

Chapter 1

A. The Federal Tax Law

This book serves as an introduction to the federal income tax. It does not cover state income tax rules nor other federal taxes such as estate and gift taxes. In terms of revenue raised, the federal income tax is very large, raising about \$294 billion which represents approximately 5% of the federal budget. Many of the rules we will cover apply to all taxpayers including individuals (often called “natural persons”¹) as well as corporations. There are also several special rules that apply only to corporate taxpayers, and with minor exceptions we will not look at those special rules.

As you may already know, the federal income tax is a collection of federal laws currently found in volume 26 of the United States Code and usually is referred to as the Internal Revenue Code, currently the Internal Revenue Code of 1986 (as amended). Subtitle A is then divided into multiple Chapters, each Chapter is divided into various Subchapters, etc. Subtitle A of that volume concerns the income taxes.

The Treasury Department is the administrative agency charged with interpreting and enforcing the federal tax laws. Treasury promulgates regulations interpreting and clarifying the tax laws, and the income tax regulations almost always start with “1.” and then are followed by the applicable Code section, so that, for example, the regulations promulgated under section 61 are 1.61-1, 1.61-2, etc. These regulations are promulgated in accordance with the federal Administrative Procedure Act and entitled to the same level of deference that all federal regulations enjoy.

The Treasury Department, through the Internal Revenue Service (which is a part of the Treasury Department), offers other interpretive guidance. Published guidance includes Revenue Rulings and Revenue Procedures, with the former speaking to substantive issues such as who is taxed on what, while the latter focuses on procedural issues such as who must sign particular forms as well as when and how certain forms must be filed. Private guidance can be requested by a taxpayer on many issues by submitting a complete description of the proposed transaction. If the IRS is willing to provide its conclusion as to the tax consequences of such a transaction, a *private letter ruling* (“PLR”) will be issued to the requesting taxpayer. Guidance provided via PLR cannot be relied upon by any other taxpayer.

¹ See §7701(a)(1). The internal Revenue Code is a detailed statute, and an assertion of a tax outcome should include a citation to the statute (and to applicable regulations) whenever possible. In this book, Code sections in footnotes are for your convenience and are not part of the assigned reading. However, **Code section and other citations in the text are considered part of the assigned readings along with regulations promulgated under such Code sections.**

B. The Basic Issues

To compute a taxpayer's tax liability, we multiply his or her "taxable income" by the appropriate tax rate (or rates). In defining taxable income, we should try to ensure that like taxpayers are taxed alike.

If taxpayer A and taxpayer B seem to be in the same economic position, then they should pay the same tax. For example, suppose A buys a share of stock for \$100 and sells it for \$150 while B buys a different share of stock for \$200 and sells it for \$250. The amounts A and B receive are different, but they each made a profit of \$50 and should be taxed the same. This is called *horizontal equity*. If one taxpayer is better off than another, then they should be taxed differently and the one who does better should be taxed more. This is called *vertical equity*.

If I purchase a share of stock for \$100, then I should have income only if I sell it for more than \$100. The first \$100 of sale proceeds, in other words, is a "return of capital" while anything beyond that is profit. The income tax is a tax on profit.

Suppose a lawyer, a sole practitioner, bills and collects \$100,000 from her clients one year. How much taxable income should she report? To answer that question, we need to know the amounts spent to generate the \$100,000 such as the cost of supplies, utilities, secretarial help, and so forth. Once again, we want to tax only profit. To do this, we subtract from the lawyer's receipts (called "gross income") the various costs incurred in producing those receipts (called "deductions" because they are deducted from gross income to arrive at taxable income). Thus, *taxable income equals gross income less deductions*.²

Suppose an associate at a law firm is paid \$100,000 when taxes are imposed at a flat 40% rate and the associate has no deductions. The associate will owe \$40,000 in income taxes and will retain \$60,000 to spend. Suppose the associate wishes to purchase a boat that sells for \$25,000. If the boat is purchased out of current funds, the associate will have \$35,000 remaining: \$100,000 income less \$40,000 in taxes and less \$25,000 for the boat.

Suppose the associate wishes to purchase the boat at the start of the year, before he has been paid. The seller agrees to deliver the boat immediately in exchange for payment at the end of the year, but the cost is raised to \$28,000: \$25,000 for the boat and \$3,000 interest. If interest is not deductible, the associate will have \$32,000 after the purchase. But what if the interest is deductible (it is not deductible under current law³ but for many years it was deductible)? Now, the associate's taxable income is only \$97,000, reducing the associate's income tax liability to \$38,800. Accordingly, the associate will end up with \$100,000 less \$38,800 in income taxes and less \$28,000 for the boat, leaving \$33,200. This is \$1,200 more than the associate would have if the interest were not deductible. In

² See §63(a).

³ See §163(h)(1).

effect, the interest deduction has reduced the *after-tax cost* of the boat from \$28,000 to \$26,800.

Why is the benefit of the interest deduction exactly \$1,200? A deduction reduces taxable income dollar for dollar so that a \$3,000 interest deduction allows the associate to avoid paying taxes on \$3,000 of income. Because we are assuming the associate is taxed at a flat 40% rate, avoiding income taxes on \$3,000 is worth \$3,000 times 40%, or \$1,200. *The dollar value of a deduction equals the dollar amount of the deduction times the applicable tax rate.*

On these facts, who benefits from the interest deduction? In one sense, it is the associate. But presumably the interest deduction will allow the seller of the boat to raise the price somewhat. More generally, if two parties to a transaction can reduce the amount of taxes generated by the transaction, they then must negotiate over how to split the cost saved. Until 2018, most business meals (especially those eaten while away from home on business) were deductible. Who do you think has lobbied heavily for the deduction of business meals? Presumably hotels that have restaurants.

Some activities generate taxable income while others avoid the imposition of the income tax. For example, earning an extra hour of wages generates taxable income while sitting at home watching a rerun of *Law and Order* does not. Again assuming a flat 40% income tax rate, earning an extra \$20 of income leaves the taxpayer with only \$12 after taxes. If the taxpayer values an hour of *Law and Order* as worth \$15, then this taxpayer would work rather than watch in the absence of an income tax but will watch rather than earn because of the income tax. This is called a *substitutive effect* of the income tax because it causes a taxpayer to substitute one behavior for another.

C. The Tax Base

We use the term “tax base” to describe all of the items that constitute taxable income when received. That is, the tax base is a description of what is taxable to society as a whole and not to a particular member of that society. So, for example, wages, rents, and gains from the sale of property are components of the income tax base. On the other hand, interest on state and local bonds, some prizes, awards, scholarships, and fellowships are not part of the current tax base. Note that the broader the tax base, the greater the amount of revenue that will be raised with a fixed set of rates. When looking at reform proposals, look not only at the proposed set of rates but also at the changes to the tax base.

Because the tax base of an income tax is profit (broadly defined), one way of defining the income tax base is the sum of all accessions to wealth less the costs of producing those accessions. But there is an alternative definition that often is more useful, an alternative that focuses not on what comes in but rather on the uses of a taxpayer’s assets.

What might a taxpayer do with her receipts? There are three possibilities: (A) reinvest the income in some way to yield additional receipts in the current taxable year; (B) reinvest the income in a way that will yield additional receipts in a future year; and (C) spend the receipts on some nonprofit-seeking activity. Expenditures described in (A) are the cost of producing current income and so should be deductible in the current year. Expenditures described in (B) (usually called amounts saved or invested) should only be deducted in the year in which they are spent to produce then-current receipts (and should never be deducted if spent in the future on nonprofit-seeking activity). Expenditures in (C) (usually called consumption or personal expenditures) should not be deducted because they are not costs of producing income.

From the above, a taxpayer's taxable income should equal the sum of consumption in the current year plus the net increase (or minus the net decrease) in savings during the current year. Note that consumption funded out of prior savings does not constitute current income: rather, it was taxable income in the year received and invested. Describing income as the sum of current consumption plus the current increase (if any) in savings is called the *Haig-Simons* definition of income.⁴

Another way to describe the tax base under a Haig-Simons definition is that taxable income equals amounts *available for consumption* whether consumed or not (amounts saved could have been consumed). Using income as the appropriate tax base is premised on the notion that it is fair to impose the cost of government on people's ability to pay as measured by their annual increase in the ability to consume. An alternative definition of income that is often suggested is a consumption tax base: that is, amounts actually consumed by a taxpayer during the taxable year. Another way to describe the same thing is to say that a consumption tax is nothing but an income tax with a deduction for amounts saved (or invested) during the year. That is, while the income tax base consists of a taxpayer's annual increase in amounts *available for consumption*, the consumption tax base equals only *actual consumption*.

In an income tax, returns to capital as well as returns to labor are subject to taxation. For example, if a taxpayer purchases an investment asset for \$1,000 that will produce annual income of \$60 per year (that is, a 6% annual return), that \$60 per year will be subject to the income tax. If the tax rate is 40%, then the tax owed each year will equal \$24, leaving the taxpayer with only \$36 per year in after-tax funds. That is a 3.6% after-tax return which equals 60% of the pre-tax return of 6%. In summary, in exchange for giving up \$1,000 of immediate consumption, the taxpayer can consume \$36 per year indefinitely (assuming investments return 6% per year and the tax rate is 40%).

The analysis is the same in a consumption tax except that the taxpayer would be entitled to claim a \$1,000 deduction when the investment was purchased. Assuming the taxpayer

⁴ Named after Henry Simons and Robert M. Haig. See, e.g., Henry C. Simons, *Personal Income Taxation* 50 (1938).

has other income that can be offset by the deduction, the immediate deduction is worth \$400 (i.e., 40% of \$1,000). Put another way, in a consumption tax world the after-tax cost of the investment equals only \$600 because of the initial deduction. Since we assumed that the taxpayer was willing to give up \$1,000 of immediate consumption to make the investment, then in the consumption tax world the taxpayer can invest more before taxes to equalize the after-tax cost. In particular, if the taxpayer is willing to give up a full \$1,000 of consumption in the current year, then the taxpayer could invest not merely \$1,000 but \$1,667 because a 40% deduction of \$1,667 equal \$667 so that the after-tax cost of a *deductible* investment of \$1,667 is \$1,000 (that is, \$1667 paid for the investment less the \$1667 deduction (worth \$667) from the government).

If this taxpayer invests \$1,667 at a 6% return, then the annual 6% income will be \$100. If that is then used for consumption, it will be taxed at 40%, leaving \$60 after taxes. Given that the after-tax cost of the investment was only \$1,000, an after-tax return of \$60 per year is 6% of the investment's cost which means the net effective tax rate on the income was 0%. To be sure, the nominal tax rate was 40% per year. But the value of the initial deduction just offsets the annual tax imposition so that the net effect is an after-tax return of 6%, precisely the same as if the investment cost had not been deductible and the annual return had been tax-free.

If a consumption tax does not fall on returns to capital, who pays the tax? Labor income remains fully taxable because there is no initial deduction, so that labor income is fully taxable both nominally and effectively. Note that because a consumption tax has a much smaller base than an income tax (the income tax is imposed on both returns to labor and returns to capital), the tax rate imposed on labor income will have to be greater under a consumption tax as compared with an equivalent income tax. Many people believe that a consumption tax can be implemented more simply than an income tax and that there are ways to make the two equivalent over a taxpayer's lifetime, but that discussion will have to be left for another day.

D. The Tax Rates

The tax rates applicable to noncorporate taxpayers can be found in §1. Because Congress keeps adding temporary changes to the tax rate schedules, the rates applicable to the current year are found in §1(j). Note that there are separate rate schedules for married individuals filing a joint return, heads of households, unmarried individuals, married individuals filing separate returns, as well as estates and trusts.

Look at the rate schedule for married couples. The first \$19,050 of taxable income is taxed at a fixed 10%. Income above \$19,050 but not greater than \$77,400 is taxed at 12%. Thus, for a married couple having exactly \$82,500 of income will pay 10% of \$19,050 (or \$1,905) plus 12% of [\$77,400 less \$19,050] (or \$7,002), for a total of \$8,907. The rate brackets continue to climb until taxable income in excess of \$600,000 is taxed at the highest rate of 37%.

There are two important things to notice about the rate schedules. First, there are distinct schedules for differently situated taxpayers. Second, each rate schedule is progressive in the sense that the tax rates increase as the amount of taxable income increases. Note also that even taxpayers with substantial income enjoy the benefit of the lower rate brackets. For example, a married couple having taxable income in excess of \$600,000 will still pay only 10% tax on \$19,050, 12% on \$58,350, etc.

There are additional tax rate provisions. Corporations are taxed at a flat rate of 21% under §11. Net long-term capital gain and dividends are taxed pursuant to §1(h). Section 199A can be thought of as adjusting the rate schedules for certain non-corporate taxpayers. These provisions will be considered later in the course.

If Congress wants to raise additional funds, it can do so in two ways. First, it can increase the tax rates. Second, it can broaden the tax base by making more accessions to wealth taxable (or taxable sooner). If Congress wants to lower the over-all tax burden, it can lower the rates or narrow the tax base. Conceptionally, the specification of the tax base is distinct from the tax rates.

A taxpayer's *marginal tax rate* is the rate at which the next dollar of taxable income will be taxed. A taxpayer's *average tax rate* is the ratio of the taxpayer's tax liability divided by the taxpayer's taxable income. In a system with progressive taxes, a taxpayer's marginal tax rate will always be greater than or equal to the taxpayer's average tax rate. *Can you see when they will be equal?*

E. Cost Recovery, Depreciation and Basis

Suppose you buy widgets for \$8.00 apiece and sell them for \$10.00 apiece. Your taxable income should be \$2.00 per widget since we tax net income (profit) rather than gross receipts.

Now suppose you purchase a widget-making machine for \$80.00. This machine will make 10 widgets and then it will be worthless. If you can sell those widgets for \$10.00 each, how much income should you have over the life of the machine? \$20.00, since your total receipts will equal \$100.00 and the cost of generating those receipts was \$80.00. Your profit equals receipts less costs.

Now suppose you can purchase an upgraded widget-making machine for \$100.00. This machine will make an indefinite number of widgets, but it will last only 2 years after which it will be worthless. In year 1, you make and sell 10 widgets while in year 2 you make and sell 15 widgets, selling each widget for \$10.00.

How much taxable income do you have over two years? Since you took in \$250.00 and spent \$100.00, your income is \$150.00. How should that profit be allocated between years 1 and 2? There are many possible answers to this question. How could you justify an allocation of \$0 income in year 1 and \$150.00 in year 2? Or \$50.00 in year 1 and \$100.00 in year 2? Or \$60.00 in year 1 and \$90.00 in year 2? Which allocation would you most prefer, and which would you least prefer?

The various ways of allocating costs over time are called “depreciation” for tangible property, “amortization” for intangible property, “depletion” for mineral rights, and more generally “cost recovery.” We will study some of the methods of cost recovery in detail later. Recall that the concept of “cost recovery” is missing from a consumption tax because either the investment is deductible in full when made (so that full cost recovery is allowed immediately) or income from the investment is exempted (in which case cost recovery is superfluous). Eliminating the need for cost recovery is one of the most important simplifications offered by a consumption tax as compared with an income tax.

We use the term “basis” (more accurately, “adjusted basis”) to mean the amount of a taxpayer’s investment in some profit-making asset less amounts that have already been used to offset receipts. So, for example, in the example of the upgraded widget machine, the taxpayer’s initial basis equals \$100, and if we allow the taxpayer to use \$40 of that cost in the first year to offset receipts, then the taxpayer’s adjusted basis will be \$60.

F. The Value of Deferral

What is the current value of the right to receive \$100.00 in one year? Suppose federal short-term bonds (as close to a risk-free investment as there is) are paying 6% per year, and assume that the tax rate is 40%. On these numbers, if a taxpayer invests \$96.53 in a one-year federal bond, the taxpayer will have \$102.32 at the end of the year. The taxpayer will have to pay 40% in taxes on the interest income of \$5.79, or \$2.32, leaving the taxpayer exactly \$100.00 after-taxes. Thus, the present value of the right to receive \$100.00 in one year is \$96.53, assuming the taxpayer’s *after-tax, risk-free rate of return* equals 3.6% (that is, 60% of 6%).

What is the present value of the right to receive \$100 in two years, again assuming an after-tax, risk-free rate of return of 3.6%? The answer is \$93.18 because that amount, invested at 6% and subject to an annual tax of 40%, will yield \$100 after two years. More generally, the present value of the right to receive \$*I* in *n* years, assuming an after-tax rate of return of *r*, is:

$$PV = \$I / (1 + r)^n$$

Most investments can be expected to produce income over time. The present value of such an investment is nothing but the total of all the present values of the income the investment will generate. For example, the present value of an investment that will generate \$100 at the end of its first year and a \$150 one year later can be computed (assuming an after-tax rate of return of 3.6%) as follows:

$$PV = [100 / (1.036)] + [150 / (1.036)^2]$$

Computing the present value of a future event often is called discounting, and the interest rate used in the denominator of the fraction (here, 3.6%) is called the *discount factor*. We

can use the same type of analysis to measure the present burden (or cost) of paying an obligation in the future. For example, the obligation of paying \$100 in one year, assuming an after-tax, risk-free investment opportunity of 3.6% is \$96.53 because the taxpayer can invest that amount immediately and in one year have \$100.00 after taxes to discharge the liability. Thus, discounting future receipts and future obligations is the same calculation.

The following chart sets forth the present value of a right to receive \$100 (or the present cost of the obligation to pay \$100) in n years, discounted at a rate of r , when n goes from 1 through 10 years and r can be 1% through 10%.

	1	2	3	4	5	6	7	8	9	10
1%	99.01	98.03	97.06	96.10	95.15	94.20	93.27	92.35	91.43	80.53
2%	98.04	96.12	94.23	92.38	90.57	88.80	87.06	85.35	83.68	82.03
3%	97.09	94.26	91.51	88.85	86.26	83.75	81.31	78.94	76.64	74.41
4%	96.15	92.46	88.90	85.48	82.19	79.03	75.99	73.07	70.26	67.56
5%	95.24	90.70	86.38	82.27	78.35	74.62	71.07	67.68	64.46	61.39
6%	94.34	89.00	83.96	79.21	74.73	70.50	66.51	62.74	59.19	55.84
7%	93.46	87.34	81.63	76.29	71.30	68.63	62.27	58.20	54.39	50.83
8%	92.59	85.73	79.38	73.50	68.06	63.02	58.35	54.03	50.02	46.32
9%	91.74	84.17	77.22	70.84	64.99	59.63	54.70	50.19	46.04	42.24
10%	90.91	82.64	75.13	68.30	62.09	56.45	51.32	46.65	42.41	38.55

Question

1. For any fixed row, the values get smaller moving from left to right. Similarly, for any fixed column, the numbers get smaller moving from top to bottom. Why?