

# Converting to a Roth IRA under New Tax Law: A Decision Framework

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**Abstract:** Recent tax law changes will allow all individuals to convert their traditional IRAs into Roth IRAs. Thus, the new tax law opens planning opportunities for individuals who previously were precluded from converting because of the \$100,000 adjusted gross income limitation. This article describes the new Roth conversion rules and provides decision models to assist in determining whether individuals should convert their IRAs when the \$100,000 limitation disappears in 2010.

**M**any individuals have been unable to take advantage of Roth IRAs since they became available in 1998. Individuals whose adjusted gross incomes (AGIs) exceed statutory limitations may not contribute to a Roth IRA, and individuals whose AGIs exceed \$100,000 may not convert a traditional IRA to a Roth IRA. However, the recently enacted Tax Increase Prevention and Reconciliation Act of 2005 (TIPRA) significantly changes this state of affairs by repealing the \$100,000 AGI limitation on Roth IRA conversions, beginning in 2010.<sup>1</sup> Moreover, this repeal effectively eliminates the AGI limitation on making annual contributions to a Roth IRA. As a result, Roth IRAs will become an option for substantially more middle- and high-income individuals than was the case before TIPRA.

This article focuses on the expanded opportunity created by TIPRA to convert a traditional IRA to a Roth IRA. It first reviews the basic rules for IRAs, including the changes made by TIPRA. The article then develops a framework for deciding whether an individual with a traditional IRA should retain that form or convert it to a Roth IRA. In addition, the article uses break-even analyses to illustrate the circumstances in which conversion might be advantageous. The article, however, does not address an individual's choice to make annual contributions to a Roth IRA versus a traditional deductible IRA, as that decision framework appears in an earlier article published in this journal.<sup>2</sup>

## Basic Rules and Features of Traditional IRAs

Individuals qualifying for a traditional deductible IRA can contribute and deduct \$4,000 each year. This \$4,000 amount will increase to \$5,000 in 2008 and be adjusted for inflation after 2008. Individuals age 50 or

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older can contribute and deduct an additional \$1,000. If an individual participates in an employer-sponsored retirement plan, however, the deduction phases out if AGI exceeds a statutory amount. Specifically, for married individuals filing a joint tax return, the deduction phases out in 2007 as AGI increases from \$83,000 to \$103,000. For unmarried individuals and married individuals filing separately, the phase-out ranges for 2007 and thereafter are \$52,000 to \$62,000 and \$0 to \$10,000, respectively. If one spouse participates in an employer's plan but the other spouse does not, the deduction for the nonparticipating spouse phases out from \$156,000 to \$166,000 of AGI. These phase-out ranges began to be adjusted for inflation in 2007.<sup>3</sup> Individuals whose AGIs exceed these thresholds may continue to contribute to a traditional IRA, but the contributions are not deductible. Consequently, the individuals would be contributing to a so-called traditional nondeductible IRA.

The key feature of a traditional deductible IRA is that the individual contributes before-tax dollars. For example, if the individual earns \$4,000, he or she can contribute the entire \$4,000 of earnings assuming he or she qualifies for the deduction. Once in the IRA, the earnings on the underlying investments grow at before-tax rates of return because the tax law exempts these earnings from taxation. When the individual receives a qualifying distribution from a deductible IRA, he or she includes the entire distribution in gross income at that time. If the individual receives a premature distribution (i.e. before attaining age 59½), the distribution may be subject to an additional 10% early withdrawal penalty.

In contrast, contributions to a traditional nondeductible IRA are made with after-tax dollars. For example, if an individual in the 28% tax bracket earns \$4,000, he or she has only \$2,880 available after taxes to contribute to the IRA [ $\$4,000 \times (1 - .28)$ ]. This after-tax contribution, however, creates basis in the IRA. As with the deductible IRA, the investment earnings grow at the before-tax rate of return. When the individual receives a qualifying distribution from a nondeductible IRA, a proportionate part of the distribution is taxable while the remainder is a nontaxable return of basis. For example, if an individual's \$2,880 investment grows to \$3,000 and the individual receives a \$1,000 qualifying distribution, only \$40 would be taxable ( $\$120/\$3,000 \times \$1,000$ ). If the individual receives a premature distribution, only the \$40 tax-

able portion of the distribution is subject to the additional 10% early withdrawal penalty, resulting in a \$4 penalty.

In some instances, a traditional IRA may start out as a deductible IRA and subsequently become nondeductible if the individual no longer qualifies for the deduction, as would be the case if the individual's AGI, after some time, surpasses the AGI limitation for deductible contributions. In such cases, the nondeductible contributions would increase the individual's basis in the IRA and would be a nontaxable return of basis upon distribution.<sup>4</sup> As with the typical nondeductible IRA, each distribution comprises a taxable portion and a nontaxable portion. As this article explains later, the amount of basis in a traditional IRA influences whether an individual should convert to a Roth IRA. Also, participants in traditional IRAs may have experienced salary growth such that their AGIs also surpass the current \$100,000 AGI limitation on conversion to a Roth IRA. These individuals in particular will be helped by the 2010 repeal of that limitation.

Traditional IRAs (both deductible and nondeductible) contain another feature that can influence the conversion decision. Specifically, after attaining age 70½, individuals no longer may contribute to their traditional IRAs and must begin taking minimum distributions from them. Roth IRAs do not impose these restrictions.

### Basic Rules and Features of Roth IRAs

The Tax Relief Act of 1997 created the Roth IRA, starting in 1998.<sup>5</sup> Contributions to a Roth IRA are nondeductible and are limited to the same amounts as for traditional IRAs (e.g., \$4,000 in 2007). Unlike with traditional nondeductible IRAs, however, qualified distributions are completely exempt from taxation. Thus, a Roth IRA always is preferable to a traditional nondeductible IRA but may or may not be preferable to a traditional deductible IRA depending upon factors such as current and future tax rates and the length of investment. The article cited in endnote 2 provides a decision model for comparing annual contributions to Roth and traditional deductible IRAs.

Individuals whose AGIs exceed a certain amount may not contribute to a Roth IRA. The amount in 2007 is \$166,000 for married individuals filing a joint tax return, \$10,000 for married individuals filing separately, and \$114,000 for other individuals. These amounts began to be adjusted for inflation in 2007.<sup>6</sup> If an individual's AGI exceeds the limitation, he or

she still can contribute to a traditional IRA, but the contributions will not be deductible if the individual (or spouse) participates in an employer-sponsored retirement plan.

Under current law, individuals whose AGIs do not exceed \$100,000 and who are not married filing a separate tax return can roll over or convert their traditional IRAs into Roth IRAs.<sup>7</sup> This AGI limitation and the proscription against conversions for married individuals filing separately both disappear in 2010. Thus, many traditional IRA participants who hitherto were precluded from making the Roth conversion will soon have that opportunity. The conversion, however, entails a tax on the difference between the IRA's value and its basis at the time of conversion. The models developed later in this article incorporate this conversion tax.

To qualify for exclusion from gross income, distributions from a Roth IRA must satisfy two sets of requirements. First, distributions must (1) occur after the individual attains age 59½, (2) be made to the individual's beneficiary or estate after the individual's death, (3) be attributable to the individual's being disabled, or (4) be qualified as a special purpose distribution. Second, distributions must occur after the nonexclusion period, which is the five-tax-year period beginning with the first tax year for which the individual makes a contribution to the Roth IRA.

Distributions from a Roth IRA are deemed made in the following specified order:

1. *From regular annual contributions.* Thus, an individual can withdraw prior regular contributions, as a recovery of basis, with no taxation or 10% early withdrawal penalty even if the distribution falls within the five-year nonexclusion period or before the individual attains age 59½.
2. *From conversion contributions on a first-in, first-out basis.* Within this category, the distribution is deemed first out of amounts taxed upon conversion (i.e., conversion income) and second from conversion-date basis. If the distribution occurs within five years of the conversion contribution, the portion allocable to conversion income is subject to the 10% early withdrawal penalty.<sup>8</sup>
3. *From Roth IRA earnings.* If the distribution occurs within the five-year nonexclusion period, these earnings are subject to taxation and the 10% early withdrawal penalty.

## Roth Rollovers and Conversions

An individual makes a qualified rollover contribution if

a distribution from a traditional IRA is contributed to a Roth IRA within 60 days of the distribution.<sup>9</sup> An individual also can convert a traditional IRA to a Roth IRA without a distribution actually occurring, but the conversion is treated the same way as a rollover.<sup>10</sup> In this article, conversion refers to either method of effecting the change. An individual who converts to a Roth IRA must include in gross income the difference between (1) the conversion-date value of the amount converted and (2) the basis attributable to the amount converted, such basis resulting from any nondeductible contributions made to the traditional IRA. The individual, however, incurs no 10% early withdrawal penalty on the converted amount. If the conversion occurs in 2010, the individual includes half the taxable amount in 2011 gross income and the other half in 2012 gross income. If the individual elects out of the two-year spread, he or she includes the entire amount of conversion income in 2010. An individual may opt for the 2010 inclusion, for example, if he or she expects tax rates to increase in 2011 or 2012. If the conversion occurs after 2010, the individual includes the entire amount of conversion income in the year of conversion. The decision models later in this article provide for these alternatives.

*Example 1.* An individual has a traditional IRA with a \$150,000 balance in 2010. During the IRA's early years, the individual made deductible contributions, but in later years, the individual's AGI exceeded the limit for deductible contributions. Nevertheless, the individual continued to make nondeductible contributions totaling \$60,000 through 2009, thereby increasing the IRA's basis by that amount. In 2010, the individual converts to a Roth IRA, which triggers \$90,000 of conversion income (\$150,000 - \$60,000). Assuming no election, the individual includes \$45,000 in 2011 gross income ( $\frac{1}{2} \times \$90,000$ ) and the remaining \$45,000 in 2012 gross income. If the individual elects out of the two-year spread, he or she includes the entire \$90,000 in 2010 income. In either case, the individual incurs no 10% early withdrawal penalty if the entire \$150,000 ends up in the Roth IRA.

If an individual opts for the two-year spread and then receives a distribution from the converted Roth IRA in 2010 or 2011, he or she will be subject to an accelerated income provision. Under this provision, the individual recognizes the lesser of (1) the normally recognized income plus the distribution or (2) the total amount of conversion income less prior-year included income.

*Example 2.* Assume the individual from Example 1 receives a \$20,000 distribution from the Roth IRA in 2011. In that year, he or she recognizes \$65,000, which is the lesser of \$65,000 (\$45,000 + \$20,000) or \$90,000 (\$90,000 – \$0). In 2012, the individual recognizes \$25,000, which is the lesser of \$45,000 (½ x \$90,000) or \$25,000 (\$90,000 – \$65,000). If instead the individual receives the distribution in 2010, he or she recognizes \$20,000 in 2010, \$45,000 in 2011 (which is the lesser of \$45,000 or \$90,000 – \$20,000 = \$70,000), and \$25,000 in 2012 (which is the lesser of \$45,000 or \$90,000 – \$65,000 = \$25,000).

Aside from allowing many individuals the opportunity to convert their IRAs, the repeal of the \$100,000 AGI

limitation has an interesting ramification for regular annual IRA contributions. As mentioned earlier, individuals whose AGIs exceed a certain amount cannot make regular contributions to Roth IRAs. Individuals, however, can contribute to traditional nondeductible IRAs regardless of their AGI levels. Consequently, after the \$100,000 AGI limitation disappears in 2010, high-AGI individuals will be able to make regular contributions to traditional nondeductible IRAs and then immediately convert them to Roth IRAs. Also, individuals can contribute to nondeductible IRAs prior to 2010 and convert these IRAs in 2010. Because of these opportunities, the repeal of the \$100,000 limitation on Roth conversions effectively eliminates the AGI limitation on regular annual Roth IRA contributions.<sup>11</sup>

**FIGURE 1**

**Decision Models  
Conversion to Roth IRA from Traditional IRA\***

**Retain Existing Traditional IRA**

$$V_k (1 + R)^n - t_n [V_k (1 + R)^n - B_k]$$

**Convert to Roth IRA**

(1) After 2010 or in 2010 with no two-year spread; conversion tax paid from an outside source:

$$V_k (1 + R)^n - CT_k (1 + r)^n$$

Where  $CT_k = t_k (V_k - B_k)$

(2) In 2010 with two-year spread; conversion tax paid from an outside source:

$$V_k (1 + R)^n - CT_{k+1} (1 + r)^{n-1} - CT_{k+2} (1 + r)^{n-2}$$

Where  $CT_{k+1} = t_{k+1} (.5) (V_k - B_k)$   
 $CT_{k+2} = t_{k+2} (.5) (V_k - B_k)$

(3) After 2010 or in 2010 with no two-year spread; conversion tax paid from IRA funds:<sup>b</sup>

$$V_k (1 + R)^n - CT_k (1 + r)^n$$

Where  $CT_k = \frac{t_k (V_k - B_k)}{1 - p [(V_k - B_k)/V_k]}$

(4) In 2010 with 2-year spread; conversion tax paid from IRA funds:<sup>c</sup>

$$V_k (1 + R)^n - CT_k (1 + r)^n$$

Where  $CT_k = \frac{(.5) (V_k - B_k) [(t_{k+1})/(1 + r) + (t_{k+2})/(1 + r)^2]}{1 - [(V_k - B_k)/V_k] [t_k + p - (.5)(t_{k+1})/(1 + r) - (.5)(t_{k+2})/(1 + r)^2]}$

\* See Table 1 for the definitions of variables and Figure 2 for break-even formulas.

<sup>b</sup> See Appendix 1 for the derivation of  $CT_k$ .

<sup>c</sup> See Appendix 2 for the derivation of  $CT_k$ .

**Conversion Decision Models**

Figure 1 provides the models for deciding whether to retain a traditional IRA or convert to a Roth IRA, and Table 1 defines the variables used in Figure 1. The decision models incorporate the following key factors:

- The individual's marginal tax rate in the year of conversion (or in the two years subsequent to conversion if the two-year spread applies) and his or her expected tax rate when cashing out of the IRA at retirement<sup>12</sup>
- The amount of conversion income and the resultant conversion tax
- The value of and basis in the IRA at the time of conversion
- The before-tax rate of return on investments in the IRA and the after-tax rate of return on investments outside the IRA
- Whether the individual pays the conversion tax from outside sources or from distributed IRA funds
- Whether or not the two-year spread applies
- The length of time until cashing out of the IRA at retirement

Although not built into the decision models, the allowance of Roth contributions after age 70½ and the absence of minimum distribution requirements after that age are attractive features of the Roth IRA. To be comparable, all models assume the individual cashes out of the IRA at the end of the investment horizon (n) by receiving a lump-sum distribution after attaining age 59½. If that investment horizon extends beyond age 70½, however, the traditional IRA would require minimum

distributions, a feature not built into the models. Thus, for investment horizons beyond age 70½, the decision models tend to overstate the attractiveness of the traditional IRA or, conversely, understate the relative attractiveness of the Roth conversion.

The two-year spread will apply if the conversion occurs in 2010 and the individual does not elect out of the spread; otherwise, the two-year spread will not apply. The individual also can pay the conversion tax from sources outside the IRA or from IRA funds in the form of a distribution. Thus, the individual has four conversion alternatives as depicted by the four models in Figure 1. A discussion of the model for retaining the traditional IRA and the four models for converting the IRA follows.

### **Retain Existing Traditional IRA**

If an individual retains a traditional IRA, the IRA's value at the time of the decision ( $V_k$ ) will continue to grow at the before-tax rate of return ( $R$ ). The first term of the model depicts this growth. When the individual cashes out of the IRA, the difference between the value at that time [ $V_k(1 + R)^n$ ] and the individual's basis, if any, in the IRA ( $B_k$ ) will be taxed at the individual's ordinary tax rate at that time ( $t_n$ ). The second term of the model depicts this tax. This model assumes no further contributions to the IRA after the decision date, which allows for comparability across the models and focuses the decision on whether or not to convert the traditional IRA.

### **Convert with No Two-Year Spread and with Conversion Tax Paid from an Outside Source**

If the individual converts the IRA and pays the conversion tax from funds outside the IRA, the IRA's entire value will continue to grow at the before-tax rate of return, and no part of this value will be taxed when the individual cashes out, assuming the individual meets the requirements for a qualified distribution from a Roth IRA. The individual, however, will incur a tax upon conversion ( $CT_k$ ), which equals the individual's tax rate ( $t_k$ ) times the difference between the IRA's value at the time of conversion ( $V_k$ ) and any basis in the IRA ( $B_k$ ). Because this conversion tax diverts funds from other potential investments, it carries an opportunity cost equal to the compounded after-tax rate of return the individual could

have earned on the diverted funds. The subtracted term,  $CT_k(1 + r)^n$ , represents this opportunity cost.

### **Convert with Two-Year Spread and with Conversion Tax Paid from an Outside Source**

The second model is similar to the first model except the individual converts in 2010, recognizing half the conversion income in 2011 ( $k + 1$ ) and the remaining half in 2012 ( $k + 2$ ). Accordingly, the model has two subtraction terms with the opportunity cost compounded for  $n - 1$  periods for the 2011 conversion tax payment and  $n - 2$  periods for the 2012 payment.

### **Convert with No Two-Year Spread and with Conversion Tax Paid from IRA Funds**

If the individual lacks sufficient funds outside the IRA to pay the conversion tax, he or she must rely on an IRA distribution to make the payment. This alternative is disadvantageous compared to using outside sources for two

**TABLE 1**

**Definitions of Variables**

$V$	=	Value of traditional IRA at the time of conversion.
$B$	=	Basis in traditional IRA (i.e., nondeductible contributions) at the time of conversion.
$R$	=	Before-tax rate of return on assets inside IRA, assumed to be the same for all years.
$CT$	=	Amount of conversion and withdrawal taxes pertaining to conversion.
$r$	=	After-tax rate of return on investments outside an IRA, which represents the opportunity cost of paying tax on IRA conversions from sources outside the IRA.
$t$	=	Marginal tax rate for ordinary income.
$p$	=	Early withdrawal penalty rate (10 percent if applicable; 0 percent otherwise).
$n$	=	Years in investment period from time of conversion to lump-sum liquidation in year $n$ ; also used as subscript to denote year $n$ .
$k$	=	Subscript on relevant variables to denote year of conversion.
$k + 1$	=	Subscript on relevant variables to denote first year after conversion.
$k + 2$	=	Subscript on relevant variables to denote second year after conversion.

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reasons. First, the distribution removes funds from a highly tax-favored investment vehicle, the IRA. This increased opportunity cost appears in the model as the subtracted term  $CT_k (1 + R)^n$ , where the conversion tax is compounded at the IRA's before-tax rate of return rather than at an after-tax rate of return as in the first two models. Second, the amount distributed to pay the conversion tax might be subject to the 10% early withdrawal penalty because the distributed amount is not being converted. If the individual withdraws the conversion tax from the IRA immediately after conversion, the early withdrawal penalty will definitely apply, because the distribution occurs within five years of the conversion and, thus, is not qualified. On the other hand, if the individual withdraws an amount to pay the conversion tax just before the conversion, the early withdrawal penalty applies only if the individual has not attained age 59½. Because of the potential advantage of withdrawing funds to pay the conversion tax and penalty, if applicable, just prior to conversion versus just after conversion, the third model incorporates this approach.

**Convert with Two-Year Spread and with Conversion Tax Paid from IRA Funds**

The fourth model is similar to the third model except the individual converts in 2010, recognizing half the conversion income in 2011 ( $k + 1$ ) and the remaining half in 2012 ( $k + 2$ ). As with the third model, this model assumes that the individual, just prior to conversion, withdraws from the IRA sufficient funds to pay the conversion tax and penalty, if applicable. However, because the individual will not pay a portion of the conversion tax until later years, he or she can withdraw a lesser amount than necessary and invest it at an after-tax rate of return such that it grows to the necessary amounts when the payments become due.

*Example 3.* Table 2 presents nine cases to illustrate the conversion decision. All cases assume a \$100,000 IRA balance when converted, a 20-year investment horizon, and, to be comparable, conversion in 2010. Thus, cases without the two-year spread assume an election out of this option. In Cases 1 through 3, the tax rate is 28% for all years except the end of year 20, at which time the tax rate ( $t_n$ )

**TABLE 2**

**Example 3—Conversion to Roth IRA from Traditional IRA**

Variables <sup>a</sup>	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9	
$V_k$	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	
$B_k$	—	—	—	—	30,000	30,000	30,000	30,000	30,000	
$t_k$	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.15	
$t_{k+1}$	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	
$t_{k+2}$	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	
$t_n$	0.28	0.15	0.35	0.28	0.28	0.15	0.35	0.28	0.28	
$n$	20	20	20	20	20	20	20	20	20	
$R$	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	
$r$	0.0576	0.0576	0.0576	0.0576	0.0576	0.0576	0.0576	0.0576	0.0576	
$p$	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.1	
<b>Conversion Tax (CT) and After-Tax Accumulations(ATA)</b>										
Retain existing IRA:	ATA	\$335,589	\$396,181	\$302,962	\$335,589	\$343,989	\$400,681	\$313,462	\$343,989	\$343,989
Convert to Roth IRA:										
(1) Tax from outside—no spread	CT <sub>k</sub>	28,000	28,000	28,000	28,000	19,600	19,600	19,600	19,600	10,500
	ATA	380,276	380,276	380,276	380,276	406,022	406,022	406,022	406,022	433,913
(2) Tax from outside—two-year spread	CT <sub>k+1</sub>	14,000	14,000	14,000	14,000	9,800	9,800	9,800	9,800	9,800
	CT <sub>k+2</sub>	14,000	14,000	14,000	14,000	9,800	9,800	9,800	9,800	9,800
	ATA	387,160	387,160	387,160	387,160	410,841	410,841	410,841	410,841	410,841
(3) Tax from IRA—no spread	CT <sub>k</sub>	31,111	31,111	31,111	28,000	21,075	21,075	21,075	19,600	11,290
	ATA	321,088	321,088	321,088	335,589	367,865	367,865	367,865	374,741	413,472
(4) Tax from IRA—two-year spread	CT <sub>k</sub>	29,348	29,348	29,348	26,346	19,718	19,718	19,718	18,316	17,933
	ATA	329,306	329,306	329,306	343,299	374,190	374,190	374,190	380,727	382,510

<sup>a</sup> See Table 1 for the definitions of variables.

varies in these three cases. Specifically,  $t_n$  is the same as  $t_k$  in Case 1, is lower than  $t_k$  in Case 2, and is higher than  $t_k$  in Case 3. In all three cases, paying the conversion tax from outside sources is better than paying the tax and penalty from IRA funds, especially with the two-year spread. Moreover, in Cases 1 and 2, retaining the existing IRA is better than paying the tax and penalty from IRA funds. In Case 3, however, retaining the existing IRA is worse than any of the conversion scenarios. In Case 2, on the other hand, retaining the traditional IRA gives a better result than all four conversion scenarios. Thus, a reduced tax rate in the final year tends to favor retention while an increased tax rate favors conversion, at least with these facts.

Cases 5 through 7 are the same as Cases 1 through 3 except the individual has a \$30,000 basis in the IRA prior to conversion. In all three cases, the after-tax accumulations exceed those appearing in Cases 1 through 3 because only a portion of the IRA balance is taxed. Moreover, conversion beats retention in all three cases if the individual pays the conversion tax from outside sources. This result holds even for Case 6 where  $t_n$  is less than  $t_k$ . Thus, higher basis in the IRA tends to favor conversion and can offset the bias toward retention presented by a reduced  $t_n$ , as the comparison of Cases 2 and 6 shows.

Case 4 is the same as Case 1 except with no early withdrawal penalty. The absence of the penalty improves the results where the individual pays the conversion tax from IRA funds, with conversion beating retention if the individual uses the two-year spread.<sup>13</sup> This improvement is more pronounced if the individual has basis in the IRA, as shown in Case 8. Case 9 demonstrates that, if the individual is in a low tax bracket in 2010 and expects his or her tax rate to increase in subsequent years, election out of the two-year spread may provide better results than using the two-year spread. In summary, Cases 1 through 3 suggest that a  $t_n$  less than  $t_k$  tends to favor retention, while Cases 5 through 7 indicate that a high IRA basis tends to favor conversion. These relationships are explored more fully in the next section of this article.

### Break-Even Analyses

Figure 2 presents formulas that give the break-even values of  $t_n$ , that is, the values  $t_n$  must exceed to make

converting to a Roth IRA more favorable than retaining a traditional IRA. The formulas were obtained by setting the model in Figure 1 for retaining the existing traditional IRA to be less than each of the four conversion models. Placing the models into this format and solving for  $t_n$  yields the formulas in Figure 2.

*Example 4.* Figure 3 applies the Figure 2 break-even formulas to the facts from Table 2, Case 5 (except for  $t_n$  and  $n$ ). Points above a given break-even line indicate that converting to a Roth IRA is better than retaining the traditional IRA, while points below the break-even line indicate that retaining the traditional IRA is better than converting to a Roth IRA. For example, an individual who pays the conversion tax from outside

**FIGURE 2**

**Break-Even Formulas\***

**Convert to Roth IRA if  $t_n >$  indicated expression**

- (1) After 2010 or in 2010 with no 2-year spread; conversion tax paid from outside source:

$$t_n > \frac{CT_k (1+r)^n}{V_k (1+R)^n - B_k}$$

Where  $CT_k$  is the same as in Figure 1 for expression (1).

- (2) In 2010 with 2-year spread; conversion tax paid from outside source:

$$t_n > \frac{CT_{k+1} (1+r)^{n-1} + CT_{k+2} (1+r)^{n-2}}{V_k (1+R)^n - B_k}$$

Where  $CT_{k+1}$  and  $CT_{k+2}$  are the same as in Figure 1 for expression (2).

- (3) After 2010 or in 2010 with no 2-year spread; conversion tax paid from IRA distribution:

$$t_n > \frac{CT_k (1+R)^n}{V_k (1+R)^n - B_k}$$

Where  $CT_k$  is the same as in Figure 1 for expression (3).

- (4) In 2010 with 2-year spread; conversion tax paid from IRA distribution:

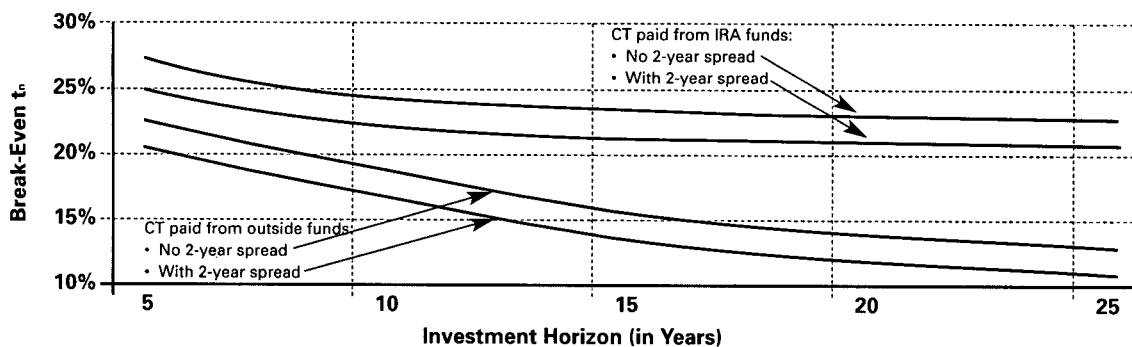
$$t_n > \frac{CT_k (1+R)^n}{V_k (1+R)^n - B_k}$$

Where  $CT_k$  is the same as in Figure 1 for expression (4).

\* See Table 1 for the definitions of variables.

FIGURE 3

Example 4 — Break-Even Analysis for  $t_n$ \*



\*See Table 1 for the definitions of variables. Points above (below) a graph line indicate that conversion to a Roth IRA is better (worse) than retaining the existing traditional IRA.

sources, uses the two-year spread, and foresees a 10-year investment horizon would expect better results from converting to a Roth IRA if he or she expected the future tax rate ( $t_n$ ) to exceed about 17% (see the lowest break-even line on the graph). Otherwise, the individual should retain a traditional IRA. If the individual foresees a 20-year investment horizon, the break-even tax rate drops to 12.67%. Thus, as the investment horizon increases, the break-even tax rate decreases, causing the individual to be increasingly apt to convert to a Roth IRA because the range of acceptable future tax rates for retention decreases. Each of the other three conversion models displays a similar pattern but with

the break-even lines shifting up as the conversion tax payment method becomes less favorable. In other words, the lower a break-even line appears, the greater is the bias toward conversion.

Although not shown in this article graphically, break-even analyses also can be used to determine the effects of other variables such as the amount of basis in the IRA or the after-tax rate of return ( $r$ ). For example, if the ratio of the IRA's basis ( $B_k$ ) to its value ( $V_k$ ) increases, the break-even lines in Figure 3 shift downward, indicating an increased bias toward conversion. In other words, the greater the IRA basis-to-value ratio, the smaller the conversion tax will be and the greater the likelihood that converting to a Roth IRA will be better than retaining a traditional IRA. Also, for a given set of tax rates, the higher the basis-to-value ratio, the shorter the investment horizon must be to make conversion preferable to retention. Similarly, a decrease in the after-tax rate of return shifts the break-even lines downward for alternatives using outside sources to pay the conversion tax. Thus, the lower the opportunity cost of diverting outside funds to pay the conversion tax, the greater the bias toward conversion.

TABLE 3

**Factors That Bias Decision toward  
Converting to a Roth IRA**

- High tax rate in final year of investment horizon ( $t_n$ ) relative to tax rate in conversion year ( $t_k$ )
- Relatively long investment horizon ( $n$ )
- High ratio of IRA basis ( $B_k$ ) to IRA value ( $V_k$ )
- Use of funds outside the IRA to pay conversion tax (CT)
- Low after-tax rate of return ( $r$ ) on funds outside the IRA, if diverted to pay conversion tax (CT)
- Use of the two-year spread option to pay the conversion tax (to a minor extent)

**Conclusion**

This article has presented decision models to help financial planners advise clients whether to convert their traditional IRAs to Roth IRAs once the \$100,000 AGI lim-



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itation disappears in 2010. The models incorporate a number of objective variables to determine which option—retention or conversion—provides the greater after-tax accumulation. They show that conversion tends to be advantageous when the investment horizon is relatively long, the retirement-year tax rate is high, the conversion-year tax rate is low, and the IRA basis is high. Of particular importance, the results show that conversion is much more likely to be advantageous when the conversion tax is paid from outside sources rather than from IRA funds. Table 3 summarizes the factors or client profile characteristics that would tend to favor conversion over retention.

The models, however, do not include other considerations, such as the ability to continue making contributions to a Roth IRA after age 70½ or the absence of minimum distribution requirements after that age. The models are general in nature such that financial planners can insert values of any client's particular facts to assess, in conjunction with other such considerations, whether conversion is the preferable option. ■

**APPENDIX 1**

**Derivation of CT for Conversion after 2010 or  
in 2010 with No Two-Year Spread;  
Conversion Tax Paid from IRA Distribution\***

$$CT_k = t_k (V_k - B_k) + p CT_k [(V_k - B_k)/V_k]$$

The first term on the right-hand side,  $t_k (V_k - B_k)$ , represents the ordinary income tax on the IRA's value in excess of its basis. This entire amount is subject to tax because part is withdrawn just prior to conversion while the remaining balance is converted.

The second term on the right-hand side,  $p CT_k [(V_k - B_k)/V_k]$ , represents the penalty, if applicable, on withdrawing IRA funds just prior to the conversion.  $CT_k$  is the amount withdrawn to pay the conversion tax, and the  $[(V_k - B_k)/V_k]$  factor represents the proportion of the withdrawn amount subject to penalty because it is not a recovery of basis.

Solving for  $CT_k$  yields the following expression:

$$CT_k = \frac{t_k (V_k - B_k)}{1 - p [(V_k - B_k)/V_k]}$$

\* See Table 1 for the definitions of variables.

**APPENDIX 2**

**Derivation of CT for Conversion in 2010  
with Two-Year Spread;  
Conversion Tax Paid from IRA Distribution\***

$$CT_k = (t_k + p) CT_k [(V_k - B_k)/V_k] + \frac{(.5) t_{k+1} (V_k - CT_k) [(V_k - B_k)/V_k]}{(1 + r)} + \frac{(.5) t_{k+2} (V_k - CT_k) [(V_k - B_k)/V_k]}{(1 + r)^2}$$

The first term on the right-hand side represents the conversion tax and penalty, if applicable, on the amount withdrawn from the IRA just prior to the conversion to pay the conversion tax. The  $[(V_k - B_k)/V_k]$  factor represents the proportion of the distribution subject to taxation and penalty.

The second term on the right-hand side represents the tax on the first half of the remaining IRA balance resulting from the conversion (i.e., one-half the amount actually converted). Under assumptions described in the text, the individual withdraws an amount prior to conversion that will grow at an after-tax rate of return for one year before payment becomes due in 2011. Accordingly, the model discounts this term using an after-tax rate of return discount factor  $(1 + r)$ . The  $[(V_k - B_k)/V_k]$  factor represents the proportion of the balance subject to taxation.

The third term on the right-hand side represents the tax on the second half of the remaining IRA balance resulting from the conversion. Under assumptions described in the text, the individual withdraws an amount prior to conversion that will grow at an after-tax rate of return for two years before payment becomes due in 2012. Accordingly, the model discounts this term using an after-tax rate of return discount factor  $(1 + r)^2$ . The  $[(V_k - B_k)/V_k]$  factor represents the proportion of the balance subject to taxation.

Solving for  $CT_k$  yields the following expression:

$$CT_k = \frac{(.5) (V_k - B_k) [(t_{k+1})/(1 + r) + (t_{k+2})/(1 + r)^2]}{1 - [(V_k - B_k)/V_k] [t_k + p - (.5)(t_{k+1})/(1 + r) - (.5)(t_{k+2})/(1 + r)^2]}$$

\* See Table 1 for the definitions of variables.

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- (1) PL 109-222. The Act's title refers to 2005 despite being enacted in 2006.
- (2) See Kenneth E. Anderson and Daniel P. Murphy, "Framework for the Roth IRA Decision," *Journal of the American Society of CLU & ChFC* (March 1998): 60-71. The reader, however, should ignore the Roth conversion decision models in that earlier article as they are no longer applicable.
- (3) Pension Protection Act of 2006, PL 109-280, §833(b). Moreover, §811 of the Act makes permanent the increased IRA contribution limits and thresholds enacted by the Economic Growth and Tax Relief Reconciliation Act of 2001, PL 107-16, and that were scheduled to expire after 2010 under the 2001 Act's sunset provision.
- (4) Individuals must file Form 8606 to report nondeductible contributions to a traditional IRA. Otherwise, the IRS will treat the contributions as if they were deducted unless the individual can show satisfactory evidence that he or she made nondeductible contributions. Thus, individuals should file Form 8606 to document the basis in their traditional nondeductible IRAs. See IRS Publication 590, *Individual Retirement Arrangements (IRAs)*.
- (5) PL 105-34, which added IRC §408A.
- (6) Pension Protection Act of 2006, PL 109-280, §833(c).
- (7) For purposes of this \$100,000 limitation, AGI does not include any gross income resulting from the conversion and from required minimum distributions from a traditional IRA.
- (8) This rule deters an individual from converting a traditional IRA and then immediately withdrawing the amount from the Roth IRA as a nontaxable recovery of basis.
- (9) This type of transaction can be either a trustee-to-trustee or trustee-to-individual-to-trustee rollover.
- (10) Here, the individual maintains the same trustee for both forms of IRA.
- (11) Mark A. Lushcombe, "Tax Reconciliation Act Includes a Lot of Surprises," *TAXES - The Tax Magazine* (July 2006): 3-5.
- (12) The models do not directly incorporate the individual's marital status although they indirectly reflect marital status through marginal tax rates and the investment horizon (e.g., via an inherited IRA).
- (13) In Case 4, if the individual uses IRA funds to pay the tax and elects out of the two-year spread, the after-tax accumulation is exactly equal to that of retaining the existing IRA. This result is not coincidental; it is a consequence of the zero IRA basis, the zero early withdrawal penalty, and the tax rates in the year of conversion and end of the investment horizon being equal.