taxnotes®

Volume 159, Number 8 ■ May 21, 2018

Marginal Income Tax Rates of the Passthrough Business Deduction

by Libin Zhang

Reprinted from *Tax Notes*, May 21, 2018, p. 1139

Marginal Income Tax Rates of the Passthrough Business Deduction

by Libin Zhang

Libin Zhang

Libin Zhang is a partner at Roberts & Holland LLP in New York.

In this article, Zhang discusses the new deductions provided by section 199A, which was added by the Tax Cuts and Jobs Act.

The Tax Cuts and Jobs Act (P.L. 115-97) added new section 199A, which generally provides a 20 percent deduction in 2018 through 2025 for an individual's ordinary income from some passthrough trades and businesses. For a lower-income taxpayer, the 20 percent deduction is generally available for all trades and businesses, but that greater availability is gradually phased out for a taxpayer with between $157,500 and $207,500 of taxable income in 2018 (or between $315,000 and $415,000 of taxable income on a joint return). A taxpayer subject to the phaseout may have a marginal federal income tax rate exceeding 60 percent, or even higher, if other income taxes and phaseouts are taken into account.

Introduction

Section 199A allows a noncorporate taxpayer to claim a federal income tax deduction generally equal to 20 percent of specified ordinary income from any "qualified trade or business" in 2018 through 2025.

Section 199A(d)(1) provides that a qualified trade or business is any trade or business other than (A) a specified service trade or business (SSTB) or (B) the trade or business of performing services as an employee. An SSTB is defined by reference to section 1202(e)(3)(A), as modified to refer to "any trade or business involving the performance of services in the fields of health, law, accounting, actuarial science, performing arts, consulting, athletics, financial services, brokerage services, or any trade or business where the principal asset of such trade or business is the reputation or skill of 1 or more of its employees or owners." An SSTB also generally includes any trade or business that involves the performance of services that consists of investing and investment management, trading, or dealing in securities, partnership interests, or commodities.

The SSTB limitation effectively prevents a taxpayer from claiming the 20 percent section 199A deduction for any income from an SSTB. However, section 199A(d)(3)(A) provides that the SSTB limitation does not apply to a taxpayer with taxable income (before the section 199A deduction) that is less than a threshold amount of $157,500 (or $315,000 for a joint return) in 2018. The threshold amount is adjusted for inflation in 2019 through 2025.

For a taxpayer with taxable income of between $157,500 and $207,500 (or between $315,000 and $415,000 for a joint return) in 2018, the allowed section 199A deduction for SSTB income is gradually reduced over a $50,000 (or $100,000) phaseout range. For example, a single taxpayer with $177,500 of SSTB ordinary income in 2018, and no other income or deductions, would generally have its otherwise allowable section 199A deduction of $35,500 (that is, 20 percent of $177,500) reduced by 40 percent (the $20,000 excess of the $177,500 taxable income over the $157,500 threshold amount, divided by the $50,000 phaseout range), resulting in a $21,300 section 199A deduction.

In addition to the SSTB limitation, section 199A(b)(2) provides that the section 199A deduction for any qualified trade or business is generally limited to the greater of (1) 50 percent of the W-2 wages of the qualified trade or business, or (2) 25 percent of the W-2 wages of the qualified trade or business plus 2.5 percent of the unadjusted tax basis of specified depreciable property used in the qualified trade or business. The W-2 wages and depreciable property limitation does not apply to a taxpayer with taxable income less than the threshold amount, and the limitation is subject to a phaseout under section 199A(b)(3)(B) that is numerically identical to the section 199A(d)(3)(A) SSTB limitation phaseout.

Section 199A(b)(1)(B) provides that the section 199A deduction, for a qualified trade or business of a taxpayer, is allowed for 20 percent of certain ordinary income attributable to an interest in a publicly traded partnership (PTP). As the PTP income must be from a qualified trade or business, the same SSTB limitation and phaseout rules apply to the section 199A deduction for PTP income.

Based on the graduated statutory federal income tax rates that range between 10 percent and 37 percent in 2018 through 2025, the section 199A deduction of 20 percent effectively reduces the marginal federal income tax rate by between 2 percent and 7.4 percent:

Federal Income Tax Rates

Statutory Federal Income Tax Rate	Effective Federal Income Tax Rate With Section 199A Deduction	Beginning Of 2018 Tax Bracket (single taxpayer)	Beginning Of 2018 Tax Bracket (married, filing jointly)
10 percent	8 percent	$0	$0
12 percent	9.6 percent	$9,525	$19,050
22 percent	17.6 percent	$38,700	$77,400
24 percent	19.2 percent	$82,500	$165,000
32 percent	25.6 percent	$157,500	$315,000
35 percent	28 percent	$200,000	$400,000
37 percent	29.6 percent	$500,000	$600,000

However, the marginal federal income tax rate is significantly different for taxpayers subject to the phaseout.

Numerical Calculation

The highest marginal federal income tax rate in the phaseout range may be approximated numerically. Because the taxpayer's section 199A deduction for SSTB income is the amount being phased out under section 199A(d)(3)(B), the highest amount of deduction disallowance — and therefore the highest marginal federal income tax rate — occurs generally when all the taxpayer's taxable income consists of ordinary income from the SSTB.

The taxpayer in the examples below is assumed to have only ordinary income solely from an SSTB with sufficient W-2 wages or depreciable property basis, and no other income or deductions. Although the taxpayer's deduction is phased out because of the SSTB limitation, the same principles apply to the W-2 wages and depreciable property limitation phaseout (but not both phaseouts at the same time).

Take, for example, a single taxpayer who has $206,500 of SSTB income in 2018. The taxpayer has $41,300 (20 percent of $206,500) of section 199A deductions subject to the phaseout, for which the disallowed percentage is 98 percent, equal to $206,500 less the $157,500 threshold amount, or $49,000, divided by the $50,000 phaseout range. The taxpayer is therefore allowed only 2 percent, or $826, of section 199A deductions, which reduces taxable income to $205,674.

If the same taxpayer has $1,000 of additional SSTB income, the section 199A deduction is phased out completely and the taxpayer has $207,500 of taxable income. The $1,000 difference in taxable income before section 199A thus results in a difference of $1,826 in taxable income after the section 199A deduction. The federal income tax difference is $639 at the 35 percent statutory marginal federal income tax rate. The taxpayer's resulting marginal federal income tax rate is around 63.9 percent.

Derivative Calculations

The numerical calculation is only an approximation and does not reveal the full picture, which requires a more systematic approach using basic calculus concepts.

Let the variable x represent the taxpayer's taxable income, all of which is SSTB ordinary income, before the section 199A deduction. The section 199A deduction, equal to 20 percent of that income or $0.2x$, is reduced by a phaseout based on the threshold amount θ (that is, \$157,500 for a single taxpayer) and the phaseout range φ (that is, \$50,000 for a single taxpayer):

$$0.2x\left(1 - \frac{x - \Theta}{\varphi}\right)$$

The taxpayer's taxable income is x minus the allowed section 199A deduction. At statutory federal income tax rates of R and with the constant C to adjust for the effects of lower income tax brackets, the taxpayer's federal income tax T within the phaseout range is equal to:

$$T = R\left[x - 0.2x\left(1 - \frac{x - \Theta}{\varphi}\right)\right] + C$$

The formula can be rearranged and simplified for the tax T to equal a quadratic polynomial based on x:

$$T = R\left[\frac{0.2}{\varphi}x^2 + \left(0.8 - 0.2\frac{\Theta}{\varphi}\right)x\right] + C$$

The marginal federal income tax rate is the slope of the above function, which is the function's derivative based on x:

$$\frac{dT}{dx} = \frac{d}{dx}R\left[\frac{0.2}{\varphi}x^2 + \left(0.8 - 0.2\frac{\Theta}{\varphi}\right)x\right] + C =$$

$$R\left[\frac{0.4}{\varphi}x + 0.8 - 0.2\frac{\Theta}{\varphi}\right]$$

The taxpayer's effective marginal federal income tax rate is thus based on the taxpayer's taxable income x before the section 199A deduction, the statutory marginal federal income tax rate R, the threshold amount θ, and the phaseout range φ:

$$\frac{dT}{dx} = R\left[\frac{0.4}{\varphi}x + 0.8 - 0.2\frac{\Theta}{\varphi}\right]$$

For a single taxpayer who has around \$207,500 of SSTB income and is subject to a 35 percent statutory marginal federal income tax rate, for whom the threshold amount θ is \$157,500 and the phaseout range φ is \$50,000, the effective marginal federal income tax rate at the end of the phaseout range is 64.05 percent:

$$\frac{dT}{dx} = 35\%\left[\frac{0.4}{\$50{,}000}\$207{,}500 + 0.8 - 0.2\frac{\$157{,}500}{\$50{,}000}\right] = 64.05\%$$

The marginal federal income tax rate at the beginning of the phaseout range, for a single taxpayer who has around \$157,500 of SSTB income and is subject to a 32 percent statutory marginal federal income tax rate, is 45.76 percent:

$$\frac{dT}{dx} = 32\%\left[\frac{0.4}{\$50{,}000}\$157{,}500 + 0.8 - 0.2\frac{\$157{,}500}{\$50{,}000}\right] = 45.76\%$$

Before the phaseout range, the single taxpayer has an effective marginal federal income tax rate of 25.6 percent, equal to the 32 percent statutory marginal federal income tax rate less a 20 percent section 199A deduction. The effective marginal federal income tax rate jumps to 45.76 percent, eventually increases to 64.05 percent at \$207,500 of taxable income, and returns to the statutory marginal federal income tax rates of 35 percent (or more) without the section 199A deduction.

The rate of change of the marginal federal income tax rate over the phaseout range is a second-order derivative based on x, although the result is not continuous because of an increase in the statutory marginal federal income tax rate R from 32 percent to 35 percent (for taxable income above \$200,000, or above \$400,000 for a joint return):

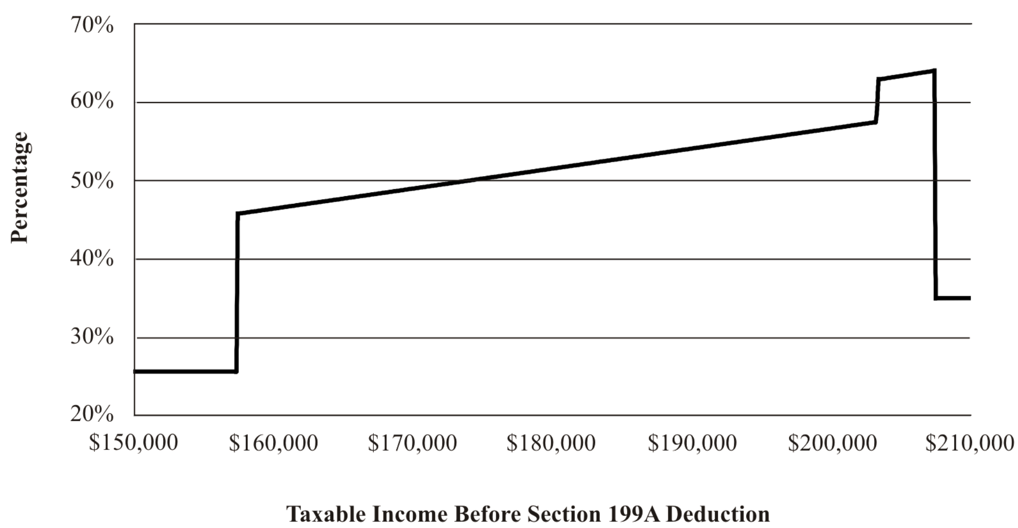
$$\frac{d^2T}{dx^2} = \frac{d}{dx}R\left[\frac{0.4}{\varphi}x + 0.8 - 0.2\frac{\Theta}{\varphi}\right] = \frac{0.4}{\varphi}R$$

For a single taxpayer with a \$50,000 phaseout range φ, the increase in the effective marginal federal income tax rate is 0.256 percent for each additional \$1,000 of income within the \$157,500 to \$200,000 taxable income bracket subject to the 32 percent statutory marginal federal income tax rate. The effective marginal federal income tax rate increases at \$200,000 of taxable income after the section 199A deduction. The increase in the effective marginal federal income tax rate is 0.28 percent for each additional \$1,000 of income from \$200,000 to \$207,500 within the taxable income bracket subject to the 35 percent statutory marginal federal income tax rate. The marginal federal income tax rate for a single taxpayer is shown in Figure 1.

The marginal federal income tax rates for a married couple filing a joint return are the same as that of a single taxpayer, at twice the dollar amounts.

The highest marginal federal income tax rates are based on the assumption that the taxpayer's taxable income consists solely of ordinary income from an SSTB. The rates are lower if the taxpayer has other types of income, such as wage

Figure 1. Marginal Federal Income Tax Rate



compensation, investment income, or income from a non-SSTB qualified trade or business.

The marginal income tax rates are higher after taking into account any federal self-employment taxes, Medicare taxes, or state and local income taxes, which generally do not allow the section 199A deduction and are not subject to the variability created by the phaseout. The additional tax rates may be added to arrive at a combined marginal income tax rate.

Inflation Adjustment

Section 199A(e)(2)(B) provides that the $157,500 or $315,000 threshold amount is adjusted for inflation under section 1(f)(3) in 2019 through 2025. The $50,000 or $100,000 phaseout range is not adjusted for inflation. The change in the marginal federal income tax rate caused by an inflation adjustment to the threshold amount θ can be determined with a second-order multivariate derivative based on θ:

$$\frac{d^2T}{d\Theta dx} = \frac{d}{d\Theta} R\left[\frac{0.4}{\varphi}x + 0.8 - 0.2\frac{\Theta}{\varphi}\right] = \frac{0.2R}{\varphi}$$

For a single taxpayer who is subject to a 35 percent statutory marginal tax rate R and a $50,000 phaseout range φ, the increase in the marginal federal income tax rate is 0.14 percent per $1,000 increase in the threshold amount. For example, if the threshold amount increases from $157,500 to $158,500, a taxpayer at the end of the phaseout range with around $208,500 of SSTB income would be subject to a marginal federal income tax rate of 64.19 percent.

The marginal federal income tax rate increases linearly with each dollar of inflation adjustment to the threshold amount, which may magnify the effect of inflation adjustments in later years.

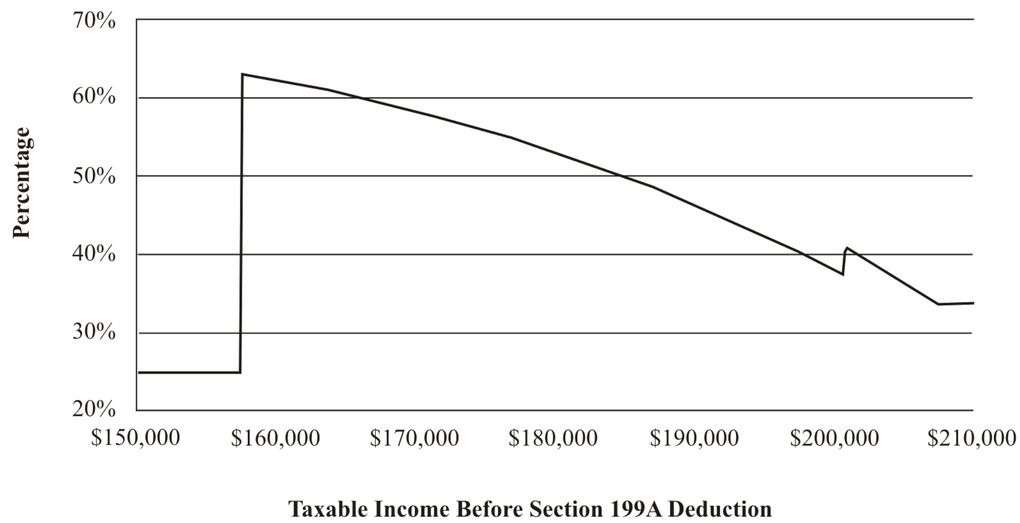
The structure of the section 199A phaseout makes it difficult to maintain a constant marginal federal income tax rate structure with inflation adjustments. If the $50,000 or $100,000 phaseout range is also adjusted for inflation under section 1(f)(3), the θ to φ ratio becomes a constant 3.15 that eliminates the effect of a changing θ. The change in the marginal federal income tax rate caused by an inflation adjustment can be determined with a second order multivariate derivative based on the remaining φ term, to arrive at a generally negative rate of change that asymptotically approaches zero:

$$\frac{d^2T}{d\varphi dx} = \frac{d}{d\varphi} R\left[\frac{0.4}{\varphi}x + 0.8 - 0.2(3.15)\right] = -\frac{0.4Rx}{\varphi^2}$$

Double Phase-Out

The W-2 wages and depreciable property limitation is subject to a phaseout under section 199A(b)(3)(B) that is numerically identical to the section 199A(d)(3)(A) SSTB limitation phaseout. A taxpayer may be subject to both limitations at the same time, such as if the taxpayer has income

Figure 2. Marginal Federal Income Tax Rate



from an SSTB that has insufficient W-2 wages and depreciable property.

In the simple case where the taxpayer has all SSTB income, and the SSTB has no W-2 wages and no depreciable property, the taxpayer's federal income tax is the same phaseout applied twice:

$$T = R\left[x - 0.2\,x\left(1 - \frac{x - \Theta}{\varphi}\right)^2\right] + C$$

The marginal federal income tax rate is the derivative of the cubic function, which can be simplified as:

$$\frac{d}{dx} = R\left[-\frac{0.6}{\varphi^2}\,x^2 + \left(\frac{0.8}{\varphi} + 0.8\,\frac{\Theta}{\varphi^2}\right)x + 0.8 - 0.2\,\frac{\Theta^2}{\varphi^2} - 0.4\,\frac{\Theta}{\varphi}\right]$$

The marginal federal income tax rate for a double phaseout is not linear (as in the case of the single phaseout) but is instead a quadratic equation that decreases with higher taxable incomes. The highest marginal tax rate of 65.92 percent is at the beginning of the phase-out range (see Figure 2).

Conclusion

A taxpayer may experience higher marginal federal income tax rates because of phaseouts under many income tax provisions. For instance, the section 24 child tax credit, equal to $2,000 per child in 2018, starts being phased out for a taxpayer with modified adjusted gross income above $200,000 (or $400,000 for a joint return). The phaseout is $50 of credit per $1,000 of additional income, which equates to an additional marginal federal income tax rate of 5 percent. The section 23 adoption tax credit of up to $13,810 in 2018 is phased out ratably over a $40,000 income range for a taxpayer with modified adjusted gross income of between $207,140 and $247,140, which is an additional marginal federal income tax rate of up to 34.5 percent for affected taxpayers.

The section 199A phaseouts have a dynamic effect that is different from other phaseouts, because the effective marginal federal income tax rate can vary continuously according to the taxpayer's income. Taxpayers at specified income levels who are affected by the SSTB limitation or the W-2 wages and depreciable property limitation may have an effective marginal federal income tax rate of up to 64.05 percent in 2018. The marginal income tax rate is higher if the taxpayer is subject to other income taxes, such as the 3.8 percent section 1411 tax or federal self-employment taxes, and can exceed 100 percent for a taxpayer who has the adoption tax credit or other tax benefits being phased out around the same income range.

The method herein may be a useful analytical tool for studying taxpayer incentives generally, for cases in which the effective marginal income tax rates might not be clear from the statutory text. The marginal income tax rates under section 199A are variable and potentially almost double the statutory tax rate; they also include several jumps and change with inflation. A Congress drafting future tax legislation may consider easier and less distortive approaches to tax simplification, such as allowing income tax computations to be made using definite integrals based on the area under a smooth marginal income tax rate curve.[1] ■

[1] *See* Alvin Chang, "100 Years of Tax Brackets, in One Chart," Vox.com, Apr. 16, 2018 ("if we wanted to do a little more math, we could get rid of brackets entirely and create some kind of formula that would tax an incrementally higher rate for every additional dollar you earn").