

PUBLIC FINANCE

GOVERNMENT REVENUES AND
EXPENDITURES IN THE UNITED STATES ECONOMY

RANDALL G. HOLCOMBE
Florida State University

CHAPTER 15 TAXES ON BUSINESS INCOME AND WEALTH 1996

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TAXES ON BUSINESS INCOME AND WEALTH

The previous three chapters have examined the effects of a number of taxes, including sales taxes, excise taxes, value added taxes, and, in the previous two chapters, the personal income tax. This chapter continues that analysis of taxation by looking at some other tax bases, the most important of which is the corporate income tax. Although the corporate income tax differs in some fundamental ways from the personal income tax, individuals ultimately end up paying any tax. Stating that a corporation pays a tax really implies that the burden of the tax is borne by the corporation's stockholders. But the tax might also be shifted to the corporation's employees, customers, or suppliers. Who actually bears the burden of the tax is but one of a number of issues regarding the corporate income tax.

Taxation of wealth is another important source of tax revenue, with the most significant wealth tax being the tax on real property. Property is a stock of wealth, and income is a flow that is generated from the stock of wealth. Thus, there is a close theoretical relationship between an income tax and a property tax. One taxes the flow of wealth as it is earned, while the other taxes the stock of wealth once it has been accumulated. Both the similarities and differences between these two taxes are examined.

In addition, the chapter touches on some less important tax bases, such as the inheritance tax and severance taxes. Like the previous three chapters, this chapter is built on the tax principles that were developed in chapters 10 and 11. As before, the effects of specific types of taxes can be better understood within the context of those general principles.

THE CORPORATE INCOME TAX

The corporate income tax is an important source of revenue for the federal government, but its significance has been declining over the past several decades when compared with personal taxes. Corporate income tax revenues fell to very low levels in the early 1980s, but since have risen slightly. In 1960, corporate income taxes accounted for 23.2 percent of federal tax revenues, and that figure had declined to 12.5 percent by 1980. Following tax cuts in the early 1980s, corporate income tax revenues fell to 6.2 percent of federal tax revenues by 1983 and, a decade later, in 1993, had risen to 9.3 percent. The 1986 tax reform was designed to raise the share of total taxes paid by the corporate income tax, and compared with corporate income tax payments in 1983, it did, but corporate income tax payments still are less as a share of total federal taxes than they were in 1980.

The corporate income tax has declined as a share of total federal taxes since the 1960s

The corporate income tax cannot be fully understood without also considering the personal income tax. The tax treatment of dividend and interest payments illustrates why this is so. If corporations pay dividends out of after-tax income, then dividends taxed as personal income are double taxed. A part of the answer on how dividends should be treated for purposes of corporate tax liability depends upon how they are treated in the personal income tax. As another example, the appropriate treatment of fringe benefits in the corporate income tax is dependent upon how they are treated in the personal income tax. Of course, how dividends, fringe benefits, and so forth should be treated is a normative issue. One may want to double-tax dividends or treat fringe benefits differently in the corporate and personal income taxes, despite any inefficiencies that may arise. Still, it is important to understand the positive effects before making any normative judgments, and, in any event, it is important to see that the appropriate corporate tax policy is inextricably linked to the personal income tax structure in use.

Characteristics of the Corporate Income Tax

The federal corporate income tax rate structure is relatively complex when compared with the personal income tax rate structure, and, like the personal income tax rate structure from 1988 to 1991, has a marginal tax rate on the highest-income corporate taxpayers that is below what some lower-income taxpayers pay. There are eight brackets in the corporate income tax structure, and, after deducting expenses from income (more on expenses later), corporations pay 15 percent on their first \$50,000 in profits. The marginal rate rises to as high as 39 percent, but it falls to 35 percent for corporate income in excess of \$18.3 million. Tax rates on corporate income are in the same range as for personal income but are not identical. Recall that personal income tax rates range from 15 percent to 39.6 percent.

Federal income tax rates are similar for corporate and personal income

The relationship between personal and corporate income tax rates is significant because often high-income taxpayers have the option of earning personal income or incorporating and paying income tax at the corporate rate. Before 1986, the top corporate rate was 46 percent while the top personal income tax rate was 50 percent, providing some incentive to earn corporate income rather than personal income. The incentive was even greater before 1981, when the top personal income tax rate was

70 percent. If a person incorporates and then pays income from the corporation to the individual, the advantage of incorporation is lost because income tax must be paid both on the personal income and then again on the corporate income, but if the person's corporation spends money for the owner's personal benefit (like buying a company car), then it may be worthwhile to incorporate rather than to earn personal income.

Corporate dividends are taxed more heavily than corporate interest payments

According to tax law, dividends are paid by corporations out of after-tax income, meaning that the corporation pays corporate income tax on the dividends before they are distributed to investors, but then investors also must pay personal income tax on the dividend income. Ultimately, it is individuals who pay all taxes, and, for individuals who earn dividend income, the income is taxed several times. The double tax on saving, discussed in chapter 13, applies to dividend income because shares in a firm are purchased with after-tax income. But dividends are really taxed three times because the income from them is taxed a second time with the corporate income tax and again as personal income. Considering only the corporate and personal income taxes on the dividend payment increases the tax rate significantly. If a corporation pays a 35 percent income tax on the dividend, and then the taxpayer is in the 39.6 percent tax bracket, the combined tax rate on the dividend disbursement is 60.74 percent. Thus, less than 40 percent of the corporate income earned for dividend payments will actually be realized as after-tax income for taxpayers in the highest income tax bracket.

Interaction between Corporate and Personal Income Taxes

The preceding discussion illuminates the interaction between corporate and personal income taxes and the importance of considering the provisions built into each when evaluating tax policy as a whole. Provisions built into the personal income tax have an important impact on the trade-off between corporate payment of dividends or reinvestment of funds. Likewise, how interest payments and dividends are treated determines whether there will be a double tax on them.

Personal and corporate income tax policies should be coordinated

Should dividends be excluded from the corporate income tax? Should interest payments be allowed as an expense? The answer to these questions depends upon how they are treated in the personal income tax. Currently, individuals are taxed at the same rate for dividend and interest income, but corporations are allowed to deduct interest expenses but not dividends. This provides a tax advantage to the issuance of bonds rather than stock as a method of financing capital expenditures, but this advantage may be offset to some degree by the deferral of taxes if the firm reinvests rather than pays dividends. Because the tax advantage to the individual taxpayer also depends on the individual's marginal tax rate, the calculation of how great a tax advantage debt finance is over equity finance can become a complicated issue.

Fringe Benefits

Another area of interest to the corporate income tax is the treatment of fringe benefits for employees. Currently, some insurance plans, company automobiles, pension plans, and other benefits can be offered to employees as nontaxable fringe benefits. Although the corporation can legally deduct the benefit as a business expense for tax purposes, the employee is not required to declare the value of the benefit as income on the

individual's tax return. This allows companies to pay their employees in nontaxed income in the form of goods or services, even though the employee would likely purchase those goods and services if the company did not provide them. Other fringe benefits, such as carpeted offices and business travel to resort areas, might not be purchased by the individual were they not provided by the individual's employer, and, in many cases, it is difficult to tell how much (if any) of the expense actually constitutes a legitimate business expense.

Fringe benefits may be a way to provide tax-free income to employees

When employees spend their personal income as a business expense, there are more stringent requirements on what is allowable, how much is deductible, and what records must be kept when compared with employers who directly pay for the employee's business expenses. Thus, the tax system also weighs in favor of a business paying the employee less, but paying for the employee's business expenses, rather than paying the employee more and having the employee pay those business expenses. This may have the result of increasing the business-related expenses of employees if they are able to spend their employers' money from an expense account rather than having to spend their own money, which reduces their income. Businesses such as hotels and restaurants recognize this and have lobbied hard (but not completely successfully) to maintain the tax deductibility of business expenses.¹

DEPRECIATION

One area of the tax code that is of considerable interest to corporations is depreciation. As an economic concept, depreciation is the decline in value over time of capital equipment, such as buildings and machinery. Many expenditures made by firms can be deducted from taxable income at the time the money is spent, as an expense of doing business, but the cost of capital equipment cannot be deducted when the expenditure is made. Rather, a fraction of the cost of the equipment is taken each year as a depreciation expense.

Conceptually, the amount of accounting depreciation taken each year for tax purposes equals the amount of economic depreciation, which is the decline in the value of the asset. In practice, however, economic depreciation and accounting depreciation are unlikely to be equal for several reasons. First, federal tax law specifies how much depreciation can be taken each year on an asset. Second, under most circumstances, firms find it advantageous to take as much depreciation as possible as soon as possible. In general, firms would prefer to take all their capital spending as an expense in the year the money is spent rather than have to spread it over a number of years through depreciation, because of the time value of money. If firms can pay lower taxes today, even if current tax savings are offset by more taxes in the future, they will have the use of that money, which can earn interest.

Depreciation for tax purposes may not correspond with the decline in the value of an asset

There are many different methods of depreciation, but two general categories are straight-line and accelerated depreciation. Under straight-line depreciation, the life of

¹ Charles T. Clotfelter, "Tax-Induced Distortions and the Business-Pleasure Borderline: The Case of Travel and Entertainment," *American Economic Review* 73, no. 5 (December 1983), argues that business travel and entertainment might be reduced by as much as half if it were not deductible as a business expense.

the asset is determined (say, ten years), and then an equal fraction of the cost of the asset (10 percent) is allowed as a depreciation expense in each year. Under accelerated depreciation, a larger amount of depreciation (more than 10 percent) is allowed in early years, offset by a smaller amount (less than 10 percent) in later years. The more accelerated the depreciation schedule, the larger the amount of depreciation is allowed in the earlier years.

Businesses can reduce their taxes by depreciating assets as rapidly as possible

If firms cannot deduct the cost of their assets immediately as an expense, then they will prefer to use accelerated depreciation rather than straight-line and will prefer the most accelerated depreciation schedule they can take. They also would prefer to depreciate their assets over fewer years rather than more. By so doing, they can defer their tax payments as long as possible. Although this is true for any particular item, the method of depreciation will not affect the firm's annual tax payments as long as the firm invests about the same every year. An example can illustrate.

Assume that a firm buys a delivery van for \$20,000. If the firm depreciates it over a ten-year period using straight-line depreciation, the depreciation expense will be \$2,000 per year for each year (assuming no salvage value at the end of ten years). At the other extreme, if the firm is allowed to expense the van immediately, taxable income will be lowered by \$20,000 this year, and the present value of the immediate \$20,000 in taxable income is greater than the present value of a \$2,000 per year reduction every year for the next ten years.² Therefore, the firm is better off expensing rather than depreciating.

Over the long run, accelerated depreciation does not appreciably affect the level of income tax payments

Now assume that the firm has ten delivery vans and that it buys a new one every year as an old one wears out after ten years of use. In this case, the firm can either depreciate the vans using straight-line depreciation and claim a total depreciation expense of \$20,000 (\$2,000 times ten vans) or expense the vans as they are bought and claim a \$20,000 expense every year. In the steady state situation, it does not matter what type of depreciation schedule the firm uses because the deduction for capital expenditures will be the same. Over the long run, a more accelerated depreciation schedule gives more of an advantage to growing firms because their investment is increasing every year, so their capital expenditures in one year will be larger than a moving average of their past capital expenditures.

Another factor that is relevant to the depreciating of capital assets is inflation. Inflation affects the real amount of depreciation expenditures that can be taken because records are kept in terms of nominal dollars. For example, if the price level doubles over ten years for the firm with the ten delivery vans, after ten years the depreciation expense on a van will be worth only half its original value. This problem can be solved by indexing capital accounts for tax purposes, but this significantly complicates tax accounting. Another solution is to allow the immediate expensing of capital expenditures, thereby eliminating the effects of inflation without affecting the tax burden of the firm in the long run. In addition to its effects on depreciation, inflation also has a major effect on capital gains, which will be discussed later in the chapter.

² For example, assuming a 10 percent interest rate, the present value of a \$2,000 deduction for ten years is \$12,280—only 61 percent of the value of taking an immediate \$20,000 expense.

THE BURDEN OF THE CORPORATE INCOME TAX

Strictly speaking, corporations do not pay income tax. The corporate income tax is ultimately borne by individuals, and saying that the corporation pays the tax amounts to saying that the corporation's stockholders bear the burden of taxation. But the principles of tax shifting suggest that the corporation may be able to shift the burden of the corporate income tax forward to its customers or backward to its suppliers or employees. Thus, the question of who bears the burden of the corporate income tax can be answered only by examining the relative elasticities of supply and demand in markets where corporations do business. At any point in time, the ability of corporations to shift taxes onto others will vary from market to market, and, over time, one would expect the ability of corporations to shift also. Because capital is relatively immobile in the short run, one would expect that corporations may not be able to shift much of the burden of a tax in the short run. Over the longer run, however, when capital can be allocated differently, the ability of corporations to shift taxes to others should increase.

Corporations do not pay taxes; people do

Competitive Markets

In the short run, the effects of a change in the corporate tax structure in a competitive market will vary depending on conditions in the market in question. In the long run, however, firms enter particular markets hoping to realize at least a normal rate of return. If demand in a market is more elastic than average, this shifts more of the tax burden to suppliers, who therefore tend to leave that market and enter markets with relatively inelastic demand where more of the burden is borne by demanders. This causes an outward shift in the supply curve of the market with the more inelastic demand and an inward shift in the supply curve of the market with the more elastic demand, until the relative shares of the tax burdens borne by suppliers and demanders are the same in each market.

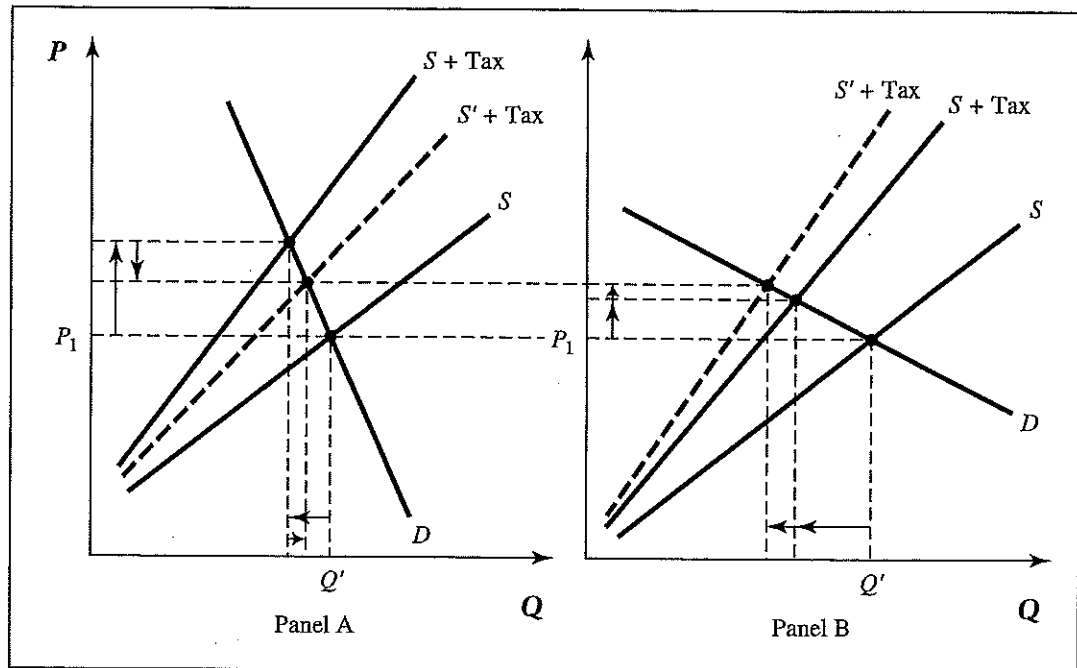
This occurs because in the long run, capital is mobile across markets and will leave markets yielding less than the market rate of return and migrate to markets yielding more than the market rate of return. But while in the long run the relative shares of the tax borne by suppliers and demanders will not differ from market to market, the effect of the tax on the quantities produced in the markets will differ. This can be seen in figure 15.1, which illustrates the basic effects of a corporate income tax in different markets.

Panel A depicts a market with a relatively inelastic demand, while Panel B shows a market with a relatively elastic demand. Assuming that the rate of profit is the same in both industries, the corporate income tax is the same percentage of the price of the good in each market, so the equilibrium tax is equivalent to an ad valorem tax. In both panels, the supply curve without the tax is labeled S and the same supply curve with the tax is labeled $S + \text{Tax}$. As the arrow from the original quantity Q' indicates, the larger adjustment takes place in the market with the more elastic demand, whereas the larger adjustment in the original price P_1 takes place in the market with the more inelastic demand. As a result, resources flow out of the market with the elastic demand

In the long run, business taxes will have a larger effect in industries with more elastic demands

■ **FIGURE 15.1**
THE EFFECTS OF A
CORPORATE INCOME
TAX IN DIFFERENT
MARKETS

Panel A depicts a competitive industry with a more inelastic demand than Panel B, all other things being equal. An equal tax on suppliers in each market will be shifted more to demanders in Panel A, where demand is more inelastic, making the industry in Panel A relatively more profitable than the industry in Panel B. In the long run, resources move from B to A, shifting the supply curve out for industry A and in for industry B, until the returns in the two industries are equalized. In the long run, the relative burdens of the taxes will be the same on the suppliers and demanders in both markets, but note that the excess burden is larger in the market with the more elastic demand.



and into the market with the inelastic demand, causing the supply curves to shift further to $S' + \text{Tax}$ in both panels.

After adjustment, an equal burden of the tax is borne by suppliers and demanders in each market, but the long-run adjustment increases output in the market that shows the least decrease in output without the tax and decreases output still further in the market with the elastic demand and the largest initial adjustment. Clearly, the excess burden is larger in the market with the more elastic demand, but, if capital is mobile across markets, the long-run return to capital in all markets will be equalized and the short-run elasticity of supply becomes irrelevant to the long-run adjustment.

All this has presumed that the response of the owners of capital is simply to shift capital from one market to another to equalize the rates of return to capital in all markets. In fact, the corporate income tax may also entice potential investors to buy consumption goods rather than to invest, in which case the long-run supply curves in markets will be even more elastic. In the most extreme case, the long-run supply curve will be perfectly elastic, in which case the entire burden of the tax will be borne by demanders. This extreme case is unlikely, however, because it implies that investors require a certain rate of return that, if not realized, causes them to withdraw their wealth from investments until the market pays the required rate.

Keep in mind, however, that ultimately people, not corporations, pay taxes. The corporation merely collects the tax, so in stating that the corporation bears the burden

of a tax, what we really mean is that the corporation's stockholders end up bearing the burden of the tax. Thus, the increase in the corporate tax burden over the past decade initially cost firms in industries with more elastic demands more because less of the tax could be shifted to demanders, but, in the long run, all firms are affected equally, with production falling more in industries with more elastic demand. Because capital is mobile and in the long run can be diverted to consumption, eventually most of the burden of the corporate income tax will be borne by the firm's customers.

Monopoly

In the short run, an income tax on a firm making monopoly profits may have no real effects, unlike a tax on a competitive firm. If the corporate income tax collects a constant fraction of a corporation's profits, as is essentially the case with the U.S. corporate income tax, then the monopolist's profit-maximizing level of output will not change. This can be illustrated with the help of figure 15.2

The top panel depicts the cost and revenue curves of the monopolist, with Q_M being the profit-maximizing quantity and Q_O being the greatest level of output that will generate positive monopoly profits. In the lower panel, the top curve, labeled M, depicts the level of monopoly profits accruing to the monopolist. As in the top panel, profits are maximized at Q_M , Q_O is the largest level of output that will generate monopoly profits, and Q_O' is the smallest level of output that will generate monopoly profits. Looking at the bottom panel, we see that an income tax that taxes a constant proportion of net profits lowers curve M by a constant percentage, to look like curve M - T. The monopolist's profits are lower, but because profits are lowered by a constant proportion at any level of output, the maximum point of M - T is the same as the maximum point of M. The tax on the monopolist's profits does not affect the profit-maximizing level of output, even though it reduces the amount of profit.

A tax on monopoly profits will not affect the monopolist's level of output

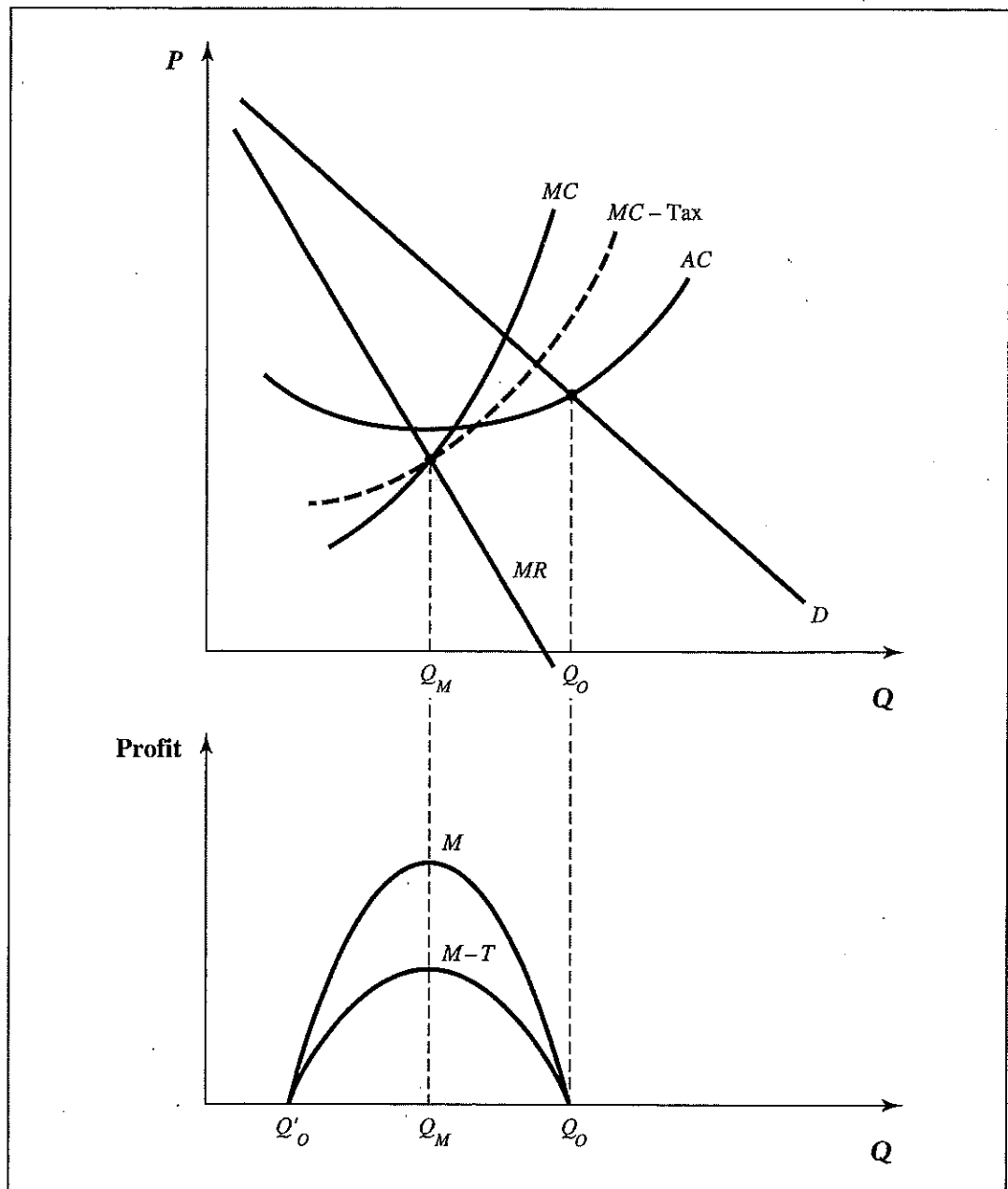
This can be seen in a different way in the top panel of the graph. Because profits are rising up to output level Q_M , the tax also rises, adding to the marginal cost. However, increased output beyond Q_M lowers profit and therefore the amount of tax due, reducing the cost of increasing output. The income tax adds to the marginal cost for output below Q_M but reduces marginal cost beyond Q_M . By adding the marginal effect of the tax to the marginal cost curve, a new marginal cost curve MC - Tax is produced. The intersection of both curves with the MR curve is at the same quantity, showing that the profit-maximizing level of output is unaffected.

Although this is an interesting case, note that it applies only when the firm earns pure monopoly profits and that this case may not be relevant to many situations in the real world.³ Often, what appears to be a monopoly profit is actually a return to some economic activity, such as the willingness to bear risk. Without the possibility of receiving returns in excess of the market rate of return, the entrepreneur might never invest in the risky venture that ultimately pays off. If this is the case, then the corporate profits tax, even when it taxes seemingly excess profits, results in a reduction in the taxed activity. The effect of taxation on risk bearing will be discussed next.

³ For a discussion of this case, see Anthony B. Atkinson and Joseph E. Stiglitz, *Lectures in Public Economics* (New York: McGraw-Hill, 1980), 206-8.

■ **FIGURE 15.2**
MONOPOLY
RESPONSE TO A
PROPORTIONAL TAX
ON NET INCOME

A tax on monopoly profits lowers the amount of profit by a constant percent. As such, it reduces the profits of the monopoly without altering the profit-maximizing quantity of output.



THE INCOME TAX AND THE RETURN TO BEARING RISK

All saving and investing behavior entails bearing some risk. For example, the buyer of a bond takes the risk that the issuing company may default, and even the purchaser of a government bond runs the risk that unforeseen inflation will lower the real return on the bond. Purchasers of common stocks and entrepreneurs bear even more risk, and it is this bearing of risk that stimulates growth in the U.S. economy and that facilitates the introduction of new products and technologies into the marketplace.

However, the corporate income tax—and the income tax in general—lowers the return on risk bearing because the government shares in the gains that the bearer of risk receives but does not share in the losses.

Any investor in a risky venture hopes that the venture will pay off with above-normal profits. If it does, the income tax will take about a third of those profits from the successful investor. The government will share in any gain from the assumption of risk. On the other hand, if the venture is unsuccessful, the government does not refund money to individuals who take losses, which means the entire burden of the loss is borne by the risk taker. Because the government shares in the profits from risk taking but does not share in the losses, a clear-cut incentive against risk taking is built into the tax system.

There is an exception to this, however. An investor who has income from other sources can write off the loss on a risky venture against the income made from other sources, so that the government does share in some of the risk to the extent of the risk taker's income from other sources. Although this system creates a bias in favor of people with income from other sources—wealthy individuals, large corporations, and so on—for taking risks when compared with people with no other sources of income, allowing losses from some ventures to offset income from others mitigates, to a degree, the bias in the tax system against risk taking. Furthermore, capital markets exist in which individuals with income from other sources can provide money to risk takers without other income to offset potential losses. This transfers some of the risk, and some of the potential return, from the entrepreneur to those who finance the entrepreneur's venture.

Income taxation
reduces the incentive
to take risks

Nevertheless, by potentially lessening the return from risky ventures, the income tax stifles the risk-taking activities necessary for economic growth and technological innovation. Risky ventures, which the risk taker hopes will produce returns in excess of the market rate of return, are taxed at the taxpayer's marginal tax rate rather than at the taxpayer's average tax rate. A marginal tax rate of 35 percent or more applies to most corporate income, for example, even though the average rate may be below that because of deductions that the corporation is allowed to claim. This provides support for the argument in favor of a more comprehensive tax base with lower rates, because lower marginal tax rates produce a greater return to innovative and risk-taking behavior.

THE TAXATION OF CAPITAL GAINS

A capital gain is an increase in wealth caused by an appreciation of the value of an asset that an individual or corporation owns. For example, an individual can become wealthier by owning an asset, such as a house, that appreciates in value, thus giving the individual a capital gain. Capital gains income is treated in a manner similar to ordinary income in both the corporate and the personal income tax system. Several items merit discussion here.

Unrealized Capital Gains

One issue concerns the treatment of unrealized capital gains. An unrealized capital gain occurs when the value of someone's property increases but the person has not

sold it. For example, a person who originally purchased a house for \$100,000 that is now worth \$150,000 will have an unrealized capital gain of \$50,000. Under the Haig-Simons definition of income outlined in chapter 13, an unrealized capital gain should count as income just as much as a realized capital gain, in which case the person should be liable for tax on the unrealized gain of \$50,000.

Capital gains taxes are due only when property is sold, creating a disincentive to sell property

The current tax system in the United States does not, however, levy taxes on unrealized capital gains. Only when the house is sold is the seller liable for the taxes on the capital gain. By deferring taxation on unrealized capital gains, the tax system provides an incentive for keeping property rather than selling it. Assume that the owner of the house would have to pay a 28 percent tax on the capital gain if the house were sold. The tax on the \$50,000 capital gain would be \$14,000. Thus, the owner of the house can keep a house worth \$150,000 or sell the house and have the \$150,000 minus \$14,000, or \$136,000. If the house would be worth \$150,000 to someone else but is only worth \$140,000 to the current owner, a profitable sale could be arranged were it not for the capital gains tax. The owner would happily trade \$150,000 for the house but would not be willing to sell it for the \$136,000 that she would receive after the capital gains tax is paid. In this way, the capital gains tax discourages the selling of assets with unrealized capital gains and creates an inefficiency.

Taxing of unrealized capital gains would be difficult in practice

Although there is a clear efficiency argument in favor of taxing unrealized capital gains (if realized capital gains are also taxed), there are also arguments against it. One argument against the taxation of unrealized capital gains is based on equity considerations. A person might buy a house and then find out that the value of the house rises so much that the house must be sold to get the money to pay the taxes on it. From an equity standpoint, this might appear to be little more than government confiscation of someone's property. Another argument against the taxation of unrealized capital gains has to do with the possible administrative problems involved in determining the amount of tax due. For many assets, such as houses, paintings, and so on, the actual value of an item may not be precisely known until it is sold. Therefore, to accurately assess the tax due, it might be necessary to wait for the sale of the asset. In this context, taxing capital gains only after they are realized represents a way of minimizing disputes between the owner and the government.

Capital Gains Taxation as a Double Tax

Chapter 13 discussed the fact that there is a double tax on saving when the money that is saved is first taxed under the income tax. Then this after-tax income is saved, and tax is paid again on the interest earned. The capital gains tax represents a double tax in exactly the same way. If assets are bought with after-tax income, and then the capital gain on the appreciation of the asset is also taxed, the capital gain is analogous to the interest payment in that both are returns earned on after-tax income. Thus, to eliminate the double tax on saving, the capital gains tax should be eliminated entirely. Any taxation of capital gains taxes them at a higher rate than ordinary income if the capital gain is made on an asset bought with after-tax income.

There may be an equity justification for taxing capital gains at a higher rate than ordinary income, under the assumption that people who earn capital gains have a greater ability to pay taxes than those who earn only labor income. But even if this double tax is retained, there is still the efficiency problem alluded to earlier when unrealized capital gains are treated differently from realized capital gains.

Inflation and Capital Gains

Another issue regarding capital gains taxation is the effect of inflation on the value of an asset. If taxes are placed on the nominal value of an asset, then one might be liable for capital gains tax on an item even though the real value of the item has declined. For example, assume that someone purchased an asset for \$50,000 ten years ago and in ten years the price level doubled.⁴ If the individual sells the item for \$90,000, the resulting capital gain is \$40,000, and, under current tax law, the seller is required to pay taxes on that \$40,000. Note, however, that the entire capital gain is due to inflation. If prices had remained the same during those ten years instead of doubling, the asset would have sold for only \$45,000, and the individual would have shown a capital loss. Indeed, the individual had a capital loss in real terms but nonetheless would be required to pay a capital gains tax because of the increase in the nominal value of the asset. A capital gain in nominal terms that is not a real capital gain is called a phantom capital gain, and, during inflationary times, the taxation of phantom capital gains can place a significant burden on some taxpayers.

Phantom capital gains
are created by inflation

Before 1986, the tax code contained a number of provisions that significantly reduced the tax on capital assets, which partially compensated for the taxation of phantom capital gains. Income from capital gains was taxed at half the rate as ordinary income, whereas now it is taxed at the same rate, with the exception that the capital gain rate on personal income is capped at 28 percent. Furthermore, before 1986, purchasers of capital equipment were eligible to take an investment tax credit of up to 10 percent of the purchase price of the capital asset, so the repeal of the investment tax credit in 1986 raised the effective price of capital by 10 percent. Thus, although accelerated depreciation for tax purposes, which remains a part of the tax code, can provide an incentive for the purchase of capital equipment, the treatment of capital gains as ordinary income and the elimination of the investment tax credit mean capital gains are taxed more heavily now than before 1986.

With or without these repealed provisions affecting investment, all taxpayers realizing capital gains will have higher tax bills if the inflation rate is higher and lower tax bills if the inflation rate is lower because capital gains are not indexed. It makes little sense to offset one distortion in the tax code by introducing another. The simplest way to solve the problem of the taxation of phantom capital gains would be to index capital gains to current price levels and have taxpayers pay taxes on real rather than nominal capital gains. This would fix the problem without resorting to other complicating additions to the tax code. Another solution would be to allow the immediate expensing of capital expenditures and then, when the capital equipment is sold, count the revenues from the sale as income. This way, all transactions would be accounted for in the current year's dollars.

Phantom capital gains
can be eliminated by
indexing the gain to
remove the effect of
inflation

As should be evident by now, inflation introduces considerable complications into accounting for tax purposes. If inflation is not accounted for, distortions arise in the tax structure, and indexation to adjust for inflation, though feasible, adds another layer of complexity to the income tax system. It is unfair that individuals and corporations have to pay income tax on phantom capital gains. Indeed, homeowners are in a good position to experience the ill effects of the tax on phantom capital gains, but homeowners

⁴ This is not an unrealistic assumption. The price level approximately doubled from 1970 to 1980.

also comprise a large block of voters. As a result, there is a onetime exclusion by which a homeowner can sell a home and not be liable for tax on the first \$150,000 in capital gains. Politically, one can understand why the onetime exclusion for homeowners came to be included in the tax code, but it does not make good economic sense to treat this one source of phantom capital gains differently from other phantom gains.

WEALTH AND PROPERTY TAXATION

Income as a tax base has been discussed extensively. Another possible tax base is wealth, with the property tax being the most common type of tax on wealth. In theory, there is a close relationship between income taxation and wealth taxation. Wealth is the stock of the accumulated flow from past income, and future income is the return on present wealth. Economists refer to an investment in education as the accumulation of human capital, so even pure labor income has its source in the value of the individual's stock of capital.

To illuminate the equivalence in theory between income and wealth taxation, consider an individual who owns a bond that returns \$100 per year on an interest rate of 10 percent. The present value of the future stream of income from the bond is \$1,000, so the bond is worth \$1,000 and represents a \$1,000 stock of wealth. But where an income tax taxes the flow of income from the stock of wealth, a wealth tax taxes the stock directly. Thus, the individual could be subject to a 50 percent income tax, which would amount to \$50 per year, or a 5 percent wealth tax, which would raise the same amount of revenue by taxing the same source. A tax on the stock of wealth and a tax on the flow of income from that stock of wealth are just two different ways of taxing the same tax base.

INCENTIVES IN INCOME TAXES AND WEALTH TAXES

Wealth taxes and income taxes do not have identical effects in practice, despite the fact that they tax the same source, because different methods may be used to avoid taxation under the two different types of tax. With a bond, it is hard to avoid either the income tax or the wealth tax, but human capital is another case. The flow of income is the return on the individual's stock of human capital, along with the individual's work effort, so a tax system can either tax the individual's income earning potential as wealth or the individual's actual income as a flow. If the flow is taxed, as with the present income tax, people have an incentive to underutilize their human capital, substituting leisure for work. If the stock were to be taxed (for example, by placing a tax of a fixed dollar amount on the holder of a medical degree and a different amount on the holder of an MBA, regardless of the person's income), then people would have an incentive to accumulate less human capital but work harder to generate income from the human capital they have. Because of the excess burden of the tax, which alters people's behavior as they try to avoid taxation, the two types of taxation have different effects.

A tax on a stock of wealth can be designed to be equivalent to a tax on a flow of income

Income taxes discourage different types of activities from wealth taxes

It may be impractical to tax human capital because it is often difficult to determine the value of someone's human capital independent of the person's income. The point is that the incentive structure of an income tax encourages substitution of nontaxable returns to wealth, such as leisure, whereas a wealth tax discourages the accumulation of wealth. For example, a person subject to an income tax might collect antiques, while that same person, if subject to a wealth tax, would be more likely to use the income to take a vacation.

Unrealized Capital Gains and Wealth Taxation

Earlier we discussed the tax treatment of unrealized capital gains. Recall the example of the homeowner and the renter who live in identical houses next to each other. If the value of the houses goes up, the renter ends up paying a higher rent—and higher taxes on the rent—while the owner receives additional benefits from the higher-valued house without paying for them. Under an income tax system, the taxation of unrealized capital gains would rectify the inequity, but such a tax might be viewed as unfair, especially if the homeowner had to sell the house to pay the income tax. Under a wealth tax, the renter and the homeowner would both be treated equally.

Note that both the income tax and the wealth tax, like all taxes, have undesirable secondary effects because of the excess burden of taxation. Indeed, the excess burden is one of the prices we pay to raise revenue to finance government spending. Some sources of wealth, such as human capital, are more easily taxed if the flow of income from the wealth is taxed rather than the stock of wealth itself. Other sources of wealth, such as real estate, are more easily taxed directly. That is one reason why the overall tax structure relies on both wealth and income taxes.

THE PROPERTY TAX

The property tax is a major source of revenue for local governments. Local governments receive about 30 percent of their general revenues from property taxes and about 75 percent of their tax revenues from property taxes. The property tax is primarily a local government tax and constitutes about 15 percent of total state and local revenues. Although property taxes are by far the most significant source of tax revenues for local governments, local governments as a whole receive more revenues from state governments than they do from property tax revenues. It is possible to tax all types of property, but real estate comprises the major source of property tax revenue, so this section focuses on the implications of a real estate tax. The taxed components of real estate can be divided into two subcomponents: land, and improvements made to the taxed site. The effect of a tax on improvements should be apparent in light of the previous discussions on taxation. The tax provides a disincentive toward improving the value of property.

The property tax is the largest source of local government tax revenues

Locational Decisions and the Property Tax

Because the property tax is the primary source of local government tax revenue, differences in property taxes among various locations can influence the locational

Property taxes may
affect business
location

decisions of businesses. The effect probably is small in determining whether a business will move from its existing location, but, when businesses are looking into possible expansion sites, the effects of a property tax can be important. Businesses with expansion plans typically plan to buy property and improve it by building factories, offices, and so on, and the value of those improvements is subject to the property tax. Expanding businesses generally have many sites to choose from, so local officials desiring to foster economic development in their areas need to be aware of potential competition from other localities and try to keep tax rates reasonable. Indeed, intergovernmental competition is an important aspect of the federal system of government.

Locational decisions involve more than just looking at taxes, though. As the fiscal exchange model of taxation suggests, businesses view taxes as the price they pay for government goods and services and examine the mix of public sector output along with the level of taxation in making their locational decisions. Thus, although high taxes discourage businesses from locating in an area, high-quality government services provide encouragement. The lowest tax rates are not necessarily the most desirable if they also imply a low level of government goods and services. Locational decisions notwithstanding, the property tax still provides a disincentive for improving the value of property. This causes the excess burden of property taxation.

Businesses care about
government services
as well as taxes

If the revenue raised through property taxation was spent to produce benefits for those who use the taxed property, and if the benefits of the expenditures were greater than the cost of taxation, an increase in property taxes would actually increase the value of the taxed property. Property taxes by themselves will always decrease the value of the taxed property, but, if the expenditures create more benefits for property owners (or renters) than the cost of taxation, the net effect of a tax and expenditure increase would be an increase in the value of the taxed property. Evidence on this subject suggests that property tax increases cause a decline in the value of the taxed property by more than 85 percent of the present value of the tax increase. Thus, for every dollar of property tax liabilities associated with the taxed property, there is less than 15 cents of expenditure benefits that are associated with the taxed property.⁵

Looked at in the most unfavorable light, this evidence might suggest that there are only 15 cents in benefits produced for every dollar of property tax revenue, but this conclusion would be overly harsh. The conclusion says only that 15 cents in benefits are capitalized into the property, but there may be other benefits that are not specific to owners and renters of the property but are available to others regardless of whether they own or rent the taxed property. If all the costs and benefits are accounted for, the benefits from expenditures of property tax revenues might be worth the cost to taxpayers, but, from the evidence given earlier, the benefits are not worth the costs to taxpayers, and property tax increases decrease the value of the taxed property.

Property Tax Limitations

One of the first property tax limitations, and certainly the most well-known, is Proposition 13 that was approved by California voters in 1978. Proposition 13 limited the level of

⁵ See Robert J. Carroll and John Yinger, "Is the Property Tax a Benefit Tax? The Case of Rental Housing," *National Tax Journal* 47, no. 2 (June 1994): 295-316, for some evidence.

property taxation to no more than 1 percent of the property's assessed value and restricted future increases in property tax rates to no more than 2 percent per year. The immediate effect was a significant reduction in the property taxes paid by California property owners, but the longer-run effect was to limit the increases in property tax rates as long as the existing owner kept the property. In practice, all property in California is taxed at the 1 percent maximum, and, when property is sold, the new owner is assessed property taxes equal to 1 percent of the sales price.

California's property tax limitation has the effect of charging different property owners with identically valued property different tax rates. After the passage of Proposition 13, everyone paid the same 1 percent rate, which increased at 2 percent a year. But property values increased by more than 2 percent a year, partly because of increases in the real value of property but also largely because the inflation rate has exceeded 2 percent almost every year. As a result, over time, property tax payments fall below the 1 percent a year limit because of the 2 percent per year limit on their growth. But if property is sold, it is reassessed at 1 percent of the sale price, so that in practice, property that has been more recently sold ends up paying more in property taxes than property that has not been sold.

The differences in property taxes before and after the sale of real estate in California creates a disincentive to sell property. The existing owner can keep the property and pay a lower rate, but if it is sold, the rate rises, which means that for property tax reasons alone, property may be worth more to the existing owner than to someone who wants to buy. More than twenty states had property tax limitations before California's Proposition 13, and many limitations have been passed since. However, Proposition 13 started what has been called a "tax revolt," in which taxpayers have taken the initiative to reduce the amount of taxes they pay.

California's Proposition 13 passed in 1978 began a nationwide movement for property tax limitations

Differing Property Tax Rates

Many states offer different rates to property owners depending on the use to which property is put. There may be lower rates for owner-occupied housing when compared with commercial real estate, and agricultural land is often taxed at a very low rate when compared with other uses. If taxes are viewed as the price of government goods and services, low agricultural property tax rates make sense because agricultural land requires little in the way of local government services. When compared with residential land, agricultural land does not have children who go to school, nor does it require much in the way of police protection, roads, or public parks. Property tax rates that vary with the use of the property can be used to price services for different types of consumers, but they do open up the possibility that some users will try to use the political process to obtain lower property tax rates.

Property tax rates vary depending upon the use to which the property is put

Governments also will sometimes offer temporarily lower property tax rates to businesses to get them to locate within their jurisdiction or sometimes to keep them from moving out. This can result in some property owners paying lower property taxes than others, but the argument is made that the economic benefits they bring to an area outweigh the property tax revenues that are lost. There is some debate among economists as to how effective property tax breaks and other relocation incentives

are for attracting business.⁶ Regardless of its effectiveness for a particular state, however, the gain to one state will be the loss of another, so because of the tax revenue losses, tax competition of this type tends to be a negative-sum game among the states.

SITE VALUE TAXATION

Property taxes are capitalized into the value of the land

Although in reality the property tax taxes the value of both the land and the improvements on the land, it is possible to imagine a tax placed only on the value of the site without considering the value of improvements. The simplest type of land tax is a fixed tax per acre of land, which, like a lump sum tax, is virtually impossible to avoid paying (except by abandoning the property). Consider, for example, an acre of property that an individual is contemplating purchasing for a certain sum. What happens to the value of the property when, with no changes in public sector services, the per acre tax unexpectedly goes up by \$100 per year? If we assume a 10 percent interest rate, the present value of the stream of future payments of \$100 per year is \$1,000, so the individual now considers the property to be worth \$1,000 less. Ownership of the property means both ownership of the asset and ownership of the stream of future tax liabilities. In this sense, the property tax is unavoidably linked to the taxed piece of property.

The same analysis applies to the seller of the property who, in keeping the property, has to pay \$100 per year more, which increases the present value of the future tax liability by \$1,000. Ownership of the property is now worth \$1,000 less to whoever owns it, which implies that the property tax is equivalent to a lump sum tax on the owner of the property at the time the tax is levied. If the property is sold, the sales price will be \$1,000 less as a result of the tax. The tax is not passed on to future owners because the sales price of the property includes both the value of the benefits of owning the land and the present value of the future tax liability attached to the property at the time of sale. In the previous section, the conceptual link between taxes on wealth and taxes on income was discussed. Here is a good example of an application of that idea. A property tax is a stream of tax payments by the owner of a piece of property, but it has the effect of being a lump sum tax on the wealth of the property owner at the time the tax is levied.

Within the context of the tax principles discussed in chapter 10, the reason why the entire site value is borne by the owner of the land is that the supply of land is completely inelastic. Note the difference between a tax on land and a tax on capital. Taxing capital provides an incentive to produce less capital, which makes capital more scarce, and, with capital more scarce, its price rises. But land is in fixed supply. Although one individual can reduce her landholdings, it is not possible to reduce the total supply of

⁶ For a discussion of the issue, see John P. Blair and Robert Premus, "Major Factors in Industrial Location: A Review," *Economic Development Quarterly* 1, no. 1 (1987): 72–85; Brian D. Jones, "Public Policies and Economic Growth in the United States," *Journal of Politics* 52, no. 1 (February 1990): 119–23; and Thomas R. Plaut and Joseph E. Pluta, "Business Climate, Taxes and Expenditures, and State Industrial Growth in the United States," *Southern Economic Journal* 50, no. 1 (July 1983): 99–119.

land, as it is with capital. Therefore, the owner ends up bearing the entire burden of the tax.

Site Value Taxation versus Property Taxation

There is an important difference between whether the tax is levied only on the land or whether it is levied on the improvements as well. In either case, the present owner bears the entire burden of the tax on existing property. However, while a tax on improvements discourages the improvement of the value of a piece of property, a per acre tax on land entails no disincentives because land is in fixed supply. Because most real property is part land and part capital, the property tax as it currently exists does provide a disincentive to making capital improvements on the property and lowers the market value of the land by the present value of the tax.

One caveat needs to be added to this conclusion, however. Within the fiscal exchange model of taxation, an increase in taxes is likely to go toward some public services that may be of value to the landowner. In this case, the increase in tax decreases the value of the land at the same time that the increase in public services increases the value of the land. If the government is successful, the net result ought to be the provision of services in excess of the tax costs, thereby causing the value of the property to increase as a result of both increasing taxes and increasing government services. If public services are complementary to improvements made to the land, a wisely spent tax could encourage the building of improvements on the land.

Local government services can increase the value of land

Keep in mind that we are equating a per acre tax with a lump sum tax. Such a tax, if applied nationally, would not have great revenue generating capabilities because land in, say, downtown Manhattan is very valuable on a per acre basis compared with land in rural areas. Thus, a per acre tax that raised revenue in urban areas would be prohibitively high in many rural areas, and, if the present value of the future tax liability exceeded the present value of the future services of the land, the land would have a negative value and would be abandoned.

By taxing the site value of the land, this can be avoided. The taxable site value of the land can be determined by the value of the land in the surrounding area, but independent of how the particular piece of property is being used. In downtown Manhattan, for example, land is valuable because the high density of Manhattan's population allows skyscrapers to be built there. If the site value of the land is taxed, two equal-sized adjoining pieces of land will be worth approximately the same amount and will thus be taxed the same amount regardless of how they are used. The taxation of site value only, by not taxing the value of improvements to the property, removes the disincentive for improving the property but retains a tax based on the value of the property. Because the value of a site is almost entirely a function of how adjoining property is being used, the owner has little control over the site value. Furthermore, it is difficult to avoid paying the tax, so little excess burden is generated. In this sense, site value taxation retains the close kinship to a lump sum tax.

Taxation of only the site value of property can minimize the excess burden of the property tax

The property tax probably is the closest thing to a lump sum tax in the U.S. tax system. Land is in fixed supply and cannot be moved from one taxing district to another, which means that the basic property tax is difficult to avoid. Because improvements as well as the site value of land are taxed, however, some excess burden results from the fact that the tax discourages the improving of the value of property.

Site Value Taxation and the Value of Land

By contrast, the placement of a tax on the site value only, rather than on the site plus improvements, provides an incentive to develop the property because the site value tax is not paid on the improvements. The answer to how such a tax would affect the value of the site itself depends upon whether site value taxation is applied everywhere or only in one locality.⁷

Nationwide use of site value taxation would reduce the price of land

Consider first the case in which site value taxation is used nationwide, and compare this with the nationwide use of a property tax that includes the value of improvements. Assume that tax rates are set such that both tax systems raise the same amount of revenue. In this situation, an unimproved piece of property will have a higher tax bill with site value taxation because the unimproved land's value is a function of what the surrounding land is being used for rather than being a function of the value of the improvements to that property itself. The value of the land is the same whether it is improved or not, which implies that site value taxation taxes the value of land more heavily. Therefore, the market value of land will be lower under site value taxation.

This conclusion makes sense. With a higher rate applied to unimproved land and a lower rate applied to improvements under site value taxation, the value of unimproved land will fall because of the higher tax burden associated with it. This assumes that site value taxation is a national policy, however. The conclusion would be different if only one locality used site value taxation.

If only one locality used site value taxation, the value of its land would rise

Consider now a single locality within a large metropolitan area. The single locality uses site value taxation while all other parts of the metropolitan area use a property tax that taxes the value of both land and improvements. In this case, a property tax is paid on improvements everywhere except in the locality using the site value tax. This provides an incentive for developers to improve the value of the property in the single locality more than in the surrounding area, increasing the demand for the land in that locality and causing its price to rise. Therefore, if site value taxation is used in a small area and the surrounding area uses a property tax on the site and improvements, the area with the site value taxation will have more valuable improvements than will the surrounding area, and the increase in the demand for land in the area will cause the value of land to rise in that locality.

THE INHERITANCE TAX

The adage that nothing is certain except death and taxes rings especially true for inheritance taxes, which tax a person for dying. In the context of the excess burden of taxation, the inheritance tax actually provides an incentive to live longer to postpone the payment of the tax. There are, however, other ways to avoid the inheritance tax. The most obvious would be to spend all your money before you die.

⁷ See Jan K. Bruecker, "A Modern Analysis of the Effects of Site Value Taxation," *National Tax Journal* 39, no. 1 (March 1986): 49-58, for a more detailed discussion of the concepts in this section.

Avoiding the Tax

The inheritance tax is a relatively insignificant source of tax revenue. In 1993, federal estate and gift taxes raised about \$12 billion in revenue, which was about 1.1 percent of the total tax revenues of the federal government. Estates of less than \$600,000 are exempt from the inheritance tax, but, for those who pay, rates can be as high as 55 percent for estates in excess of \$3 million, which provides a significant incentive for wealthy individuals to try to avoid the tax. One method is to set up a trust through which, under certain circumstances, the estate can be shielded from taxation. Another method is to pass wealth on through gifts while still living. However, there is a federal gift tax on gifts exceeding \$10,000 per year that attempts to control this method of avoiding the inheritance tax. Although there is a close link between the gift tax and the inheritance tax, it is possible to reduce or even eliminate the inheritance tax by spreading gifts out to a number of people and over a number of years.

Besides giving one's wealth away or setting up a trust, the other option for avoiding the inheritance tax is to spend one's wealth before death. There is a clear incentive to do so, which has some implications for capital accumulation. One source of saving is money held by older people to pass along to their heirs, but the greater the tax on the bequest, the less the incentive to save, which deprives the economy of some funds for investment. Older individuals may save for bequests, or they may save to provide a nest egg for their later years. Of course, the same money can serve both functions. Furthermore, the date of a person's death is uncertain, which makes it difficult to plan to exhaust a stock of wealth precisely at the time of death.⁸ For whatever reason, it appears that older individuals do not draw down their stock of wealth in later years,⁹ even though there would be a greater incentive to save for the purpose of leaving a bequest if the inheritance tax did not exist.

Justifications for an Inheritance Tax

Given the disincentive effects of the inheritance tax and considering that it does not raise much revenue, one might ask why it is used. The strongest supporters of the inheritance tax favor it for equity reasons rather than for efficiency reasons or for its revenue-generating capabilities. Two common equity arguments are that it is not fair for some people to benefit from wealth earned by someone else and that the inheritance tax fosters the goal of creating a more equal distribution of income.

These are normative issues, of course, but are nevertheless worthy of scrutiny. In terms of equality, the inheritance tax does not raise much revenue, so although heirs of wealthy people will be appreciably less well off financially because of the inheritance tax, the meager amount of revenue collected in the tax will not measurably benefit the poorer people in a society. One who endorses the inheritance tax as a means of pro-

⁸ It is not impossible, though, even with an uncertain death date. A person can always purchase an annuity that pays a certain amount up to the time of death.

⁹ See Thad W. Mirer, "The Wealth-Age Relation among the Aged," *American Economic Review* 69, no. 3 (June 1979): 435-43; and Lawrence J. Kotlikoff and Lawrence H. Summers, "The Role of Intergenerational Transfers in Aggregate Capital Accumulation," *Journal of Political Economy* 89, no. 4 (August 1981): 706-32, for some evidence.

moting equality in essence favors making the rich worse off without appreciably improving the well-being of the poor, which is not too far from stating that the heirs of wealthy people should not benefit from the wealth they have not earned. Indeed, favoring the inheritance tax on equity grounds comes close to favoring a Pareto inferior move. Some people are made worse off, but no one is made significantly better off.

The inheritance tax is a way to keep unrealized capital gains from passing on for generations

Arguments in support of the inheritance tax on efficiency grounds can be advanced as well. The most obvious efficiency reason is that, in addition to its revenue-generating capabilities, the inheritance tax closes a loophole in the current income tax structure. Currently, unrealized capital gains are not taxed, giving an incentive to keep property rather than selling it and paying the tax on the gain. Under this tax structure, it would be possible for unrealized capital gains to pass from one generation to the next without ever being taxed. The inheritance tax prevents this because the gain must be realized at the death of the current owner.

The most appropriate structure for the inheritance tax will vary depending upon the reason for its existence. If one views it as an ancillary to the income tax, it should have rates similar to those used for other capital gains. On the other hand, if one views it as a tool to further equality of wealth, higher (or possibly confiscatory) rates would be justified.

SEVERANCE TAXES

Severance taxes are taxes charged on the extraction of natural resources such as oil, gas, coal, timber, and fish. Severance taxes in all fifty states were just over \$5 billion in 1991 and make up less than 1 percent of total state government revenues in the United States, but some states rely on severance taxes relatively heavily. Alaska tops the list, relying on severance taxes for more than 20 percent of its revenues, followed by Wyoming, which gets 13.5 percent of its revenues from severance taxes. Oklahoma and New Mexico both get more than 5 percent of their revenues from severance taxes, while severance taxes make up about 4 percent of state revenues in Texas and Louisiana.

Severance taxes can be a way for one state to shift its tax burden to those in other states

Most industries have a choice of locations, but firms engaged in resource development must locate where the resources are, which limits their locational choices. Of course, firms may choose to do more extensive exploration, mining, and so on in states with low severance taxes, but the fact remains that a firm cannot exploit the resource base in a state without paying the state's severance taxes. Firms can move their factories, their warehouses, and their employees, but they cannot move natural resources across state lines without being liable for the severance tax. In this regard, a severance tax is similar to a property tax—the owner of a resource owns the value of the resource less the tax liability that must be paid to the state if the resource is extracted.

The supply of the resource is not completely inelastic because the owners of the resources can decide to bring them to market now or at a later date. Therefore, owners of the resources have the ability to shift some of the burden of a severance tax to the demanders of the resource by slowing the rate at which it is extracted. Because much of a resource is typically exported out of the state, the state not only can generate revenues but also can shift the burden of state taxation to demanders in other states. Thus, from a state's standpoint, a severance tax is an attractive public finance option.

CONCLUSION

The analysis in this and the preceding chapters has given an overview of the major sources of tax revenue used by governments at all levels, showing how the principles of taxation covered in chapters 10 and 11 are generally applicable to all types of taxes. Taxation is necessary for the government to raise revenue, but, where the benefit principle cannot be readily applied, taxes have different effects from the market prices that finance private sector goods and services. In evaluating the tax structure, both equity and efficiency criteria must be considered. A tax system should minimize the excess burden it imposes on the population, but, at the same time, it must treat taxpayers fairly.

Corporations do not pay taxes; people do

The corporate income tax discussed at the beginning of this chapter provides an excellent opportunity to apply the principles of taxation to an analysis of the effects of a tax because ultimately individuals pay the corporate income tax. Saying that a corporation bears the burden of a tax really implies that its stockholders pay the tax, but it is possible for corporations to shift the burden of a tax initially placed on them to others. All other things being equal, firms in industries with more elastic demands will bear a greater percentage of an increase in the corporate income tax than will firms with less elastic demands in the short run, but, in the long run, adjustments in the market as capital moves from less profitable to more profitable industries will result in the same long-run burden being borne by suppliers in all markets. However, output will be reduced more in markets with more elastic demands.

The corporate income tax as currently structured creates a double tax on dividends because dividends are paid for from after-tax corporate income. The income is taxed once through the corporate income tax and then is taxable income to the dividend recipient. Although equity arguments in favor of this double taxation can be made—people with investment income may have a greater ability to pay than people with wage income only—the double tax on dividends provides a disincentive to saving and investment. Actually, when investments are made with after-tax income, there is a double tax on all investment income and a triple tax on dividends. Double or triple taxation can be avoided if the investor instead chooses to consume.

The corporation can defer the double tax by reinvesting its profits rather than by paying them out as dividends, thereby increasing the worth of the firm and transforming ordinary income into a capital gain. The tax on the capital gain is paid only when it is realized. Because corporations can deduct interest payments as a business expense but cannot deduct dividends, the tax system is biased in favor of debt financing over equity financing. It also provides an incentive for firms not to pay dividends.

Depreciation also plays a significant role in the calculation of the corporate income tax. For any given asset, it is to the corporation's advantage to depreciate the asset as quickly as possible, but, for a corporation that invests about the same amount every year, the depreciation becomes irrelevant to its annual tax burden. One year's total investment will be depreciated every year regardless of the type of depreciation used, except when inflation becomes a factor. Inflation erodes some of the real value on the depreciation schedule of an asset because depreciation schedules are kept in nominal terms.

The current tax structure allows some income to go untaxed, but double-taxes other types of income

The treatment of fringe benefits is another important issue with regard to the corporate income tax. Currently, corporations are allowed many fringe benefits as expenses, and the individual who receives the benefit does not have to declare it as taxable income. This allows income in kind to effectively escape taxation. Ideally, all income should be treated the same for tax purposes, but it is often hard to draw the line between legitimate business expenses and fringe benefits paid to employees.

Any income tax lessens the return to risk taking because the government shares in the investor's gains if the risky venture pays off but not in the losses if the venture fails. Although losses from one venture can be offset against gains from another, the fact that an individual does not reap the full gains because of the acceptance of risk means that the income tax reduces the risk taking that stimulates innovation and growth in the economy. This is a good argument for keeping marginal tax rates as low as possible because the returns to risk taking are taxed at the marginal, rather than the average, rate.

The capital gains tax and the treatment of unrealized capital gains have important effects on the behavior of individuals in the economy. Under the Haig-Simons definition of income, unrealized capital gains constitute income because they add to a person's wealth. Nevertheless, unrealized capital gains are not taxed under current tax laws, thus creating an incentive to hold appreciated property rather than to sell it. The owner can benefit from the full value of the property by keeping it, whereas by selling it, the owner will be left with the value of the property minus the capital gains taxes paid.

Inflation can have a major effect on the taxpayer's liability under a capital gains tax. Because capital gains are measured in nominal terms for tax purposes, an increase in the price level causes a nominal capital gain on which tax must be paid when the gain is realized. Under some circumstances, capital gains taxes will be owed even when the taxpayer has taken a real loss on the sale of an asset. From an economic standpoint, the proper way to adjust for inflation is to index the gain, but this adds another layer of complexity to an already complicated tax system.

Wealth is a stock that produces an income flow, and a tax on the stock of wealth can be seen as equivalent to a tax on the flow of income that comes from wealth. Both types of taxes naturally fit into the tax system, not only because it is sometimes hard to measure wealth (as in the case of human capital) but also because the disincentive effects and excess burdens of the two types of taxes differ. Ideally, the tax with the lower excess burden will be used. The most common form of wealth tax is the property tax, which has some characteristics of a lump sum tax. A flat per acre tax on property probably would be as close to a lump sum tax as one could hope to come. The current property tax, which is a tax on the value of property, produces a disincentive toward improving the value of a site, which creates an excess burden.

The inheritance tax is often justified on equity grounds, but there are efficiency reasons for using an inheritance tax as well. Because the capital gains tax does not tax unrealized capital gains, the inheritance tax can be seen as a tool to keep substantial unrealized capital gains from passing on from one generation to the next. Because some inheritance is exempt, the match is not perfect, and, if this is the motivation for the inheritance tax, its characteristics should be more closely integrated into the structures of the income and capital gains taxes.

Having given much attention to a series of individual taxes in the previous several chapters, we should remember that the ultimate effect of any tax depends upon how

it interacts with the tax system in general. The example of the inheritance tax illustrates the point. With this in mind, the next chapter steps back from an analysis of individual taxes to examine the overall tax system in the United States.

QUESTIONS FOR REVIEW AND DISCUSSION

1. Explain how interest expenses and dividend payments are treated in the corporate income tax. Relate their treatment in the corporate income tax to their treatment as income to individuals to whom they are paid. What are the economic effects of this type of tax treatment?
2. Explain the effects of inflation on the taxation of corporate income. Be sure to consider both depreciation and capital gains in your explanation.
3. Who bears the burden of the corporate income tax? Explain both the short-run and long-run effects of a change in corporate income tax rates.
4. Assume that a firm is in a steady state situation with regard to capital expenditures, so that it invests about the same amount every year. Explain what difference it would make to the firm's tax bill if it used straight-line depreciation or some form of accelerated depreciation, or if it were allowed to declare all its capital expenditures as an expense for tax purposes.
5. Outline the effects of an income tax on the willingness of individuals to assume risk. Does the income tax treat all individuals the same in this regard?
6. The present tax system does not tax unrealized capital gains. What arguments can be made both for and against treating unrealized capital gains in this way?
7. What is the conceptual link between wealth taxation and income taxation? Given this link, is there any reason to tax one rather than the other? Is there any reason to tax both?
8. Explain the similarities between a property tax and a lump sum tax.
9. How does an inheritance tax fit into the income tax as currently structured?
10. Give several reasons why state governments find severance taxes to be an attractive source of revenue.
11. "If a site value system of taxation rather than the existing property tax were employed, the Empire State Building would have been twenty stories taller." Is there any economic justification for this statement?
12. Will site value taxation increase or decrease the market value of unimproved land? On what factors does your answer depend?
13. How will a tax on corporate profits affect a pure monopolist? Discuss some factors that illuminate the way in which this conclusion can be extrapolated to the real world.