

TAXING CAPITAL GAINS

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This article draws from the author's paper in a forthcoming Federal Reserve System study of the Federal tax structure.

From the Boston Tea Party to Proposition 13, taxation has been a particularly contentious political issue in America. While there has been considerable debate on taxing income from capital, there remains substantial disagreement concerning the fairness and economic effects of specific taxes on capital income, especially taxes on capital gains.

Capital income in America is subject to very complex tax rules. As a result, an individual's capital income can be taxed at either much higher or much lower rates than are applied to his labor income. The capital gains tax occupies the extraordinary position of contributing both to relatively low tax rates on some capital income and relatively high rates on other capital income.

To establish a perspective for viewing capital gains taxation, we will first review the concepts of fairness, economic efficiency, capital, and capital income. Effects of capital gains taxes can then be examined in two steps. The first involves viewing the effects of capital gains taxes in an inflation-free economy. The second step is to add the complicating factor of inflation. At this point some perverse effects of capital gains taxes will be evident. Consequently, potential remedial changes to tax laws comprise the final topic.

PRELIMINARY DEFINITIONS

Not surprisingly, there is no universally accepted conception of fairness with which one can evaluate any particular tax. Perhaps the most widely accepted principle is horizontal equity, an economic corollary of the idea that any law should apply equally to all individuals. With respect to taxation, horizontal equity states that taxpayers in equal economic circumstances should face equal tax burdens. While it is a useful necessary condition, horizontal equity alone would not ensure a tax system's fairness. To do so would also require fair treatment of unequals, or vertical equity. Unfortunately, even the simpler goal of horizontal equity is not completely unambiguous. Moreover, achieving it would require sub-

stantial change in the current method of taxing capital gains. Thus horizontal equity by itself requires enough attention so that the more complex goal of vertical equity is not systematically addressed below, even though many different concepts of vertical equity repeatedly surface in tax analysis.

Besides equity, it is desirable that a tax have minimal adverse impact on the economy. Most taxes currently levied have some adverse consequences;¹ a desirable goal would be to collect a given amount of revenue with the least possible harm. Basically, levying a tax on one source of economic satisfaction induces people to shift their consumption toward untaxed sources. This distorted behavior leads to economic inefficiency, in that the tax distorts individuals' choices of what to consume and how to produce. As a result, they enjoy less than the maximum attainable economic satisfaction.

The sources of economic satisfaction can be divided into three categories: current consumption of goods and services, future consumption, and leisure. Each person must choose the fraction of time to spend in productive activity. Since productive activity yields income in exchange for leisure this is equivalent to choosing between (1) current and future consumption and (2) the amount of leisure. Postponing current consumption to the future, of course, is saving. While some saving merely takes the form of hoarding cash or commodities, savings can also be invested so that future production as well as future consumption possibilities are raised. Since investment involves formation of capital, the means of providing future production, the additional consumption potential from investing rather than hoarding can be regarded as capital income.

This potential does not normally remain constant. Relative price changes can alter capital asset values, thereby changing the asset owner's present and future consumption possibilities. Such asset revaluations are often referred to as capital gains and losses. Although some definitions of income exclude capital

¹ If a tax reduces (increases) production or consumption when a harmful (beneficial) externality is involved, then the tax can improve social welfare. Such taxes are not major contributors to Federal revenue, although some observers might put tobacco, alcohol, or gasoline excise taxes in this category.

gains, many economists prefer the definition given by J. R. Hicks, "A person's income is what he can consume during the week and still be as well off at the end of the week as he was at the beginning" (1946). Under this definition, which will be employed below, capital gains are clearly part of income.

The concept of capital is not limited to tangible capital, such as machines or structures. Individuals can also accumulate intangible capital by limiting present consumption in order to acquire knowledge, skills, and capabilities that will raise their future productivity. Examples of intangible capital include formal education, on-the-job training, research, and exploration for mineral deposits.

Investment is facilitated by financial intermediation, through which people with productive uses for capital indirectly acquire funds from others who have the desire and ability to substitute future for current consumption. There is an important distinction between real capital described above, and financial capital. The latter amounts to paper claims to real capital and/or real capital income embodied in bonds, common stock, vested pension benefits, insurance policies, and the like. An efficient system of financial intermediation directs funds to the most productive investments. Thus, the more efficient the system of intermediation, the more benefit accrues directly to savers and capital users, and indirectly to workers (whose marginal product is raised) and consumers (who see an increased supply of commodities).

TAXATION OF CAPITAL GAINS IN THE ABSENCE OF INFLATION

Equity and efficiency consequences of capital gains taxes can be divided between consequences unique to taxes on capital gains, and consequences resulting from any tax on capital income. Both are examined in this section. Some general consequences of any capital income tax are first examined. We then describe some important features of U. S. tax law and discuss some of their immediate impacts. The final task is to examine the distinct effects of taxes on capital gains.

Taxing Capital Income There is a clear qualitative effect on economic efficiency of taxing capital income: since capital formation is a means of providing future consumption, taxing capital income distorts individuals' choices away from future consumption toward leisure or current consumption. That such distortions could be significant is suggested by Lawrence Summers, who estimated, "the present value of the welfare gain from a shift (from capital

income taxation) to consumption or wage taxation is conservatively estimated at 5 years' GNP" (1978). Unfortunately, the current state of the art forces any estimates of relative welfare costs of different taxes to rely on heroic behavioral assumptions and numerous judgmental parameter estimates. Thus any particular study, including that of Summers, can at most be suggestive.

Another concern is whether capital income taxation is consistent with horizontal equity. Perhaps the most common view is that economic equals are persons who receive the same amount of income, regardless of its source. Under that view, horizontal equity would require a taxpayer to pay the same rate on capital and labor income.

This conventional reasoning has been challenged by Martin Feldstein (1978), who argues that horizontal equity requires capital income to be exempt from taxation. By interpreting economic equals as individuals with the same present value of lifetime consumption expenditure, he is able to show that taxing consumption would tax equals equally. He also notes that a proportional consumption tax is equivalent to a proportional tax on the present value of lifetime income. But such a tax is equivalent to an annual income tax only when the annual tax is proportional to its base, namely income before capital acquisition. Accordingly, since a tax on capital income violates this condition, Feldstein concludes that it is inconsistent with horizontal equity. Box 1 contains an illustration of this point.

While Feldstein's argument does cast doubt on the conventional horizontal equity assumption, his definition of economic equals can also be questioned. As the example makes clear, his definition of economic equality ignores valuable leisure. In addition, human capital complicates discussions of the equity of taxing capital income. An individual's level of labor income results from effort, human capital, rents to innate ability, luck, and other factors. Any tax on labor income consequently taxes the return to human capital. If other capital income were not taxed, new equity and efficiency problems would be created.

Some salient features of American tax laws are mentioned in Box 2 as a prelude to a discussion of the effects of the American method of taxing capital gains.²

Capital Gains Taxes and Economic Efficiency Adam Smith (1776) described the importance of a saver's investment choices:

² The primary source for this discussion is Bernard Greisman (1979).

Box 1**AN EXAMPLE OF A TAX ON CAPITAL INCOME THAT VIOLATES ONE VIEW OF HORIZONTAL EQUITY**

Imagine a society whose residents have infinite lives (this unrealistic assumption keeps the arithmetic simple but does not affect any qualitative conclusions), in which the interest rate remains constant at 10 percent, and in which income from capital and labor is taxed at a 20 percent rate. Consider (1) an athlete who receives a salary of \$100,000, and (2) a laborer who receives \$10,000 every year. Because of declining ability the athlete will play only one year, investing his initial earnings and then living off income from capital, while the laborer intends to work and earn \$10,000 each year (for simplicity, assume that each receives his entire annual salary on January 1). Both the athlete and the laborer have identical present values of lifetime before-tax income, \$100,000 (the present value V of an infinite income stream I at interest rate r is $V = I/r$).

The athlete would pay a tax of \$20,000 on the one year's labor income. Thus he could save \$80,000, earning \$8,000 interest annually, and would pay a \$1,600 annual tax on the interest income. Therefore his interest taxes have a present value of \$16,000, and his combined lifetime taxes would have a present value of \$36,000. In contrast, the present value of the laborer's taxes would be \$20,000. It can be seen that only if capital income were not taxed would these Feldsteinian equals before tax have equal tax obligations.

This example also illustrates a weakness in Feldstein's argument. The athlete can enjoy a substantially greater amount of valuable leisure in his lifetime. Thus although equal by Feldstein's definition, the athlete has a greater before-tax access to sources of economic satisfaction (that is, both consumption and leisure) than the laborer.

Box 2**SOME RELEVANT TAX REGULATIONS**

Capital gains are taxed when realized, not as accrued. This allows taxes to be postponed, thereby reducing the present value of tax payments. Also, a person with a tax rate which varies over time can choose to realize gains when the rate is abnormally low. If capital gains are not realized before a taxpayer's death, an estate tax is levied on the market value of the asset but no tax is assessed on accrued capital gains.

Gains from sales of assets held one year or less are taxed at the same rate as other capital income. If assets are held longer, 60 percent of the gain is excluded from the personal income tax. The maximum tax rate on taxable capital income is 70 percent, as opposed to a 50 percent maximum on taxable labor income. Due to the 60 percent exclusion, the maximum rate on long-term capital gains is 28 percent (ignoring for simplicity the "alternative minimum tax" which affects very few taxpayers).

Different assets are taxed at different effective rates. Capital gains in real estate can be postponed by "swap transactions," and owner-occupied homes provide even more ways to avoid capital gains taxes.

Also, income from capital owned by corporations is taxed at different rates from personal capital income. The existence of a corporate income tax in addition to the personal income tax is consistent with the traditional legal view of a corporation and its owners as separate entities. The resulting tax structure is relevant since ownership of corporate stock accounts for a significant fraction of taxable capital gains.

Corporate financial decisions can affect capital income taxes. Corporate capital income paid as interest reduces taxable corporate income; however, capital income used for dividends or retained earnings is taxed at the corporate level. Dividends are also taxed as personal income in the year re-

ceived, and retained earnings can provide capital gains that will eventually be realized and taxed. Consequently, income from real capital assets owned indirectly through corporations is taxed at a different rate from capital income from assets owned by a proprietor or by a partnership.

The existence of intangible capital further complicates matters. Business investments in intangible capital, for example research expenditures, receive more favorable tax treatment than corporate tangible capital investments, since intangible investment can often be counted as a current expense. Income from personal investment in human capital that increases marketable skills is taxed when labor income rises. But human capital that directly augments consumption possibilities (i.e., music lessons adding to enjoyment of symphony concerts) is not taxed.

Some capital owners are not required to pay personal taxes on capital income. Reserve funds of life insurance companies, pension funds, and charitable foundations are prominent examples of tax exempt institutions. Their tax exemption provides a strong incentive for individuals to own stock indirectly, i.e., by owning obligations of pension funds, rather than by personal ownership. Personal taxes on capital income can also be postponed if assets are placed into individual retirement plans, which some people are allowed to use to a limited extent.

Capital losses are not treated symmetrically with capital gains. The maximum loss deduction from ordinary income is \$3,000 per year; however, additional losses can be "carried over" for possible use in later years. The full amount of short-term losses, and 50 percent of long-term losses, are deductible to that extent. Also, 100 percent of capital losses can be deducted from capital gains realized in the same year.

Every individual is continually exerting himself to find out the most advantageous employment for whatever capital he can command. It is his own advantage, indeed, and not that of the society, which he has in view. But the study of his own advantage naturally, or rather necessarily, leads him to prefer that employment which is most advantageous to society. . . . As every individual, therefore, endeavours . . . to employ his capital . . . that its produce may be of greatest value; every individual necessarily labours to render the annual revenue of the society as great as he can. . . . [H]e is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention.

In short, Smith noted that a saver seeking his own maximum return helps maximize the social benefit yielded by valuable resources, the leisure and consumption foregone in order to produce capital.

This result can be changed by a particular tax system, however. Since the taxes described in Box 2 alter rates of return, the taxes can lead investors to substitute lightly taxed assets with low before-tax yields for more highly taxed assets with higher before-tax yields. Since the total return to all elements of society is represented by the before-tax yield, the social return to capital formation declines when such substitutions are made. The welfare loss from tax-induced capital misallocation was estimated by Patric Hendershott and Sheng-Cheng Hu to have been \$7.85 billion in 1976-77. Again, the amount of judgment necessary to make such estimates renders them suggestive rather than definitive.

The discussion above did not take account of an important feature affecting investment, namely that the return to an investment is not precisely known before the investment is made. The risk of low returns would affect investors even in a tax-free economy. The current tax system changes matters even more. When investment losses are possible, capital misallocation can result from the asymmetric treatment of gains and losses. Taking an example, suppose there are three equally likely results one year after investing \$1,000 in a new company: a gain of \$180, a gain of \$90, or a loss of \$90. If investors financed a large number of such companies, they would expect to gain, on average, $\$180 \times \frac{1}{3} + \$90 \times \frac{1}{3} + (-\$90) \times \frac{1}{3} = \60 , a 6 percent before-tax return. With symmetric treatment of gains and losses, an investor in the 50 percent bracket would expect to average \$30, a 3 percent return. But if the investor had previously exhausted his allowable loss deduction, (and expects to exhaust future deductions) he would average $.5 \times \$180 \times \frac{1}{3} + .5 \times \$90 \times \frac{1}{3} + (-\$90) \times \frac{1}{3} = \15 , a 1.5 percent return. Therefore, although on average, investors in new companies might receive higher yields than available from other investments, limited

deductibility of losses could direct savers toward less risky investments with lower social rates of return.

Suppose that full-loss offset, the ability to fully deduct any losses, were available. Would taxes then affect risk taking? James Tobin (1958) and many other writers have argued that, with full-loss offset, a proportional tax would actually increase personal risk taking. Defining risk as the variance of a security's return, Tobin noted that a proportional tax would lower both the risk and yield of each security. Making special assumptions concerning investor preferences and opportunities, Tobin was then able to prove his result. Feldstein (1969) pointed out the restrictiveness of the basic assumptions by Tobin et. al. Either by allowing more general (and intuitively appealing) investor preferences, or by removing the implausible assumption of the existence of a riskless asset, Feldstein was able to show that taxation could generate either greater or lesser amounts of risk taking, depending on unknown parameter values (such as those describing an individual's marginal utility of income). Thus he concluded that the effect of taxation on risk taking was an unanswered empirical question.

Feldstein (1976) conducted an empirical study, using 1962 data. Tax laws at that time were similar to, but not identical with, current laws. Rather than looking at the risk and ownership of particular investments, i.e., IBM stock versus General Motors stock, he studied six classes of financial assets: common and preferred stocks; taxable, municipal, and savings bonds; and bank accounts. At this broad level, he was able to conclude that although "The personal income tax has a very powerful effect on individuals' demands for portfolio assets . . . the portfolio variance of real pretax one-year rate of return is affected very little by the individual's tax situation."

There are many possible portfolio compositions with the same overall level of risk. Of particular interest are portfolios which contain small innovative companies, which are said to be especially dependent on non-dividend-paying equity capital. That dependence is assumed to be due to two factors. The first is a typical small company's cash flow, which can be high on average but subject to wide fluctuation, thereby raising the possibility of bankruptcy in a temporarily bad period if fixed charges are high. The second characteristic is a high rate of return on investment, making it desirable to reinvest capital income rather than pay interest and dividends. These factors have been used to argue for low capital gains

taxes relative to taxes on other forms of income. As one investor put it,

[Due to capital gains incentives] innovation has been encouraged and flourished, technological development has been accelerated, hundreds of thousands of new jobs have been created, the economy has been stimulated in a sound and meaningful manner, exports have been increased dramatically, our nation's standard of living has been improved, the forces of inflation have been resisted, and the national security of our nation has been enhanced.³

Most investors hold diversified portfolios; consequently, the risk of a financial asset is the changed risk of a portfolio with and without that asset. The widely used mean-variance capital asset pricing model explicitly defines this risk. For example, Copeland and Weston (1979) wrote, "[A]t the margin, the change in the contribution of asset i to portfolio risk is simply $COV(R_i, R_p)$." (COV stands for covariance, R_i is the return to owning asset i , and R_p is the return on the rest of the portfolio.) In many cases the earnings of a particular small company will depend on internal or local conditions to a much greater extent than on the general market environment. If so, the covariance between the return to owning that company's stock and the return on the rest of an investor's portfolio may well be small. Consequently, adding the company's stock would not add substantial risk to a diversified portfolio, even if that stock alone was very risky. Thus, it is not clear that investors need special tax breaks to induce them to hold risky individual stocks in diversified portfolios. Also considering Feldstein's empirical findings and the possibility that low taxes on capital gains could favor assets like gold bullion or unimproved land over investment in corporations through bonds or dividend-paying stock, the hypothesis that an optimal amount of corporate risk-taking requires capital gains taxes to be lower than other capital income taxes must be regarded as unproven.

If a capital asset appreciates substantially, the accumulated capital gains tax liability upon realization can deter the asset's sale. This is sometimes referred to as a lock-in effect, which is relevant both for individual investors and for projecting tax revenues under potential alterations of tax laws. Examining data for 1973, Feldstein, Joel Slemrod, and Shlomo Yitzhaki (1978) found evidence that the

amount of realized capital gains is sensitive to marginal tax rates. In fact, they argued that lowering capital gains taxes would actually increase tax revenue by increasing the turnover rate of corporate stock. A study of time series data by Slemrod and Feldstein (1978) also found strong empirical support for a lock-in effect. Finally, Yitzhaki (1979) examined the yield sacrificed by investors due to the lock-in effect. Using 1962 data he found that the lock-in effect lowered the annual return of high tax bracket investors by about $1\frac{1}{2}$ percent. As would be expected, the effect was weaker in low brackets. Unfortunately, no studies have sought lock-in effects for assets other than common stock.

Capital Gains Taxes and Horizontal Equity The current system of taxing capital gains violates horizontal equity in several respects. First, capital income received as realized capital gains is taxed at 40 percent of the rate for other forms of capital income. But for capital assets indirectly owned through corporations, a corporate income tax is collected on capital income before additional taxes are assessed on the person receiving capital gains (assuming a constant price-earnings ratio and positive marginal product of capital, retained earnings would necessarily raise the price of corporate stock). Thus, while the capital gains tax allows commodity or real estate holders to pay lower taxes on capital income than capital owners who receive interest or dividends, the case is less clear for recipients of capital gains on corporate stock. A final judgment would require knowledge of the incidence of the corporate income tax, an unresolved although much debated issue.

In addition, capital gains are not taxed until they are realized. Since the owner of an appreciating asset can often benefit without realizing a gain, capital gains recipients are favored over persons for whom accrued and realized incomes are equal. The latter class includes most recipients of labor income as well as persons earning interest or dividends. Box 3 contains an extreme example of the tax-reducing effect of taxing only realized gains. Moreover, taxing only upon realization especially benefits owners of large, well-diversified asset portfolios. At the same time that a portfolio as a whole can show a gain, individual assets may well incur losses. The owner can then sell enough assets to realize the portfolio gain by selling its losers along with some other assets. This adverse selection could conceivably reduce the owner's capital gains tax to zero.

This concludes the discussion of capital gains taxes in an economy without inflation. In several ways,

³ Reid W. Dennis, executive vice-president, National Venture Capital Association in Congressional testimony (1978). Statements such as this ignore the incentive that low capital gains taxes give to hold assets such as unimproved land or precious metals instead of assets which finance corporate capital purchase (such as bonds or dividend-paying stock).

Box 3**A TAX AVOIDANCE STRATEGY**

Suppose a corporation receives a marginal return r on its capital assets. If it pays this return to stockholders as dividends, a stockholder can keep his wealth constant and consume $(1 - \tau)rV_0$ after personal taxes, where τ is the personal income tax rate and V_0 is the stock's value (for future reference, this amount of consumption will be labeled C^d). The corporation can immediately lower its shareholders' taxes by reinvesting the income; assuming a constant price-earnings ratio, shareholders can receive their income as long-term capital gains which are taxed at 40 percent of the rate on dividend income. There is additional room for lowering taxes, however.

With the corporation reinvesting earnings, the stock value will appreciate at the continuously compounded rate r . In other words, at an instant of time t ,

$$V_t = V_0 e^{rt} \quad (1).$$

Suppose the shareholder can borrow at the market rate of interest which is assumed to be equal to the marginal product of capital, r . We will examine the strategy of having the shareholder borrow and consume an amount equal to accrued capital gains. While this strategy would keep his net worth (assets minus liabilities) intact, it avoids capital gains taxes while generating tax deductions for interest paid.

Letting L_t be the outstanding debt at time t , the assumption of constant net worth equal to V_0 can be written as

$$V_0 = V_t - L_t \quad (2).$$

The amount consumed at an instant of time, C_t^b , is equal to new borrowing, labeled \dot{L}_t , minus after-tax interest on outstanding debt $(1 - \tau)rL_t$, or

$$C_t^b = \dot{L}_t - (1 - \tau)rL_t \quad (3).$$

Now we can substitute the expression for V_t in (1) for V_t in (2) and rearrange terms, yielding

$$L_t = V_0(e^{rt} - 1) \quad (4).$$

Differentiating (4) we can obtain

$$\dot{L}_t = rV_0 e^{rt} \quad (5).$$

Substituting for L_t and \dot{L}_t in (3) and rearranging terms gives

$$C_t^b = \tau r V_0 e^{rt} + (1 - \tau)rV_0 \quad (6).$$

How does this compare with consumption from dividends, C^d ? Remembering that $C^d = (1 - \tau)rV_0$ for all t , we get

$$C^b - C^d = \tau r V_0 e^{rt} \quad (7).$$

In words, if a stockholder follows the strategy of (1) buying stock issued by a company which reinvests all earnings and (2) borrowing and consuming an amount equal to accrued capital gains, then he can consume more than if he bought stock which paid all earnings as dividends (in both cases keeping net worth constant). The additional consumption potential results from totally avoiding income tax by receiving income as unrealized capital gains. Moreover, the additional consumption increases with a taxpayer's marginal tax rate as well as the length of time the stock is held.

Although oversimplified in many places, this example illustrates how taxing only on realization can create strategies for tax avoidance, especially by taxpayers facing high marginal tax rates.

the current approach to taxing capital gains contributes to a system that can tax persons with the same before-tax income at different rates. Such a system is inconsistent with horizontal equity, and can also lead to capital misallocation. The next step is to add the complicating factor of inflation into the picture.

INFLATION, CAPITAL GAINS TAXES, AND POSSIBLE STRUCTURAL CHANGES

In the absence of taxes it is possible to imagine a neutral inflation with no relative price changes as all prices rise equiproportionally, including prices of capital goods. By definition such price increases are

not capital income, since capital owners' feasible consumption possibilities have not expanded. Such increases can be labeled inflation effects (as opposed to net capital revaluations which result from relative price changes and which do represent changes in capital owners' consumption possibilities). The sum of net capital revaluations and inflation effects can be designated gross capital revaluations.⁴ Tax regulations do not distinguish between gross and net

⁴ In place of the terms "gross capital gains" and "net capital gains" some authors use "nominal capital gains" and "real capital gains," respectively. These terms would be confusing in this paper, however, due to our earlier distinction between real and financial capital.

gains, since taxable capital gains are defined as gross gains. Thus the tax rate on net capital revaluations increases with the rate of inflation.

Using tax returns from 1973, Feldstein and Slemrod (1978) examined the effect of inflation on capital gains taxes levied on common stock transactions. While they found aggregate gross capital gains reported at \$4.6 billion, adjusting for inflation converted the reported gain to a \$900 million net loss. According to their study, the tax burden was by no means uniform. Investors whose adjusted gross incomes were under \$100,000 showed a \$3.3 billion net loss, and also faced capital gains taxes of \$258 million. Higher income investors, however, had a net gain of \$2.4 billion, and a tax bill for \$880 million. The uneven distribution of the tax burden can also be seen another way. Of taxpayers who reported a \$2,000-\$5,000 gross capital gain, half had a net gain in the same range, one-third had a net gain between \$1,000 and \$2,000, and one-sixth had either a net loss, or a net gain less than \$1,000.

Interpreting their study is not a completely straightforward matter, however. The authors only had access to data on realized gains. Since owners of large portfolios can lower taxes by offsetting gains and losses, accrued income can be substantially higher than the realized income provided by data from tax returns.

In short, inflation can worsen horizontal equity violations by the capital gains tax. Investors who receive no net income may nevertheless face tax obligations. Moreover, investors in the same tax bracket with the same net gains will pay different taxes if the cumulative price level change differed over their holding periods.

Possible Structural Changes Even in a world without inflation, capital gains taxes are part of a tax system inconsistent with horizontal equity, a system that can misallocate the flow of investment funds. With inflation, capital gains taxes can increase capital income tax rates in a capricious manner. Such distortions are not inevitable, however. Changes could be made in the tax laws which would either eliminate or substantially lessen the worst distortions. One possibility is taxing an individual's entire capital income at the same rate, his labor income tax rate. Compared to the current situation, achieving that goal would improve capital allocation and horizontal equity simply by equalizing tax rates on capital income. No judgment is made on revenue effects of proposed changes; rather, an optimum level of tax rates is assumed.

A large number of changes are involved in achieving the goal of equal tax rates. Many are only loosely related to capital gains taxes and will not be considered here. Examples of such topics are taxing the income from assets such as owner-occupied housing and removing the inflation premium before taxation of interest income.

Many other changes are easily dealt with. Taxing net rather than gross capital revaluations could be accomplished by adjusting the purchase price of an asset in line with the rise in some price index. Other changes could actually simplify tax computation, including treating losses in the same manner as gains and removing the 60 percent capital gains exclusion. Finally, lowering the maximum tax rate on capital income to 50 percent (the maximum on labor income) would only involve changing a few tax tables. These changes move in the direction of taxing all income at the same rate.

Some effects of the particular changes mentioned in the preceding paragraph have been projected by Feldstein and Slemrod (1978). Applied to 1973 corporate stock transactions, the above changes would have reduced capital gains taxes by 28 percent.⁵ Potential tax reductions stemming from adjusting the purchase price for inflation, allowing full-loss offset, and lowering the maximum rate would have been partially offset by higher taxes from eliminating the capital gains exclusion. Taxpayers with adjusted gross incomes above \$100,000 would have faced a tax increase; however, those below \$100,000 would have received a substantial tax cut. For example, taxpayers in the \$10,000-\$20,000 income range had capital gains tax bills for \$23 million; the proposed changes would have given them a \$112 million tax credit. Conversely, investors with incomes above \$500,000, who actually had a \$374 million tax liability would have had a \$520 million tax bill with the proposed changes.

Such changes are unfortunately not sufficient to equalize capital income tax rates. Two major stumbling blocks remain: the deferral of capital gains taxes by assessing taxes only when gains are realized, and the corporate income tax.

Capital Gains Tax Deferral Although it was argued above that taxing only realized gains is inconsistent with horizontal equity, there are arguments in favor of taxing only realized gains. Taxing

⁵ The authors ignore the lock-in effect by only examining transactions which actually occurred. Also, as mentioned above, their reliance on realized rather than accrued income makes their results rather difficult to interpret.

accrued capital gains requires periodic valuation of capital assets. While actively traded assets such as corporate stock or precious metals are easily valued, values of other assets such as real estate or paintings can be only approximately estimated, often at considerable expense. Also, if an indivisible asset like a house appreciates, it might be difficult to acquire funds to pay taxes on accrued gains.

Despite these objections, some type of accrual taxation can be imagined. Asset owners could include end of year asset values on tax returns, which would also serve as the basis for the next year's return. For an asset not priced on a stock or commodity exchange, alternative values such as declared insurance valuations or local property tax assessments could be used to check the reasonableness of an owner's estimates. Spot checks and penalties for underestimates of price change might be used to deter against large underestimates. Unfortunately, compliance and enforcement costs could well be large. As to indivisibility, homeowners could arrange to include capital gains taxes in monthly payments, as is currently done with local property taxes. If only net gains were taxed, this would probably not be an insurmountable burden. Other indivisible assets, such as paintings, are presumably owned by persons who hold large diversified portfolios, so that divisible assets could be sold to pay taxes on appreciation of indivisible assets.

The Corporate Income Tax In order to tax capital incomes equally, there would have to be an integration of corporate and personal income taxes. Otherwise, investment undertaken by a corporation would not be taxed at the same rate as identical investment undertaken by a proprietor or by a partnership. However, there is no simple approach to integration without major drawbacks.

One approach to integration would eliminate the corporate income tax. Corporate capital income would still be taxed when received as interest or by shareholders as capital gains and dividends. A major drawback is that many owners of corporate stock—pension funds, certain foreign investors, etc.—do not pay personal income taxes. To the extent that they own corporate stock, capital income would not be taxed.

To remedy this defect, it has been proposed that the corporate income tax be treated as a withholding tax. Shareholders would periodically receive a statement giving their pro rata share of the corporate income tax paid. On a shareholder's personal tax return, this would either decrease his tax liability or increase his refund. However, special features in

the tax code such as the investment tax credit and employee stock ownership plans would quickly lose their appeal under this type of integration. A \$1 investment tax credit, for example, would lower corporate tax payments by \$1, but it would also lower shareholders' tax credits by \$1. Thus the net effect on taxes is zero. Consequently, this form of integration would negate the effects of many features that have acquired vocal constituencies.

The opposite approach would be to retain the tax on corporate income but to eliminate personal taxes on interest, dividends, and capital gains on corporate stock (to the extent that capital gains result from retained earnings). However, unless a shareholder's marginal personal tax rate happened to equal the corporate rate, capital income would still not be taxed at a rate equal to each taxpayer's personal rate. Thus this form of integration is most appropriate when there is a proportional personal tax system.

A variation on this theme would add an individual stockholder's share of taxable corporate profits to his taxable personal income while treating his share of the corporate income tax as personal tax withheld. Thus low income shareholders would receive refunds while high income shareholders would have to pay additional taxes. A drawback occurs to the extent that a corporation's ultimate tax payment differs from its first estimate, thereby causing intertemporal inequity among shareholders. Nevertheless, objections to this form of integration appear less persuasive than objections to either the current system or other methods of integration.

CONCLUSION

The capital gains tax plays a key role in a tax system which taxes different forms of capital income at widely varying rates. While this conclusion is true without regard to the price level, inflation results in taxes on spurious capital gains, thereby worsening an already questionable tax structure.

There are changes which could make tax rates on income from different sources more equal. The existence of such changes does not mean that immediate change is necessarily desirable, however.

Current capital asset values are based on the current tax structure. Unanticipated changes, including those mentioned above, would alter asset values and would injure many asset holders. To ameliorate such losses might require a lengthy phase-in period for tax changes.

That, in turn, leads to another cost of change. The changes discussed above might well substantially increase the burden of tax preparation and collection.

A gradual phase-in would further enlarge that burden.

Thus we conclude on an ambiguous note. While capital gains taxes are imperfect with respect to horizontal equity and economic efficiency, substantial

changes would be necessary to approach those goals. In light of our highly uncertain estimates of the magnitudes of costs and benefits of change, it is not surprising that an admittedly imperfect tax structure has endured for many years.

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