

Pretax Payroll Deduction for Parking? An Illustrating Example

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Unlike the pretax payroll deductions common for insurance premiums, employees paying for parking may have the option to use either pretax or after-tax payroll deduction. The pretax deduction lowers the Social Security earnings, which could reduce the Social Security retirement benefit to an individual. This paper quantifies the adverse effect the pretax deduction may have, using a simplified example of a university faculty member in Texas. We conclude that choosing the pretax payroll deduction for parking is advisable for most faculty members. Our conclusion remains the same considering early and delayed retirement, besides retirement at the full retirement age.

Keywords: federal income tax, social security

INTRODUCTION

Many employers allow employees to use pretax payroll deductions to pay for benefits such as health, dental, vision, disability, and accidental death and dismemberment (AD&D) insurance, and to fund Flex Spending Accounts (FSAs) for certain out-of-pocket health care costs. Those pretax payroll deductions, if available, lower the gross income of an employee not only for the federal income tax, but also for the Federal Insurance Contributions Act (FICA) tax, which includes a 6.20% Social Security tax and a 1.45% Medicare tax on earnings. Although some state and local government employees are not covered by Social Security (Quinby et al., 2021), most public employees and private employees are. In contrast, pretax payroll deductions for contributions to retirement plans lower the gross income of an employee for the federal income tax, but not for the FICA tax.

Unlike the pretax payroll deductions common for insurance premiums, employees paying for parking may have the option to use either pretax (as permitted by Section 132(f) Qualified Transportation Fringe of the Internal Revenue Code; see also Publication 15-B of the Internal Revenue Service, 2023) or after-tax payroll deduction. The pretax payroll deduction for parking lowers both the federal income tax and FICA tax. Although paying less tax by choosing the pretax option is beneficial at the time of deduction, the Social Security earnings lowered by the pretax deduction could also lead to a lowered Social Security benefit amount when one claims her Social Security benefit at retirement. For instance, in explaining the potential adverse effect of choosing the pretax payroll deduction for parking, Texas A&M University (2022) states that "... depending on your salary, your Social Security benefits at retirement may be reduced slightly, because you will have paid Social Security taxes on a lower wage. (For more information, you may wish

to consult your tax advisor or financial planner.)” Whether someone should choose the pretax payroll deduction for parking, in contrast to choosing the after-tax payroll deduction, therefore depends on the tradeoff between the current tax savings and the foregone Social Security benefit. The following case illustrates the tradeoff.

THE CASE

Adam is a single, 50-years old full-time faculty member teaching finance at a university in Texas with an annual taxable salary income of \$120,000. His university allows the option of either pretax or after-tax monthly payroll deduction for parking, which costs \$120 per year or \$10 per month. Should Adam choose the pretax or after-tax option, knowing that the pretax option will cost him some Social Security benefit once he retires? Since Texas has no state income tax, Adam does not need to worry about tax considerations at the state level.

THE ANALYSIS

As of 2023, the annual taxable salary income of \$120,000 puts Adam into the 24% federal income tax bracket (with taxable income from \$95,376 to \$182,100). Here we define the taxable (salary) income as labor income subject to the FICA tax, but after other pretax deductions such as insurance premiums and FSA contributions, except for parking, to simplify. If Adam chooses the pretax payroll deduction for parking this year, his taxable income for the federal income tax and the FICA tax will be reduced by \$120, which leads to a tax savings of \$37.98 ($= \$120 \times (24\% + 6.2\% + 1.45\%)$) when compared to the after-tax option.

To see the cost of choosing the pretax option, we have to first consider how the Social Security benefit amount is determined (see Social Security Administration, 2023a). Specifically, the annual earnings of an individual up to a specified cap each year (e.g., \$160,200 in 2023) is indexed to the national average wage index, such that beginning two years prior to the year of first eligibility, the annual earnings of the individual carries an index value of one, and each of the years prior carries an index value reflecting the change in the national average wage from the particular year to the second year prior to the year of first eligibility. Although Social Security Administration (2022) states that “[s]uch indexing ensures that a worker’s future benefit level will reflect the general rise in the standard of living that will occur during their working lifetime,” the indexing based on the national average wage in one regard reflects the time value of money and captures both inflation and productivity changes in the economy.

Once the highest 35 annual indexed earnings are identified, the sum of those 35 annual indexed earnings are divided by 420 months and rounded down to the next lower dollar amount to derive the Average Indexed Monthly Earnings (AIME) amount. For an individual with less than 35 annual earnings, the AIME amount will be smaller because the total earnings is still divided by the same 420 months.

The monthly Primary Insurance Amount (PIA), the amount an individual would receive if she claims the Social Security benefit at her full retirement age, depends on the AIME of the individual and two bend points. The two bend points are also indexed to the national average wage index, and are \$1,115 and \$6,721, respectively, in 2023 (see Social Security Administration, 2023b). The PIA is 90% of the AIME amount less than the smaller bend point, plus 32% of the AIME amount between the smaller bend point and the larger bend point, and plus 15% of the AIME amount more than the larger bend point (see Social Security Administration, 2023c).

For Adam, choosing the pretax payroll deduction for parking this year reduces his current annual earnings by \$120.00. Assuming that indexing to the national average wage index for Social Security purposes and the cost-of-living adjustments (COLAs) in Social Security benefit during retirement compensate for the time value of money, we can proceed with our analysis on a present value basis. Specifically, the reduced indexed earnings when Adam claims Social Security at his full retirement age of 67 has an approximate present value of \$120.00. That \$120.00 translates to a reduction in AIME of \$0.2857 ($= \$120 / 420$). Since the AIME amount is rounded down to the next lower dollar amount by rule, the

\$0.2857 reduction in AIME may or may not have an impact on Adam's Social Security benefit amount, depending on whether the \$0.2857 reduction leads to a change in AIME after rounding down.

Given Adam's annual earnings, the marginal impact, if any, of the \$0.2857 reduction in AIME on his PIA is 15%, since Adam's AIME is higher than the larger bend point of \$6,721 in the determination of PIA (e.g., $(\$120,000 - \$120) / 12 = \$9,990$). The annual forgone Social Security benefit by choosing the pretax payroll deduction for parking this year is therefore \$0.51 ($= \$0.2857 \times 15\% \times 12$). For Adam to recoup the tax savings of \$37.98 this year afforded by the pretax option, Adam choosing the after-tax option will have to collect Social Security benefit for 74.47 years ($= \$37.98 / \0.51) beginning at his full retirement age, which seems difficult if not impossible. Adam would thus be better off choosing the pretax payroll deduction for parking.

GENERALIZATION

Table 1 shows the tax savings of choosing the pretax payroll deduction for parking in different federal income tax brackets as of 2023, and the tradeoffs with the annual forgone Social Security benefit, assuming an annual parking cost of \$120 for a single individual. The columns *Federal Income Tax Rate* and *Annual Taxable Income* show the federal income tax brackets. The column *Monthly Taxable Income* shows the two bend points for the Primary Insurance Amount (PIA) calculation (\$1,115 and \$6,721), the monthly income of \$13,350 (i.e., annual income of \$160,200, where the portion of an annual income above \$160,200 is not subject to the Social Security tax), and their values plus \$10, the monthly payroll deduction amount. To simply, we do not separately consider the scenarios in which the pretax payroll deduction would lower the taxable income of an individual such that it crosses a bend point (i.e., monthly taxable income between \$1,115 and \$1,125, and between \$6,721 and \$6,731), the earnings cap of the Social Security tax (i.e., monthly taxable income between \$13,350 and \$13,360), or a tax bracket, because in those scenarios the tradeoff depends on the exact dollar amount of the monthly taxable income. The column *AIME Marginal Impact to PIA* shows the marginal impact of a change in the Average Indexed Monthly Earnings (AIME) amount to PIA, which depends on the PIA bend points. The column *Pretax Deduction Tax Savings* shows the tax savings of choosing the pretax payroll deduction for parking in the current year, and the column *Forgone Social Security Benefit* shows the present value of the annual forgone Social Security benefit once the individual choosing the pretax options claims Social Security benefit at her full retirement age. The column *Years to Recoup* shows the number of years an individual choosing the after-tax option needs to collect Social Security benefit since her full retirement age to recoup the tax savings of the pretax option in the current year.

Table 1 suggests that only individuals with a monthly income less than \$1,115, the smaller bend point in the determination of PIA, have a reasonable chance of recouping the tax savings afforded by the pretax payroll deduction through the Social Security benefit, if they choose the after-tax option. For example, if an individual subject to the 10% federal income tax rate expects to collect her Social Security benefit for more than 6.85 years since her full retirement age, choosing the after-tax option is beneficial. It is also beneficial for an individual with a monthly income less than \$1,115 but subject to the 12% federal income tax rate to choose the after-tax option, if she expects to collect her Social Security benefit for more than 7.63 years since her full retirement age.

TABLE 1
TAX SAVINGS OF PRETAX PAYROLL DEDUCTION FOR PARKING IN DIFFERENT
FEDERAL INCOME TAX BRACKETS

Federal Income Tax Rate	Annual Taxable Income	Monthly Taxable Income	AIME Marginal Impact to PIA	Pretax Deduction Tax Savings	Forgone Social Security Benefit	Years to Recoup
10%	Up to \$11,000		0.90	\$21.18	\$3.09	6.85
12%	\$11,001 to \$44,725	< \$1,115	0.90	\$23.58	\$3.09	7.63
12%	\$11,001 to \$44,725	> \$1,125	0.32	\$23.58	\$1.10	21.44
22%	\$44,726 to \$95,375	< \$6,721	0.32	\$35.58	\$1.10	32.35
22%	\$44,726 to \$95,375	> \$6,731	0.15	\$35.58	\$0.51	69.76
24%	\$95,376 to \$182,100	< \$13,350	0.15	\$37.98	\$0.51	74.47
24%	\$95,376 to \$182,100	> \$13,360	0.00	\$37.98	\$0.00	--
32%	\$182,101 to \$231,250		0.00	\$47.58	\$0.00	--
35%	\$232,251 to \$578,125		0.00	\$51.18	\$0.00	--
37%	\$578,126 or more		0.00	\$53.58	\$0.00	--

For people with a monthly income more than \$1,125, the smaller bend point plus the \$10 monthly payroll deduction amount, however, the chance of recouping the tax savings afforded by the pretax payroll deduction through the Social Security benefit by choosing the after-tax option becomes slim. For instance, it takes 21.44 years of collecting Social Security benefit since the full retirement age for an individual to recoup the tax savings, if the individual subject to the 12% federal income tax rate has a monthly income more than \$1,125. It takes 32.35 years of collecting Social Security benefit since the full retirement age for an individual to recoup the tax savings if the individual subject to the 22% federal income tax rate has a monthly income less than \$6,721. Given that the expectation of life in the U.S. is 17.0 (19.8) years for a 65-years old male (female) as of 2020 (Arias & Xu, 2022), and that it takes at least 21.44 years for an individual with a monthly income more than \$1,125 to recoup the tax savings, it is advisable that individuals with a higher income choose the pretax payroll deduction for parking.

Table 1 also shows the scenarios in which an individual has a monthly income more than \$13,360, or an annual income more than \$160,320, where the \$160,320 is the 2023 cap of \$160,200 on earnings for which the Social Security tax is imposed, plus the annual payroll deduction amount of \$120 for parking. Specifically, for an individual with an annual earnings higher than the Social Security earnings cap plus the amount of the parking fee for payroll deduction, the pretax payroll deduction option dominates the after-tax option. In this case the pretax deduction no longer affects the Social Security earnings and using the pretax deduction has no adverse effect to the Social Security benefit of an individual. Considering that the monthly income of a full-time university faculty member is unlikely to be less than the smaller bend point of PIA plus the monthly payroll deduction amount, we conclude that for most faculty members, choosing the pretax payroll deduction for parking is advisable.

EARLY OR DELAYED RETIREMENT

In practice, an individual with a full retirement age of 67 for Social Security purposes has the option to retire at age 62 and claims the Social Security benefit at 70% of the Primary Insurance Amount (PIA). The individual can also delay her retirement to age 70 and receive the Social Security benefit at 124% of the PIA (see Social Security Administration, 2023d). Assuming that an early retirement does not affect the Average Indexed Monthly Earnings (AIME) of an individual, e.g., the individual still has 35 annual indexed earnings even with an early retirement, Table 2 shows the breakeven age for a single individual choosing the after-tax payroll deduction for parking instead of the pretax option, in different federal income tax

brackets as of 2023 and in different claim ages of the Social Security benefit, assuming an annual parking cost of \$120. The columns *Federal Income Tax Rate*, *Annual Taxable Income*, and *Monthly Taxable Income* are as defined in Table 1. The columns under *Claim Age* show the claim ages of the Social Security benefit, the benefit as a percentage of the PIA (in parentheses), and the breakeven age by which an individual choosing the after-tax option will recoup the tax savings of the pretax option in the current year through collecting Social Security benefit. Following the convention in Social Security Administration (2023e), we show the benefit as a percentage of the PIA for retirement at age 65 and 66 as 86.6% and 93.3%, respectively.

In Table 2, the breakeven age for a single individual choosing the after-tax payroll deduction for parking who claims the Social Security benefit at the full retirement age of 67 is the same as what we could derive from Table 1. For instance, Table 1 shows that for an individual claiming the Social Security benefit at the full retirement age of 67, it takes 6.85 (74.47) years for the individual choosing the after-tax option to collect her Social Security benefit to recoup the tax savings of the pretax option in the current year, if the individual is subject to the 10% federal income tax rate (is subject to the 24% federal income tax rate and has a monthly income less than \$13,350). In Table 2, the same individual has a breakeven age of 73.85 (= 67 + 6.85) if the individual is subject to the 10% federal income tax rate, and a breakeven age of 141.47 (= 67 + 74.47) if the individual is subject to the 24% federal income tax rate and has a monthly income less than \$13,350.

The results in Table 2 still suggest that only individuals with a monthly income less than \$1,115, the smaller bend point in the determination of PIA, have a reasonable chance of recouping the tax savings afforded by the pretax payroll deduction through the Social Security benefit, if they choose the after-tax option. For example, an individual subject to the 10% federal income tax rate, choosing the after-tax option, and claiming the Social Security benefit at age 62 (70) can recoup the tax savings afforded by the pretax payroll deduction through the Social Security benefit by age 71.79 (75.53). An individual subject to the 12% federal income tax rate, having a monthly taxable income less than \$1,115, choosing the after-tax option, and claiming the Social Security benefit at age 62 (70) can recoup the tax savings afforded by the pretax payroll deduction by age 72.90 (76.15).

TABLE 2
EFFECTS OF EARLY AND DELAYED RETIREMENT ON THE AGE OF BREAKEVEN
USING AFTER-TAX PAYROLL DEDUCTION FOR PARKING

Federal Income Tax Rate	Annual Taxable Income	Monthly Taxable Income	Claim Age									
			62 (70%)	63 (75%)	64 (80%)	65 (86.6%)	66 (93.3%)	67 (100%)	68 (108%)	69 (116%)	70 (124%)	
10%	Up to \$11,000		71.79	72.14	72.57	72.91	73.35	73.85	74.35	74.91	75.53	
12%	\$11,001 to \$44,725	< \$1,115	72.90	73.17	73.54	73.81	74.18	74.63	75.07	75.58	76.15	
		> \$1,125	92.62	91.58	90.80	89.75	88.98	88.44	87.85	87.48	87.29	
22%	\$44,726 to \$95,375	< \$6,721	108.21	106.13	104.43	102.35	100.67	99.35	97.95	96.88	96.09	
		> \$6,731	161.66	156.02	151.21	145.56	140.77	136.76	132.60	129.14	126.26	
24%	\$95,376 to \$182,100	< \$13,350	168.39	162.29	157.09	150.99	145.82	141.47	136.95	133.20	130.06	
		> \$13,360	--	--	--	--	--	--	--	--	--	
32%	\$182,101 to \$231,250		--	--	--	--	--	--	--	--	--	
35%	\$232,251 to \$578,125		--	--	--	--	--	--	--	--	--	
37%	\$578,126 or more		--	--	--	--	--	--	--	--	--	

For people with a monthly income more than \$1,125, on the other hand, the breakeven ages increase substantially. For instance, an individual subject to the 12% federal income tax rate, having a monthly taxable income more than \$1,125, choosing the after-tax option, and claiming the Social Security benefit at age 62 (70) will not recoup the tax savings afforded by the pretax payroll deduction until age 92.62 (87.29). An individual subject to the 24% federal income tax rate, having a monthly income less than \$13,350, choosing the after-tax option, and claiming the Social Security benefit at age 62 (70) will not recoup the

tax savings afforded by the pretax payroll deduction until age 168.39 (130.06). For an individual with a monthly income more than \$13,360, there is no breakeven age and the individual will never recoup the tax savings afforded by the pretax payroll deduction through the Social Security benefit.

Table 2 further suggests that for an individual with a monthly income less than \$1,115, early retirement is beneficial for recouping the tax savings afforded by the pretax payroll deduction through the Social Security benefit. In this case the more but smaller Social Security benefit payments associated with the early retirement outweigh the fewer but larger Social Security benefit payments associated with the delayed retirement. For an individual with a monthly income more than \$1,125, the smaller bend point plus the \$10 monthly payroll deduction amount, however, delayed retirement is beneficial for recouping the tax savings afforded by the pretax payroll deduction. In this case the fewer but larger Social Security benefit payments associated with the delayed retirement outweigh the more but smaller Social Security benefit payments associated with the early retirement.

Collectively the results in Table 2 are consistent with Table 1. For an individual with a monthly income more than the smaller bend point of PIA plus the monthly payroll deduction amount, choosing the pretax payroll deduction for parking is advisable, regardless of early or delayed retirement. Although we do not consider the effect of state income taxes in Table 1 or Table 2, including them should increase the tax-saving benefit of choosing the pretax payroll deduction and strengthen our conclusion.

CONCLUSION

In this paper we quantify the adverse effect the pretax payroll deduction for parking may have on reducing the Social Security benefit in retirement, using a simplified example of a university faculty member in Texas. Our analysis suggests that for people with a monthly taxable income higher than the smaller bend point in the Social Security benefit amount calculation for the monthly Primary Insurance Amount (PIA), currently \$1,115, plus the monthly parking fee, choosing the pretax payroll deduction for parking is advisable. We consider the effects of early and delayed retirement and reach the same conclusion. Although we do not consider the effect of state income taxes in our analysis, their consideration should increase the tax-saving benefit of the pretax deduction and strengthen our conclusion.

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