

Public Finance and Public Policy

FOURTH EDITION

2013, 2005

Jonathan Gruber

Massachusetts Institute of Technology

WORTH PUBLISHERS

A Macmillan Higher Education Company

Chapter 18

Taxation in the United States
and Around the World

18.1 Types of Taxation

18.2 Structure of the
Individual Income Tax in the
United States

18.3 Measuring the Fairness
of Tax Systems

18.4 Defining the Income
Tax Base

Chapter 18

Taxation in the United States and Around the World

In August 1988, Republican presidential candidate George H. W. Bush was in trouble. Despite being the sitting vice president at the end of the very popular presidency of Ronald Reagan, Bush was trailing badly in the polls behind Democratic candidate Michael Dukakis. Part of Bush's difficulty was that people were concerned over his resolve to act on core Republican issues, such as cutting taxes and restraining spending to shrink the size of government. At the Republican convention that month, Bush's speechwriter found inspiration in a popular Clint Eastwood character, the resolute and righteous cop Dirty Harry Callahan. On August 18, Bush made a startling promise to project his strength and resolve: "Read my lips," he declared, "No new taxes." The pithy phrase worked miracles. Within days of the national broadcast of the convention, polls showed that the gap between Bush and Dukakis had all but disappeared. Bush won the election convincingly, carrying all but ten states, with 53% of the popular vote to Dukakis's 46%. But his promise would come back to haunt him.

By 1990, the federal deficit was projected to reach \$225 billion. Though hardly a record deficit, the Gramm-Rudman-Hollings budget act (discussed in Chapter 4 on pages 96–97) required that the deficit that year be no more than \$64 billion or automatic, across-the-board cuts in federal spending would ensue. Forced to achieve a more balanced budget, President Bush publicly abandoned his "no new taxes" pledge in June, saying that "tax revenue increases" would be a necessary part of any deficit-reducing legislation. Many Republicans were furious, but by November, the president had signed into law a bill raising taxes by \$140 billion over the next five years, including an increase in the tax rate paid by the highest-income taxpayers from 28% to 31%.

Subsequent polls showed that five out of ten Americans disapproved of Bush's backtracking on his promise, while four out of ten actually approved of his willingness to raise taxes. To his most conservative allies, Bush's U-turn made him look weak when it came to restraining the size of government. This opened the door in 1992 for third-party candidate H. Ross Perot, whose campaign focused largely on bringing fiscal responsibility back to Washington. Perot ultimately drew votes away from Bush in a number of key states, allowing Bill Clinton to

18.1 Types of Taxation

18.2 Structure of the Individual Income Tax in the United States

18.3 Measuring the Fairness of Tax Systems

18.4 Defining the Income Tax Base

18.5 Externality/Public Goods Rationales for Deviating from Haig-Simons

18.6 The Appropriate Unit of Taxation

18.7 Conclusion



"How about 'No new taxes after these new taxes'?"

win the majority of electoral votes while garnering only 43% of the popular vote.¹

The "no new taxes" episode highlights the important role that taxes play in both the political arena and government policy making in the United States. In this section of the book, we move beyond our study of government expenditures to the study of government revenue raising through taxation. This chapter begins the study of taxation by setting the institutional and theoretical stage for understanding tax policy and its effects. Once we understand these basic concepts, our study of taxation proceeds in three steps. Chapters 19 and 20 cover

the basic theory of taxation. Chapters 21 through 24 apply this basic theory to the study of how tax systems affect economic behavior by individuals and by corporations. Finally, Chapter 25 discusses the implications of our analysis for fundamental tax reform in the United States.

We begin our study by providing a brief overview of the types of taxation that exist in the United States, at the federal, state, and local levels, and around the world. We then discuss in more detail the main tool of revenue raising in the United States, the federal income tax. We provide an overview of the structure of the income tax and discuss alternative means of measuring the "fairness" of the income tax system. We then turn to the question of how to measure the base on which income taxes should be levied. Should all forms of income be taxed, or only some forms? Should the government use the tax code to encourage private provision of public goods by exempting contributions toward such goods from taxation? Should the government tax individuals on the basis of their own income or on the basis of the income of all those in their family? This part of the chapter discusses how governments should, and do, form the bases for taxing income.

18.1

Types of Taxation

The governments of the United States and other nations raise revenues through a wide variety of mechanisms. Our study of taxation will focus on the five most common types of taxes, which we review in this section. (Other, more specific types of taxes will also be discussed, when appropriate, in the remaining chapters of the book.)

Taxes on Earnings

The first type of taxation is the **payroll tax**, a tax levied on the earnings of workers. Payroll taxes are the primary means of financing social insurance

payroll tax A tax levied on income earned on one's job.

¹ Balz and Yang (1990); Oreskes (1990); Woodward (1992).

programs, such as those discussed in the preceding chapters (Social Security, unemployment insurance, Medicare, and so on).

Taxes on Individual Income

The second type of taxation is the **individual income tax**, a tax paid by individuals on income accrued during the year. Income for income tax purposes includes labor earnings, but the tax is distinguished from the payroll tax by (a) applying to a broader set of income sources (such as interest earnings from household savings as well), and (b) applying in many cases to the entire income of a family, not just to the income of one individual worker. A form of income taxation that is of particular interest is the taxation of **capital gains**, the earnings from selling capital assets, such as stocks, paintings, and houses.

Taxes on Corporate Income

In addition to taxing individual income, many countries also separately tax the earnings of corporations through the **corporate income tax**. The purpose of the separate taxation of corporations, above and beyond taxes on individuals, is to tax earnings of owners of capital that otherwise might escape taxation by the individual-based income tax system.

Taxes on Wealth

Wealth taxes are taxes paid not on income as it is accrued, but on the value of the assets held by a person or family, such as land, jewelry, artwork, real estate, and stocks. Included in this category are state and local **property taxes**, which are based on the value of land and any structures built on the land, and **estate taxes**, which are based on bequests (money, property, and so on) left behind when one dies.

Taxes on Consumption

The form of taxation that is most common around the world is the **consumption tax**, which is paid on individual or household consumption of goods (and sometimes on services as well). Consumption taxes are often levied in the form of **sales taxes**, taxes that are paid by consumers to vendors at the point of sale. These taxes can be applied either to a broad variety of consumption goods or to a particular good alone. When applied to only certain goods, for example cigarettes or gasoline, the sales tax is called an **excise tax**.

Payroll, income, and wealth taxes are called *direct taxes* because they are assessed directly on individuals. Consumption taxes are called *indirect taxes* because they tax individuals indirectly by taxing their transactions.

Taxation Around the World

Figures 18-1 and 18-2 show the distribution of tax revenues across these different types of taxes in the United States and in other nations. The U.S. federal government receives a large portion of its tax revenue (42%) from the

individual income tax A tax paid on individual income accrued during the year.

capital gains Earnings from selling capital assets, such as stocks, paintings, and houses.

corporate income tax Tax levied on the earnings of corporations.

wealth taxes Taxes paid on the value of the assets, such as real estate or stocks, held by a person or family.

property taxes A form of wealth tax based on the value of real estate, including the value of the land and any structures built on the land.

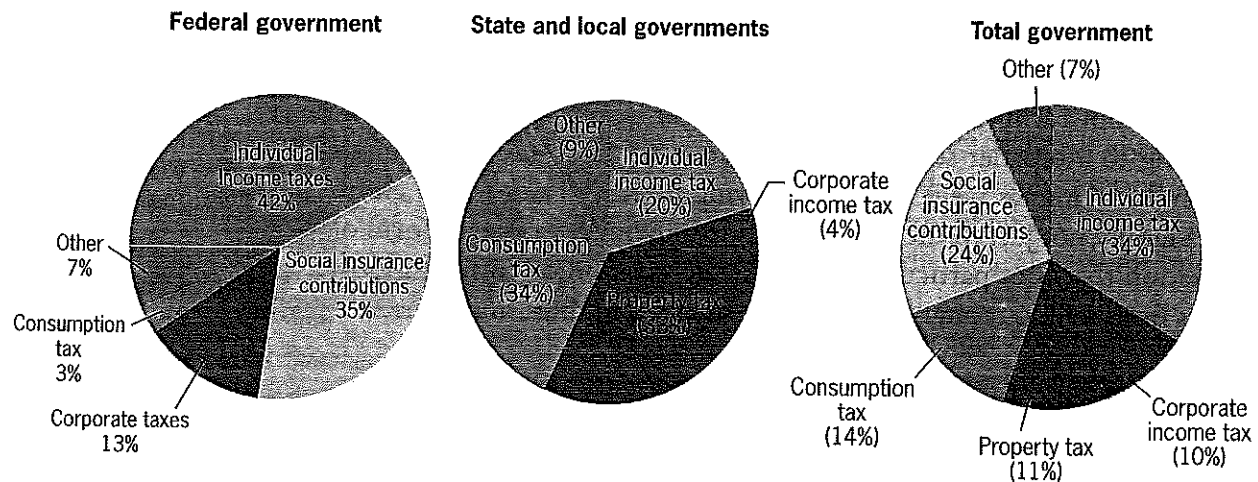
estate taxes A form of wealth tax based on the value of the estate left behind when one dies.

consumption tax A tax paid on individual or household consumption of goods (and sometimes services).

sales taxes Taxes paid by consumers to vendors at the point of sale.

excise tax A tax paid on the sales of particular goods, such as cigarettes or gasoline.

■ FIGURE 18-1

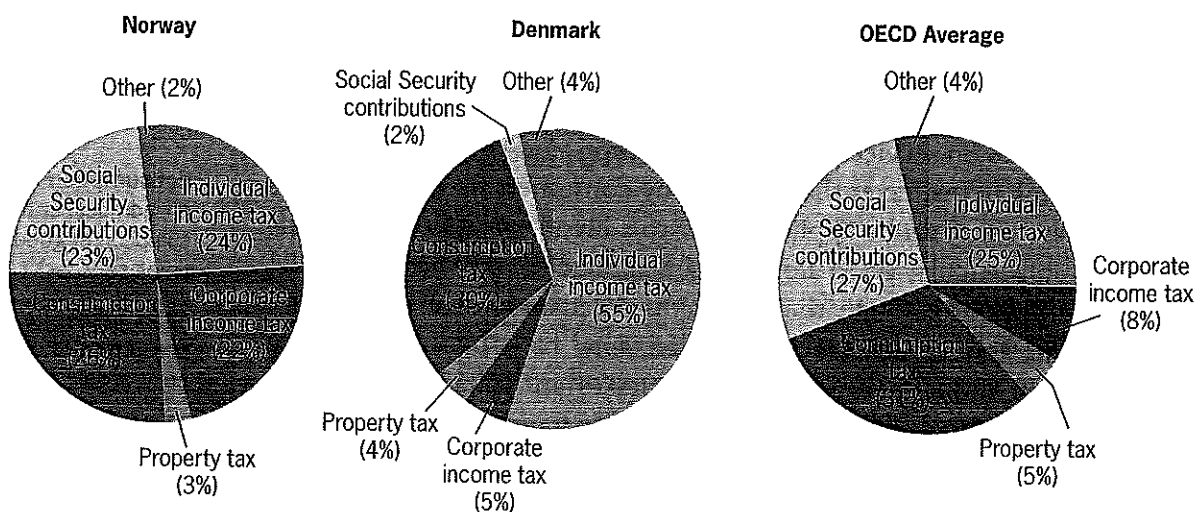
U.S. Tax Revenue by Type of Tax
(2010, % of total tax revenue)

Tax Revenues by Type of Tax • Over 80% of the federal government's tax revenue comes from individual income taxation (income and payroll taxes). For state and local governments, revenue is more evenly split among taxes on wealth (property), consumption, and individual income. In total, U.S. governments receive about three-fifths of their revenue from individual income taxes and payroll taxes.

Source: Bureau of Economic Analysis NIPA Tables 3.1–3.3. Accessed July 2, 2012 (data for 2010).

individual income tax, and another large share (35%) from payroll taxes. A more moderate share comes from the corporate income tax (13%), with very small shares from consumption and other taxes (such as wealth taxes).

■ FIGURE 18-2

International Tax Revenues by Type of Tax
(2010, % of total tax revenue)

International Tax Revenues by Type of Tax • Consumption taxes provide a greater portion of national government revenue in all OECD countries than in the United States.

Source: OECD Statistical Extracts (2012). <http://stats.oecd.org/Index.aspx?QueryId=21699#>.

The distribution of tax revenue sources at the state and local levels is quite different. For states and localities, individual income tax revenues are only 20.4% of total revenues. The two major sources of revenues for subnational governments in the United States are sales taxes and local property taxes on homes and commercial property. While some states collect payroll taxes, payroll tax data are not available at the state level. For the United States as a whole, combining all levels of government, the most revenues are raised by income taxation, followed by payroll taxes and consumption taxes, while property taxes and corporate income taxes are about the same.

The distributions are quite different in other nations. Figure 18-2 shows the distribution of taxes in two countries with very different tax systems, Norway and Denmark, and then for the set of developed Organization for Economic Cooperation and Development (OECD) nations as a whole. In Norway, revenue is raised almost equally from income taxes, payroll taxes, consumption taxes, and corporate income taxes, with a very small share of revenues from property taxation. In Denmark, in contrast, half of revenues are raised from individual income taxes, with a large portion of the remainder from consumption taxes; there are small shares from corporate income taxes, property taxes, and payroll taxes. On average, the other developed OECD nations have a share of tax revenues from consumption taxes that is more than twice as large as that of the United States, and shares from payroll taxes, that are about the same.

gross income The total of an individual's various sources of income.

18.2

Structure of the Individual Income Tax in the United States

As shown in the previous section, the most important source of revenue in the United States is the federal individual income tax. In this section, we review the structure of this tax, which is shown graphically in Table 18-1, both in general terms and with some sample calculations for an individual we'll call Jack.

Computing the Tax Base

The income tax calculation begins by adding up one's various sources of income to compute **gross income**, which is \$60,000 for Jack. This includes wages and salaries; capital income, such as interest, dividends, or rental income; and other business income. Once the taxpayer determines his or her gross income, the taxpayer is allowed to adjust it downward by subtracting the amounts spent on several items; the amount that remains after these

■ TABLE 18-1

Computing Jack's Income Tax

Gross income	\$60,000
–Deductions	–2,000
=Adjusted gross income (AGI)	=58,000
–Exemptions	–19,000
–Standard (or itemized) deduction	–11,900
=Taxable income	=27,100
↓ Use income tax schedule (Figure 18-3)	
=Taxes owed	=3,195
–Credits	–3,000
=Total tax payment	=195
–Withholding	–2,000
=Final payment (refund) due	=(1,805)

Jack has gross income of \$60,000, from which he subtracts some deductions to get adjusted gross income (AGI). From AGI, he subtracts his family exemptions and either the standard deduction or itemized deductions (Jack chooses the former), yielding taxable income. A tax schedule is applied to determine taxes owed, and tax credits are then subtracted to arrive at the final tax payment.

adjusted gross income (AGI)

An individual's gross income minus certain deductions, such as contributions to IRAs.

exemption A fixed amount a taxpayer can subtract from AGI for each dependent member of the household, as well as for the taxpayer and the taxpayer's spouse.

standard deduction A fixed amount that a taxpayer can deduct from taxable income.

itemized deductions Alternative to the standard deduction, whereby a taxpayer deducts the total amount of money spent on various expenses, such as gifts to charity and interest on home mortgages.

deductions is called **adjusted gross income (AGI)**. These adjustments have varied over time, but currently they include:

- ▶ Contributions to retirement savings through Individual Retirement Accounts (IRAs) or self-employed pension plans
- ▶ Alimony paid to a former spouse
- ▶ Health insurance premiums paid by the self-employed
- ▶ One-half of the payroll taxes paid by the self-employed
- ▶ Educator expenses
- ▶ Contributions to Health Savings Accounts
- ▶ Expenses for job-related moves
- ▶ Interest paid on student loans

In our example, Jack makes a \$2,000 contribution to his IRA, so he deducts \$2,000 from his gross income, leaving him with an AGI of \$58,000.

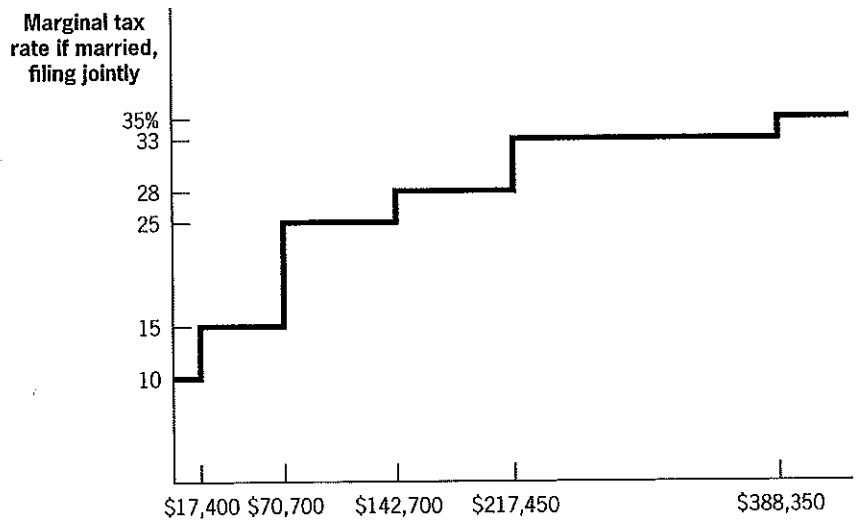
The taxpayer then subtracts exemptions from AGI. An **exemption** is a fixed amount of money that can be deducted for the taxpayer, the taxpayer's spouse, and any other dependents who live in the house (such as children or elders who depend on the taxpayer and spouse for financial support). In 2012, the exemption amount was \$3,800 per person.² Jack has a wife and three children, so he deducts a total of \$19,000 in exemptions from his AGI.

After taking these exemptions, the taxpayer then gets to make further deductions from his or her taxable income. There are two forms of deductions from which to choose:

1. The **standard deduction** is a fixed amount that taxpayers can deduct from taxable income. In 2012, the standard deduction was \$5,950 for single taxpayers and \$11,900 for married couples.
2. Alternatively, taxpayers can forgo the standard deduction and choose **itemized deductions**. Under this route, the taxpayer deducts from his or her income the sum of amounts from several categories:
 - ▶ Medical and dental expenses exceeding 7.5% of AGI
 - ▶ Other taxes paid, such as state or local income tax (or sales tax if the state has no income tax), real estate tax, and personal property tax
 - ▶ Interest that the taxpayer pays on funds borrowed to make investments and on home mortgages
 - ▶ Gifts to charity
 - ▶ Casualty and theft losses
 - ▶ Unreimbursed employee expenses, such as union dues or expenses incurred on job travel

² Exemptions and some deduction amounts (discussed next) are *phased out* (begin to decline) for very high incomes (ranging from AGI above \$119,975 for married persons filing separately to \$239,950 for married persons filing jointly). Internal Revenue Service (2009).

■ FIGURE 18-3

**U.S. Federal Income Tax Rate**

Schedule, 2012 • In 2012, the tax rate on the next dollar of taxable income varied from 10% on married couples with taxable incomes below \$17,400 to 35% on those with taxable incomes above \$388,350.

Source: Internal Revenue Service (2012)

Taxpayers are free to choose the method (standard or itemized deductions) that maximizes their deductions and minimizes their tax bill. Most homeowners have sufficiently high mortgage interest and property tax payments that it makes sense to itemize. Jack has paid \$6,000 in interest on his mortgage, paid \$2,500 in state and local taxes, and has given \$500 to charity, so his itemized deductions total \$9,000. Because this amount is less than the standard deduction for married couples (\$11,900), he chooses the standard deduction. Nationwide, 65% of taxpayers chose the standard deduction in 2008, with the remaining 35% using itemized deductions.³

The remainder after subtracting exemptions and deductions from AGI is called **taxable income**. Jack's taxable income is \$27,100.

Tax Rates and Taxes Paid

The next step for Jack is to figure out the amount of tax that he owes to the government on his taxable income of \$27,100. To find out how much he owes, Jack can look at a tax schedule, such as that shown in Figure 18-3. The typical tax system in the United States and around the world is one in which the tax rate on one's next dollar of income rises as income rises. For example, the 2012 U.S. tax rate schedule (for a married couple, filing taxes jointly) is as follows:

- ▶ For any dollar of taxable income below \$17,400, there is a tax of 10¢ on each dollar of taxable income.
- ▶ For the next \$53,300 of taxable income, there is a tax of 15¢ on each dollar of taxable income.

taxable income The amount of income left after subtracting exemptions and deductions from adjusted gross income.

³ IRS statistics located at <http://www.irs.gov/taxstats>.

tax credits Amounts by which taxpayers are allowed to reduce the taxes they owe to the government through spending, for example on child care.

withholding The subtraction of estimated taxes owed directly from a worker's earnings.

refund The difference between the amount withheld from a worker's earnings and the taxes owed if the former is higher.

Alternative Minimum Tax (AMT) A tax schedule applied to taxpayers with a high ratio of deductions and exemptions to total income.

- ▶ For the next \$72,000, there is a tax of 25¢ on each dollar of taxable income.
- ▶ For the next \$74,750, there is a tax of 28¢ on each dollar of taxable income.
- ▶ For the next \$170,900 there is a tax of 33¢ on each dollar of taxable income.
- ▶ For all income above \$388,350, there is a tax of 35¢ on each dollar of taxable income.

Applying this tax schedule, Jack owes \$3,195 in taxes: he owes 10% of his first \$17,400 of taxable income (\$1,740) plus 15% of the remaining \$9,700 of taxable income (\$1,455).

Taxpayers can then reduce their tax payments through certain **tax credits**, flat amounts that are subtracted from taxes owed. These include credits for having children (the Child Tax Credit), for paying for care of children and elderly dependents (the Credit for Child and Dependent Care Expenses), for being poor and either elderly or disabled (the Credit for the Elderly or Disabled), for paying for educational expenses of family members (the Hope and Lifetime Learning Credits), for hiring as employees welfare recipients, ex-felons, veterans, or other members of groups with high unemployment rates (the Work Opportunity Credit), and for earning income if family income is very low (the Earned Income Tax Credit). Jack qualifies for a child credit of \$3,000 for his three children, so that he now owes \$195 (\$3,195–\$3,000) in taxes.

The taxes for each year must be paid by April 15 of the following year. For most taxpayers, taxes are subtracted from their wage and salary income as it is earned, a process called **withholding**.⁴ The amount withheld is an estimate of the taxes the worker will owe based on his or her earnings, but this estimate is rarely perfectly accurate. In Jack's case, for example, the government has withheld \$2,000 from his earnings during the year. Thus, Jack is due a tax **refund** of \$1,805, the difference between what was withheld from his earnings and the amount he owes in taxes. In other cases, withholding may fall short of taxes due, in which case the taxpayer must pay additional taxes when he files his tax return.

▶ APPLICATION

The Coming AMT Timebomb⁵

Figure 18-3 presents a somewhat simplified schedule of marginal tax rates because it does not account for features such as the Earned Income Tax Credit (a tax subsidy paid to low-income earners to redistribute income while encouraging work, to be discussed in Chapter 21), or the **Alternative Minimum Tax (AMT)**, an additional tax schedule that applies to taxpayers who have a very high ratio of deductions and exemptions to total income. In a 1969 televised hearing, Treasury

⁴ There is also optional withholding for other forms of income, such as pension and transfer payments. Some taxpayers have large earnings in non-withheld forms, such as interest on savings or self-employment income; these taxpayers make *estimated tax payments* four times per year based on their best guess of their taxable income for that year.

⁵ Internal Revenue Service (2009).

Secretary Joseph W. Barr produced for Congress's Joint Economic Committee a list of 155 high-income households that in 1966 had earned over \$200,000 (\$1.3 million in 2009 dollars) but paid no income taxes whatsoever. None of these households, including the 21 with incomes over \$1 million (\$6.4 million in 2009 dollars), had committed a crime; they had simply taken advantage of existing tax laws to minimize their taxable income (through the types of exemptions and deductions just discussed). An outraged public demanded something be done about this, and in 1969, President Nixon signed into law a minimum tax intended to ensure that all wealthy households paid some amount of income tax. By 1986, 659 wealthy American households still managed to avoid all income taxes, so Congress strengthened the law, now called the AMT.

All taxpayers who have high exemptions/deductions are required to compute their tax under both the regular schedule and the AMT. Under the AMT, you compute your income without the personal and dependent exemptions, the standard deduction, state and local tax write-offs, and other tax benefits. You then deduct the AMT exemption, which is \$33,750 for individuals, \$45,000 for joint filers, and \$22,500 for married individuals filing separately. The remaining amount up to \$175,000 is subject to a 26% tax, while income above \$175,000 is taxed at 28%.⁶

Congress did not index any of these AMT figures with inflation, so as nominal incomes have risen over time, more and more taxpayers have become subject to the AMT, which was originally intended to affect only the few taxpayers who would otherwise have avoided paying taxes altogether. By 2012, 34.9% of all taxpayers (or a total of 32.4 million taxpayers) will be subject to the AMT, making it as common as the mortgage interest deduction is now. About 96.9% of households with income between \$200,000 and \$500,000 will pay the AMT, and 45.5% of AMT payers will have household incomes between \$75,000 and \$100,000 (in 2012 dollars).⁷

Because the AMT calculations add so much complexity and increasingly apply to the middle class rather than the wealthy households originally targeted, there is broad political agreement for a reform that will once again make the AMT a last-resort tax that applies only to the very wealthy. The reform will, however, be expensive primarily because the 2001–2004 tax cuts introduced cuts into the regular income tax system without making any significant, lasting changes to the AMT. Before the 2001–2004 legislation, only 14% of taxpayers were slated to pay the AMT in 2010; after the legislation was passed, that number had risen to 31%. Repealing the AMT would reduce revenues by over \$1.3 trillion between 2011 and 2022 if the 2001–2004 tax cuts are not extended into 2013; if they are extended, revenues would be reduced by over \$2.7 trillion.⁸ If Congress continues to patch the AMT by temporarily raising the AMT

⁶ Tax Policy Center (2008).

⁷ Tax Policy Center; Urban Institute and Brookings Institution: <http://www.taxpolicycenter.org/taxtopics/AMT.cfm>, <http://www.taxpolicycenter.org/numbers/displayatab.cfm?template=simulation&SimID=440&relTTN=T12-0176>.

⁸ Tax Policy Center; Urban Institute and Brookings Institution: <http://www.taxpolicycenter.org/taxtopics/AMT.cfm>, <http://www.taxpolicycenter.org/numbers/displayatab.cfm?template=simulation&SimID=440&relTTN=T12-0176>.

exemption, 4.2 million individuals will file for the AMT in 2013, whereas if it is not, 35.8 million taxpayers will be subject to the AMT. President Obama's budget for fiscal year of 2013 proposed an elimination of the AMT while increasing taxes on high-income individuals to ordinary tax rates. Timothy Geithner of the Treasury Department endorsed the President's plan, claiming that it "simplifies tax code and asks the most fortunate to pay their fair share."⁹ ◀

18.3

Measuring the Fairness of Tax Systems

In March 1990, rioters in London set fire to parked Jaguars and Porsches, smashed store windows, destroyed a Renault showroom, and ultimately caused the injury of over 400 people and the arrest of nearly 350 people. The cause of the riot was a tax reform proposal by British prime minister Margaret Thatcher's government. Thatcher had proposed to replace the system of property taxes (based on real estate value) with a poll tax, a flat charge levied equally on all individuals, regardless whether they were rich, poor, or somewhere in between. The proposal provoked enormous outrage because the tax burden was being shifted away from wealthy citizens owning valuable property and onto poorer citizens, who didn't previously pay property taxes but would now have to pay the poll tax. Because of the poll tax's unpopularity, Thatcher was eventually ousted as leader of the Conservative Party and the proposal was quickly abandoned. Thatcher may have gotten off easily: the last attempt to impose such a tax in England, in 1381, led to the beheading of several prominent citizens.¹⁰

As this example illustrates, tax *fairness* is an important concern to citizens worldwide. Yet fairness is an elusive goal: what is a fair tax system to me may seem unfair to you. To carry out the evaluation of a tax system's fairness requires a particular concept of fairness, or *equity*, and a means of measuring how a tax system redistributes income to make the distribution more equitable. This section defines the common concepts that are used to measure fairness and the statistics that are used to assess whether tax systems meet those fairness goals. But we must first define some important terms that are used to measure the distributional nature of tax systems.

Average and Marginal Tax Rates

Two key concepts describe the set of tax rates on income. The first is the **marginal tax rate**, the percentage of the next dollar of taxable income that is paid in taxes. With a system such as that in the United States, the marginal tax rate rises with income; for those with taxable income below \$16,700, the marginal tax rate is 10%, but for those with taxable income above \$372,950 the marginal tax rate is 35%.

The second concept is the **average tax rate**, the percentage of total income that is paid in taxes, which is computed as the ratio of total tax payments to total income.

marginal tax rate The percentage that is paid in taxes of the next dollar earned.

average tax rate The percentage of total income that is paid in taxes.

⁹ Nevius, Alestair M. "President's Budget Proposes AMT Elimination, Tax Reform." *Journal of Accountancy* (n.d.): n. pag. 19 Feb. 2012. Web.

¹⁰ Slemrod and Bakija (2008), p. 49.

The average tax rate for any individual is a weighted average of the marginal rates the individual pays as he or she moves along the tax schedule. For example, suppose that Josh has gross income of \$190,000, and has taxable income (after adjustments, deductions, and exemptions) of \$170,000 (and no tax credits). His total tax bill is

$$(\$17,400 \times 0.1) + (\$53,300 \times 0.15) + (\$72,000 \times 0.25) + (\$27,300 \times 0.28) = \$35,379$$

We compute Josh's total tax bill by walking him up the marginal rate schedule until we get to his income level. Josh's marginal rate is 28% because this is the rate that he pays on his next dollar of income. His average tax rate is 17.4%, which is his tax bill (\$35,379) divided by his gross income (\$190,000); this is a weighted average of all the marginal rates Josh is paying, where the weights are the share of his income in each tax bracket (including the \$20,000 of his income that is not taxed and therefore faces a zero marginal rate).

Vertical and Horizontal Equity

Two distributional goals are frequently considered in measuring tax fairness. The first is **vertical equity**, the principle that groups with more resources (higher income, higher wealth, higher profits, etc.) should pay higher taxes than do lower-resource groups. This idea is related to the concept of equity discussed in Chapters 2 and 17, which referred to the distribution of resources between higher-and lower-income (or -ability) groups. Concerns over vertical equity in taxation could be motivated, for example, by a utilitarian social welfare function that calls for redistribution from lower to higher marginal utility of consumption groups in society.

Another concept of equity that is often raised in tax policy discussions is **horizontal equity**, the principle that individuals who are similar but who make different economic or lifestyle choices should be treated in the same way by the tax system. Consider two state sales tax systems. One state sets a sales tax of 5% on all goods. Another state implements a system whereby whenever you make a purchase, the cashier flips a coin, and you pay no sales tax if it is heads and a 10% sales tax if it is tails. This latter system will raise the same amount of money as the former system on average, but it is much less horizontally equitable because two identical individuals could end up paying very different taxes.

This extreme example clearly illustrates a horizontal inequity, but in reality horizontal inequities are hard to define. Imagine that my friend and I are identical in terms of intelligence, education, and motivation. I choose to spend more of my time at home with my children, while my friend chooses to spend more time on his job. Even though we are the same in many respects, my friend has higher income than I do, and will pay higher income taxes as a result.

Does this outcome violate horizontal equity? On the one hand, we have different amounts of income, so we pay different taxes, which seems horizontally equitable. On the other hand, we are two identical people in terms of abilities and underlying resources, yet because of the different choices that we have made, we pay different amounts of taxes, which seems horizontally inequitable.

Whenever the amount of taxes paid depends on choices made by individuals, such a dilemma will exist: individuals of identical underlying resources who make

vertical equity The principle that groups with more resources should pay higher taxes than groups with fewer resources.

horizontal equity The principle that similar individuals who make different economic choices should be treated similarly by the tax system.

17.4%
\$35,379
\$190,000
17.4%

progressive Tax systems in which effective average tax rates rise with income.

proportional Tax systems in which effective average tax rates do not change with income, so that all taxpayers pay the same proportion of their income in taxes.

regressive Tax systems in which effective average tax rates fall with income.

different choices will pay different amounts of tax. The only time that horizontal inequities are unambiguous is when taxes differ for reasons independent of choice, such as in the previous random taxation example. Thus, violations of horizontal equity are ultimately in the eye of the beholder, an unfortunate fact because horizontal equity concerns are constantly raised in tax debates and are often distorted to fit the views of the proponents or opponents of a particular tax proposal.¹¹

Measuring Vertical Equity

While horizontal equity is often difficult to define and measure, there are more standard measures of vertical equity that are central to debates over tax policy. Most analysts conclude that to be vertically equitable, tax systems must be **progressive**: effective average tax rates must rise with income, so that the rich pay a higher share of their income in taxes than do the poor. (For example, a progressive tax system would be one in which individuals pay 10% of their income in tax at an income of \$10,000, but they pay 30% of their income in tax at an income of \$100,000.) Tax systems in which the effective average tax rate does not change with income are **proportional** tax systems, since everyone pays the same proportion of his or her income in taxes. (For example, individuals pay 15% of income in taxes regardless of whether they earn \$10,000 or \$100,000.) Tax systems in which effective average tax rates fall with income are **regressive** tax systems. (For example, individuals pay 15% of their income in tax at an income of \$10,000, but pay only 10% of their income in tax at an income of \$100,000.)

► APPLICATION

The Political Process of Measuring Tax Fairness¹²

As the previous discussion suggests, measuring tax fairness can be challenging. There are several different ways to measure fairness, and politicians are likely to choose the one that best fits their agendas in advocating or opposing a tax change. An excellent example of this process is the debate over the income tax cuts proposed by President George W. Bush and signed into law by Congress in 2003. These tax cuts accelerated already scheduled reductions in income tax rates, expanded tax breaks for married couples, increased the credit paid to families with children, and increased tax breaks for corporations.

Democratic critics opposed these tax cuts on grounds of “fairness.” They pointed out, for example, that 44% of the tax reductions from this bill would go to the top 1% of taxpayers. The Bush administration acknowledged that fact but responded by pointing out that these top taxpayers already pay 38% of all

¹¹ Vertical and horizontal equity are illustrations of the “ability to pay” approach to tax fairness. There is an entirely different approach called the “benefits” approach, which states that tax fairness should be measured by comparing the tax burdens borne by individuals to the benefits they receive from the public sector. This principle is rarely used in tax policy debates, but we do discuss the importance of tax-benefit linkages in Chapter 20.

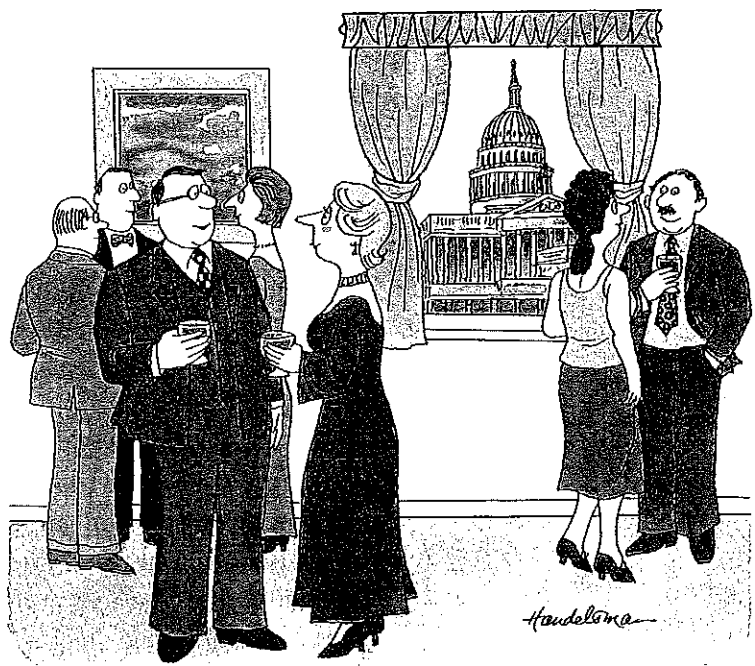
¹² Lee and Friedman (2003).

income taxes. So this reduction in their tax bill was roughly in proportion to their existing income tax payments. Thus, in the view of the bill's proponents, this was a fair reduction in taxes for those paying the most in taxation today.

Democrats responded by highlighting that while the top 1% of taxpayers pay 38% of income taxes, they pay only 30% of *all taxes*, since our payroll tax system is less progressive than our income tax system because the payroll tax rate is flat rather than rising, and because the base of taxation for Old Age Security and Disability Income (OASDI) taxes is capped for high earners. So the top 1% was getting a tax break (44% of the tax cut) that was far out of proportion to its share of total payments (30% of total taxes paid). This, they contended, was unfair.

The administration fired back by noting that 34 million families with children would receive an average tax cut of \$1,549 each. But critics noted that this was a misleading use of the word "average." These average figures were inflated by the fact that the lion's share of the tax cut accrues to households with the highest incomes. As economist and *New York Times* columnist Paul Krugman put it, "When Bill Gates enters a bar, the average net worth of the patrons soars, but that doesn't make everyone in the bar a billionaire."¹³ While it is true that 34 million families with children would get a \$1,549 tax cut on average, this average consisted of both 10 million families that would receive a tax cut of less than \$100 and 200,000 families (with incomes over \$1 million per year) receiving a \$93,500 tax cut. Families in the middle of the income distribution received an average tax cut of only \$217.

As is often said in Washington, D.C., where you stand on an issue depends on where you sit. For most Republicans, this tax cut fairly rewarded those who were most burdened by the current income tax. For most Democrats, this tax cut unfairly rewarded the rich out of proportion to their current overall tax burden. Neither party to the debate really emphasized the economist's generally preferred measure of the distributional effects of tax policies, which is how they affect the after-tax distribution of income. Progressive tax reforms will narrow the after-tax distribution of income; regressive tax reforms will widen it. According to the non-partisan Tax Policy Center's evaluations of both the 2001 and 2003 tax cuts, the lowest quintile of the income distribution saw their after-tax incomes rise by 0.7% as a result of these tax cuts, while the top quintile saw their after-tax incomes rise by 4.4%, and the top 0.1% of taxpayers saw their after-tax incomes rise by 7.5%. Clearly, by this measure, the tax changes were highly regressive, resulting in a widening in the after-tax distribution of incomes.¹⁴ ◀



"My bill isn't terribly controversial. It would provide modest tax breaks for people who don't really need them."

¹³ Krugman (2003).

¹⁴ Elmendorf et al., 2008.

18.4

Defining the Income Tax Base

As was clear from Table 18-1, income taxes are not determined by simply taking all income accrued during the year and applying a tax rate schedule. In the U.S. tax system, as in most other income tax systems, there are a variety of tax exemptions, deductions, and credits that cause the tax base to be smaller than total income. What are the rationales for these “holes” in the tax base? What are their implications for the equity of the tax system? In this section, we discuss the theoretically appropriate income tax base and carefully review the sources of deviation of income taxes from that theoretical ideal and their implications.

The Haig-Simons Comprehensive Income Definition

The benchmark that public finance economists use for defining income is the **Haig-Simons comprehensive income definition**, which defines taxable resources as an individual’s *ability to pay taxes*. This ability to pay is equal to an individual’s *potential annual consumption*, the individual’s total consumption during the year, plus any increases in his or her stock of wealth.

The U.S. tax system deviates from the Haig-Simons standard in many ways. For example, the amount that employers spend on employer-provided health insurance is not currently included in taxable employee income, but it would be included under a Haig-Simons definition because it contributes to an individual’s ability to consume: because you don’t have to pay for health insurance yourself, you have that much more of your income to spend on other things or to save.

Does the Haig-Simons definition make sense as a goal of tax-base design? Recall that there are two aspects to measuring the equity of a tax system. Vertical equity is achieved when high-income taxpayers pay a larger share of their income in taxes and horizontal equity is achieved when identical taxpayers pay the same amount in taxation regardless of their choices.

Using the Haig-Simons income definition to determine the base on which taxes are paid improves vertical equity because those who have more resources pay more tax, even though they get those resources through a nontaxed channel (such as with employer-provided health insurance). Thus, if you and I have the same cash wages, but I have more valuable health insurance, I should pay more tax.

The Haig-Simons approach also improves horizontal equity by ensuring that people who are the same in terms of their underlying resources pay the same amount of tax regardless of the form in which they choose to receive or spend their resources. Under the current U.S. system, if I choose to take my compensation in wages and you choose instead to take part of your compensation in the form of employer-provided health insurance, you pay less tax than I do. Moving to a Haig-Simons approach, which treats all forms of compensation as income, would improve horizontal equity.

Haig-Simons comprehensive income definition Defines taxable resources as the change in an individual’s power to consume during the year.

Thus, adhering to a Haig-Simons definition could greatly improve the equity of a tax system along both vertical and horizontal equity dimensions. However, implementing a Haig-Simons definition in practice is challenging. In the remainder of this section, we discuss two of the major difficulties with implementing a Haig-Simons definition in the U.S. tax system: (a) the difficulty of how to define a person's power to consume/ability to pay, and (b) how to deal with expenditures that are associated with earning a living and not personal consumption.

Deviations Due to Ability-to-Pay Considerations

The first difficulty with implementing Haig-Simons is the question of how to define an individual's ability to pay taxes. Suppose that two individuals have the same income in any year, but that one suffers a large fire in his home and has to spend 20% of his income to repair the damage. In that year, this person will have lower consumption and increases in wealth, or a lower ability to pay taxes, and this should be reflected by adjusting his tax base. The desire to take into account expenditures that are not associated with desired consumption is the rationale for one of the major deductions from taxable income allowed by the tax code, the deduction for *property and casualty losses*.

Another major deduction that may be justified on ability-to-pay considerations is the deduction for *medical expenditures*. Itemizers can deduct from their taxable income any medical expenditures that exceed 7.5% of their AGI. The motivation for this deduction is that large medical expenditures are not a choice but are beyond the taxpayer's control, like the fire.

As we discussed in Chapter 15, however, this assumption may not be valid in the context of medical spending. When individuals have some control over their level of medical spending, a part of that spending may be consumption, and thus should be included in Haig-Simons income. By providing the medical expenditure deduction, the government may be subsidizing that optional part of medical consumption. The ideal tax system would provide a deduction only for nondiscretionary medical expenditures. The key question is whether 7.5% of income is "high enough" so it covers only large expenditures over which individuals have little control.

Another deduction that is often justified on ability-to-pay grounds is the deduction for *state and local tax payments*. If Jim and Rob have the same income, but Jim lives in a state or town with high taxes and Rob lives in a state or town with low taxes, then some argue that Jim has a lower ability to pay federal income taxes, so state and local taxes should be subtracted from his Haig-Simons income. The problem with this argument, however, is that Jim's higher taxes are also buying him a higher level of state and local public goods. Indeed, if Jim lived in a perfect Tiebout equilibrium, then his local taxes would simply be the user fee that he happily paid for his local public goods. Since at least some of the state and local taxes collected from individuals are providing them with valuable benefits, full deductibility of state and local tax payments is hard to justify on Haig-Simons grounds.

Deviations Due to Costs of Earning Income

Another rationale for deviations from Haig-Simons is that some expenditures are not for consumption but rather reflect the cost of earning a living. Because the comprehensive income definition refers only to the *net* increment to resources over the period, any legitimate costs of doing business should be deducted from a person's income.

Difficulties arise in defining "legitimate" business costs, however. Consider business meals. Suppose that you have a new business and you have two types of promotion expenditures: magazine ads and lunches with prospective clients. Advertising expenditures are fully deductible from your reported business income as a cost of doing business, but lunches are not. Why are lunches different? Because you are deriving some consumption value yourself from those lunches, and this consumption value should be included in your Haig-Simons income. In theory, you should only be able to deduct from your income the total cost of the lunch minus your own consumption value from that lunch.

This point seems to have been gradually realized by U.S. policy makers. Up until 1962, businesses were allowed to deduct expenses related to business entertainment, which included meals. After President John F. Kennedy's 1961 call for a crackdown on this business tax advantage, the Revenue Act of 1962 required that deduction claimants supply proof to demonstrate the "business purpose" of each entertainment claim. In the case of business meals and drinks, however, Congress said that no business discussion need occur before, during, or after the meal. The only requirement was that the meal be under circumstances "of a type generally considered to be conducive to a business discussion." Thus meals remained 100% deductible.

In the 1976 presidential election, Jimmy Carter campaigned vigorously against the "\$50 three-martini lunch," but, though he won the election, he was never able to reduce the 100% deduction to the 50% he desired. The first reduction occurred under President Reagan, who reduced the deduction rate to 80% in 1987 (under the 1986 Tax Reform Act). In 1994, under President Clinton, business meals became only 50% deductible.

► APPLICATION

What Are Appropriate Business Deductions?

In the movie *Ghostbusters*, lovable loser Louis is an accountant throwing a big party one evening. He brags to his guests that the smoked salmon cost \$24.95 a pound, but only \$14.12 after tax. How? Because of an accounting trick, he explains: "I'm giving this whole thing as a promotional expense. That's why I invited clients instead of friends."

As Louis's explanation points out, the U.S. tax code distinguishes between expenditures for business and expenditures for pleasure: the former are wholly or partially deductible from one's taxable income, while the latter are not. Yet Louis's party shows how vague this distinction is. The difficulties in defining

an appropriate or inappropriate business deduction are well illustrated by some classic examples from U.S. tax law¹⁵:

- ▶ A rabbi claimed as a business expense the \$4,031 he spent on 700 guests who attended his son's bar mitzvah. The rabbi claimed that his position obliged him to invite all 725 members from his congregation to the celebration. The tax court disagreed, finding that the rabbi "was not required to invite the entire membership of the congregation to David's bar mitzvah service and reception as a condition of his employment."
- ▶ An exotic dancer claimed breast implant surgery that increased her bust to 56FF as a business expense. Although the Internal Revenue Service (IRS) initially rejected the claim, the U.S. Tax Court overturned their decision. The court ruled that because the dancer received more tips as a result of the surgery and the implants were far too large to derive pleasure from in her daily life, it was an appropriate business claim. The dancer was permitted a \$2,088 deduction.
- ▶ A man claimed \$30,000 worth of business expenses for the costs of goods that he was selling in 1981. The goods? Amphetamines, cocaine, and marijuana. The IRS disallowed the deductions because the man hadn't documented his business thoroughly, but a tax court overturned the decision based on his candid testimony about his business practices. Allowed to claim the deductions, he was then sentenced by a criminal court to four years in prison for possessing cocaine with intent to distribute it.
- ▶ The entertainer Dinah Shore claimed several dresses as business expenses, prompting an investigation by the IRS. She argued that the gowns had been worn only onstage during her performances. In what is now called the "Dinah Shore ruling," the IRS decreed that a dress may be deducted as a business expense only if it is too tight to sit down in!
- ▶ Traditionally, U.S. companies were at a disadvantage in international business efforts because other countries (but not the United States) allowed their companies to write off as a business expense the cost of bribing foreign officials! The United States, in 1996, convinced 26 OECD nations to revise their tax codes so that such bribes were no longer considered a deductible expense. ◀

¹⁵ Reid (1981a,b), Swardson (1986).

18.5

Externality/Public Goods Rationales for Deviating from Haig-Simons

One classic rationale for deviations from a comprehensive income definition is the possibility that reducing taxes on certain activities will yield external benefits to society. In this section, we discuss two major deviations from the Haig-Simons definition that are typically justified by the fact that the private market is likely to underprovide some good or activity: charitable giving and housing expenditures.

Charitable Giving

An excellent example of the application of the external benefits rationale is that donations to charitable organizations can be deducted from taxable income. Because of the free rider problem discussed in Chapter 7 (when costs are private but benefits are public, individuals will underprovide public goods), the private market is likely to underprovide charitable support for many public goods.

Suppose, for example, that the government is concerned that the private sector is not providing sufficient funds to build shelters for the homeless, which is a classic case of a public good. One way to address this problem would be to subsidize charitable giving to the homeless in order to increase private sector support, and one means of subsidizing charitable giving is to allow individuals to deduct from their taxable income the amount they give to charity. By doing so, the government makes charitable giving cheap relative to other types of consumption, which must be financed by after-tax dollars. The tax system in the United States allows those who itemize their deductions to subtract contributions to charitable organizations from taxable income.

Suppose that Ellie is deciding whether to buy a \$1 cup of coffee or to donate \$1 to a homeless shelter. If she spends the \$1 on coffee, she will have to pay income tax on that dollar at a tax rate τ . So to get \$1 worth of coffee, Ellie will have to earn $\$1/(1 - \tau)$ first. For example, if her tax rate is 50%, then she will have to earn \$2 to buy a \$1 cup of coffee. If Ellie spends the dollar on the donation, however, she doesn't pay any tax on the dollar. So she can use \$1 of her earnings to give \$1 to the shelter. Thus, the *relative price* of charitable giving, relative to other consumption, is $\$1/[\$1/(1 - \tau)]$, or $\$(1 - \tau)$. At a tax rate of 50%, the relative price of charitable giving is only 50¢ because Ellie has to earn \$1 to get a 50¢ cup of coffee, but she only has to earn 50¢ to give 50¢ to charity. This tax treatment yields a benefit (it makes giving to charity much more attractive) at the cost of deviating from the Haig-Simons standard, since the part of taxable income given to charity is not taxed, so taxes are applied to a less-than-comprehensive measure of ability to pay.

There is another approach the government could take to support the provision of the public good, however; it could provide the good itself. Rather than indirectly inducing private individuals to raise their charitable contributions by giving them a tax break, the government could simply spend its own

money to improve homeless shelters. So why does the government choose to deviate from the Haig-Simons standard rather than increase government spending? There are at least two possible reasons.

Spending Crowd-Out Versus Tax Subsidy Crowd-In

First, as we discussed in Chapter 7, government provision may crowd out private contributions to the public good. If the government subsidizes homeless shelters, the amount of private charitable giving to those shelters would most likely fall.

When the government tax subsidizes charitable giving, however, it may “crowd in,” or increase, private contributions. This occurs because the government tax subsidy lowers the relative price of charitable giving. A lower relative price for charitable giving increases private giving, through both substitution effects (the “price” of charitable giving has fallen) and income effects (because Ellie is paying fewer taxes, she is richer and can give more to charity).

Marginal Versus Inframarginal Effects of Tax Subsidies At the same time, when the government tax subsidizes charitable giving, it is also giving a tax break to those who *would have already supported the homeless even without this tax break*. This may be viewed as horizontally equitable, since the tax break applies to everyone who is giving to charity. But it adds significantly to the cost of this “hole” in the Haig-Simons base: the government subsidizes not only new giving to charity, but also old giving to charity that would have existed even without this tax break.

For example, suppose that there would be \$1 million of private giving to the homeless without any tax break. The government then allows individuals to deduct charitable giving from their taxable income, at a 50% tax rate, and this raises giving to the homeless to \$1.5 million. The government has therefore encouraged \$500,000 in new giving through this tax break, achieving its goal of expanding private giving. Yet for those who would have given the \$1 million anyway, there is also now a \$500,000 tax break that rewards what they were already doing.

When economists discuss the impact of tax breaks such as that for charitable contributions, they often distinguish the *marginal* and *inframarginal* impacts of these tax breaks. The **marginal impacts** are the changes in behavior the government hopes to encourage by offering this tax incentive. In the case of charitable giving, the government wants to encourage people to give more to charity; in our example, the marginal impact is the \$500,000 increase in giving to the homeless that was encouraged by the tax subsidy to giving. The **inframarginal impacts** are the tax breaks the government gives to those whose behavior is not changed by this policy. In the case of charitable giving, the inframarginal impact is the revenue lost in rewarding (with a tax break) those who were going to give to charity anyway; in our example, the inframarginal impact is \$500,000 in new tax deductions offered to those individuals who were going to give to the homeless even without this tax incentive.

What determines the efficiency of a tax break designed to encourage behavior (such as increasing charitable giving) is the share of the tax break

marginal impacts Changes in behavior the government hopes to encourage through a given tax incentive.

inframarginal impacts Tax breaks the government gives to those whose behavior is not changed by new tax policy.

that goes to those who are changing their behavior versus the share going to those whose behavior is unaffected. The most cost-efficient tax breaks have large marginal impacts that come from those who change their behavior. In that case, a relatively small government expenditure can deliver large marginal impacts. The least cost-efficient tax breaks have small marginal impacts and large revenue costs because of those who were already engaging in the subsidized behavior. In that case, there can be very large government expenditures without much of a marginal impact.

Effects of Tax Subsidies Versus Direct Spending Thus, there is a trade-off to be considered when deciding which of these two approaches to use, direct spending or tax subsidies. If the government spends the money directly, it raises the public resources available to the homeless but, through crowd-out, potentially lowers the private resources available. If the government provides a tax break, it induces new giving but also spends money to subsidize existing giving. This trade-off can be summarized with the following question: If the government has a dollar of revenue that it wants to spend on charitable causes such as homeless shelters, what is the best way to spend that dollar? Mathematically, the government should use a tax break instead of direct spending if:

$$\begin{aligned} & \text{the increase in charity per dollar of tax break} > \\ & 1 - \text{the reduction in charity per dollar of government spending.} \end{aligned}$$

If this inequality holds, the government can increase the total amount of charitable giving by tax-subsidizing private charity rather than directly spending its revenues on charitable goods or services.

Evidence on Crowd-Out Versus Crowd-In There are a large number of studies that have endeavored to estimate the effect of tax subsidies on charitable giving. The general conclusion of these studies is that the elasticity of charitable giving with respect to its subsidy is about -1: for each 1% reduction in the relative price of charitable giving, the amount of giving rises by 1%. This means that the increase in charity (the *marginal* effect of the tax subsidy) equals the tax revenues lost from tax breaks to existing giving (the *inframarginal* effect of the tax subsidy). This corresponds to the previous example. The elasticity is -1 since a fall in the tax price of 50% raises charitable contributions by 50%; the \$500,000 increase in contributions is exactly equal to the \$500,000 in lost revenues from existing givers.

The extent of government crowd-out referenced in the right-hand side of the inequality is unclear and depends on a variety of factors, as discussed in Chapter 7. The available evidence suggests some, but less than complete, crowd-out (between 10% and 70%). Thus, \$1 of government spending raises overall spending by 30¢ to 90¢. This gives us the right side of the equation above ($1 - \text{the reduction in charity per dollar of government spending} = 0.3 \text{ to } 0.9$).

Thus, it appears that, using this criterion, subsidizing private giving is a more efficient way of providing resources to the homeless than direct spending. Subsidies to private giving deliver \$1 in new spending for each \$1 in reduced government

revenues, while direct spending delivers only 30¢–90¢ in new spending for each \$1 in increased government spending (due to private crowd-out).

Consumer Sovereignty Versus Imperfect Information

In addition to being a more efficient means of increasing charitable giving, tax subsidization may also be preferred to direct government spending on consumer sovereignty grounds. When the government provides spending directly, then it imposes its preferences on how the funds are spent. The types of government failures discussed in Chapter 9 suggest that the preferences of legislators may not be the same as those of citizens. By offering tax subsidies to private individuals to donate as they wish, the government directly respects the preferences of its citizens.

The disadvantage of this decentralized provision of charity is that the private sector may not have the appropriate mechanisms in place to ensure efficient distribution of charitable spending. This issue is highlighted by a number of recent stories, such as this 2003 story from the *New York Times*:

The American Relief Organization, a nonprofit, tax-exempt group based in Phoenix, raises money throughout the United States, mainly through telephone solicitation. Its mission is “to provide food, clothes, medical and school supplies for needy and abused children, homeless people and Native Americans on reservations,” but its tax return indicates that it raised \$665,844 in 2001 and donated \$6,424. Its grants, which included items like a “disposable camera and developing of pictures” for \$11, made up about 1 percent of the total it collected. The rest went to expenses, including salaries totaling more than \$450,000.¹⁶

Of course, there are also inefficiencies in direct government provision of public goods. The important question, to which there is no clear answer at this point, is whether the private or public sector is more effective at translating each dollar of charitable spending into beneficial outcomes.

Housing

A second example of a deviation from Haig-Simons that is potentially justified on externality grounds is the *tax subsidy to homeownership*. Suppose that you are looking for a place to live and you find a home that you like with a market rental value of \$1,000 per month. The owner offers to either rent it to you for \$1,000 per month or sell it to you for \$100,000. To finance that \$100,000 purchase, you would have to take a home loan, a **mortgage**, with interest payments of \$1,000 per month (in this example). Your tax rate is 50%, and you earn \$4,000 per month.

A true Haig-Simons approach to defining your income in either case would be to add to your income the net consumption value to you from living in that home, and to subtract the cost to you of doing so. Whether you rent or own, you are consuming \$1,000 worth of housing services each month,

mortgage An agreement to use a certain property, usually a home, as security for a loan.

¹⁶ Stamler (2003).

which we call the *imputed rental value* of your home. And, in either case, you are paying \$1,000 for the right to live in that home.¹⁷ So your Haig-Simons tax burden would be unaffected by your decision to rent or buy.

The current U.S. tax system does not include the rental value of one's home in taxable income. Nevertheless, the income tax does allow individuals to deduct mortgage interest from their taxable income—but does not allow them to deduct rental payments. Under the U.S. tax system, if you decide to buy, your taxable income is reduced from \$4,000 to \$3,000, and you pay only \$1,500 in taxes. If you decide to rent, however, you pay taxes on the full \$4,000, for a tax burden of \$2,000. Because of this mortgage interest deduction there is a financial advantage to buying rather than renting. This subsidy is a major budgetary cost to the government: the federal tax revenues forgone by allowing mortgage interest deductions are \$80 billion per year (that is, if the mortgage interest deduction were ended, federal tax revenues would rise by \$80 billion per year).

Why Subsidize Homeownership? The most common justification provided for this subsidy to homeownership in the United States is that homeownership has *positive externalities* that renting does not. As Glaeser and Shapiro (2002) write: “To its supporters, the home mortgage interest deduction is the cornerstone of American society. Homeownership gives people a stake in society and induces them to care about their neighborhoods and towns. By subsidizing property ownership, the deduction induces people to invest and then to have a stake in our democracy. Ownership makes people vote for long-run investments instead of short-run transfers.”

Glaeser and Shapiro reviewed a large body of empirical evidence that supports the existence of these positive externalities: relative to renting, homeownership is positively correlated with political activism and social connection, and homeowners take better care of their properties, leading to a higher value for surrounding houses (a positive financial externality for their neighbors). Unfortunately, the empirical evidence that they review does not convincingly address the types of problems that we discussed in Chapter 3. The new study reviewed in the following Empirical Evidence box provides a solution to those problems, and it finds little evidence for positive externalities associated with homeownership.

Effect of Tax Subsidies for Housing There is a large body of evidence that suggests that this tax subsidy to homeownership increases expenditures on housing, with an elasticity of spending with respect to tax subsidies of roughly 1.¹⁸ At the same time, there is no evidence that this subsidy causes more people to buy homes. Indeed, despite wide variation in this tax subsidy, the homeownership rate has remained essentially constant

¹⁷ If you buy the home, you may also be paying some money each month toward the principal on your mortgage. This doesn't affect the Haig-Simons tax burden, since you are simply converting one form of asset (cash) into another (housing).

¹⁸ Rosen (1985).

EMPIRICAL EVIDENCE

The Social Benefits of Homeownership

As we've discussed, a critical question for tax policy is whether there are positive social benefits to homeownership that justify its preferred tax treatment. The dozens of studies that claim to find such benefits face the classic bias problem discussed in Chapter 3: Those who own homes are different in many ways from those who do not, so comparing their behavior is not an effective way to identify the impact of owning a home per se. That is, the set of people who buy homes might be the types of persons who would be more inclined to make social connections and take care of their properties even if they were renting. To surmount this problem, researchers had to find some way to assign homeownership to individuals independent of their other characteristics.

Engelhardt et al. did exactly that in an exciting study that focused on the results of the randomized "American Dream Demonstration" in Tulsa, Oklahoma, from 1998 to 2003. Families with at least one worker and family income below 150% of the poverty line (about \$16,000 in 2009 dollars) were eligible to join the demonstration. Upon joining the demonstration, individuals were randomized into a treatment group, which was allowed to open an Individual Development Account (IDA), and a control group, which was not. An IDA is a savings account that provides matching contributions when balances are withdrawn for qualified uses, including down payments on new homes. These matching contributions are 2:1 for new home purchases; that is, for every dollar that individuals save in their IDAs and then withdraw for purchasing a home, the government contributes \$2. The matching rates for other savings purposes (such as education or starting a new business) were only 1:1. Combining deposits and matching

funds, individuals could save up to \$6,750 for a new home purchase, a large amount relative to the median home price of \$89,000 in Tulsa during this period.

In previous research, the authors had found that this financial inducement caused a sizeable rise in homeownership: Those randomized into the treatment group that could set up an IDA were 7% to 11% more likely to purchase a home. In their 2007 research, the authors stated that this same experiment could be used to infer the social benefits of homeownership because the treatment and control groups were otherwise identical, yet after the demonstration, they had very different rates of homeownership. If it is true that homeownership has social benefits, then social benefits should be found for the treatment group (the home purchasers) relative to the control group in this study.

In fact, however, this was not the outcome. The authors surveyed those involved in the experiment on a wide variety of social capital measures. They found that when compared to non-homeowners, homeowners had higher measures of social involvement, echoing the work described above. Yet, when the treatments (who randomly received incentives for homeownership and had higher ownership rates as a result) were compared to the controls (who did not), there was *no evidence* of higher rates of political, civic, and local school involvement in the treatment group. Engelhardt et al. did find that the treatment group was likely to spend more on home maintenance—but only on the *inside* of the house, which generates private benefits, and not on the *outside* of the house, the part that generates social benefits! Thus, along all measured dimensions, there is no evidence of an external benefit for society from homeownership.

since the 1950s, at about 65%; it did rise sharply in the late 1990s and early 2000s, but has reversed again recently in the recession. Given that the tax subsidy doesn't appear to increase homeownership but does increase housing expenditures, it appears that the tax subsidy is inducing individuals to spend more on houses that they would have bought anyway, even without the tax subsidy.

Most arguments for positive externalities, however, focus on the benefits from homeownership, not the benefits from having larger, more expensive houses. Thus, even if there are externalities from ownership, the existing subsidy does little to address this issue. This finding suggests that the case for tax subsidizing of homeownership is weak on positive externality grounds.

From the evidence that the home mortgage interest deduction does not have external benefits, there is no clear rationale for this deviation from the Haig-Simons comprehensive income definition. Yet the home mortgage deduction remains one of the most popular provisions in the tax code, and politicians rarely criticize or try to limit this provision. The likely reason is that discussed in Chapter 9: the beneficiaries of this subsidy are organized and aware of its benefits, while the losers (taxpayers in general, who have to pay \$100 billion more each year in taxes) are neither organized nor aware of the cost. Nevertheless, if policy makers want to subsidize homeownership, there are much more efficient and equitable ways to do so, such as the first-time home buyer's credit discussed in Gale, Gruber, and Orszag (2006), which would directly subsidize first-time home purchase through a tax credit rather than allowing a deduction for mortgage interest paid.

tax deductions Amounts by which taxpayers are allowed to reduce their taxable income through spending on items such as charitable donations or home mortgage interest.

Tax Deductions Versus Tax Credits

Another important question that arises when a tax system deviates from the Haig-Simons comprehensive income definition is whether to apply those deviations in the form of tax deductions or tax credits. **Tax deductions** allow taxpayers to reduce their *taxable income* by a certain amount (e.g., the amount of charitable giving or home mortgage interest deduction); deductions therefore lower the price of the behavior in question to $$(1 - \tau)$$, where τ is the marginal tax rate. *Tax credits* allow taxpayers to reduce the *amount of tax they owe* to the government by a certain amount (e.g., the amount they spend on child care). If an individual's expenditure is less than the amount of the credit, the tax credit lowers the price of the behavior in question to zero.

Efficiency Considerations Which approach is preferable? The answer is unclear on efficiency grounds. For example, consider replacing the current deductibility of charitable giving with a 100% tax credit for charitable giving up to \$1,000. For those who are giving less than \$1,000 now, the credit provides a much stronger incentive to increase giving up to the \$1,000 level, since it is free (tax payments fall by \$1 for each dollar of giving). Once a person gives more than \$1,000, there is no more benefit from the tax credit. The deduction, however, continues to provide some incentive to give even beyond the \$1,000 limit (after the credit's incentive has run out). The trade-off that the government faces is between a system that subsidizes all giving partially (the deduction), versus one that subsidizes some giving fully and some not at all (the credit).

Which policy, deduction or credit, is more efficient is dictated by two considerations. The first is the nature of the demand for the subsidized good. Our discussions in this book have generally assumed constant elasticities of demand for goods, but in reality elasticities of demand may differ depending on the magnitude of the price change. For some goods, individual demand may be very elastic in response to large reductions in the price, but not very elastic in response to small reductions in price; in such cases, credits may cause a larger

increase in charitable giving (for example) than deductions, since credits lead to larger reductions in price.

Second, policy makers must decide how important it is to achieve some minimal level of the behavior. With charitable giving, for example, there is no obvious reason why \$1,000 should be the target, so it may be better to simply subsidize individuals to give as much as they like. With some behaviors, however, the government may want to subsidize some minimal level of provision but not subsidize a particularly generous provision. As we discussed in Chapter 15, health insurance probably fits this case, where the government may want to subsidize individuals so they can have some basic level of coverage but does not want to subsidize expensive health insurance on the margin. Similarly, with the subsidy to housing, we may want to subsidize some basic level of housing consumption but not particularly large houses that don't have obvious external benefits.

Equity Considerations On vertical equity grounds, tax credits are more equitable than deductions. The value of a deduction rises with one's tax rate, and therefore one's income, making deductions *regressive* (deduction amounts are higher, as a share of income, for higher-income taxpayers). Credits, on the other hand, are available equally to all incomes, so that they are *progressive* (credit amounts are lower, as a share of income, for higher-income taxpayers). This difference is further heightened by the nature of the itemized deductions in our tax system. The rate of itemization among high-income groups is very high: 94% of households with income over \$200,000 itemize deductions. Yet only 10% of those with incomes less than \$30,000 do so.¹⁹ Since deductions are typically only available to those who itemize, they will be used more by the higher-income groups that do itemize, a fact that further reduces their equity.

► APPLICATION

The Refundability Debate²⁰

While tax credits are more progressive than tax deductions, the extent of their progressivity depends on whether they are **refundable**, or available to individuals who owe few or no taxes. Refundable credits result in a net payment to such individuals; that is, refundable credits increase the tax refund that such taxpayers receive. Refundability is important because many of the lowest-income families in the United States that can benefit from tax credits do not currently owe taxes. As a result, if credits are not fully refundable, they are not as powerful in terms of vertical equity.

Nevertheless, many conservatives object to the notion that those who owe little or no income taxes get a refund. "It's not a credit, it's someone

refundable Describes tax credits that are available to individuals even if they pay few or no taxes.

¹⁹ Internal Revenue Service (2004), Tables 1.1 and 2.1.

²⁰ This discussion draws heavily on Firestone (2003).

else's money," said Representative Spencer Bachus (R-Alabama). "If we want to turn our income tax code into a welfare system, let's be honest with the American people that's what we are doing." Supporters of refundability respond to this point by noting that while low-income families pay little income tax, they do pay a large portion of their income in the form of other taxes, such as the payroll and sales tax, and that the credit could thus be seen as a refund for those payments. Moreover, most individuals who receive a refund in any year actually pay positive taxes over a ten year period.²¹

An excellent example of this conundrum is the debate over the child credit, a tax credit for low- and middle-income families introduced in 1997, but on a nonrefundable basis for most families. In 2001, this credit was expanded from \$500 to \$600 per child and made partially refundable. If the credit were fully refundable, then families would receive \$600 per child, regardless of their tax payment status. Instead, for families that pay less income tax than the child credit to which they are entitled, the 2001 law allowed them to receive a refund of 10% of earnings over \$10,500 (in 2003), up to a maximum of \$600 per child.

Consider, for example, a married couple with two children and an annual income of \$20,000, who because of the standard deduction and personal exemptions owe no federal income tax. Under the 2001 tax cut, that family receives a \$950 credit [$0.10 \times (20,000 - 10,500)$], or \$475 per child. If the credit were not refundable, the family would receive no credit because they pay no taxes; if it were fully refundable, the family would receive \$1,200, or \$600 per child. This \$950 was a compromise between forces in favor of and opposed to refundability.

This issue became much more difficult during the next round of tax cuts, in 2003, when the child tax credit was increased by \$400 to \$1,000, accelerating a raise already scheduled in the 2001 bill. The president made frequent public mention of the \$400 checks that would be mailed to families eligible for the credit, but criticism began to mount over last-minute changes that had been inserted into the bill before he signed it into law. These changes prevented low-income families from receiving the benefits of this \$400 increase by retaining the 10% cap from the 2001 bill. The married couple just mentioned, for instance, would continue to be limited to the \$475 credit per child and would thus not benefit from the newly increased child tax credit. Because of this, some proposed raising the 10% cap to 15%. This 15% cap would mean the married couple in our example would receive \$712.50 per child [$0.15 \times (20,000 - 10,500)/2$] and would thus see some benefit from the increased credit.

This provision was left out of the final law, however; by one estimate, of the 12 million children that would have been helped by this accelerated refundable tax credit, 8 million would now see no benefit because of the 15%

²¹ Batchelder, Goldberg, and Orszag (2006), the source for this fact, presents an elegant defense of refundability as a tax principle.

provision's removal. This effect was viewed by many as particularly appalling given that adding the 15% provision would have cost \$3.5 billion, about 1% of the bill's \$350 billion total cost. Indeed, in 2004 the Congress passed legislation to raise the cap to 15% to remedy this perceived shortcoming. In October 2005, however, the tax credit once again came under close scrutiny when a study released by the Tax Policy Center found that more than a quarter of American children (19.5 million in total) and half of the nation's black children belonged to families who were too poor to qualify for the full \$1,000 benefit. In response, various changes to the structure of the child tax credit have been proposed, including the possibility of lowering the earnings threshold from \$10,500 to \$10,000 and barring it from rising with inflation, as it does under current law.²²

Bottom Line: Tax Expenditures

The end result of the existing set of deviations from the Haig-Simons comprehensive income definition is a set of **tax expenditures**, defined by the government as "revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of liability." Since 1976, the federal government has included a separate section of the budget that shows the amount of these tax expenditures. For example, the government measures how much revenue is lost by excluding health insurance from taxable compensation, or how much revenue is lost by allowing individuals to deduct charitable contributions from their taxable income.

The major tax expenditures are shown in Table 18-2. In 2013, the government is projected to lose \$1,136 billion through all income tax expenditures (including many smaller expenditures not shown here). The largest single tax expenditure is the exclusion of employer-provided health insurance premiums from taxable income, which cost the federal government \$180.6 billion in forgone income tax revenues in 2013. Other large expenditures include the exclusion of employer contributions to pensions (\$52.3 billion) and 401(k)s (\$72.7 billion) and the deduction of mortgage interest (\$100.9 billion). The total amount of income tax expenditures is a little less than forty percent of total tax revenues projected for 2013, and over one time as large as the projected federal deficit for 2013.²³ Thus, the debate over the tax base is not an academic one; the holes in the Haig-Simons tax base for the United States allow large sums of money to escape the U.S. Treasury every year.²⁴

tax expenditures Government revenue losses attributable to tax law provisions that allow special exclusions, exemptions, or deductions from gross income, or that provide a special credit, preferential tax rate, or deferral of liability.

²² DeParle (2005).

²³ OMB *Fiscal Year 2013 Analytical Perspectives: Budget of the US Government* (2012). Tables 6-2, 15-1, and 17-1.

²⁴ Note that these tax expenditure estimates show the impact of changing one aspect of the tax code at a time. Therefore, the total amount spent on the tax expenditures is not necessarily the same as the amount that would be raised if all of these expenditures were removed at once.

■ **TABLE 18-2****Selected Major Tax Expenditure Estimates for 2012 and 2013**

Fifteen largest income tax expenditures estimated for 2012 and 2013 (only includes corporate and individual income tax, not payroll or other taxes)

Tax Expenditure	Amount (in millions) 2013
1 Exclusion of employer contributions for medical insurance premiums and medical care	\$180,580
2 Deductibility of mortgage interest on owner-occupied homes	100,910
3 Accelerated depreciation of machinery and equipment (normal tax method)	33,180
4 Capital gains (except agriculture, timber, iron ore, and coal)	62,040
5 Exclusion of pension contributions and earnings, 401(k)-type plans	72,740
6 Exclusion of net imputed rental income	51,080
7 Exclusion of pension contributions and earnings, employer plans	52,330
8 Deferral of income from controlled foreign corporations	41,810
9 Deductibility of charitable contributions, other than education and health	39,770
10 Deductibility of nonbusiness state and local taxes other than on owner-occupied homes	46,260
11 Treatment of qualified dividends	21,900
12 Exclusion of interest on public purpose state and local bonds	36,210
13 Exclusion of SSI benefits for retired workers	25,620
14 Child credit	18,390
15 Exclusion of interest on life insurance savings	25,150
Subtotal	\$807,970
Total income tax expenditures, effect on federal government receipts	\$1,135,967

Source: White House Office of Management and Budget Fiscal Year 2013 Analytical Perspectives: Budget of the US Government (2012), Table 17-1.

In 2013, the government will lose \$1,136 billion in revenue because of various exclusions and credits in the tax code. The largest such tax expenditures are shown here; the most important tax exclusions are those that favor employer contributions to health insurance and pension plans.

18.6

The Appropriate Unit of Taxation

Another important aspect of the tax base has been absent from our discussion of the Haig-Simons principle: How should the government choose the appropriate *unit of taxation*? That is, how should the government share the tax burden among individuals who are in the same family? Should taxes be levied on total family income or just on the incomes of individuals?

The Problem of the "Marriage Tax"

Suppose you were hired by the federal government to design a tax system that had three goals:

- ▶ *Progressivity*: Marginal tax rates rise as family incomes rise.
- ▶ *Across-Family Horizontal Equity*: Families with equal incomes would pay equal taxes.

- *Across-Marriage Horizontal Equity*: Tax burdens would be *marriage neutral*, independent of whether two individuals decide to wed.

These all seem like worthwhile goals. There is one problem, however: it is literally impossible to achieve all three goals at once.

This impossibility is easiest to see through a simple example. Consider a tax system with a 10% tax rate on income up to \$20,000, a 20% marginal rate up to \$80,000, and a 30% marginal rate on any income above \$80,000. Now consider two successful couples. The first couple, Barack and Michelle, get the bulk of their income from Michelle, who makes \$140,000 a year, while Barack makes only \$10,000. Bill and Hillary, on the other hand, each contribute equally to their partnership, earning \$75,000 a year. Both couples have the same total income of \$150,000.

We have two choices for how to tax these couples. If the government taxes the couples on an *individual basis*, it would compute the tax burden on each individual, then add burdens to find the family's tax bill. As Table 18-3 shows, such an approach leads to a tax bill of \$33,000 for Barack and Michelle, but only \$26,000 for Bill and Hillary. Thus, this approach violates our second condition: families with equal incomes are not paying equal taxes.

The alternative is to tax the couples on a *family basis*. Under this system, the government would first add the incomes of the individuals to get the family income, and then compute a family tax based on that family income. As Table 18-3 shows, such an approach leads to tax bills of \$35,000 on both families, so that the second condition is met. Such a system violates our third condition, however, since both couples now pay more tax as families (\$35,000) than they would as individuals living together (\$33,000 or \$26,000). That is, there is now a **marriage tax**, a rise in the total tax burdens of two individuals simply from marrying.

These problems crop up because of the first condition, progressivity. If we tax on an individual basis, rising marginal rates mean that individuals with

marriage tax A rise in the joint tax burden on two individuals from becoming married.

■ **TABLE 18-3**

The Impact of Marriage on Tax Liabilities

	Individual Income	Individual Tax	Family Tax with Individual Filing	Total Family Income	Family Tax with Total Family Income
Michelle	\$140,000	\$32,000	\$33,000	\$150,000	\$35,000
Barack	10,000	1,000			
Bill	75,000	13,000	26,000	150,000	35,000
Hillary	75,000	13,000			

A progressive tax system that is based on the individual incomes of each person in a married couple leads Barack and Michelle to pay a much higher tax (\$33,000) than Bill and Hillary (\$26,000), despite having the same family income (\$150,000). On the other hand, a progressive tax system based on total family income imposes a "marriage tax" on both couples, as they both pay more in tax as married couples (\$35,000) than they would as singles.

higher income pay a higher share of their income in taxes. Thus, families with a more equal distribution of income will pay lower taxes, violating our second condition. Rising marginal rates also mean that when individuals combine their income into families, a larger share of the total family income is subject to the higher marginal tax rate. Thus, families will pay more taxes when married than when single, violating our third condition.

Referring to our example, when we tax on an individual basis, Michelle pays 23% of her income in taxes, Barack pays 10%, and Bill and Hillary each pay 17%. Adding up the individual taxes owed by each family, Barack and Michelle pay a larger share of their total income (22%) than do Bill and Hillary (17%), violating the second condition. If we then move to family taxation, Barack's \$10,000 of earnings, which used to be taxed at a low rate of 10%, are now taxed at a much higher rate of 30%. Under the individual tax, both Barack and Michelle benefited from having the first \$10,000 of income taxed at only 10%, but with a family tax, Michelle "uses up" that \$10,000 bracket with her first \$10,000 of earnings. Thus, Barack's earnings are added on top of Michelle's income so it is in the higher marginal tax rate bracket. A similar phenomenon occurs with Bill and Hillary: while they used to both benefit from low taxation on the first \$10,000 of earnings, now only one of them does. This causes the marriage tax, violating the third condition. The only way to satisfy both the second and third conditions would be to have a proportional tax, which would violate the first condition (progressivity).

Marriage Taxes in Practice

Note that the third condition was couched in terms of having marriage *neutrality*, not in terms of having *no marriage taxes*. In fact, we could have a system with no marriage taxes by providing very large deductions for married couples relative to single tax filers. Suppose that we augmented our tax system with a deduction for married couples of \$20,000 per year, with no deduction for singles. In this case, each couple would now have a taxable income of \$130,000 and thus pay \$29,000 in taxes. Under this system, Barack and Michelle would have a marriage *subsidy* (a reduction in their tax bill from marrying), while Bill and Hillary would have a marriage tax. We could even increase the deduction to \$40,000, and then both families would have a marriage subsidy.

The point is not that the government can't get rid of marriage taxes; it can. The point is that there is no set of deductions we could establish that would make the system of family-based taxation marriage *neutral*, rather than providing subsidies to some marriages and taxing others. Given the differences between these couples, and the other goals of tax policy, there is no way to design a system that yields zero marriage tax/subsidy on both couples. This is the essence of the problem facing family-based tax systems.

Marriage Taxes in the United States There has been much debate over the marriage tax in the United States. In 2001, Republican House Majority

Leader Dick Armey said the IRS was sending the message that “if you fall in love and get married, we will punish you.”²⁵ In fact, despite this rhetoric, the tax system in the United States looks very much like the previous example with a \$20,000 deduction: some families face marriage subsidies and some face marriage taxes. Indeed, according to one report on taxpaying couples in 1999, 48% of couples receive a marriage penalty, 41% receive a marriage subsidy, and 11% receive neither a penalty nor a subsidy.²⁶ The mean penalty paid by such couples is \$1,140, for a total penalty of \$28.3 billion. The mean subsidy received is \$1,270, for a total subsidy of \$26.7 billion.

So when individuals say that there are marriage taxes in the United States, what they really mean is that *some* families pay marriage taxes. The only way to get rid of marriage taxes completely would be to give a joint filer deduction that is so large that no one would have a marriage tax. Under such a program, most families would receive large marriage subsidies.

Despite the rhetoric around this topic, however, there has been little attention paid to the more fundamental question: Should we care about marriage taxes? One reason to care is the horizontal equity point previously made. The other reason to care is that society might actually want to encourage marriage, not discourage it through marriage taxes. Once again, if the government were to use a tax incentive to encourage marriage, it would have to consider the marginal and inframarginal effects of this incentive: Do taxes actually matter for marriage decisions, or does such a policy simply give a large tax break to those who would have married anyway? The answer appears to largely be the latter; most research on this topic suggests that taxes exert little effect on the decision to get married. Thus, encouraging marriage is not a strong argument for the large revenue costs of ending marriage taxes imposed on some families (and increasing marriage subsidies for others).²⁷

Finally, the reason that we might care is not marriage at all, but the high marginal tax rate on secondary earners. In our example, moving from an individual tax to a family tax has raised the marginal tax rate on Barack's earnings from 10% to 30%. Such a high tax rate could reduce the labor supply of secondary earners, causing Barack not to work at all, for example. One proposal to address this problem (which is a lot less expensive than raising the deduction for joint filers) is to reintroduce a secondary earner deduction that was in place in the early 1980s, which would allow families to deduct some amount of earnings by a secondary earner. Under such a policy, for example, couples could deduct from taxation the first \$10,000 of earnings by a secondary earner, which would remove the higher tax rates on Barack's labor under family taxation than under individual taxation. This deduction would greatly reduce both the marriage tax and the distortion to secondary earner labor supply. At the

²⁵ O'Rourke (2001).

²⁶ Bull et al. (1999).

²⁷ Frimmel, Halla, and Winter-Ebmer (2010) find that a pre-announced end to a marriage subsidy in Austria did lead to a large rise in marriages in the months before the subsidy ended; but they also found that these marriages were 17% more likely to end in divorce, suggesting that any general social benefits of marriage may not extend to the “marginal” marriages induced by financial incentives.

same time, however, it would reduce vertical equity, since families with two earners tend to have more money than families with one earner.

Marriage Taxes Around the World The United States is almost alone in having a tax system based on family income. Of the industrialized nations in the OECD, 19 tax husbands and wives individually, and five (France, Germany, Luxembourg, Portugal, and Switzerland) offer marriage subsidies to virtually all couples through family taxation with *income splitting*.²⁸ This means that the family income is totaled and then divided equally, either between husband and wife (in Germany, as in the United States between 1948 and 1969), or among all family members including children (in the other four nations). As we saw in Table 18-3, under family taxation with rising marginal tax rates, families with more equally divided income (Bill and Hillary) pay lower taxes than those with more unequal incomes (Barack and Michelle). Thus, allowing families to divide their income equally, along with other provisions generous to families, leads to marriage bonuses in most cases in these nations. Only two other nations have a “pure” family taxation system similar to that used in the United States: Ireland and Norway.

18.7

Conclusion

The debate over taxation in the United States neither began nor ended with George H. W. Bush’s 1988 pledge for no new taxes. Nevertheless, the public focus on this pledge, and the implications of Bush’s breaking it, highlight the key role that taxes play in debates over public policy in the United States. In this chapter, we set the stage for our study of taxation by discussing the different types of taxation used by the United States and the rest of the world, how to measure tax “fairness,” and the key issues policy makers face in designing the base of income taxation. In the remaining chapters of the book, we discuss the economic considerations that drive the determination of both the tax base and the tax rate.

► HIGHLIGHTS

- There are many different types of taxes, which can be sorted into four broad categories: taxes on individual income, taxes on corporate income, taxes on wealth, and taxes on consumption. The federal government depends heavily on individual income taxes, while state and local governments get most of their revenue from taxes on wealth and consumption. Other national governments receive a much greater share of their revenue from consumption taxes than the United States does.
- The major source of revenue raising in the United States is the individual income tax, which starts with total income accrued during the year,

²⁸ Congressional Budget Office (1997), Appendix A.

subtracts a variety of exemptions and deductions, and then applies a schedule of tax rates to determine tax liability.

- Measuring the “fairness” or equity of the income tax is difficult and involves considerations such as how to measure tax rates and how to define equity.
- The “gold standard” for defining the income tax base is the Haig-Simons definition, which defines the ability to pay taxes as consumption plus change in net worth. The tax base in the United States deviates in significant ways from this gold standard.
- Some deviations are based on ability to pay or the cost of earning income, both of which should be deductible under Haig-Simons in theory but raise some difficult issues in practice.
- Some deviations are based on externality arguments, which can justify tax subsidies if these subsidies have large marginal impacts (such as encouraging more

charitable giving) without very large inframarginal impacts (the revenue lost on subsidizing those already giving to charity). The existing evidence suggests that tax breaks for charitable giving may be justified on these grounds, but that tax breaks for homeownership are not.

- Deviations from Haig-Simons can come in the form of tax credits or deductions from taxable income. The relative efficiency implications of these alternative approaches are unclear, but credits are clearly more vertically equitable, so long as they are refundable to taxpayers who pay little or no taxes.
- The ideal tax system would not distort the decision to become married, but that is not possible if the tax system wants to also meet the goals of progressivity and equal treatment of families with equal income. The U.S. tax code currently provides roughly as many marriage subsidies as it does marriage taxes.

► QUESTIONS AND PROBLEMS

1. The nation of Fishkasar has a tax rate of 10% on the first 20,000 walops (the national currency) of taxable income, then 25% on the next 30,000 walops, then 50% on all taxable income above 50,000 walops. Fishkasar provides a 4,000-walop exemption per family member.
 - a. Jamil’s family has three members and earns 50,000 walops per year. Calculate the family’s marginal and average tax rates.
 - b. Boba’s family has five members and earns 85,000 walops per year. Calculate the family’s marginal and average tax rates.
 - c. Suppose that Fishkasar changed its tax code to a flat tax of 30% with an 8,000-walop per family member exemption. Would this change in the tax system make the system more progressive, more regressive, or neither?
2. What is the rationale behind having an Alternative Minimum Tax?
3. Suppose that the U.S. personal income tax system became a flat tax system, in which all taxpayers paid a certain percentage of their incomes in tax, and in which there are no exemptions or deductions. In which way(s) could this flat tax be more *regressive* than the present U.S. system? In which ways could it be more *progressive* than the present system?
4. Why should casualty losses or large medical expenditures be fully tax-deductible only in certain circumstances?
5. Many employers sponsor “cafeteria” plans. These plans allow employees to have some of their earnings put into an account that can be used for medical expenditures incurred in that tax year. The income put in this account is not considered part of the individual’s tax base. In what ways is it desirable to exclude this income from the tax base? In what ways is it undesirable?
6. Professor Slither attended the Antarctic Economic Association meetings. She is able to deduct fully from her taxes the hotel expenses that she incurred, but can deduct only half of the meals expenses that she incurred. Why does the U.S. tax code make this distinction? Does this tax policy make sense, from a Haig-Simons perspective?
7. Ed and Wendy are a married couple with no children. Each earns \$85,000 per year, and their combined household adjusted gross income is

\$170,000. John and Kristen also have \$170,000 in combined household adjusted gross income and no children. However, Kristen earns all the income; John does not work.

- a. Use the 2009 tax rates for married couples filing jointly described in this chapter to compute how much income tax each couple owes. Assume that both take the standard deduction.
 - b. Does either couple pay a “marriage tax”? Does either couple receive a “marriage benefit”? (Note: To answer this question, you will need to look up the 2009 tax rates for single individuals. These can be found at the IRS Web site at <http://www.irs.gov/formspubs>.)
8. Chapter 7 argued that private provision of public goods is inefficiently low, and that subsidization can help attain the optimal level of public goods. Why might offering tax breaks for public goods provision be an inefficient method of bringing about this goal?
 9. Your roommate and you had identical high school grade point averages and SAT scores. In

many respects, one would expect that you would be equally successful. But because you chose economics as a major and your roommate chose geology, you will be paying a larger amount of tax in the future than your roommate will because your income will be higher. Is this attribute of the tax code vertically equitable? Is it horizontally equitable?

10. The government of Utopia plans to offer a transportation tax credit in which families receive a share of their expenditures on transportation to and from work or school as a reduction in their tax bill. Utopia is considering two forms of this tax credit, one that is fully refundable and one in which the tax credit is limited to the amount of taxes the family pays. Which form of the tax credit is more progressive? Explain.
11. Suppose that the government adopts a Haig-Simons comprehensive income definition. Will this make employers more likely or less likely to offer employer-provided pension plans or health insurance coverage? Why?

► ADVANCED QUESTIONS

12. Your employer allows you to purchase a parking permit with “pretax dollars”—that is, you don’t have to pay taxes on the money that you used to purchase this permit. Does allowing some people to purchase certain goods or services using pretax dollars increase or decrease equity in the U.S. tax system? Explain.
13. Oregon has an income tax but no state sales tax, while Washington has no state income tax but does have a state sales tax. Oregon residents can deduct the state taxes they pay (the income tax payments) from their federal income taxes, while Washington residents cannot deduct the state taxes they pay (the sales tax payments). What are the equity implications of this difference?
14. Suppose that a researcher compared charitable contribution levels across counties and found that, all else equal, counties with higher homeownership levels have higher levels of charitable contributions. Give an explanation of this finding that draws on the U.S. personal income tax code.

Can you think of a reason this estimated relationship might not, in fact, be an effect of the tax code?

15. You are interested in estimating the effects of tax breaks on the level of charitable contributions. How could observing changes over time in tax rates and associated charitable contribution levels help you to distinguish between marginal and inframarginal effects of the tax break?
16. The largest tax break for most Americans is the mortgage interest tax deduction, which allows homeowners to deduct from their taxable income the amount of money they pay in interest to finance their homes. This tax break is intended to encourage homeownership. Compare this tax deduction to a uniform *tax credit* for homeownership on equity and efficiency grounds.

The  icon indicates a question that requires students to apply the empirical economics principles discussed in Chapter 3 and the Empirical Evidence boxes.