Understanding Progressive Tax Rates

Ag Decision Maker
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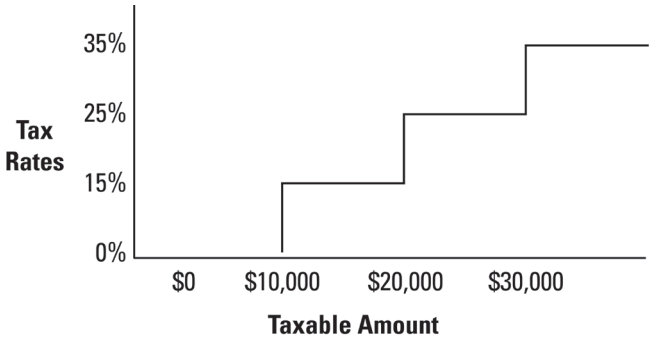
Progressive tax rates are common in the United States. The major progressive tax rate is the individual income tax. It is based on the premise that high income individuals should pay tax on a higher percentage of their incomes than low income individuals. This is not to be confused with the simple fact that high income individuals pay more tax because their taxable incomes are higher. For example, if everyone has the same tax rate (e.g., flat tax), then high income individuals will pay more tax than low income individuals simply because their incomes are higher. Conversely, progressive tax rates mean that high income individuals pay at a higher tax rate than low income individuals. High income individuals not only pay more tax because their incomes are higher but they also pay a larger portion of their incomes in taxes than low income individuals because their tax rates are higher.

Figure 1. Example Progressive Tax Rates



There is another confusing aspect of progressive tax rates. Although higher levels of taxable income are taxed at a higher tax rate, it does not mean that all of the income is taxed at the higher tax rate. For example, you often hear someone state that they are in a certain tax bracket or tax rate (e.g., 35%). This does not mean that all of their taxable income is taxed at the 35% rate. Rather, it means that only the last portion of their income is taxed at the 35% rate. The other portions of their income are taxed at lower tax rates.

For example, if we apply a taxable income of $32,000 to the progressive tax rates in Figure 1, various portions of the taxable income will be taxed at the 0%, 15%, 25%, and 35% tax rates. The computation of the tax is shown in Table 1. The first $10,000 of taxable income will not be taxed. The second $10,000 will be taxed at the 15% rate for a tax of $1,500. The third $10,000 will be taxed at the 25% rate for a tax of $2,500. The last $2,000 will be taxed at the rate of 35% for a tax of $700. The total tax on the $32,000 is $4,700 (0 + $1,500 + $2,500 + $700).

Table 1. Tax on $32,000 (Based on Figure 1 Tax Rates)

Taxable Amount		Tax Rate		Tax
$10,000 (0 to $10,000)	×	0%	= $	0
$10,000 ($10,000 to $20,000)	×	15%	= $	1,500
$10,000 ($20,000 to $30,000)	×	25%	= $	2,500
$2,000 ($30,000 to $35,000)	×	35%	= $	700
Total			= $	4,700

Marginal and Average Tax Rates

The **marginal** tax rate refers to the tax on the last dollar of taxable income. For the example used in Table 1, the marginal tax rate on the last dollar of the $32,000 of taxable income is 35%. So, if another dollar is added to taxable income, it will be taxed at 35%, and 35 cents more tax will be owed. Conversely, if taxable income is reduced by a dollar (e.g., a dollar of tax deduction), the tax will be reduced by 35 cents. So the marginal tax rate is important in computing the impact of more or less taxable income. The marginal tax rate stays the same until taxable income increases to the point the next tax bracket is entered. In this case, the next tax bracket percentage becomes the marginal tax rate.

The **average** tax rate refers to the percentage of the entire amount of taxable income that is paid in tax. It takes into account all of the tax rates. The average tax rate is computed by dividing the total tax by the total taxable income. In the example, $4,700 of tax is paid on $32,000 of taxable income, so the average

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tax rate is 14.7% ($4,700 / $32,000 = 14.7%). Of the $32,000 of taxable income, 14.7% is paid in tax ($4,700).

A comparison of marginal and average tax rates is shown in Table 2. While the marginal tax rates increase in a stair-step fashion, the average tax rates increase gradually over time and are lower than the marginal tax rates.

Using the marginal and average tax rates is important when budgeting after tax returns for a taxable entity. If a budget is created for an entire entity, the average tax rate should be used for computing the amount of tax. Conversely, if a budget is created for only a portion of an entity such as an expansion, then the marginal tax rate should be used for computing the amount of tax.

For more information on business development, visit the Ag Decision Maker website, www.extension.iastate.edu/agdm/vdanalysis.html.

Table 2. Comparison of Marginal and Average Tax Rates

Taxable Amount	Marginal Tax Rate	Average Tax Rate
$0	0%	0.0%
$1,000	0%	0.0%
$2,000	0%	0.0%
$3,000	0%	0.0%
$4,000	0%	0.0%
$5,000	0%	0.0%
$6,000	0%	0.0%
$7,000	0%	0.0%
$8,000	0%	0.0%
$9,000	0%	0.0%
$10,000	0%	0.0%
$11,000	15%	1.4%
$12,000	15%	2.5%
$13,000	15%	3.5%
$14,000	15%	4.3%
$15,000	15%	5.0%
$16,000	15%	5.6%
$17,000	15%	6.2%
$18,000	15%	6.7%
$19,000	15%	7.1%
$20,000	15%	7.5%
$21,000	25%	8.3%
$22,000	25%	9.1%
$23,000	25%	9.8%
$24,000	25%	10.4%
$25,000	25%	11.0%
$26,000	25%	11.5%
$27,000	25%	12.0%
$28,000	25%	12.5%
$29,000	25%	12.9%
$30,000	25%	13.3%
$31,000	35%	14.0%
$32,000	35%	14.7%

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