

# Evaluating the Tax Benefits of Deducting Stock Market Losses in IRAs

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**Abstract:** Many clients have IRAs that are worth less than their basis because of recent stock market declines. Such clients can generate tax savings that alleviate these losses by liquidating their IRAs and deducting the excess basis. This article models this tax reduction opportunity, making it easier for the financial planner to identify those clients whose circumstances make it advantageous to pursue this strategy.

Over the past few years, many stock market investors have seen the value of their investments decline substantially. The S&P 500 index declined 23% during 2002, following declines of 12% and 10% during the previous two years. Investors suffering such losses are understandably seeking ways to alleviate those losses. Some investors seek to do so by identifying investments that will better weather uncertain economic times, but this strategy runs the risk of misidentifying such investments, overpaying for them, or missing the upside potential of other investments should the economy strengthen. A more certain way of mitigating investment losses is to use them in a tax-efficient way, letting Uncle Sam “share your pain.”

For clients suffering losses on investments held in an individual retirement account (IRA), reaping the tax benefits of these losses is not as straightforward as selling the investments with accrued losses. The losses would be realized inside the IRA and would thus not be deductible. Instead, the client would have to liquidate the IRA, which would generate a tax deduction for any IRA basis in excess of its value. Some clients do not have any such excess, perhaps because they made only deductible contributions to a traditional IRA or because investment losses over the past few years only partially offset investment gains prior to that. However, those clients that do have excess IRA basis may benefit from deducting it.

Deciding whether to liquidate the IRA and deduct the excess basis involves a trade-off. The benefits of the

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tax deduction come at the cost of investing the IRA's assets outside of an IRA, where they will grow at an after-tax, rather than before-tax, rate of return. If the client's adjusted gross income (AGI) does not exceed \$100,000 and the IRA is a traditional one, the opportunity exists to convert it to a Roth IRA, which further complicates the decision. The financial service professional is well positioned to guide clients by helping them to understand the trade-offs and what the best course of action in their particular circumstances might be.

This article models the decision to liquidate an IRA with excess basis. It considers the joint effect of several factors, including the IRA's value and basis, before-tax returns on IRA assets, and after-tax returns on non-IRA assets. The results show that the best course of action depends on the client's particular circumstances, and the way in which it depends is often counterintuitive.

### Relevant Tax Law

There are two types of IRAs: traditional and Roth.<sup>1</sup> With a traditional IRA, contributions are often deductible, but distributions are generally fully taxable as ordinary income. The IRA's investment earnings are not taxed until distributed. The deduction for traditional IRA contributions is phased out if the client's AGI exceeds a statutory amount and the client (or spouse) actively participates in an employer retirement plan.<sup>2</sup> In such a situation, the client can still contribute to a traditional IRA, but the contribution is not deductible and creates basis in the IRA.<sup>3</sup> Distributions from the IRA are taxable only to the extent that they exceed the IRA's basis.

With a Roth IRA, contributions are not deductible (and thus create basis), but distributions are tax free if the client is at least 59½ years old and the client has held a Roth IRA for at least five years.<sup>4</sup> Clients with traditional IRAs are allowed to convert them to Roth IRAs if AGI does not exceed \$100,000. If the client takes advantage of this conversion opportunity, taxes are imposed on the distribution from the traditional IRA, but no penalty is imposed.<sup>5</sup>

The above discussion presumes that the IRA's value at the time of withdrawal will be more than its basis. While this is certainly the intended result when contributing to

the IRA, subsequent investment losses may cause the IRA's value to be less than its basis.<sup>6</sup> In this situation, if *all* amounts from *all* traditional IRAs are distributed, the excess basis can be deducted as an itemized deduction subject to the 2% of AGI rule.<sup>7</sup> No tax or 10% penalty will be imposed because there will be no income. If the client has a Roth IRA whose basis exceeds its value, the excess basis can be deducted in a similar manner if *all* amounts from *all* Roth IRAs are distributed.<sup>8</sup> If the client has a traditional IRA with excess basis and AGI does not exceed \$100,000, it can be liquidated by converting it tax free to a Roth IRA. As long as all traditional IRAs are so liquidated, their excess basis should be deductible.<sup>9</sup> The tax savings that result from deducting any excess basis will depend on many factors, including the client's marginal tax rate, the magnitude of the other itemized deductions subject to the 2% of AGI rule, and the potential for incurring an alternative minimum tax.<sup>10</sup>

### Decision Framework

The theoretical framework for evaluating this decision is developed below for three situations: a Roth IRA, a traditional IRA that the client is eligible to convert to a Roth IRA, and a traditional IRA that cannot be so converted. The following notations and assumptions are used:

- V = current value of the IRA's assets
- B = client's basis in the IRA;  $V < B$
- n = number of years that the client will maintain the investment;  $n \geq 5$ , and the client will be at least 59½ years old in n years<sup>11</sup>
- R = rate of return on an IRA's assets (whether Roth or traditional)
- r = annualized *after-tax* rate of return on non-IRA assets;<sup>12</sup>  $R > r$
- $t_n$  = marginal tax rate (federal plus state) on ordinary income in year n
- TB<sub>0</sub> = current tax savings from liquidating the IRA currently and deducting the excess of its basis over its value, as a percentage of such excess basis
- TB<sub>n</sub> = tax savings in year n from liquidating an IRA at that time and deducting the excess, if any, of its basis over its value, as a percentage of such excess basis<sup>13</sup>

### Roth IRA

If the client has a Roth IRA with excess basis, two alternatives are available. First, the client could maintain the IRA and liquidate it in year  $n$ . Second, the client could liquidate the IRA currently and reinvest the proceeds plus all resulting tax savings outside of an IRA.<sup>14</sup>

If the client chooses the first alternative, the IRA's value will grow to  $V(1 + R)^n$  by year  $n$ , and it will not be subject to any tax at that time. In addition, if the IRA's value is still less than its basis, the excess basis can be deducted, generating tax savings of  $TB_n[B - V(1 + R)^n]$ . The expected after-tax accumulation of choosing this alternative can thus be expressed as:

$$V(1 + R)^n + \max\{0, TB_n[B - V(1 + R)^n]\} \quad (1)$$

If the IRA's year  $n$  value is more than its basis [i.e.,  $V(1 + R)^n > B$ ], there will be no excess basis to deduct, no tax savings, and zero will be the maximum of the two values in the  $\max\{\dots\}$  term of expression 1. Otherwise, the tax savings from deducting the excess basis will be added to  $V(1 + R)^n$ .

If the client instead chooses to liquidate the IRA, the funds will be invested outside an IRA and will grow to  $V(1 + r)^n$  by year  $n$ . In addition, the excess basis can be deducted, resulting in tax savings of  $TB_0(B - V)$ . If these tax savings are invested outside of an IRA, they will grow to  $TB_0(B - V)(1 + r)^n$  by year  $n$ . The expected after-tax accumulation of choosing this alternative can thus be expressed as:

$$V(1 + r)^n + TB_0(B - V)(1 + r)^n \quad (2)$$

Setting expression 2 to be greater than expression 1 and rearranging the terms, liquidating the IRA results in a higher expected after-tax accumulation if:

$$V(1 + R)^n - V(1 + r)^n < TB_0(B - V)(1 + r)^n - \max\{0, TB_n[B - V(1 + R)^n]\} \quad (3)$$

The left side of expression 3 captures the disadvantage of liquidating the IRA: the funds will grow more slowly outside an IRA at the after-tax return of  $r$  than they would inside an IRA at the before-tax return of  $R$ . The right side captures the likely advantage of liquidating the IRA: obtaining the tax benefit of deducting a larger excess basis currently rather than a smaller (or zero) one in year  $n$ .<sup>15</sup> There are generally two countervailing consequences of liquidating the Roth IRA, and

whether their net effect is beneficial or detrimental depends on the circumstances.

### Traditional IRA

If the client has a traditional IRA whose value is less than its basis, two (or possibly three) alternatives are available. As with a Roth IRA, the client could maintain the traditional IRA and liquidate it in year  $n$ , or the IRA could be liquidated currently, with all proceeds plus the resulting tax savings invested outside an IRA. A third alternative is available if the client's AGI does not exceed \$100,000: converting it to a Roth IRA.

If the client chooses to maintain the traditional IRA, it will grow in value to  $V(1 + R)^n$  by year  $n$ . If the IRA's value at that time is greater than its basis, a tax at the ordinary rate of  $t_n$  will be imposed on the value in excess of basis, and the expected after-tax accumulation will be:

$$V(1 + R)^n - t_n[V(1 + R)^n - B] \quad (4)$$

If the IRA's value is still less than its basis, the excess basis can be deducted, and there will be tax savings of  $TB_n[B - V(1 + R)^n]$ . The expected after-tax accumulation will thus be:

$$V(1 + R)^n + TB_n[B - V(1 + R)^n] \quad (5)$$

Note that expression 5 is the same as expression (1) when  $V(1 + R)^n < B$ . That is, whether it is a traditional or Roth IRA, if the IRA's year  $n$  value will still be less than its basis, the IRA can be liquidated tax-free and with any excess basis being deducted.

If the client instead chooses to liquidate the traditional IRA, the proceeds will be invested outside an IRA and will grow to  $V(1 + r)^n$ . The tax savings from deducting the excess basis will grow outside an IRA to  $TB_0(B - V)(1 + r)^n$ . The expected after-tax accumulation is thus:

$$V(1 + r)^n + TB_0(B - V)(1 + r)^n \quad (6)$$

Note that expression 6 is identical to expression 2. All else being equal, the expected after-tax accumulation of liquidating an IRA currently is the same whether it is a traditional or a Roth IRA.

A third, possible, choice is to convert the traditional IRA to a Roth IRA (if AGI does not exceed \$100,000). No tax is paid on the conversion because the distribution is less than the IRA's basis. The Roth IRA will grow to  $V(1 + R)^n$  over the next  $n$  years, at which time it can be

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liquidated tax free. In addition, the unrecovered basis at the time of the conversion can be deducted currently, creating tax savings of  $TB_0(B - V)$ .<sup>16</sup> If these tax savings are invested outside an IRA, the expected after-tax accumulation of this alternative is:

$$V(1 + R)^n + TB_0(B - V)(1 + r)^n \quad (7)$$

Note that expression 7 is greater than expression 6, indicating that a conversion to a Roth IRA, if allowed, is preferable to merely liquidating the traditional IRA. By converting it, the client still obtains a current deduction for the IRA's excess basis, but the  $V$  investment can subsequently grow at the before-tax return of  $R$  rather than the after-tax return of  $r$ . Note also that expression 7 is greater than expression 4, indicating that a Roth conversion is preferable to maintaining the traditional IRA if the IRA's year  $n$  value will be more than its basis. The IRA will grow to  $V(1 + R)^n$  either way, but, by converting it, the client obtains a current tax deduction and avoids a year  $n$  tax.

The only real decision for the client is whether to maintain the traditional IRA or convert it to a Roth IRA when the IRA's year  $n$  value will still be less than its basis. Setting expression 7 to be greater than expression 5 and rearranging the terms, a conversion results in a higher expected after-tax accumulation if:

$$TB_0(B - V)(1 + r)^n > TB_n[B - V(1 + R)^n] \quad (8)$$

With either alternative, the IRA will be tax free in year  $n$ , so  $V(1 + R)^n$  does not appear in expression 8. The left and right sides of expression 8 are the future values of the tax savings from deducting any excess basis currently versus in year  $n$ , respectively. Expression 8 will often, although not necessarily, be true; the right side will be larger only if  $TB_n$  is sufficiently larger than  $TB_0$ .<sup>17</sup>

Clients whose AGIs exceed \$100,000 cannot convert a traditional IRA to a Roth IRA. Their choice is whether to maintain the traditional IRA or liquidate it. Setting expression 6 to be greater than expression 4 and rearranging the terms, if the IRA's year  $n$  value will be more than its basis, liquidating it results in a larger expected after-tax accumulation if:

$$V(1 + R)^n - V(1 + r)^n < TB_0(B - V)(1 + r)^n + t_n[V(1 + R)^n - B] \quad (9)$$

The left side of expression 9 is the disadvantage of liquidating the IRA:  $V$  will grow more slowly outside the IRA than inside it. The right side has two advantages of liquidating it. First, the client obtains a deduction for the excess basis and can invest the tax savings. Second, the client avoids a year  $n$  tax on the traditional IRA.

If the IRA's year  $n$  value will still be less than its basis, a larger expected after-tax accumulation will result from liquidating the IRA rather than maintaining it if expression 6 is greater than expression 5. Rearranging the terms from such a comparison results in:

$$V(1 + R)^n - V(1 + r)^n < TB_0(B - V)(1 + r)^n - TB_n[B - V(1 + R)^n] \quad (10)$$

The left side of expression 10 captures the slower growth of  $V$  outside the IRA, while the right side captures the difference in the future values of the tax savings from deducting the excess basis currently rather than in year  $n$ .

A comparison of the various decision rules above shows that the best action with respect to an IRA whose current value is less than its basis is not straightforward. It depends on a variety of factors, several of which must be estimated because they relate to future circumstances. The financial planner is well suited to understand how these factors' interaction affects the best choice for a particular client, allowing for more effective advice to be proffered to that client.

### Numerical Examples

The following six numerical examples illustrate the application of the theoretical framework. The following parameter values are used in all of the examples:<sup>18</sup>

- The basis in the IRA ( $B$ ) is \$20,000.
- The rate of return on an IRA's assets ( $R$ ) is 8%.
- The annualized after-tax rate of return on non-IRA assets ( $r$ ) is 6.5%.<sup>19</sup>
- The marginal tax rate in year  $n$  ( $t_n$ ) is 25%.
- The year  $n$  tax savings from liquidating an IRA at that time and deducting its excess basis, if any, is 15% of such excess ( $TB_n$ ).

#### Example 1

The following parameter values are used here, in addition to those used in all of the examples:

- The IRA's current value ( $V$ ) is \$12,000.

- The investment horizon ( $n$ ) is 15 years.
- The tax savings from liquidating the IRA currently and deducting its excess basis is 20% of such excess ( $TB_0$ ).<sup>20</sup>
- The IRA is a Roth IRA.

If the IRA is maintained, its \$12,000 value will grow to \$38,066 over the next 15 years ( $\$12,000 \times 1.08^{15}$ ). No tax will be imposed when it is liquidated, and there will be no excess basis to deduct. The expected after-tax accumulation is thus \$38,066.<sup>21</sup> If the IRA is liquidated, its \$12,000 value will be invested outside an IRA and will grow to \$30,862 in 15 years ( $\$12,000 \times 1.065^{15}$ ). The liquidation allows the \$8,000 of excess basis ( $\$20,000 - \$12,000$ ) to be deducted, producing \$1,600 of current tax savings ( $\$8,000 \times 20\%$ ). When invested outside an IRA, these tax savings will grow to \$4,115 ( $\$1,600 \times 1.065^{15}$ ). The total expected after-tax accumulation is thus \$34,977 ( $\$30,862 + \$4,115$ ).<sup>22</sup> Maintaining the IRA is the better option for this client.

To get the same result, one could look at the decision rule in expression 3. The left side equals \$7,204,<sup>23</sup> and it represents the foregone growth if the \$12,000 is invested outside, rather than inside, the IRA (i.e.,  $\$38,066 - \$30,862$ ). The right side captures the advantage of deducting the excess basis currently, which here equals \$4,115.<sup>24</sup> Expression 3 is thus false, indicating that the IRA should be maintained. The client foregoes tax benefits that have a future value of only \$4,115 in order to keep an additional \$7,204 of growth.

### Example 2

Assume the same facts as in Example 1, except that the IRA's value is now \$6,000 (rather than \$12,000). If the Roth IRA is maintained, it will grow over 15 years to \$19,033 ( $\$6,000 \times 1.08^{15}$ ). The \$967 of excess basis at that time ( $\$20,000 - \$19,033$ ) can be deducted, reducing taxes by \$145 ( $\$967 \times 15\%$ ). The expected after-tax accumulation is thus \$19,178 ( $\$19,033 + \$145$ ).<sup>25</sup> If the IRA is liquidated, the \$6,000 value will grow to \$15,431 ( $\$6,000 \times 1.065^{15}$ ), and the \$14,000 of excess basis ( $\$20,000 - \$6,000$ ) can be deducted, saving \$2,800 of taxes ( $\$14,000 \times 20\%$ ). These tax savings will grow to \$7,201 ( $\$2,800 \times 1.065^{15}$ ), making the total expected

after-tax accumulation \$22,632 ( $\$15,431 + \$7,201$ ).<sup>26</sup> Liquidating the IRA is the better choice here. Applying expression 3 in these circumstances would result in a true outcome, suggesting that the IRA should be liquidated.<sup>27</sup>

### Example 3

In this example, the IRA's value ( $V$ ) is \$11,000, the investment horizon ( $n$ ) is five years, the tax savings from deducting the excess basis currently ( $TB_0$ ) is 3%, and the IRA is a traditional IRA that can be converted to a Roth IRA. Since the IRA's year  $n$  value will still be less than its basis, the decision is whether to maintain the traditional IRA or convert it to a Roth IRA.<sup>28</sup>

If the traditional IRA is maintained, it will grow to \$16,163 in five years ( $\$11,000 \times 1.08^5$ ). This value is less than the \$20,000 basis, so no income tax will be incurred. In addition, the remaining excess basis of \$3,837 ( $\$20,000 - \$16,163$ ) will be deductible, reducing taxes by \$576 ( $\$3,837 \times 15\%$ ). The total expected after-tax accumulation is \$16,739 ( $\$16,163 + \$576$ ).<sup>29</sup> If the IRA is converted to a Roth IRA, it will still grow to \$16,163 over the next five years, and this amount will still be tax free. In addition, the \$9,000 of excess basis at the time of the conversion ( $\$20,000 - \$11,000$ ) can be deducted, saving \$270 of taxes ( $\$9,000 \times 3\%$ ). The future value of these tax savings is \$370 ( $\$270 \times 1.065^5$ ), and the total expected after-tax accumulation is \$16,533 ( $\$16,163 + \$370$ ).<sup>30</sup> This amount is less than that of maintaining the IRA, suggesting that the IRA should be maintained and not converted to a Roth IRA.

In applying the decision rule in expression 8, the left side equals \$370,<sup>31</sup> which is the future value of the current tax savings if the IRA is converted. The right side equals \$576,<sup>32</sup> which is the future tax savings if the IRA is maintained. Expression 8 is false, suggesting that the IRA should be maintained. In this case, a \$9,000 deduction that saves taxes currently at a 3% rate is less valuable than a \$3,837 deduction that saves taxes in the future at a 15% rate.

### Example 4

Assume the same facts as in Example 3, except that the tax savings from deducting the excess basis currently

is 9% (rather than 3%). The expected after-tax accumulation if the traditional IRA is maintained is unchanged at \$16,739. If it is converted, the IRA will still grow to \$16,163, and there will still be \$9,000 of excess basis that can be deducted at the time of the conversion. However, this deduction will reduce taxes by \$810 ( $\$9,000 \times 9\%$ ), which has a future value of \$1,110 ( $\$810 \times 1.065^5$ ). The expected after-tax accumulation is thus \$17,273 ( $\$16,163 + \$1,110$ ), which is more than that of maintaining the IRA.<sup>33</sup> Alternatively, expression 8 is true, suggesting that the IRA should be converted.<sup>34</sup> Not surprisingly, when the current tax savings are 9% rather than 3%, converting the IRA becomes relatively better.

### Example 5

For this example, the IRA's value (V) is \$14,000, the investment horizon (n) is 15 years, the tax savings from currently deducting the IRA's excess basis (TB<sub>0</sub>) is 14%, and the IRA is a traditional IRA that cannot be converted to a Roth IRA. If the IRA is maintained, it will grow to \$44,410 over the next 15 years ( $\$14,000 \times 1.08^{15}$ ), which will be more than its \$20,000 basis. An ordinary tax will be imposed on \$24,410 ( $\$44,410 - \$20,000$ ), resulting in a \$6,103 tax ( $\$24,410 \times 25\%$ ). The net expected after-tax accumulation is thus \$38,307 ( $\$44,410 - \$6,103$ ).<sup>35</sup> If the IRA instead is liquidated, the \$14,000 value will grow outside the IRA to \$36,006 ( $\$14,000 \times 1.065^{15}$ ). In addition, the \$6,000 of excess basis ( $\$20,000 - \$14,000$ ) can be deducted currently, saving \$840 of taxes ( $\$6,000 \times 14\%$ ). When invested outside of an IRA, these tax savings will grow to \$2,160 ( $\$840 \times 1.065^{15}$ ), making the expected after-tax accumulation \$38,166 ( $\$36,006 + \$2,160$ ).<sup>36</sup> Maintaining the IRA is the better choice here.

When the decision rule in expression 9 is applied, the left side, which is the foregone growth when liquidating the IRA, is \$8,404 ( $\$44,410 - \$36,006$ ),<sup>37</sup> and the right side, which is the future value of the current tax savings plus the future ordinary tax, is \$8,263 ( $\$2,160 + \$6,103$ ).<sup>38</sup> Expression 9 is not true, indicating that the IRA should be maintained. While doing so foregoes a current tax savings and results in future taxes, these taxes are less than the foregone growth.

### Example 6

Assume the same facts as in Example 5, except that the traditional IRA's current value is \$6,000 (rather than \$14,000). The IRA's year 15 value, if it is maintained, is now \$19,033 ( $\$6,000 \times 1.08^{15}$ ), which will still be less than its \$20,000 basis. Deducting the \$967 of excess basis at that time ( $\$20,000 - \$19,033$ ) will reduce taxes by \$145 ( $\$967 \times 15\%$ ), making the total expected after-tax accumulation \$19,178 ( $\$19,033 + \$145$ ).<sup>39</sup> If the IRA is liquidated, the \$6,000 will grow to \$15,431 outside of the IRA ( $\$6,000 \times 1.065^{15}$ ), and the \$1,960 of tax savings ( $\$14,000 \times 14\%$ ) from deducting the \$14,000 of excess basis currently ( $\$20,000 - \$6,000$ ) will grow to \$5,041 over 15 years ( $\$1,960 \times 1.065^{15}$ ). The expected after-tax accumulation is thus \$20,472 ( $\$15,431 + \$5,041$ ), which is larger than that of maintaining the IRA.<sup>40</sup> In expression 10, the left side is \$3,602,<sup>41</sup> and the right side is \$4,896. By liquidating the IRA, the client gives up \$3,602 of growth ( $\$19,033 - \$15,431$ ), but the client is also able to deduct a larger amount of excess basis and do so currently, which has a future value of \$4,896 ( $\$5,041 - \$145$ ). The advantage of liquidating the IRA outweighs the disadvantage.

### Break-Even Analysis

As the numerical examples illustrate, the choice that makes the client better off varies and depends on the circumstances. To further illustrate this point and to show that one's intuition regarding this decision might sometimes be incorrect, graphs of a break-even analysis are provided. Figure 1 depicts this analysis for the parameter values in Examples 1 and 2, where the client held a Roth IRA. The figure shows, for various levels of  $V \div B$ , the minimum TB<sub>0</sub> for which liquidating the IRA is more beneficial. The kinks in the graphs at 68% ( $n = 5$ ), 32% ( $n = 15$ ), and 15% ( $n = 25$ ) represent points at which the IRA's year n value will equal its basis. To the left of such a point, there will still be some excess basis at year n; to the right, no such excess will exist.

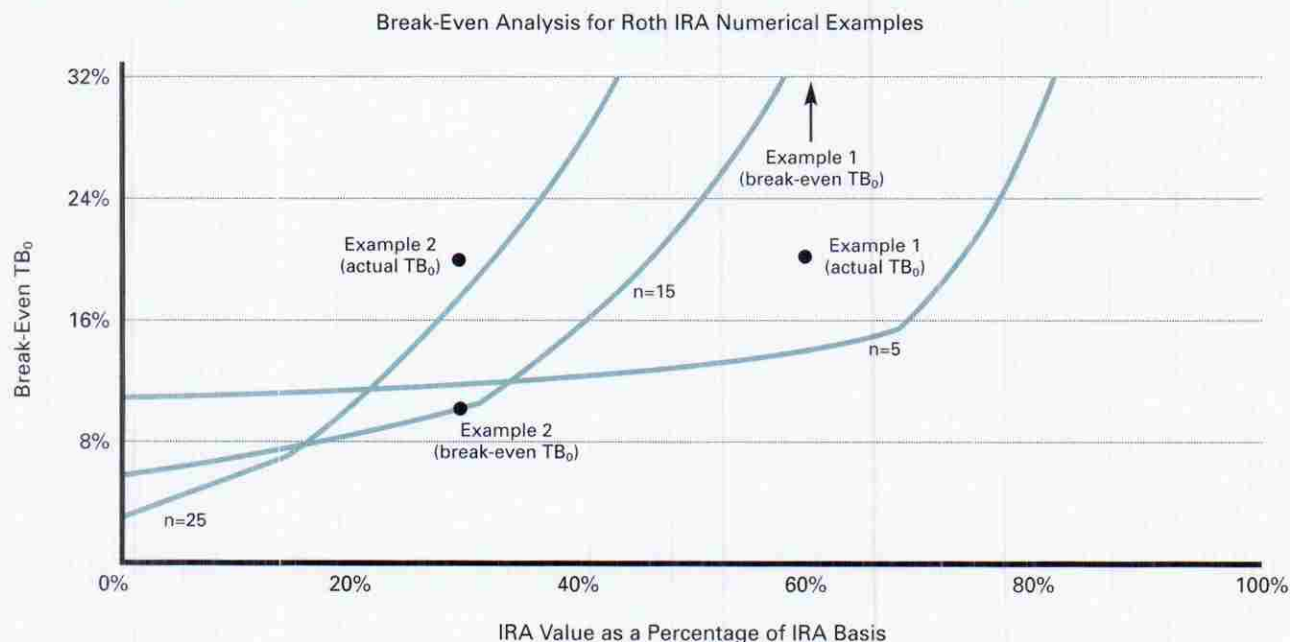
To the right of the kinks in Figure 1, the break-even TB<sub>0</sub> increases as the investment horizon increases and as the IRA's value increases. Recall that, with a Roth

IRA whose year  $n$  value will be more than its basis, there is a trade-off between obtaining higher growth inside the IRA versus obtaining a current tax deduction. The foregone growth will be larger as the investment horizon increases and as the IRA's value increases, leading to a higher break-even  $TB_0$ . To the left of the kinks, there is a trade-off between obtaining higher growth inside the IRA versus obtaining a larger, and current, tax deduction. As can be seen, this results in crossing break-even curves, indicating that the break-even  $TB_0$  could increase or decrease as the investment horizon increases. In Figure 1, the break-even  $TB_0$  still increases as the IRA's value increases, but this will not always be true. In Examples 1 and 2, the investment horizon was 15 years and  $TB_0$  was 20%; the IRA's value as a percentage of its basis was 60% and 30%, respectively. Figure 1 shows that the Example 1 break-even  $TB_0$  is in excess of 32%, which is greater than the actual  $TB_0$  and suggests that the IRA

should be maintained. However, the Example 2 break-even  $TB_0$  is only 10%, which is less than the actual  $TB_0$  and indicates that the client should liquidate the IRA.

Figure 2 provides break-even curves for a traditional IRA that can be converted to a Roth IRA (Examples 3 and 4). The curves intersect the horizontal axis where the IRA's year  $n$  value will equal its basis; these are the same horizontal points as the kinks in Figure 1. Recall that, to the right of such points with this type of IRA, it should be converted to a Roth IRA, regardless of  $TB_0$ . To the left of such points, the client's trade-off is obtaining a current versus a future deduction for excess basis. As the investment horizon increases and as the IRA's value increases, the future value of the current tax deduction increases, relative to the value of the future tax deduction, decreasing the break-even  $TB_0$ . In Examples 3 and 4, the IRA's value was 55% of its basis and the investment horizon was five years; the actual  $TB_0$  was 3% and 9%, respec-

FIGURE 1



This figure depicts the minimum tax savings from deducting the Roth IRA's excess basis (as a percentage of such excess) for liquidating it to provide a larger expected after-tax accumulation than maintaining it. The break-even points are depicted for three investment horizons ( $n$ ). Other parameter values equal those in Examples 1 and 2.

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tively. Figure 2 shows that the break-even  $TB_0$  is 5%, suggesting that the traditional IRA should be converted to a Roth IRA in Example 4 but not in Example 3.

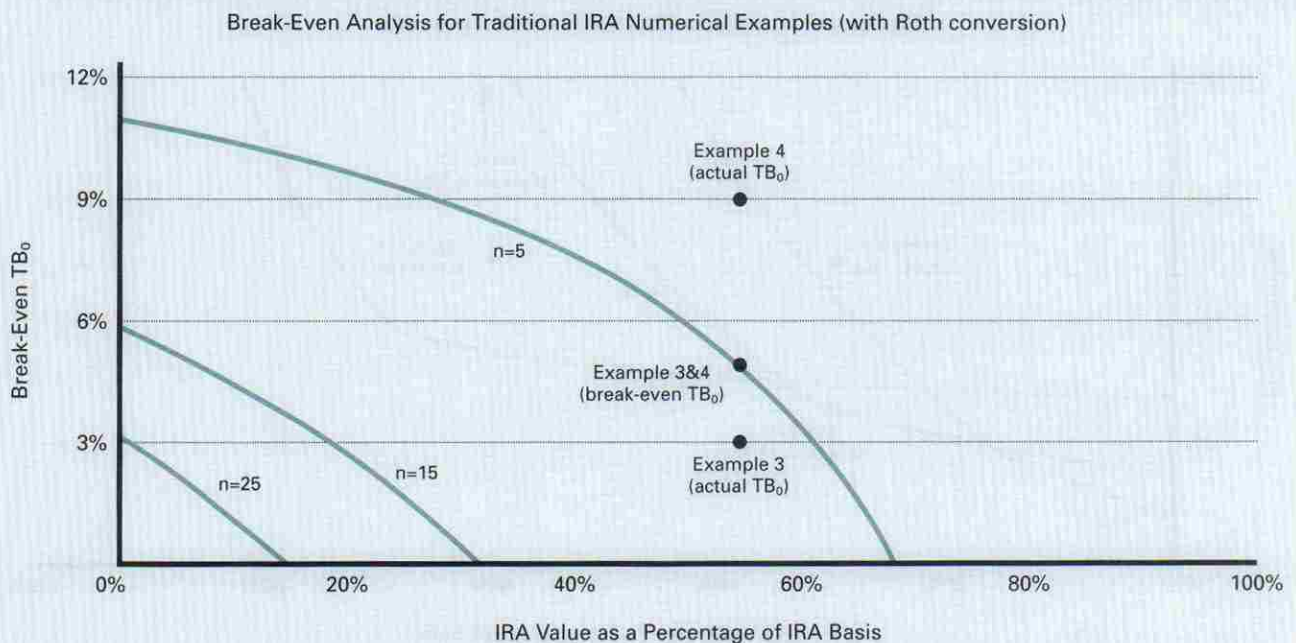
Figure 3 depicts break-even curves for a traditional IRA that cannot be converted to a Roth IRA (Examples 5 and 6), and it is probably the most unusual in appearance of the three figures. Similar to the other two figures, the kinks at 15%, 32%, and 68% represent points at which  $V(1 + R)_n$  equals  $B$ . To the right of the kinks, the explanations for the unusual appearance are subtle and involve the rates at which the various components of expression 9 change, relative to each other, as the investment horizon and the IRA's value changes (to the left of the kinks, as the various components of expression 10 change). Suffice it to say that much of Figure 3 is not intuitive, suggesting that a more rigorous, mathematical analysis of the client's choices may be beneficial. In Examples 5 and 6, the investment horizon was 15 years

and  $TB_0$  was 14%; the IRA's value as a percentage of its basis was 70% and 30%, respectively. Figure 3 shows that the Example 5 break-even  $TB_0$  is 15%, which is greater than the actual  $TB_0$  and suggests that the IRA should be maintained. However, the Example 6 break-even  $TB_0$  is only 10%, which is less than the actual  $TB_0$  and indicates that the client should liquidate the IRA.

### Other Considerations

The analysis above incorporates factors that are important in making decisions about an IRA with excess basis. The results are contingent on the model's assumptions, and two of those assumptions should be particularly noted. First, to take advantage of the deductibility of a traditional IRA's excess basis, *all* traditional IRAs must be liquidated, including those that do not have excess basis (and similarly for Roth IRAs). The analysis above must be applied to the client's traditional (or Roth) IRAs in the

FIGURE 2



This figure depicts the minimum tax savings from deducting the traditional IRA's excess basis (as a percentage of such excess) for converting it to a Roth IRA to provide a larger expected after-tax accumulation than maintaining it. The break-even points are depicted for three investment horizons (n). Other parameter values equal those in Examples 3 and 4.



aggregate. Second, it was assumed that the investment horizon is at least five years. If this is not the case and the IRA is a traditional one that is converted to a Roth IRA, the year  $n$  distribution from the Roth IRA will be subject to ordinary taxation and a 10% penalty,<sup>42</sup> reducing the attractiveness of such a conversion.

The analysis does not consider the minimum distribution rules.<sup>43</sup> These rules require that certain minimum distributions be made from a traditional IRA after the client reaches age 70½, but they do not apply to Roth IRAs. If the client does not need these amounts for consumption at that time, they can be kept in a Roth IRA and continue to grow at a before-tax rate of return, which increases the relative advantage of maintaining a Roth IRA (or of converting a traditional to a Roth IRA).

Anyone making an investment decision should be mindful of the fact that the assumed subsequent circumstances may not occur, particularly for longer invest-

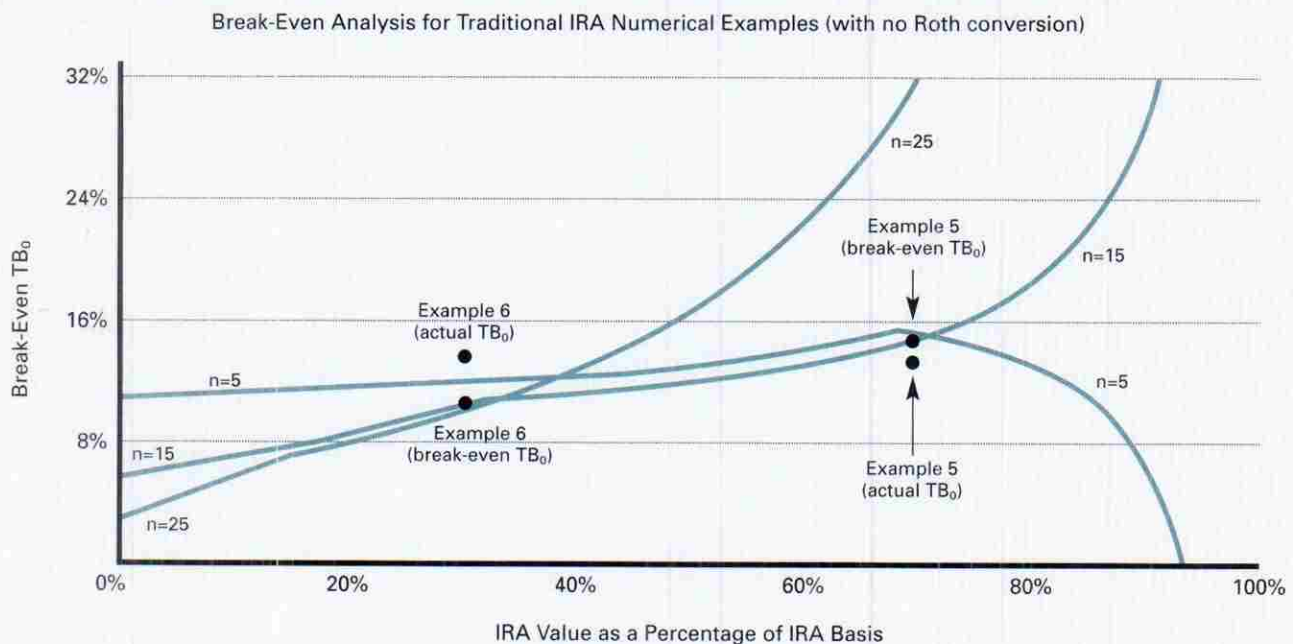
ment horizons. For example, the tax law is ever-changing and will likely differ in the future from its present form, albeit in a currently unknown way. Despite this uncertainty, a decision must be made currently; deciding not to act is still a decision.

Finally, the financial planner may want to consider the client's saving behavior. A client who lacks full self-control when it comes to saving will likely not completely reinvest the IRA proceeds for the entire investment horizon if it is invested outside an IRA. Instead, the client could consume some of it, contrary to his or her long-term investment goals. Such a client may see the IRA as a form of forced savings, which increases the attractiveness of maintaining an IRA.

### Conclusion

Recent stock market declines have caused many investors to seek ways to alleviate their losses. The tax sys-

FIGURE 3



This figure depicts the minimum tax savings from deducting the traditional IRA's excess basis (as a percentage of such excess) for liquidating it to provide a larger expected after-tax accumulation than maintaining it. The break-even points are depicted for three investment horizons ( $n$ ). Other parameter values equal those in Examples 5 and 6.

tem provides an opportunity for many of them to save taxes by utilizing their losses. The extent to which this can be done depends, in part, on the form in which the losing investments were held. This article focuses on one particular form: IRAs. The analysis here shows that there are circumstances where it is beneficial to liquidate an IRA (either by cashing out completely a traditional or Roth IRA or by converting a traditional to a Roth IRA) and deduct the IRA's basis in excess of its value. Determining whether it is beneficial for a particular client requires a careful identification of that client's circumstances and understanding how they interact with the tax system. The model here provides a framework in which several of these factors can be considered simultaneously. Of course, like all such models, it should be used appropriately. It incorporates assumptions that should be reasonable and includes factors that should be important for many clients, but there may be some clients for whom these are not true. Nonetheless, a more rigorous quantitative analysis, in conjunction with a qualitative analysis, is preferable to only a qualitative analysis, allowing the client to be better served. ■

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(1) IRC §§ 219 and 408 provide rules for traditional IRAs, and IRC § 408A provides rules for Roth IRAs.

(2) In 2003, this phaseout begins at \$60,000 of AGI (\$40,000 for a client who is not married, and \$150,000 for a client who is not an active participant but whose spouse is). Contributions in 2003 are limited to \$3,000.

(3) Most nondeductible contributions to a traditional IRA likely would have taken place before the introduction of the Roth IRA in 1998; however, taxpayers who are ineligible for a Roth IRA due to AGI levels may still have nondeductible contributions to a traditional IRA.

(4) In 2003, Roth IRA contributions are limited to \$3,000 minus the amount contributed to a traditional IRA. The eligibility to contribute

to a Roth IRA begins to phase out if AGI exceeds \$150,000 (\$95,000 for unmarried clients).

(5) A 10% penalty is generally imposed on IRA distributions before the client is age 59½. Amounts that are converted from a traditional to a Roth IRA do not count toward the annual contribution limit.

(6) A traditional IRA to which only deductible contributions have been made will have a zero basis, so its value cannot be less than its basis.

(7) Notice 87-16, D5 (1987-1 C.B. 446); Notice 89-25, Q-7 (1989-1 C.B. 662). The itemized deductions that are subject to this 2% rule include investment expenses, unreimbursed job expenses, and tax preparation fees (IRC § 67(b)).

(8) Internal Revenue Service, *Individual Retirement Arrangements (IRAs)* (Publication 590, 2002). The rules for deducting excess basis apply separately to traditional and Roth IRAs.

(9) We are unaware of any authoritative guidance that directly addresses this point. However, since amounts converted from a traditional to a Roth IRA are treated as distributions, they presumably can trigger the deduction of excess basis.

(10) Itemized deductions subject to the 2% of AGI rule are among those items that are disallowed for alternative minimum tax purposes (IRC § 56(b)(1)(A)(i)).

(11) These assumptions are made so that any IRA distributions in year  $n$  will be penalty free and, in the case of a Roth IRA, tax free.

(12) See Thomas R. Pope, Kenneth E. Anderson, and John L. Kramer, *Prentice Hall's Federal Taxation 2003: Individuals* (Upper Saddle River, NJ: Pearson Education, Inc., 2003), chapter 18, for a discussion of the annualized after-tax rate of return. This return could be the result of investing outside of an IRA in various types of investments, such as tax-exempt bonds, growth stocks, and/or dividend-paying stocks. Because of this variety of outside investments, this after-tax return is not modeled in more detail.

(13) Recall from the discussion above that the tax savings from deducting the excess basis depends on the marginal tax rate, the amount of other miscellaneous itemized deductions, and the alternative minimum tax. Because of these complicating features of the tax law,  $TB_0$  and  $TB_n$  are not modeled in more detail.

(14) Liquidating the Roth IRA and reinvesting the proceeds outside of an IRA introduces the risk of future increases in tax rates. We do not consider this risk in our analysis.

(15) The two terms of the right side of expression 3 are the future values of the tax savings from deducting any excess basis currently versus in year  $n$ , respectively. If the IRA's value in year  $n$  is more than its basis, the  $\max\{\dots\}$  term will be zero and the entire right side will be positive. If the  $\max\{\dots\}$  term equals  $TB_n[B - V(1 + R)^n]$ , such term may be greater or less than  $TB_0(B - V)(1 + r)^n$ . Since  $B - V(1 + R)^n$  is less than  $(B - V)(1 + r)^n$ , the entire right side can be negative only if  $TB_n$  is sufficiently larger than  $TB_0$ .

(16) As noted above in note 9, no authoritative guidance directly addresses the treatment of a traditional IRA's excess basis when it is converted to a Roth IRA. The modeling here reflects the authors' interpretation that such treatment is the same as that of a liquidated traditional IRA that is not

converted to a Roth IRA. If this interpretation is incorrect, the  $TB_0(B - V)(1 + r)^n$  term in expression 7 should be replaced with zero.

(17) See note 15 for an explanation.

(18) The parameter values here are chosen merely for illustrative purposes (i.e., to show how the model works and how changes in the parameters can change the decision). Of course, one would need to estimate many of these parameters (e.g., future rates of return, future tax rates), but this is not unusual when decisions are made under uncertainty.

(19) Recall that  $r$  depends on the manner in which non-IRA assets are invested and taxed. See note 12 for further explanation.

(20) The 20% is used for illustrative purposes. Recall that  $TB_0$  should take into account the marginal tax rate and the extent to which deducting the excess basis will reduce taxable income because of the 2% of AGI rule (see note 13 for further explanation).

(21) See expression 1:  $(\$12,000 \times 1.08^{15}) + \max\{0, 0.15 \times [\$20,000 - (\$12,000 \times 1.08^{15})]\}$ . Since the IRA's year 15 value is more than its basis (i.e.,  $\$12,000 \times 1.08^{15} > \$20,000$ ), the  $\max\{\dots\}$  term equals zero.

(22) See expression 2:  $(\$12,000 \times 1.065^{15}) + [0.20 \times (\$20,000 - \$12,000) \times 1.065^{15}]$ .

(23)  $(\$12,000 \times 1.08^{15}) - (\$12,000 \times 1.065^{15})$ .

(24)  $[0.20 \times (\$20,000 - \$12,000) \times 1.065^{15}] - \max\{0, 0.15 \times [\$20,000 - (\$12,000 \times 1.08^{15})]\}$ .

(25) See expression 1:  $(\$6,000 \times 1.08^{15}) + \max\{0, 0.15 \times [\$20,000 - (\$6,000 \times 1.08^{15})]\}$ .

(26) See expression 2:  $(\$6,000 \times 1.065^{15}) + [0.20 \times (\$20,000 - \$6,000) \times 1.065^{15}]$ .

(27) The left side of expression 3 equals  $\$3,602 [(\$6,000 \times 1.08^{15}) - (\$6,000 \times 1.065^{15})]$ , which is the foregone growth if the IRA is liquidated. The right side equals  $\$7,056 [0.20 \times (\$20,000 - \$6,000) \times 1.065^{15} - \max\{0, 0.15 \times [\$20,000 - (\$6,000 \times 1.08^{15})]\}]$ , which is the difference in the future values of the tax savings from deducting the IRA's excess basis currently versus in year 15.

(28) Recall from the discussion above that converting the traditional IRA to a Roth IRA is preferable to liquidating it. Recall also that, if the IRA's year  $n$  value will be more than its basis, converting it is better than maintaining it. In this example, such IRA value will be less than basis (i.e.,  $\$11,000 \times 1.08^5 < \$20,000$ ).

(29) See expression 5:  $(\$11,000 \times 1.08^5) + [0.15 \times (\$20,000 - (\$11,000 \times 1.08^5))]$ .

(30) See expression 7:  $(\$11,000 \times 1.08^5) + [0.03 \times (\$20,000 - \$11,000) \times 1.065^5]$ .

(31)  $0.03 \times (\$20,000 - \$11,000) \times 1.065^5$ .

(32)  $0.15 \times [\$20,000 - (\$11,000 \times 1.08^5)]$ .

(33) See expression 7:  $(\$11,000 \times 1.08^5) + [0.09 \times (\$20,000 - \$11,000) \times 1.065^5]$ .

(34) The left side of expression 8 equals  $\$1,110 [0.09 \times (\$20,000 - \$11,000) \times 1.065^5]$ , and the right side equals  $\$576$ .

(35) See expression 4:  $(\$14,000 \times 1.08^{15}) - [0.25 \times [(\$14,000 \times 1.08^{15}) - \$20,000]]$ .

(36) See expression 6:  $(\$14,000 \times 1.065^{15}) + [0.14 \times (\$20,000 - \$14,000) \times 1.065^{15}]$ .

(37)  $(\$14,000 \times 1.08^{15}) - (\$14,000 \times 1.065^{15})$ .

(38)  $[0.14 \times (\$20,000 - \$14,000) \times 1.065^{15}] + [0.25 \times [(\$14,000 \times 1.08^{15}) - \$20,000]]$ .

(39) See expression 5:  $(\$6,000 \times 1.08^{15}) + [0.15 \times [\$20,000 - (\$6,000 \times 1.08^{15})]]$ .

(40) See expression 6:  $(\$6,000 \times 1.065^{15}) + [0.14 \times (\$20,000 - \$6,000) \times 1.065^{15}]$ .

(41)  $(\$6,000 \times 1.08^{15}) - (\$6,000 \times 1.065^{15})$ .

(42) The year  $n$  Roth IRA distribution would be taxable only to the extent it exceeds its basis, which would be its value when the conversion occurs.

(43) IRC §§ 401(a)(9) and 408A(c)(5).

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