

Tax Policy

Societies face two basic questions with regard to tax policy. The first question concerns the amount of revenue that should be raised. That is, what is the appropriate *level* of taxation? The level of taxation ultimately reflects views about the appropriate size of government. If a society believes that the government should play a large role in the economy, then a high level of tax revenue is necessary. While taxes are necessary to finance the public sector, they have a considerable cost to the economy because they distort incentives and result in lost value of output to society. Without taxes, individuals would decide where to allocate resources depending on where those resources are most productive. Taxes give individuals an incentive to reduce their tax burden by avoiding activities that are taxed; as a result, decisions about working, saving, investing, and spending are influenced by tax considerations, resulting in the loss of output that would have created value for producers, consumers, and workers. The distortions created by taxes have important implications for economic growth and the well-being of Americans.

The second question about tax policy concerns how the tax burden should be distributed across different members of society and different types of activities. That is, what is the appropriate *structure* of taxation? Different tax structures impose different costs on the economy in terms of the distortions they create. A more efficient tax structure raises a given amount of revenue with less distortion. Different tax structures also give rise to different distributions of after-tax income, and some distributions of income may be viewed as more fair than others. A related issue is the timing of taxes. The use of government debt allows the tax burden to be spread across time, raising questions about how to tax different activities and individuals at different points in time.

The key points of this chapter are:

- The ratio of Federal taxation in the United States to gross domestic product (GDP) has fluctuated around an average value of 18.3 percent over the past 40 years; despite the President's 2001 and 2003 tax relief, this ratio was 18.8 percent in 2007, above the 40-year-average. Under current law, revenues are predicted to grow faster than the economy in coming years, raising the level of taxation well above its historical average.
- Tax reductions in 2001 and 2003 have considerably lowered the tax burden on labor and capital income and reduced distortions to economic decisions. Making these tax cuts permanent can greatly improve long-term economic outcomes.

- In addition to contributing to growth, the tax cuts of 2003 also improved the efficiency of the tax structure primarily by reducing the double taxation of corporate income.
- The business tax structure in the United States still creates substantial distortions. To attract investment from abroad and compete more effectively in foreign markets, the United States must consider how best to address distortions created by the structure of business taxes, as other countries have done.

The Size of Government: A Historical View

Economists and policymakers have long debated the appropriate role of the government in a market economy. The government provides some services—such as national defense and law enforcement—that are clearly essential for economic growth, but other functions of government, such as large redistributions of income, are more controversial. A large public sector imposes a cost on the economy primarily because the taxes that are required to finance government programs distort labor supply, saving, and investment decisions, resulting in lost value of output to society. Thus, our Nation faces a tradeoff: a larger government can provide more public services and transfer payments (payments that are not in exchange for goods or services) to lower-income individuals, but these benefits often come at the cost of lower economic output and well being.

The cost from tax distortions can be considerable. One recent study suggests that raising an additional dollar of revenue from the individual income tax costs the economy approximately 30 to 50 cents. That is, if taxes increase by \$1, taxpayers bear a cost of \$1.30 to \$1.50 – the \$1 in revenue and 30 to 50 cents from accompanying distortions. This additional cost of 30-50 cents is known as *deadweight loss*. Any government services that are funded with this revenue would have to have a benefit to society of at least \$1.30 to justify the increase in taxes.

One measure of the role of government is the size of government spending relative to the economy. Over the past 40 years, Federal *expenditures* have averaged 20.7 percent of GDP. Government activities can be financed by current taxes or borrowing (which will necessitate higher future taxes or lower future spending). Chart 5-1 shows that over the past 40 years, the ratio of Federal *taxes* to GDP has fluctuated around an average value of 18.3 percent. The ratio rose well above that level in the late 1960s, the early 1980s, and the late 1990s. Each of these periods was then followed by several years in which the ratio fell below its long-term average. Recent swings have been particularly pronounced with the ratio reaching a post-World War II high of 20.9 percent

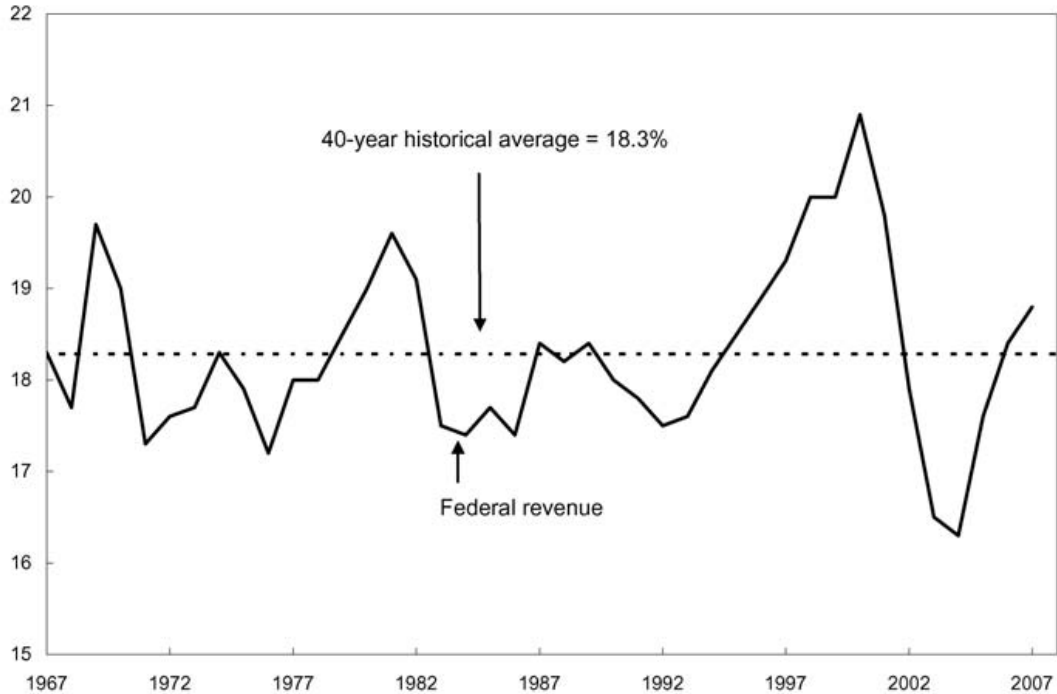
in 2000. Tax revenues increased strongly relative to GDP from 1992 to 2000 as a result of rising real incomes, increases in capital gains realizations, and the tax increases of the early 1990s. Tax revenues as a share of GDP tend to rise when real incomes rise and fall when real incomes fall. Beginning in 2001, tax revenues began to decline as the economy slipped into recession and real incomes declined. The ratio of tax revenues to GDP fell to 16.3 percent (a 40-year low) in 2004. Since that time, tax revenues have grown faster than the economy, resulting in a tax-to-GDP ratio of 18.8 percent in 2007, once again above its 40-year average.

While the Federal tax-to-GDP ratio has not exhibited any consistent trend in the past 40 years, it is projected to grow over the next 10 years. Under current law, the President's tax relief of 2001 and 2003 will expire at the end of 2010. At this time, there will be a significant increase in the tax-to-GDP ratio. Moreover, even in the absence of any legislative changes, there is a tendency for the tax-to-GDP ratio to rise. (While the ratio may not rise every year, there is an upward trend over time.) In the past, significant tax cuts (in 1964, 1981, and 2001 to 2003) have maintained the tax-to-GDP ratio at a relatively stable level. The solid line in Chart 5-2 shows the projected tax-to-GDP ratio if the President's 2001 and 2003 tax relief is not extended.

Chart 5-1 Federal Receipts

Federal receipts have fluctuated around their historical average with no particular trend.

Percent of GDP



Source: Office of Management and Budget.

Several factors will contribute to rising revenue in the near term, including the expiration of the 2001 and 2003 tax cuts, the Alternative Minimum Tax (AMT), real tax bracket creep, and withdrawals from tax-deferred accounts.

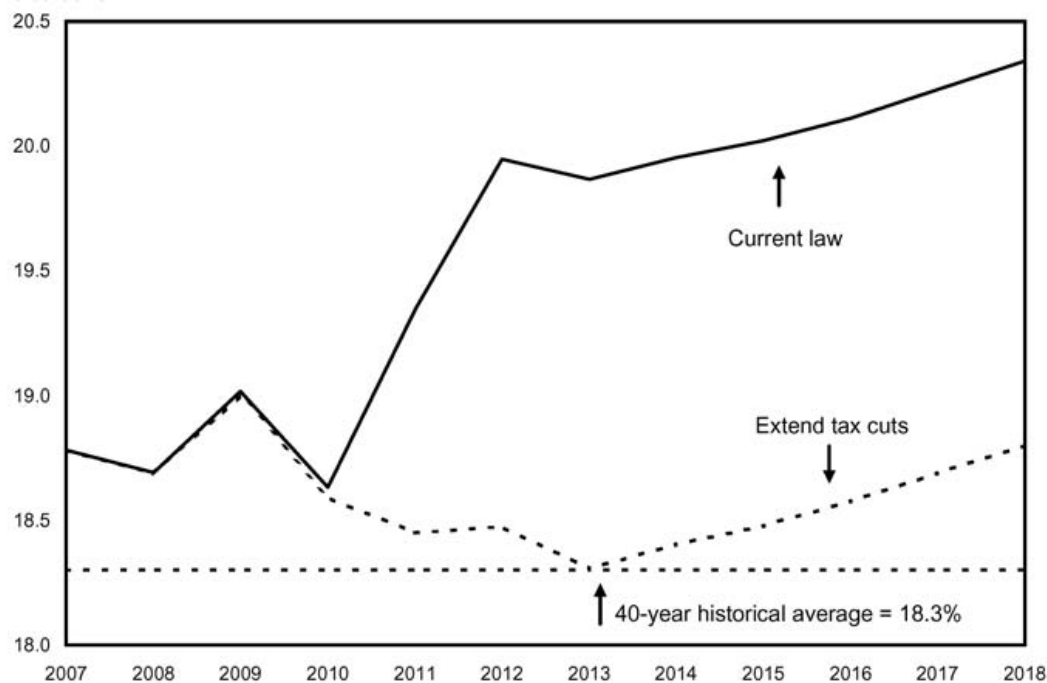
Expiration of the 2001 and 2003 Tax Cuts

The tax cuts of 2001 and 2003 (discussed in detail below) reduced individual tax rates on ordinary income, dividends, and capital gains; increased the child tax credit; reduced the “marriage penalty” (the additional tax that some couples pay as a result of getting married); and began a phase-out of the estate tax. These provisions are set to expire at the end of 2010. If they do, the tax-to-GDP ratio would climb from the 18.8 percent it reached in 2007 to approximately 20 percent. Making the tax cuts permanent would lower this ratio to the 18 to 19 percent range (the dashed line in Chart 5-2), although the ratio would still continue above the 40-year average of 18.3 percent by the end of the 10-year period depicted in the figure.

Chart 5-2 Federal Receipts Projections

The tax-to-GDP ratio is projected to rise because tax revenue will grow faster than the economy.

Percent of GDP



Source: Congressional Budget Office, *Budget and Economic Outlook: Fiscal Years 2008 to 2018*.

Alternative Minimum Tax

Prior to 1969, a handful of high-income taxpayers used deductions and exemptions to substantially reduce or eliminate their income tax liability. This outcome was perceived as unfair, and to address this problem, the Alternative Minimum Tax (AMT) was established. In its current form, the AMT requires taxpayers to compute their tax liability a second way using a broader definition of income that reduces or eliminates many of the deductions and exemptions allowed in the calculation of regular income tax. The taxpayer must pay the greater of the two tax liabilities. In 1970, only 20,000 taxpayers were subject to the AMT. However, in recent years, the AMT increasingly affects middle-income families, primarily because its parameters are not indexed for inflation. Those who are most vulnerable include families with many children (giving rise to a large number of exemptions) and families in high-tax states (giving rise to a large deduction for state taxes). The solution thus far has been to pass a series of temporary “patches” to limit the scope of the AMT. The most recent patch keeps the number of AMT filers stable through 2007 at about 4 million—the same as in 2006—instead of the increase to 25 million that would have occurred had the patch not been enacted. The Administration proposes a similar patch for 2008 in the Budget that will continue to keep the aggregate number of AMT taxpayers roughly constant. If the AMT is not patched in future years, the number of taxpayers affected will continue to climb, resulting in a rising tax-to-GDP ratio. Indexing the AMT parameters for inflation *and* extending the tax cuts would lower the tax-to-GDP ratio below the dotted line in Chart 5-2, unless the revenue loss from AMT indexation were made up via additional taxes.

Real Bracket Creep

Federal taxes as a whole are progressive, meaning that a family’s average tax rate (total taxes paid as a percentage of income) rises as its income rises. Recently released estimates suggest that in 2005, taxpayers in the bottom 20 percent of the income distribution faced an average Federal tax rate of 4.3 percent, while taxpayers in the top 20 percent faced an average Federal tax rate of 25.2 percent. (This analysis takes into account individual income taxes, payroll taxes, corporate income taxes, and excise taxes.) Over time, people’s nominal incomes (not adjusted for changes in purchasing power) tend to grow. Part of this growth is due only to inflation, but part of it represents an increase in purchasing power (real income growth) as productivity improves and we become more prosperous as a nation. Regular income tax brackets (but not AMT brackets) are indexed for inflation, which prevents people from moving up to higher brackets because of inflation (a phenomenon called *nominal bracket creep*). However, as people’s *real* incomes grow, they become subject to higher tax rates. This is called *real bracket creep*. The implication is

that, even without explicit tax increases, the median income family (that is, the family whose income places them in the middle of the income distribution) will face a rising average tax rate over the years because median incomes are likely to grow faster than inflation. This will tend to increase the ratio of Federal revenues to GDP.

Withdrawals from Tax-Deferred Accounts

A large amount of individual saving occurs through tax-deferred savings vehicles, including defined benefit pension plans (which provide a specified benefit at retirement) and tax-deferred savings accounts, such as 401(k) plans and traditional Individual Retirement Accounts (IRAs). Individual and employer contributions to these tax-deferred savings vehicles are deductible at the time the contribution is made, and accumulate tax free until retirement. After retirement, payments from these savings vehicles—including benefits paid by defined benefit plans and withdrawals from tax-deferred accounts—are taxable. In comparison, withdrawals from other types of accounts—for example, ordinary savings accounts and Roth IRAs—do not require payment of income tax on the withdrawal, and deposits in these accounts are not tax deductible. At the end of 2002, there was about \$9.0 trillion in tax-deferred retirement plans on which tax would be paid at withdrawal. With the aging of the population that is projected to occur, there will be an increase in such payments, resulting in increased government revenue. These withdrawals are different from the previous three factors for two reasons. First, they cause a temporary surge in revenue driven by a demographic shift. Second, their impact will occur over a somewhat longer period than depicted in Chart 5-2. According to a recent study, these withdrawals are likely to increase income tax receipts by about 0.25 percent of GDP over the next 25 years, and twice that amount by the end of 75 years.

The factors discussed above—the expiration of the 2001 and 2003 tax cuts, the expansion of the AMT, real bracket creep, and withdrawals from tax-deferred savings accounts—are built into the tax code. In addition to these internal factors, there are also external pressures for taxes to increase in the future. Total Federal expenditures in 2007 were 20 percent of GDP. However, entitlement programs like Medicare, Medicaid, and Social Security are facing financial pressures from rising medical costs and an aging population. Based on current law, projected benefits under these programs could push entitlement spending alone to 20 percent of GDP in 2080, compared to 10.6 percent in 2007. In the absence of needed reforms to reduce projected spending, this would necessitate unprecedented levels of taxation, deficit spending, or dramatic reductions in the fraction of economic activity devoted to other government activities.

The Impact of Recent Tax Reductions

Taxes transfer resources from individuals to the government. The transfer itself does not represent a net cost to society: any money given up by taxpayers is gained by the government and can be used to fund government programs or transfer payments. However, taxes impose a considerable burden on the economy for several reasons. First, taxes interfere with the efficient allocation of resources by changing the rewards from working, saving, and investing. In the absence of taxes, individuals and firms would allocate resources to activities where they would be most productive. When taxed, individuals alter their behavior. For example, high tax rates on labor income induce individuals to reduce their labor supply, because the incentive for working is lower. High tax rates on capital income (the return earned on capital investments) discourage investment in new capital. A reduction in investment lowers the ratio of capital to labor and in turn reduces worker productivity and wages. As a result of these distortions to work, saving, and investment behavior, output is lost—output that would have created value for producers, consumers, and workers. This loss of output is called the *deadweight loss of taxation*. As discussed above, raising an additional dollar via the individual income tax imposes a direct cost of \$1 on taxpayers (which merely represents a transfer to the government) and a deadweight loss of 30 to 50 cents from the lost value of output to society. Second, high tax rates may also encourage some taxpayers to underreport their incomes, giving rise to equity concerns and requiring higher taxes on those who do comply in order to maintain revenue. (While most taxpayers pay the taxes they owe, there is still a gap between the amount of taxes that should be paid and the amount that is actually paid.) Finally, taxes have large compliance costs that reflect the resources taxpayers use to determine and pay their tax liability (including the value of time spent keeping records and doing calculations). In 2004, compliance costs were estimated to be \$85 billion for individual income taxes and \$40 billion for businesses other than sole proprietorships.

The tax cuts of 2001 and 2003 significantly lowered the tax burden on labor and capital income and reduced distortions. The dividend and capital gains rate cuts enacted in 2003 had an additional benefit to the economy by improving the efficiency of the tax structure. By reducing the existing preference for corporate debt financing over equity financing, these tax cuts reduced the distortion of corporate finance decisions and improved corporate governance.

Labor Supply

Taxes effectively decrease the wage that workers receive for providing labor and therefore distort labor supply decisions by changing the incentive for working. These distortions create efficiency losses. The tax cuts of 2001 significantly decreased the tax rates that workers pay on their earned income, thereby reducing the efficiency losses created by the distortion of their labor supply decisions.

Individuals decide to work based upon whether take-home earnings exceed the value of the leisure they forgo (for this discussion, leisure includes any activities outside the labor market). Take-home pay declines as the *average tax rate*, that is, the fraction of income paid in taxes, rises. Hence, higher average tax rates mean that fewer individuals choose to work. Moreover, higher *marginal tax rates*—the fraction of *additional* income paid in taxes—reduce the incentive for working more hours or in a higher-skilled profession. Increases in both average and marginal tax rates distort labor supply and skill investment decisions and thus generate efficiency losses.

Individuals vary in their responsiveness to average and marginal tax rates, so the efficiency losses from taxes differ by group. Studies show that single mothers and married women are particularly sensitive to high average tax rates. Their cost of working is higher because of child care and other home production demands. The 2001 tax cuts lowered average tax rates at all points of the income distribution, thereby making work decisions more efficient (that is, closer to what they would be in the absence of tax distortions). A recent study suggests that the 2001 tax cuts led single mothers to allocate more of their time to market work. In contrast, several studies suggest that men and single women without children are not affected much by average tax rates when deciding whether to work. The responsiveness of married women to high average tax rates has been falling over time as they become more attached to the labor market (as men have more traditionally been).

High *marginal* income tax rates may discourage workers from working more hours, choosing higher-paid occupations, and investing more in education and other skills that would increase their earnings. To see why higher marginal tax rates have these effects, imagine a worker with only a bachelor's degree deciding between a career as a 40-hour-per-week accountant in a small firm paying around \$40,000 per year versus a career as a 70-hour-per-week self-employed consultant with an MBA earning around \$80,000 per year. Suppose that the worker would pay \$4,000 per year in taxes in the accounting job and \$18,000 per year in the consulting job. After taxes, the additional income for the more demanding career would be \$26,000 per year. The marginal tax rate would be 35 percent (see Table 5-1).

Now suppose a change in tax policy reduces taxes for the accounting job to \$1,000 and increases taxes for the consulting job to \$21,000. Instead of a

35 percent marginal tax rate on the additional \$40,000 in pre-tax income, there would be a 50 percent marginal tax rate. This change in tax policy reduces the additional return to the more demanding career from \$26,000 to just \$20,000 per year, a 23 percent drop in the return to the more lucrative career (see Table 5-1).

Factoring in 30 more hours per week working, the greater stress in the consulting job, and the costs of getting the MBA, this tax policy change could induce this worker to choose the less demanding career, thereby creating an efficiency loss. So even if this change in tax policy is revenue neutral (that is, the policy does not change overall average tax rates), the higher marginal taxes would reduce overall economic efficiency because they alter the way wages allocate workers to jobs and decrease incentives to choose higher-paying careers with longer hours, greater intensity demands, and more costly skill investments. The tax cuts in 2001 and 2003 generally reduced marginal tax rates and reduced these distortions, thereby encouraging workers to become more productive.

Saving and Investment

When individuals receive income, they can either spend it on current consumption or save it to fund future consumption. Individual savings gets channeled into capital investments. For example, an individual may save by buying financial assets, such as stocks or bonds. Firms use the funds raised from selling stocks and bonds to finance capital investments, such as buildings or equipment. These investments generate income, which individual savers receive in the form of interest payment on bonds, or dividends and capital gains on stocks. Investment plays an important role in improving the well-being of Americans, as increases in the amount of capital per worker result in productivity increases and economic growth.

TABLE 5-1.—*Comparing the Marginal Tax Rate for a Career Changer Under Two Illustrative Tax Policies*

	Initial Tax Policy		New Tax Policy	
	Accountant	MBA Consultant	Accountant	MBA Consultant
Earnings.....	\$40,000	\$80,000	\$40,000	\$80,000
Taxes	\$4,000	\$18,000	\$1,000	\$21,000
After Tax Earnings.....	\$36,000	\$62,000	\$39,000	\$59,000
Change in Earnings (MBA minus Accountant)	\$40,000		\$40,000	
Change in Taxes	\$14,000		\$20,000	
Marginal Tax Rate.....	35%		50%	
Change in After Tax Earnings.....	\$26,000		\$20,000	

An important tax policy issue concerns the treatment of income generated by capital investments. Taxes on capital income discourage saving by individuals and investment by businesses. This lowers the capital-to-labor ratio and harms long-run economic growth. Currently, when firms earn income from their capital investments, they may be subject to a firm-level tax on this amount (after subtracting depreciation and interest costs). In addition, individual savers, who provide the funds used to finance these investments, pay income tax on the return on their savings (which includes dividends, capital gains, interest, and rent). As a result, capital income is often taxed at both the firm and the individual level, resulting in double taxation.

Individuals save so they can consume resources in the future, rather than today. Firms invest so that they will be more productive and profitable in the future. Taxes on capital income lower the return to saving and investment, thereby favoring current consumption over future consumption. For example, suppose a corporation is considering the purchase of a machine that will be financed by selling additional shares of stock, and that the rate of return on the investment—net of *depreciation*, or the reduction in the value of the machine—is 10 percent. Suppose further that individual savers are willing to purchase the shares if they receive a return of at least 6 percent. That is, they are willing to sacrifice \$1 of current consumption (by buying the shares) in exchange for \$1.06 of consumption 1 year from now. The investment is socially beneficial because it generates a 10 percent rate of return, and the savers providing the funds would have settled for 6 percent. At the firm level, the income generated by the machine is subject to the corporate income tax. If the corporate tax rate is 35 percent, and the firm is allowed to deduct actual depreciation, then the after-tax return generated by the machine is 6.5 percent. Suppose the firm then pays its shareholders the entire 6.5 percent return in the form of dividends. If the dividend income tax rate is 15 percent, savers are left with a 5.5 percent after-tax return. The rest of the initial 10 percent return (4.5 percent) goes to the government. Because the 5.5 percent after-tax return is less than the 6 percent that the individual savers require to be willing to forgo current consumption, the investment is not made even though the total return is still 10 percent (4.5 percent to the government plus 5.5 percent to the savers). Consequently, taxes on capital income distort saving and investment decisions. Longer time horizons tend to magnify this distortion because lower after-tax returns get compounded over time.

Firm-level taxes on capital income vary depending on the organizational form of the firm. Some business income, including that of sole proprietorships, Subchapter S corporations, and partnerships, is taxed under the individual income tax system. These firms are known as *flow-through* businesses because they face no firm-level tax; instead, the firms' income flows through to their owners, who pay personal income tax on it. On the other hand, Subchapter

C corporations fall under the corporate tax system. C corporations (hereafter simply referred to as corporations) pay a firm-level tax on the firm's income after deducting costs including wages, interest payments, raw materials, and depreciation.

Current U.S. tax policy is a hybrid of an income tax and a consumption tax. Some capital income is exempt from tax, as it would be under a consumption tax. For example, at the individual level, the return to saving through individual retirement accounts (IRAs) and employer-sponsored retirement plans accumulates free of tax. According to recent estimates, about 35 percent of the return to household financial assets effectively receives consumption tax treatment. The remainder is subject to income tax treatment. At the firm level, firms can often take advantage of accelerated depreciation provisions—which allow them to deduct depreciation from their income before it actually occurs—to lower their tax liability. Accelerated depreciation lowers the tax burden on investment.

The tax reductions of 2001 and 2003 have significantly reduced the tax burden on capital income. By lowering individual income taxes, the 2001 tax cut lowered the top marginal tax rate on flow-through businesses from 39.6 percent to 35 percent. Individuals also pay these reduced tax rates on their interest income. The 2001 tax cuts also included a phased-in elimination of the estate tax (or tax imposed on assets left to one's heirs). Since the estate tax is a tax on wealth, if it were permanently eliminated, it could be expected to increase saving and investment. The tax cuts of 2003 included cuts in dividend and capital gains taxes. As discussed below, if these tax cuts are made permanent, they will have a substantial impact on investment and long-run economic growth.

Corporate Financial Policy and Governance

Tax reforms can result in considerable economic benefits even when they do not lower the overall tax burden. This outcome is accomplished by improving the efficiency of the tax structure, so that the same amount of revenue can be raised with less distortion. The reverse can be true as well: a revenue neutral change, or even a tax cut, can reduce well-being if it is poorly structured.

The tax cuts of 2003 improved the efficiency of the business tax structure by reducing the high tax burden on corporate equity that results from double taxation. For funding investment in new capital, firms generally have a choice between debt (issuing bonds) and equity (retaining earnings or issuing new shares of stock). Corporations pay tax on their revenue minus their costs. Costs include wages, interest, raw materials, and depreciation. Corporate profit is then either paid out to shareholders as dividends, or reinvested in the company (eventually resulting in capital gains for shareholders). Shareholders are taxed at the individual level on any dividends they receive,

and on any capital gains they realize when they sell the stock. Double taxation of corporate income imposes a particularly high burden on equity-financed corporate investment. In comparison, because interest payments are deductible to the firm (and taxable to bondholders), corporate debt is only subject to one layer of taxation. Therefore, corporations have a strong incentive to use debt financing, rather than equity financing, for new investment. The overuse of debt financing increases the chances of bankruptcy: when a firm has high debt payments, there is a greater probability that the firm's income will be insufficient to cover these payments. Bankruptcies subject investors to additional costs and risks.

The tax cuts of 2003 also reduced the tax bias against paying dividends compared to retaining earnings. Prior to 2003, long-term capital gains were taxed at a maximum rate of 20 percent, while dividends were potentially subject to the top individual income tax rate (38.6% in 2002). In addition, capital gains income has another tax advantage over dividend income: taxes are deferred until the asset is sold. Thus, capital gains can accumulate tax free, while dividends are taxed when they are paid out. Through compounding, the difference in tax can be substantial, especially over a long period of time.

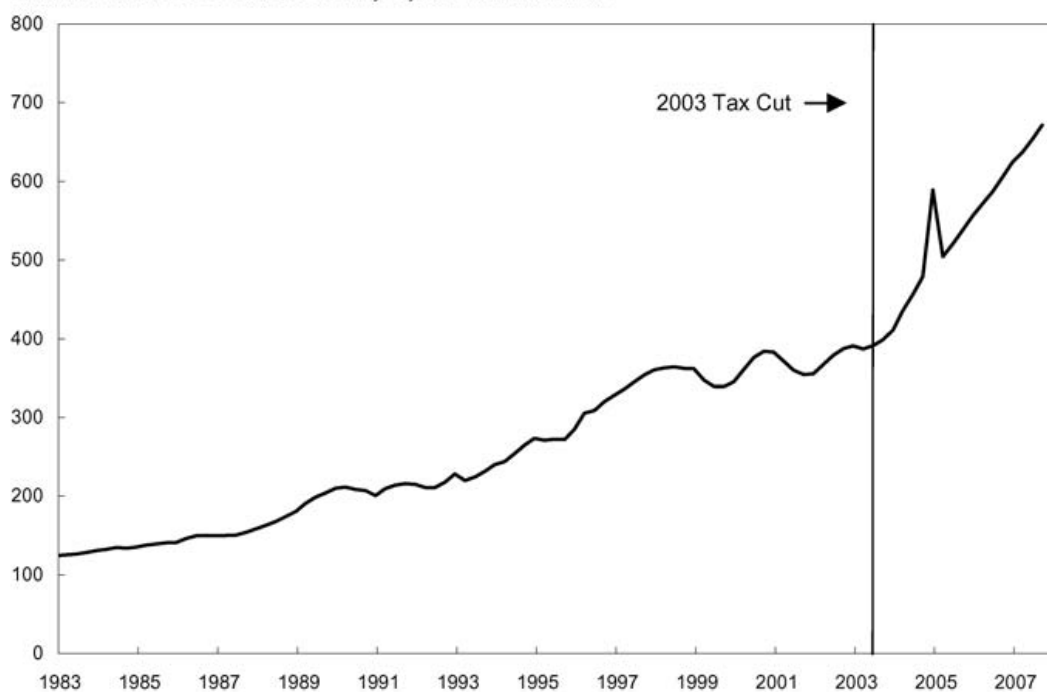
The tax cuts of 2003 lowered the top tax rate on both qualified dividends and long-term capital gains (capital gains on assets held for more than a year) to 15 percent. While capital gains still have a tax advantage over dividends as a result of deferral, the differential treatment has been reduced considerably. This policy change appears to have had a marked impact on firm behavior. As shown in Chart 5-3, the growth in dividend income received by households increased substantially after 2003. In the 20 years prior to 2003, dividend income grew at an average rate of 5.9 percent per year; following the 2003 tax cut, growth increased to an average of 13.7 percent per year. This result has been confirmed in a number of formal studies. (The 2004 spike in the graph represents a special one-time dividend paid by Microsoft Corporation.)

This increase in dividend payments reflects the reduction in the tax bias against dividends. Paying dividends can have a number of benefits for corporate governance, and there is an efficiency loss when the tax code discourages firms from using dividends when they are appropriate. First, dividends can be used to return funds to shareholders, who can decide how to reinvest them, rather than leaving funds in the hands of corporate managers. Because a portion of managers' pay is independent of the firm's performance, managers' interests generally differ from the interests of shareholders, so managers may have an incentive to use retained earnings in a way that does not maximize the value of the firm. Second, paying dividends can help firms signal their profitability to investors. Thus, corporate governance may suffer if the tax code penalizes dividends relative to capital gains.

Chart 5-3 Real Personal Dividend Income

Dividend payments have increased since the 2003 tax cut.

Billions of chained 2000 dollars, seasonally adjusted at an annual rate



Source: Department of Commerce (Bureau of Economic Analysis).

Significance of Tax Cuts to Individuals

The tax cuts since 2001 lowered taxes overall and across all income groups. Average Federal tax rates (which include income, payroll, corporate, and estate taxes) are estimated at 21.7 percent in 2007, but would have been 23.8 percent in the absence of the tax cuts (see Table 5-2). For taxpayers in the bottom 20 percent of the income distribution, Federal tax rates are 3.4 percent, which is lower than the 3.7 percent they would be in the absence of the tax cuts. In addition, over 5 million taxpayers in 2007 are projected to have had their Federal income tax liability completely eliminated by the tax cuts.

TABLE 5-2.—*Estimated Distributional Effects of 2001-2006 Tax Cuts in 2007*

Average Federal Tax Rates						
	Lowest Quintile	Second Quintile	Third Quintile	Fourth Quintile	Top Quintile	All
With Tax Cuts.....	3.4	7.3	14.4	18.8	25.9	21.7
Without Tax Cuts.....	3.7	9.0	16.4	20.7	28.2	23.8
Share of Federal Taxes						
	Lowest Quintile	Second Quintile	Third Quintile	Fourth Quintile	Top Quintile	All
With Tax Cuts.....	0.4	2.1	7.4	17.0	73.0	100.0
Without Tax Cuts.....	0.4	2.3	7.7	17.0	72.4	100.0

Source: Urban Institute/Brookings Institution Tax Policy Center.

The tax cuts increased the share of Federal taxes being paid by high-income taxpayers; the top 20 percent of taxpayers are estimated to have paid 73.0 percent of overall Federal taxes in 2007, but would have paid a somewhat lower share, 72.4 percent, without the tax cuts (see Table 5-2). Conversely, the tax cuts decreased the share of Federal taxes being paid by moderate and middle-income taxpayers; the second and third quintiles (from 20 to 60 percent in the income distribution) are estimated to have paid 9.5 percent (2.1 percent plus 7.4 percent) of overall Federal taxes in 2007, but would have paid 10.0 percent (2.3 percent plus 7.7 percent) without the tax cuts.

In addition to distorting work and skill investment decisions, the tax system can also distort marriage decisions. As discussed in Box 5-1, a progressive tax system cannot simultaneously treat all families with the same income equally and be marriage-neutral. This has resulted in a tax system with marriage bonuses (mostly for couples with dissimilar incomes) and marriage penalties (mostly for couples with similar incomes), although on net it encourages marriage (even before the 2001 tax cuts). It should be noted that both marriage bonuses and penalties distort marriage decisions and potentially generate efficiency losses. However, if marriage generates some greater social good that should be subsidized, marriage bonuses may improve efficiency on net.

The 2001 tax cuts, in general, increased marriage subsidies and reduced marriage penalties in the tax system by: (1) expanding the Earned Income Tax Credit (EITC) for married couples only, (2) expanding the 15 percent bracket only for married couples, (3) expanding the standard deduction only for married couples, and (4) doubling the child tax credit and making it partially refundable. Recent research estimates that the tax cuts, on average, increased the subsidization of marriage by the tax system by about \$1,000 per year, although the effect for a particular family depends on family income, number of children, and the share of family income earned by each spouse. It is estimated that these tax changes should eventually increase marriage rates by about 1 to 4 percentage points.

Economic Benefits of Lower Taxes

The previous sections focused on specific ways in which taxes can distort individual behavior. The analysis suggests that recent tax cuts have reduced distortions to labor supply, saving, investment, and corporate governance. A recent study projects that the introduction of the 2003 tax cuts resulted in an immediate increase in GDP in 2003. But because the cuts are temporary, they will have less impact on decisions that generate payoffs far in the future than they would if they were permanent. For example, the decision to undertake education depends on the effect of education on wages over potentially long careers. Thus, they can only have a limited impact on long-term economic

Box 5-1: Marriage Penalty Basics

It is widely acknowledged that a tax system cannot simultaneously accomplish the following three goals:

1. *Progressivity*: average income tax rates rise with family income
2. *Family neutrality*: families with equal incomes pay equal taxes
3. *Marriage neutrality*: taxes paid by a family do not depend on marriage

The inherent conflicts in these three goals can be illustrated by considering a few examples. Consider a couple without children with one spouse who earns \$60,000 and another who does not work. Under 2007 tax law, that couple pays \$5,592 in Federal income taxes, but would pay a total of \$9,236 if they were not married and both were filing individually. The resulting marriage bonus of \$3,644 is generated because the nonworking spouse serves as a tax deduction for the higher earning spouse. The current tax system is not marriage-neutral.

Alternatively, suppose that each spouse earns \$30,000, resulting in the same family income of \$60,000. Current tax law is family-neutral, so this couple pays the same \$5,592 as above. If the tax system is changed so that all individuals file separately, each spouse pays \$2,796 for a total of \$5,592. That is the same as they would pay on a family income of \$60,000 but is \$3,644 less than the combined tax liability of the family above. A progressive tax system that has all taxpayers file individually cannot be family-neutral.

Finally, if the tax system is changed so that all taxpayers pay 10 percent on all of their income, taxes are \$6,000 for each family regardless of whether the couple is married or how the earnings are split between the two spouses. The tax system is marriage- and family-neutral, but it would no longer be progressive, because the average tax rate would be 10 percent for all taxpayers.

performance. Making them permanent can substantially improve economic efficiency. The Treasury Department estimates that if the tax cuts of 2001 and 2003 were made permanent and paid for by reductions in future government spending, economic output would increase by 0.7 percent in the long run.

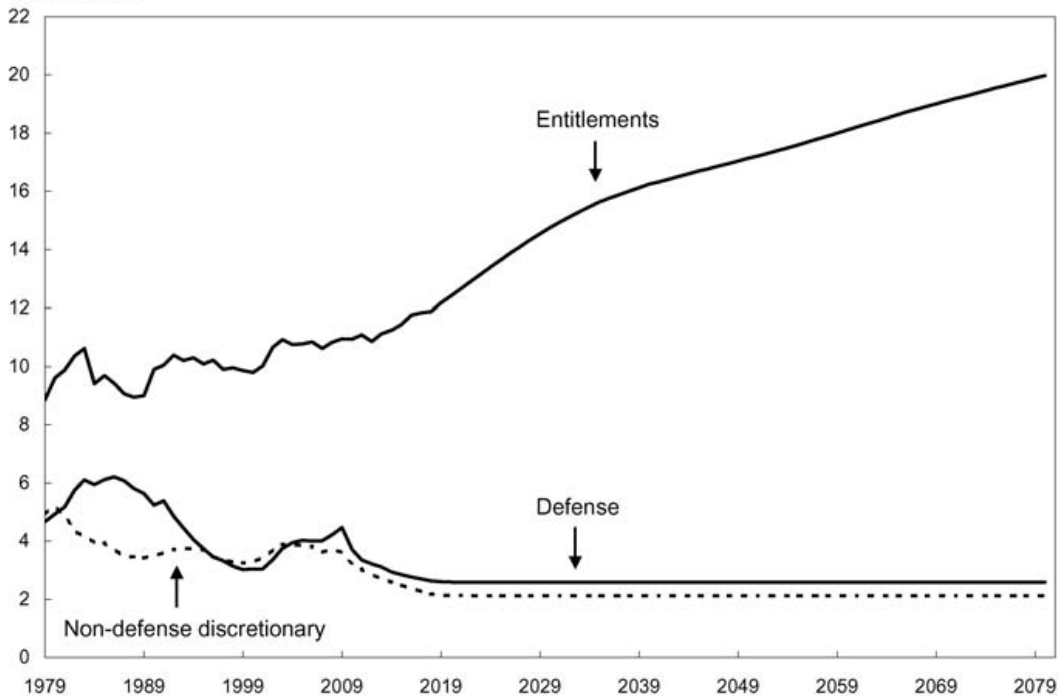
However, the benefits to the economy might be offset if the extension of the tax cuts results in additional government borrowing or future tax increases, rather than spending cuts. The Treasury Department also estimates that if the tax cuts were made permanent but offset by other revenue raising tax measures in the future, then economic output would decline by 0.9 percent

in the long run. The concern about long-term financing for the tax cuts is particularly important because of the likelihood of rising spending pressures in the future. The Office of Management and Budget projects, for example, that under current law total noninterest Federal spending could reach 25 percent of GDP by 2080, compared with 18.2 percent today. The breakdown of projected spending in Chart 5-4 shows that the main driving force behind this increase is the growth in spending on entitlement programs, primarily Medicare, Medicaid, and Social Security, which could reach approximately 20 percent of GDP by 2080. The benefits of making the tax cuts permanent might also be offset if the tax cuts are financed by a reduction in *efficient* government spending (spending whose benefits exceed both the direct cost to the taxpayer and the deadweight loss).

Chart 5-4 Federal Outlays Projections

Entitlement spending is projected to approach 20 percent of GDP by 2080

Percent of GDP



Source: Office of Management and Budget.

The Structure of Business Taxes

Despite recent reforms, the business tax structure still creates a number of distortions in its treatment of capital income. To the extent that the U.S. tax system resembles an income tax, it encourages current consumption rather than saving. Beyond this, however, the tax system imposes differential tax burdens on different types of investments, thereby leading to a misallocation of resources. Ideally, firms should undertake investments that generate the highest rate of return, independent of taxes. If all investment returns are taxed at the same rate, then the projects with the highest returns will still be selected (although investment overall will fall because investment returns overall are taxed). However, if different kinds of investments face different tax rates, then a lower-return project may be selected over a higher-return project because the *after-tax* return could be higher for the lower-return project.

As noted above, the tax burden on investment is affected by both firm-level taxes (such as the corporate income tax) and individual-level taxes on the return to saving (such as dividend and capital gains taxes). The complexity of the tax code makes it difficult to measure the true tax burden on investment returns. For example, corporate earnings are taxed at a maximum Federal rate of 35 percent. However, that tax burden is reduced by accelerated depreciation, special tax preferences for certain activities, and the interest deduction. Also, while some kinds of savings are subject to personal income tax, other kinds (for example, retirement savings accounts) accumulate tax free. A standard approach to quantifying the distortions is to compute the *effective marginal tax rate*, which measures the percentage difference between the before-tax and after-tax returns on a new investment, taking into account the complexities of the tax code, and both firm- and individual-level taxes. The effective marginal tax rate is most relevant when a firm decides whether to undertake a new investment.

Table 5-3 shows the effective marginal tax rates on different kinds of investments. It is clear from the table that tax rates vary considerably across investments, depending on the type of capital involved and the method of financing. Equity-financed corporate investment faces the highest effective tax rate of 40 percent. This is still the case even though the tax cuts of 2003 substantially reduced the double taxation of corporate equity. The tax rate on debt-financed corporate investment is actually negative, a result of the interest deduction combined with accelerated depreciation allowances. Noncorporate investments face a low tax rate because noncorporate firms are treated as flow-through entities and are not subject to double taxation. Owner-occupied housing faces a very low tax rate. The return to an owner-occupied home is the rental value of the home to the occupant, which is not subject to income tax.

These results suggest several distortions. First, housing is favored relative to other capital. While there may be reasons to favor owner-occupied housing, its benefits must be weighed against the value of other kinds of capital. Second, there is a distortion across different types of business investment. For example, equipment is lightly taxed relative to structures and inventories. Third, taxes distort a firm's choice of organizational form. The corporate form of organization is unattractive from a tax standpoint, leading firms to become flow-through entities even in situations in which the corporate form would allow the most effective use of resources. Finally, there is a distortion to corporations' financing decisions, with debt receiving a tax advantage over equity.

There are two broad directions for reform. First, efficiency could be improved by reducing the disparate tax treatment of different kinds of investment. There are a number of reforms that could help to achieve this goal. For example, the Treasury Department estimates that if special preferences were eliminated, the corporate tax rate could be reduced from 35 percent to 31 percent and still raise the same amount of revenue. Further integration of the personal and corporate tax systems would alleviate the double taxation of corporate income. For example, some countries in the Organization for Economic Cooperation and Development (OECD), including the United Kingdom, Canada, and Mexico address the double taxation of capital income by giving investors a tax credit for taxes paid at the corporate level. Second, reducing the tax burden on investment can improve long-run economic performance by increasing the ratio of capital to labor, thereby boosting labor productivity and earnings. There are two ways to reduce the tax burden on investment at the firm level. One is to reduce the corporate tax rate, and the other is to allow full or partial expensing of new investment. *Full expensing* allows the firm to fully deduct the cost of new investments at the time the

TABLE 5-3.—*Effective Marginal Tax Rates on Investment*

Type of Investment	Effective Marginal Tax Rate
Economy (overall).....	17%
Business Sector.....	26
Corporate Sector.....	29
<i>Method of Financing</i>	
Debt.....	-2
Equity.....	40
<i>Type of Asset</i>	
Equipment.....	25
Structures.....	34
Land.....	33
Inventories.....	33
Noncorporate sector.....	20
Owner-occupied housing.....	4

Source: Department of the Treasury (Office of Tax Analysis).

investments are made. A more modest approach would be to allow *partial expensing*, under which a firm could immediately deduct a fraction of the investment's cost. As shown in Box 5-2, full expensing reduces the firm-level tax on new investments to zero.

Box 5-2: Expensing versus Corporate Rate Reductions

Consider a firm that purchases a machine for \$100. A year later, the machine produces output worth \$50. The firm then sells the machine for \$60. Thus, the return from investing \$100 in the machine is 10 percent (the firm earns $\$50 + \$60 = \$110$). The firm can finance the initial \$100 investment by borrowing (debt), by reinvesting earnings, or by issuing new shares.

Assume that the firm either reinvests earnings or issues new shares (equity financing). Under an income tax, the firm's net income is \$10, the value of the machine's output (\$50) plus the proceeds from selling the machine (\$60) minus the cost of the machine (\$100). If the corporate income tax rate is 35 percent, the firm pays \$3.50 in tax on its \$10 income, leaving it with \$6.50 after taxes (a 6.5 percent after-tax return). Thus, an income tax creates a distortion to the investment decision by lowering the after-tax return on the investment.

In contrast, full expensing allows the firm to deduct the entire \$100 cost of the machine up front. Thus, the firm's taxes go down by \$35 when it makes the investment, and the effective cost of the machine is \$65, rather than \$100. The firm earns \$50 from the machine's output plus \$60 from the sale of the machine, and the total income of \$110 is taxed at a rate of 35 percent (because the firm already deducted the cost of the machine upon purchase). Thus, the tax paid is \$38.50, and the firm's after-tax income is \$71.50. The rate of return is $(\$71.50 - \$65) / \$65 = 10$ percent, which is the same as it would have been without a tax. Effectively, full expensing makes the government a partner in the investment: the government pays for 35 percent of the investment's cost (via the deduction), and receives 35 percent of its return.

To be most effective in reducing distortions, full expensing would need to be combined with elimination of the interest deduction. Suppose interest payments remain deductible under the full-expensing approach described above and the firm borrows money to fund half of the machine's cost (\$50) at a 10 percent interest rate. The effective cost of the machine is \$65 due to expensing. Therefore, the firm spends \$15 of its own funds ($\$65 - \$50 = \15) for the machine. Next year, the machine generates \$110 of income, and the firm pays \$55 to the lender (principal

continued on next page

Box 5-2 — continued

plus interest). The firm deducts the interest payment of \$5 from its income, resulting in taxable income of \$105. At a 35 percent tax rate, the firm's tax liability is \$36.75. The firm is left with a profit of \$18.25, a return of 22 percent on its initial \$15 investment. Thus, the tax on the investment's return is negative (the investment receives a subsidy from the government). If the interest deduction were not allowed, the firm's tax bill would be \$38.50 (just as above), and the profit after repaying the lender \$55 and paying taxes would be \$16.50, a 10 percent rate of return. With full expensing and no interest deductibility, there is no distortion to either the investment decision or the financing decision.

Another alternative is to reduce the corporate rate. Using the same example as above, consider the impact of reducing the corporate tax rate from 35 percent to 10 percent. The firm makes its \$100 investment, and next year pays tax on its net income of \$10. This leaves the firm with an after-tax return of 9 percent. Since the after-tax return is still below the before-tax return, there is a distortion to the investment decision. However, there is less of a distortion than with the 35 percent tax rate.

In recent years, other countries have taken the approach of cutting the corporate tax rate. A tax rate cut affects all capital, both new and old. In comparison, expensing is targeted to new investment only. Thus, expensing generates a greater increase in investment for any given revenue reduction. Another difference between tax rate cuts and expensing arises because firms sometimes earn returns on their investments that are above the normal, ordinary return. To illustrate this, consider the example in Box 5-2, in which a \$100 investment yields a 10 percent rate of return. Suppose that the next best use of the firm's funds would produce a return of 5 percent. The return of 5 percent represents the opportunity cost of the funds, also known as the normal return. As long as the investment return is above the normal return, the firm will undertake the project; thus, taxing any returns that exceed the opportunity cost of funds (called supra-normal returns) does not create any distortions. Expensing exempts only the normal return from taxation; supra-normal returns are subject to taxation. In the example, \$5 of the investment's payoff represents compensation for the firm's opportunity cost, and \$5 represents a supra-normal return. If the corporate tax rate is 35 percent, full expensing would give the firm a deduction worth \$35 this year, and require it to pay a tax of \$38.50 next year. Effectively, the firm is

able to defer \$35 of tax liability for 1 year. The value to the firm of deferring the tax until next year is \$1.75 (5 percent of \$35). However, next year, the firm must pay \$3.50 in additional taxes. Thus, the firm has effectively paid a tax of \$1.75 (the \$3.50 of additional taxes minus the \$1.75 value of deferral), which represents a tax of 35 percent on the \$5 supra-normal return. Note that taxing the supra-normal return does not result in any distortions, because the firm's decision to undertake the investment does not depend on the tax. If the normal return were instead 10 percent, then the deferral of tax would be worth \$3.50 to the firm, and there would be no effective tax on the investment return. In contrast to expensing, a corporate tax rate cut lowers the tax on both normal and supra-normal returns.

The efficiency of the business tax structure in the United States is particularly important as other countries undertake major corporate tax reforms. Capital is mobile across international borders, and the business tax environment is important in ensuring that the United States continues to attract investment from abroad, and that U.S. firms can compete effectively in foreign countries. In the mid-1980s, the average statutory corporate tax rate (weighted by GDP) across OECD countries was 44 percent. The U.S. tax reform of 1986, which reduced the corporate tax rate from 46 percent to 34 percent, made the United States a relatively low-tax country at the time of the reform. Since that time, however, the OECD-average corporate tax rate has fallen below that of the United States. These comparisons refer to statutory tax rates. The United States has relatively generous accelerated depreciation provisions and a multitude of business-level exemptions and deductions that reduce the tax burden on investment below the statutory rate. However, the effective marginal tax rate on corporate investment is still high: compared to other G7 countries (France, Germany, the United Kingdom, Canada, Italy, and Japan), the United States imposes an above-average marginal effective tax rate on corporate investment for domestic debt and equity holders in the top individual income tax bracket. In contrast, the U.S. *average corporate tax rate* (the total amount of corporate taxes paid as a percentage of corporate operating surplus) is low relative to other countries. This fact highlights the inefficiency and complexity of the corporate tax system. The marginal tax rate represents the additional tax burden a firm faces when it undertakes a new investment; therefore, it is the relevant tax rate for new investment decisions. This distortion is larger in the United States than in other countries. Despite the larger distortion, the corporate tax raises less revenue in the United States than in other countries, as evidenced by the fact that the average tax rate is lower. The implication is that investment incentives could be improved without a reduction in government revenue.

Conclusion

The analysis in this chapter has focused on both the level and structure of taxation. Over the past 40 years, Federal revenues have fluctuated around 18.3% of GDP. Under current law, however, tax revenues are scheduled to rise much faster than GDP in coming years. Furthermore, over longer periods of time, projected growth in entitlement spending will put pressure on taxes to rise. Because taxes distort incentives, these trends have important implications for economic growth. Extending the tax cuts of 2001 and 2003 would improve labor supply and savings incentives and result in less distortion of corporate finance decisions. Combined with control of entitlement spending, and a long-term solution to the Alternative Minimum Tax, this can have a beneficial effect on long-run growth.

The tax cuts of 2001 and 2003 have also improved the efficiency of the tax structure, particularly with respect to the double taxation of corporate income. However, the structure of business taxation still creates a number of distortions and puts the United States at a competitive disadvantage globally. Even revenue-neutral reforms can result in economic gains if they remove unnecessary distortions.