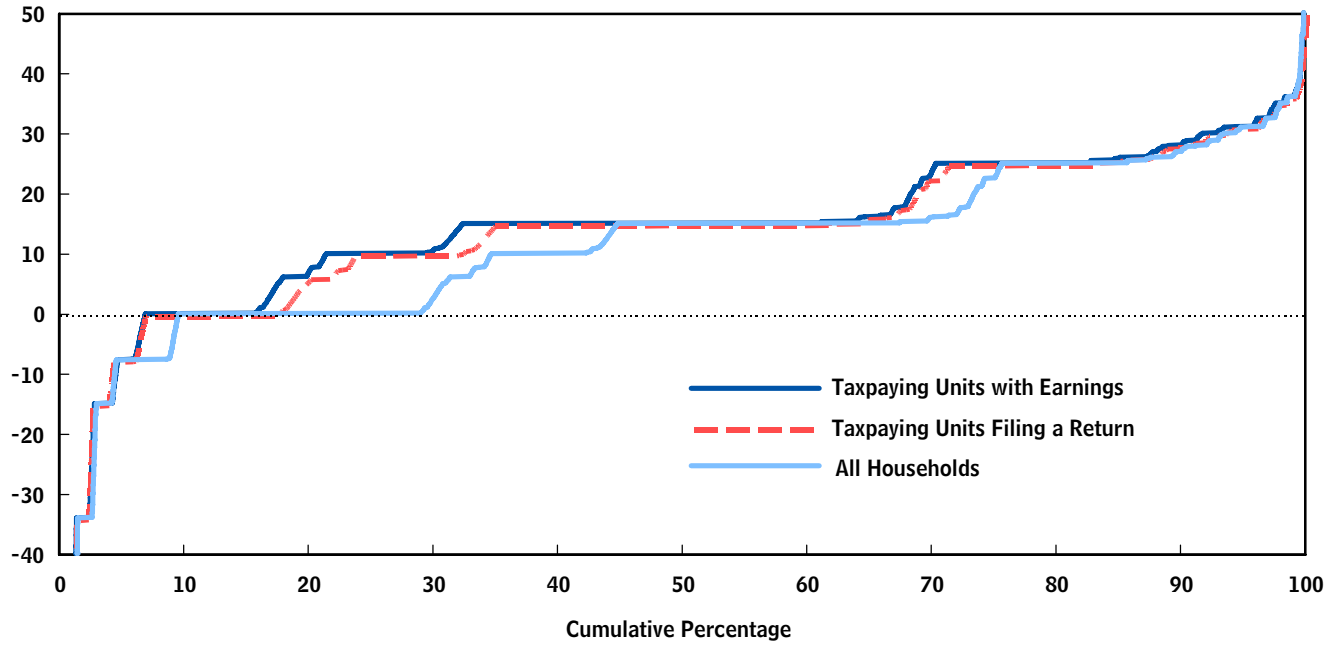
Measuring the marginal tax rate on labor income for potential workers who currently do not have such income is problematic. The rate for a \$1,000 increase in their income (the increment used in CBO's analysis) may not be the most relevant marginal rate because they are unlikely to enter the workforce only to earn \$1,000. A more meaningful measure would calculate the marginal rate on their potential earnings, but little information exists about the potential earnings of people who are not working.

The distribution of marginal tax rates for everyone who filed a federal income tax return is very similar to the distribution for those with earnings (see Figure A-1). People without labor earnings who file tax returns tend to have some taxable income (such as from pensions, dividends, or interest) and face marginal income tax rates that are similar to those of people with earnings. Expanding the analysis to also consider people who did not file a return, however, does shift the distribution. A significantly greater percentage of that group faces a marginal tax rate of -0.765 percent (the phase-in rate of the earned income tax credit for people without children) or zero, meaning that their total income falls below the combined standard deduction and personal exemption.

Figure A-1.

Distribution of Effective Marginal Federal Income Tax Rates for Different Populations

(Tax rate in percent)



Source: Congressional Budget Office simulations using data from the Internal Revenue Service's Statistics of Income database and the Census Bureau's Current Population Survey.