

A LOOK AT ROTH IRA CONVERSIONS AND OTHER TAXING ISSUES

By William Reichenstein

Which type of plan offers the best tax benefits for retirement savings: the deductible IRA, the Roth IRA or a 401(k) with matching contributions? Some simple math models can help shed light on these complex issues.

Individual investors must consider several complex issues in retirement and tax planning. This article presents some simple math models that will help shed light on three common retirement plan questions:

- When should someone convert a deductible IRA to a Roth IRA?
- If someone qualifies for a deductible IRA and a Roth IRA, to which should he contribute?
- What should be the order of preference between saving in a deductible IRA, a Roth IRA, and a 401(k) with matching contributions?

THE TAX STRUCTURES

Table 1 presents the math for four savings vehicles. It assumes an investor, Jan, decides to forego \$1,000 of spending this year to save for retirement in 20 years. She invests in a bond fund with a return of 7% a year. She is currently in the 28% tax bracket and expects to be in the same tax bracket during retirement.

If Jan saves in a taxable account, she begins with a \$1,000 investment of aftertax funds. Since she is earning 7% each year but the earnings are taxed at a 28% rate, the funds grow at an aftertax rate of return of 5.04% [$7\% - 0.28(7\%)$]. In 20 years, she will have \$2,674 of aftertax funds.

If she saves in a Roth IRA, she would invest \$1,000 of aftertax funds—that is, the contribution is not deductible from income in the contribution year—and the funds would grow tax exempt. She invests \$1,000 and, in 20 years earning 7%, it is worth \$3,870 after taxes.

If she were to save using a deductible IRA, she would be able to invest \$1,389 of pretax funds, which is the equivalent of \$1,000 of aftertax funds. [In other words, the \$1,389 deductible IRA contribution reduces taxes by \$389 (28% of \$1,389); by forgoing \$1,000 of spending, which requires aftertax dollars, she can invest \$1,389 of pretax dollars.] The \$1,389 invested at 7% for 20 years turns into \$5,375. If she withdraws the entire amount, she will owe taxes of 28%, for an aftertax amount of \$3,870.

These examples illustrate several key lessons:

- It is important to distinguish pretax dollars from aftertax dollars.
- When the tax rates in the contribution year and the withdrawal year are the same, the investor who saves in a deductible IRA effectively earns the pretax rate of return on an aftertax basis. In the equation, the $(1 - 0.28)$ in the numerator offsets the $(1 - 0.28)$ in the denominator, leaving \$1,000 times $(1.07)^{20}$. It is as if the individual invests the aftertax amount, \$1,000, and earns 7% tax-free.
- When the tax rates in the contribution year and the withdrawal year are the same, the deductible IRA is like the Roth IRA in that it effectively provides tax-exempt returns *per aftertax dollar of original investment*. Based on this framework, it is easy to see why the deductible IRA is sometimes referred to as a front-loaded IRA, while the Roth is called a back-loaded IRA. That is, the deductible IRA gets the tax break in the

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**TABLE 1. DIFFERENT TAX STRUCTURES:
AFTERTAX AMOUNTS AFTER 20 YEARS**

Assumptions:

- Initial investment of \$1,000 of aftertax income,
- A 7% pretax return,
- A 28% tax rate both now and in 20 years.

Taxable Account:

= \$1,000 [1 + 0.07(1 - 0.28)]²⁰

= \$1,000 (1.0504)²⁰

= \$2,674 after taxes

Roth IRA:

= \$1,000 [(1 + 0.07)²⁰]

= \$1,000 (1.07)²⁰

= \$3,870 after taxes

Deductible IRA (or similar tax-deferred retirement plan)*:

= [\$1,000 (1 ÷ 1 - 0.28)] (1 + 0.07)²⁰ (1 - 0.28)

= \$1,000 (1.07)²⁰

= \$3,870 after taxes

401(k) with matching contribution:**

= [\$1,000 (1.50 ÷ 1 - 0.28)] (1 + 0.07)²⁰ (1 - 0.28)

= \$1,000 [1.50 (1.07)²⁰]

= \$5,805

* Multiplying the \$1,000 aftertax investment by (1 ÷ 1 - 0.28) converts it to a pretax equivalent.

** Multiplying the \$1,000 aftertax investment by (1 ÷ 1 - 0.28) converts it to a pretax equivalent. Multiplying that amount by (1 + 0.50) adjusts the amount for the company contribution (50% in this instance).

a \$40,000 deductible IRA to a Roth IRA. If he converts the entire IRA, he would owe taxes on \$130,000. After conversion, the Roth IRA grows tax exempt. A series of examples will show that, from a straight math standpoint, the conversion generally makes sense if and only if the taxes associated with the conversion will be paid from funds in a taxable account.

Example 1: Jan has \$10,000 in a deductible IRA plus \$2,800 in a separate taxable account. The funds are invested in bonds earning 7% and she is in the 28% tax bracket before and during retirement. If she converts to the Roth IRA and uses the \$2,800 in the taxable account to pay the taxes, she will have \$10,000 in a Roth IRA, which in 20 years will be worth \$10,000(1.07)²⁰ or \$38,697 after taxes. If she does not convert the \$10,000 in a deductible IRA and \$2,800 in a taxable account, in 20 years they will be worth \$10,000(1.07)²⁰(1 - 0.28) + \$2,800(1.0504)²⁰ or \$35,348 after taxes, where 5.04% is the aftertax return on the bonds held in the taxable account.

The latter total fails to keep up with the Roth IRA's total because taxes must be paid on the taxable account; if the \$2,800 earned 7% *after taxes*, the latter sum would also have been \$38,697. Since taxes are paid on the taxable account whether the underlying assets are bonds or stocks, the conversion also makes sense if the underlying assets are stocks or a stock fund.

Another perspective may clarify the advantage of converting when taxes are paid from a taxable account. Before conversion, Jan has a total of \$10,000 of aftertax funds in the two accounts: \$7,200 of aftertax funds (\$10,000 of before-tax funds) in the deductible IRA plus \$2,800 in the taxable account. After converting and paying taxes, she still has \$10,000 of aftertax funds, but now all \$10,000 is in the tax-sheltered Roth IRA. Conversion effectively moves the \$2,800 from

contribution year, while the Roth gets the break in the withdrawal year. Assuming the *same initial contributions*, the two investments are equivalent. [However, as we shall see, under current tax law the maximum allowable contributions to each are not equivalent.]

Question 1: Should an investor convert funds from a deductible IRA to a Roth IRA, thus incurring an immediate tax liability, or retain funds in the deductible IRA?

The Taxpayer Relief Act of 1997 allows individuals to convert or roll over a traditional, deductible IRA to a Roth IRA subject to an income limitation. Taxpayers with adjusted gross income (AGI) at or below \$100,000 can convert part or all of a deductible IRA into a Roth IRA. The converted amount counts as income for the year, but it does not count against the AGI limit. So, someone with \$90,000 adjusted income could convert all or part of

the taxable account into the tax-exempt Roth IRA. The ending wealth advantage from converting is precisely the difference between the \$2,800 earning 7% after taxes in the Roth instead of 5.04% after taxes in the taxable account.

Example 2: Conversion can be desirable even if the tax rate in retirement is lower. Suppose Jan's tax rate is 31% before retirement, but she will be in the 28% bracket during retirement. In this example, she has \$10,000 in a deductible IRA and \$3,100 in a taxable account. If she converts and uses the \$3,100 to pay the taxes, the Roth IRA would be worth $\$10,000(1.07)^{20}$ or \$38,697 after taxes in 20 years. If she does not convert, the sum of the separate accounts would be worth $\$10,000(1.07)^{20}(1 - 0.28) + \$3,100(1.0483)^{20}$ or \$35,825, where 4.83% is the after-tax return based on a 31% tax rate in the taxable account. In this case, it pays to convert despite the lower tax rate during retirement.

Example 3: It seldom makes sense to convert to a Roth IRA if taxes must be paid from funds withdrawn from the deductible IRA. Jan, age 45, has \$10,000 in a deductible IRA, but she does not have funds in a taxable account. If she converts the deductible IRA into a Roth, she must withdraw sufficient funds from the deductible IRA to pay the taxes. The following comparison applies. Without conversion, the deductible IRA will be worth $\$10,000(1 - \text{Year } 20 \text{ tax})(1.07)^{20}$ after taxes in 20 years. If she converts, the Roth IRA will be worth $\$10,000(1 - \text{Current Tax} - 0.10)(1.07)^{20}$ after taxes in 20 years, where 0.10 is the 10% penalty tax rate on withdrawals. An individual can *convert* funds from a deductible IRA into a Roth IRA without incurring the penalty tax. However, funds *withdrawn* from the deductible IRA before age 59½ are usually subject to a 10% penalty tax. So, Jan or anyone else younger than 59½ would not likely want to convert to a Roth IRA if the taxes must be paid from funds withdrawn

from the deductible IRA. Someone older than 59½ could convert to a Roth and withdraw funds from the deductible IRA without incurring the penalty tax. The equations demonstrate that, with no penalty tax, conversion makes sense when the expected tax rate in retirement is *higher* than the current tax rate. That is not the usual situation. So, in general, from a strict math standpoint, it makes sense to convert a deductible IRA to a Roth IRA if and only if the associated taxes will be paid from funds in a taxable account.

However, other factors could affect the decision to convert, and these factors generally favor conversion:

- Unlike a deductible IRA, in a Roth IRA an individual is not required to take minimum distributions at age 70½. The funds can continue to grow tax-exempt in a Roth.
- Conversion eliminates the uncertainty of the tax rate.
- Withdrawals from a deductible IRA are part of adjusted gross income and, therefore, may increase taxes on Social Security benefits. In contrast, qualified distributions from a Roth IRA are not considered income and will not have this effect.
- Conversion may reduce estate taxes. Suppose Jan dies at age 80 and has \$100,000 of before-tax funds in a deductible IRA. Instead, if she had converted the deductible IRA to a Roth and paid taxes at 28% from IRA funds, she would have had \$72,000 of aftertax funds in a Roth IRA. Both IRAs represent \$72,000 of aftertax funds—that is, after *income* taxes. However, estate taxes do not distinguish between the before-tax funds in a deductible IRA and the aftertax funds in a Roth IRA. Her estate would be worth \$28,000 less if she converted to a Roth IRA.

Question 2: If someone can contribute to either kind of IRA,

should he contribute to a deductible IRA or a Roth IRA?

Each individual can make a maximum contribution to all IRAs—deductible, nondeductible, and Roth—of \$2,000 per year. The deductible and Roth are clearly preferable to the non-deductible IRA.

Rules affecting eligibility to contribute to a Roth IRA are relatively simple. Unfortunately, the same cannot be said of eligibility requirements for the deductible IRA. Contributions to a Roth IRA are subject to income limits. For single taxpayers, the \$2,000 contribution limit is phased out between adjusted gross income of \$95,000 and \$110,000. For joint filers, contributions are phased out between adjusted gross income of \$150,000 and \$160,000. In the April 2000 issue of the *AII Journal*, Clark Blackman and Ellen Boling summarized the rules governing an individual's eligibility to deduct IRA contributions ["What You Need to Know About Individual Retirement Accounts"]. Eligibility rules depend upon whether the individual (or his or her spouse, if applicable) is an active participant in an employer-sponsored retirement plan.

Single taxpayers who are not active participants in a retirement plan can make a maximum deductible IRA contribution of \$2,000 a year; there is no income limit. Similarly, if *neither* spouse of a couple filing jointly is an active participant then they can make a \$2,000 deductible contribution.

Active participants below a threshold level of income may make a \$2,000 deductible IRA contribution. The deductible portion of the contribution is phased out between the lower threshold level and a higher income level, and the contribution is non-deductible above the higher income level. For single taxpayers, the threshold income level for the year 2000 is \$32,000, and the deductible portion phases out between adjusted gross incomes of \$32,000 and \$42,000. The phase-

out range is scheduled to increase each year until it settles at \$50,000 to \$60,000 for year 2005 and thereafter. For married taxpayers filing jointly, the threshold income level for year 2000 is \$52,000, and the deductible portion phases out between \$52,000 and \$62,000. The phase-out range is scheduled to gradually increase to \$80,000 to \$100,000 for year 2007 and thereafter.

Finally, consider a married couple filing jointly, when one spouse is an active participant but the other spouse is not. Prior to the Tax Reform Act of 1997, the non-active spouse was considered an active participant in an employer-sponsored plan merely because his or her spouse was an active participant. Now, subject to income limits, the couple can make a \$2,000 deductible contribution for the non-active spouse. The phase-out occurs between adjusted gross incomes of \$150,000 and \$160,000. Thus, under the new regulations most homemakers can now make a \$2,000 deductible IRA contribution.

Example 4: Jan must decide between contributing \$2,000 to a deductible IRA or a Roth IRA. She is in the 28% tax bracket before retirement and expects to be in the same bracket during retirement. If she invests \$2,000 in a deductible IRA, it will be worth \$5,572 after taxes in 20 years [$\$2,000(1.07)^{20}(1 - 0.28)$]. From the math, you can see that the $\$2,000(1.07)^{20}(1 - 0.28)$ is equivalent to \$1,440 $(1.07)^{20}$, which is the aftertax value from a \$1,440 investment in a Roth IRA. By not distinguishing between pretax and aftertax dollars, Congress effectively told Jan that she must decide between investing \$1,440 or \$2,000 in a Roth IRA. When expressed this way, it is obvious that she should choose the \$2,000 limit because it allows more money to be invested in this tax-favored account. The advantage of the Roth IRA is that it allows an investment of \$2,000 of *aftertax funds*, while the deductible IRA only allows a \$2,000 invest-

ment of *pretax funds*.

Example 5: If someone will be in a lower tax bracket during retirement, the relative prospects of the deductible IRA improve because taxes are not only deferred in the deductible IRA, they are also eventually taxed at a lower rate. Suppose Jan will forgo \$2,000 of spending this year. She will invest the \$2,000 this year and withdraw the funds in 20 years. She is in the 31% tax bracket before retirement but expects to be in the 28% bracket during retirement. If she invests \$2,000 in the Roth, it will be worth \$7,739 or $\$2,000(1.07)^{20}$ in 20 years. Instead, she could invest \$2,000 in a deductible IRA and \$620 in a taxable account, which is the after-tax equivalent of a \$2,000 Roth IRA investment. In the deductible-IRA-plus-side-account strategy, the ending aftertax wealth is \$7,165 or $\$2,000(1.07)^{20}(1 - 0.28) + \$620 [1 + 0.07(1 - 0.31)]^{20}$. In this example, she should prefer the Roth IRA even though she expects to be in a lower tax bracket during retirement.

However, the deductible IRA should sometimes be preferred when someone expects to be in a lower tax bracket during retirement. If we repeat Example 5, except assume that Jan will move from the 28% tax bracket before retirement to the 15% bracket during retirement, then she should favor saving in the deductible IRA and the taxable account. The models and analytic framework in this article allow you to insert the current tax rate, retirement tax rate, and investment horizon that best fits your circumstances. Experimentation with similar examples suggests that, unless someone expects to be in a much lower tax bracket during retirement or in a slightly lower tax bracket and withdraw funds within 10 years, a Roth IRA should be preferred to a deductible IRA.

However, other factors similar to those in Question 2 favor the Roth:

- In a Roth IRA, an individual is not required to take minimum

distributions at age 70½, and the funds can continue to grow tax-exempt.

- Qualified distributions from a Roth IRA are not considered income and will not effect Social Security benefits.
- Estate tax considerations also favor the Roth.

Question 3: Should someone prefer a Roth IRA or a deductible pension with matching contribution?

Jan's income level makes her eligible to save for her retirement in any of these retirement accounts: deductible IRA, Roth IRA, or 401(k) plan with a 50% matching contribution from her firm. When possible, she should save all she can in these tax-favored accounts. If she can only save enough for one of these choices, which should she choose?

We have already seen that a Roth IRA is usually preferable to a deductible IRA. A little math demonstrates that a retirement plan with a matching contribution is almost always preferable to a Roth IRA.

In some 401(k) plans, employees receive matching contributions from their firm. As an example, a firm may contribute 50 cents into an employee's retirement account for each \$1 the employee contributes up to a maximum annual employee contribution of \$6,000. If the employee contributes \$6,000, the firm kicks in \$3,000. Typically, the firm's contribution is not vested until five years, meaning the firm can take back its contribution if the employee leaves before five years. However, the employee's contribution is vested immediately. The 401(k) plans are similar to deductible IRAs in that the *employee's* original contribution is deductible from income, returns accumulate tax deferred, and withdrawals during retirement are taxable at the ordinary income tax rate.

Table 1 presents the equation assuming the firm contributes 50 cents per dollar of employee contribution. Jan is willing to forgo \$1,000 of spending this year. She

invests \$1,389 in a 401(k) plan—her \$1,000 plus the tax savings of \$389—and her firm kicks in \$694, half of the \$1,389. In total, she begins with an original investment amount of \$2,083 of pretax funds. The \$2,083 is also $\$1,500 \div (1 - 0.28)$. That is, it is the pretax equivalent of \$1,500 of aftertax funds—Jan’s \$1,000 after taxes plus the 50% firm match. The \$2,083 grows tax deferred at 7% and is worth \$8,062 in 20 years. The entire withdrawal amount is taxed at 28%, which leaves an aftertax amount of \$5,805. Not surprisingly, the \$5,805 is precisely 50% larger than the \$3,870 in the deductible IRA, and the 50% bonus comes from the firm’s matching contribution. The 1.50 in the numerator of the equation represents the 50-cent matching contribution per dollar contributed by the employee.

Unless the employee expects to leave before the end of the vesting period, he or she should save first in the 401(k) plan with matching contributions. A 50-cent-on-the-dollar contribution means the employee begins with a 50% larger investment portfolio and, for a given return, will end with a 50% larger retire-

ment nest egg. A 50% guaranteed return on the first day is too good a deal to pass up. A dollar-for-dollar matching contribution should be even more difficult to pass up. Beg, borrow, or steal (from the “mad money” account) the funds necessary to obtain all matching contributions, but do not pass up free money.

When saving for retirement, Jan should save first in the retirement account with matching contribution. As we saw earlier, her second choice should probably be to save in the Roth IRA.

SUMMARY

Individual investors must consider several complex issues in retirement and tax planning. In this article, I present simple math models that shed light on three questions. First, should someone convert a deductible IRA to a Roth IRA? The analysis concludes that individuals should usually convert funds from a traditional deductible IRA to a Roth IRA if the taxes will be paid from a taxable account. Conversion seldom makes sense if the taxes must be paid from funds withdrawn from the deductible IRA.

Second, should someone contribute

to a deductible IRA or a Roth IRA if he can contribute to either IRA? The analysis concludes that individuals should usually contribute to the Roth IRA because it allows a \$2,000 investment of *aftertax funds*, while the deductible IRA only allows a \$2,000 investment of *pretax funds*. Thus the Roth effectively allows a larger investment in a tax-sheltered account. The exception exists for individuals who expect to be in a much lower tax bracket during retirement or in a little lower tax bracket and expect to withdraw the funds within 10 years.

Third, should someone prefer to save in a Roth IRA or a deductible pension with matching contribution? In some 401(k) plans the firm matches or partially matches the employee’s contribution. Unless the employee expects to leave before the end of the vesting period, he or she should save first in the deductible pension with matching contributions. A 50-cent-on-the-dollar contribution means the employee begins with a 50% larger investment portfolio and, for a given return, will end with a 50% larger retirement nest egg. This is too good a deal to pass up! ♦