Understanding the Math of Roth IRA Conversions

Main Topics

- Understanding the math of a Roth Ira conversion
- A common misconception of Roth IRA conversions
- Roth IRAs grow faster due to no RMDs

Key Idea

Taxes on the growth of after tax funds is what creates the advantage of a Roth IRA conversion

This section is more of a theoretical explanation of why Roth IRA conversions are so favorable to most taxpayers. It is meant to provide a deeper understanding of Roth IRA conversions. This Chapter is appropriate for readers who like to know how things work.

The simple view starts with Roth IRAs are better than traditional IRAs because they grow tax-free and traditional IRAs have taxable growth. That statement, however, is incomplete at best. The statement without further explanation does not alone really provide the advantages we see on Roth IRA conversions.

Let's assume that the withdrawal, liquidation, and conversion tax rates are all equal. Let us go back to our original example from Chapter One on day one of the conversion before any growth:

	No Conversion	**Conversion**
Roth IRA Value after conversion		**$100,000**
Traditional IRA	**$100,000**	
Other non-IRA funds*	**25,000**	**-0-**
Total dollars	**$125,000**	**$100,000**
Less taxes paid on IRA (if distributed)	**(25,000)**	**-0-**
Purchasing power	**$100,000**	**$100,000**

***(Non-IRA funds of $25,000 used to pay tax on conversion)**

Here there is no advantage or disadvantage to a Roth conversion because no growth has occurred. Now let's assume everything grows over time—let us say it all doubles in value. The Roth grows tax free and becomes $200,000. The traditional IRA grows tax deferred and becomes $200,000 and the $25,000 after-tax portion of the account doubles to $50,000. Ignoring taxes on the growth of the $20,000 (as though it was a capital appreciation increase and no taxes were applied to it as though it got a free step-up in basis), here is the result:

	No Conversion	Conversion
Roth IRA Value after growth		**$200,000**
Traditional IRA	**$200,000**	
Other non-IRA funds	**50,000**	**-0-**
Total dollars	**$250,000**	**$200,000**
Less taxes paid on IRA (if distributed)*	**(50,000)**	**-0-**
Purchasing power	**$200,000**	**$200,000**

***(Non-IRA funds of $50,000 used to pay tax on withdrawal)**

So, if you ignore the taxable growth on the money used to pay the taxes on the conversion (the tax-free growth of the Roth created NO ADVANTAGE over the tax-deferred growth of the traditional IRA). The key to understanding why the Roth conversion works so well is that without the Roth IRA conversion on an annual basis, the original $25,000 in the after-tax environment will be taxed on its growth—interest, dividends and realized capital gains. These ***taxes on the growth of after-tax funds*** is what creates the advantage of Roth conversions, not the fact that it grows tax free versus tax-deferred.

I was talking about this issue with Barry Picker, CPA on my radio show and Barry has a great way of looking at it. We are avoiding income tax on the growth of the money that we are using to pay the taxes on the conversion. The way Barry sees it is that we are in effect making a contribution to a retirement plan in the amount of the taxes we pay on the conversion.

Here is an edited version of our exchange:

Jim: Barry, you said that if you make a Roth IRA conversion that it's like making an IRA contribution in the amount of the tax that you pay on the Roth IRA conversion. So for discussion sake, let's assume you make a million-dollar Roth IRA conversion and you pay $350,000 in taxes. You said that that is like making a $350,000 contribution to an IRA as long as you pay the taxes on the Roth IRA conversion from outside the IRA. I thought you should expand on that thought a little because it was so insightful; and just this alone is going to be a tremendous resource for our listeners.

Barry: Well, Jim, the point there is that when the individual has the one million-dollar traditional IRA, because of the fact that the taxes haven't been paid on it, there's a million dollars working, but it's not all his; $350,000 of it belongs to the government. So really it's a net account if it was to be liquidated at that point of $650,000. But if you convert it into a Roth and you pay the taxes from outside the IRA umbrella, then now you have a million dollars in a Roth IRA and

that's a pure million dollars, because when you leave it there for a qualified distribution, it will never be taxed. And now you have a million dollars working for you and you don't have a partner anymore with the IRS on that million dollars.

Jim: Well, I think that that's such a good way of looking at it because you're in effect making a massive contribution to your retirement plan. And is it fair to say that in effect that that contribution is the amount of money that you pay in taxes on the conversion?

Barry: Yeah. And basically what you're doing and what you hope to be doing with a conversion is that you're buying out your partner. Uncle Sam is your partner in your IRA, and you're buying out your partner so that now all the future profits—let's call it that—all the future profits are all yours because you no longer have that partner.

Jim: I like the way you are putting this. You are buying out your partner and all the additional growth is yours—income-tax free.

Let's assume you agree that the main advantage of the Roth IRA conversion is the income taxes you and/or your heirs save on the taxable income from the money that was used to pay the taxes on the conversion. The next logical question is how much of a savings does that tax amount to? The answer of course is "it depends." Since I will try to be helpful, the best guess answer is an 18% tax rate of your investment return. How did I get 18% of your investment return? What follows is a combination of our reasoning and the calculation.

Currently, taxes on interest income from money market savings, treasury notes, and bond holdings are at normal rates—25% in the above examples. Beginning in 2011, taxes on qualified dividends, previously taxed at a 15% maximum rate, are probably going to be ordinary income items at 25% in the above examples. Capital gains taxes are only applied when they are realized and if they are not realized, there is no tax. The capital gains tax rate had been at 15% maximum rate through year 2010 and will probably be 20% thereafter.

A diversified equity based portfolio may have interest and dividends of 3% and capital appreciation of 5% making up the total investment rate of return of 8%. After 2010, 3/8's of the investment income is taxed at the ordinary rate of 25%, and 5/8's is taxed at capital gains rates of 20% if it is all realized. We can also throw in an estimated state tax burden of 3%, for example, such as is the case under Pennsylvania tax laws, on realized capital gains, interest and dividends. Or we could throw in an estimated 9% state tax as in California. The key here is to determine how much of the 5% of capital appreciation is realized. The following shows the overall AT tax rates with and without a 3% state income tax, or with a 9% state income tax:

	No State Tax	3% State Tax	9% State Tax
100% of capital gains realized	21.875%	24.875%	30.875%
50% of capital gains realized	15.625%	17.688%	21.813%
25% of capital gains realized	12.500%	14.094%	17.281%
0% of capital gains realized	9.375%	10.500%	12.750%

Based on these tables, an after tax rate of 17.688% or rounded up to 18% may be reasonable based on 50% realization of capital gains and a 3% state tax rate. In many examples we have done, we have used this 18% after tax rate assumption.

So, in the example that I was discussing with Barry Picker, we can estimate the income tax savings from the $1M Roth IRA conversion to be the income taxes that would otherwise be due on the growth of the $350,000. In year one, if we assume an 8% investment rate of return, the growth would be $28,000. At an 18% tax rate, the savings in year one would equal $5,040 (that is, the tax that would have otherwise been due on the $28,000). Then, you would assume that the $5,040 grows tax-free at 8% and add the tax savings in year two which would be calculated by determining the taxes on 8% of $372,960 ($378,000 - $5,040), or $29,837, that equals $5,371. The Roth IRA advantage continues to compound over time.

When determining the value of the income tax savings on the Roth IRA conversion, please note that if you have a long-term capital loss carryforward that would reduce your taxes on your after-tax dollars. Reducing taxes on your after-tax dollars would also reduce the value of a Roth IRA conversion for you.

Another Common Misconception is Roth Conversions Have No Advantage When You Pay Taxes from the IRA

Most critics of Roth IRA conversions will present the following example to explain why conversions are of no advantage:

	No Conversion	**Conversion**
Traditional IRA	**$100,000**	**$100,000**
Tax on the Conversion*		**(25,000)**
Roth IRA Value after conversion		**$ 75,000**
Other non-IRA funds	**0**	**-0-**
Total dollars	**$100,000**	**$ 75,000**
Less taxes paid on IRA (if distributed)	**(25,000)**	**-0-**
Purchasing power	**$ 75,000**	**$ 75,000**

***(Roth IRA funds of $25,000 used to pay tax on conversion)**

Here the advantage mentioned above from taxes levied on an annual basis on growth of after-tax funds is not an issue. The dissenter has strategically removed this advantage of conversions from

the equation. There are no after-tax funds. Now let's assume everything grows over time and doubles in value:

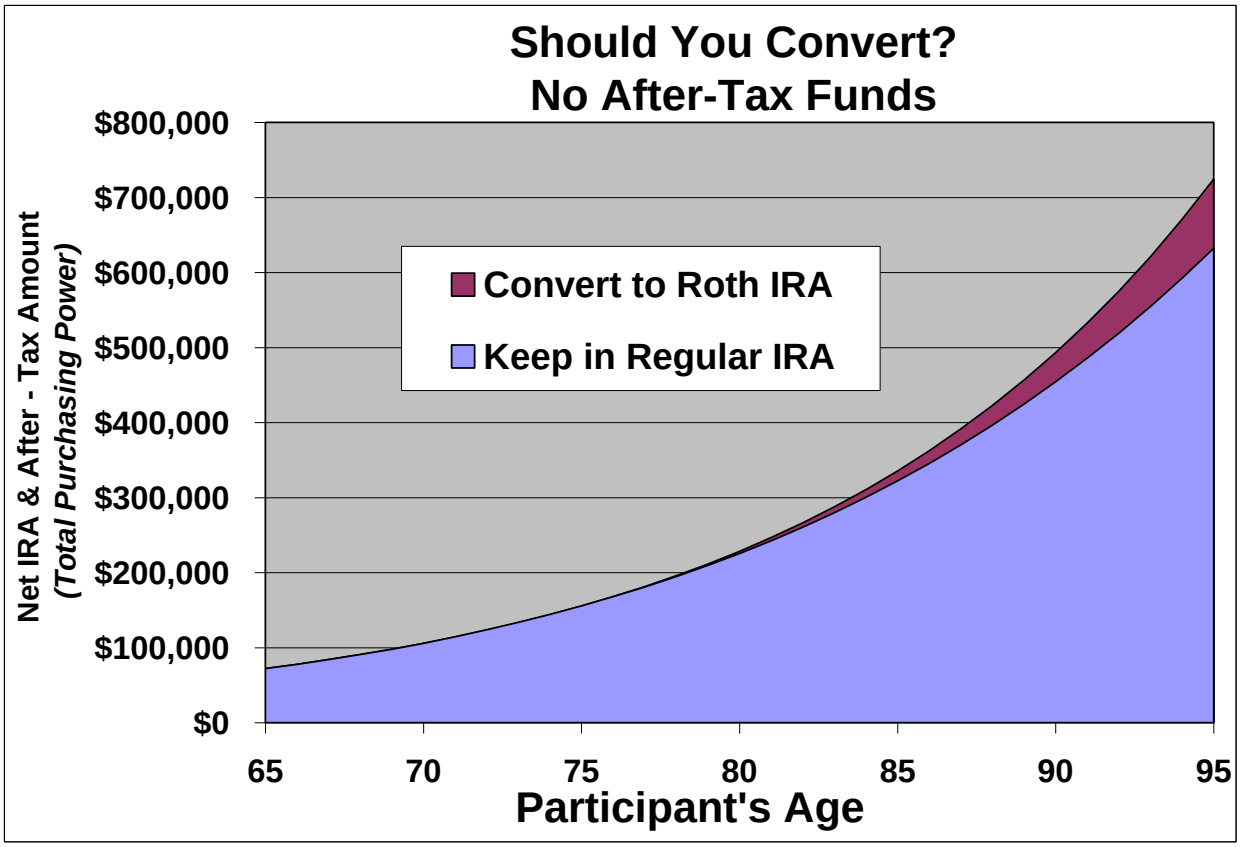
	No Conversion	Conversion
Roth IRA Value after growth		**$150,000**
Traditional IRA	**$200,000**	
Less taxes paid on IRA (if distributed)*	**(50,000)**	**-0-**
Purchasing power	**$150,000**	**$150,000**

***($50,000 of the withdrawal must be used to pay tax on withdrawal)**

Here the Roth critic stops and says "they are equal and they Roth will NEVER gain an advantage no matter how long and how much it grows." The basic mathematics of this example is true and it shows no advantage to that point. In fact our starting point is to discourage conversions when there are no after-tax funds used to pay tax on the conversion. This example, however, still is misleading due to the reality of what later becomes of the traditional IRA.

At age 70 1/2, RMDs are required to be taken from the traditional IRA. Acknowledging the facts from the prior example, these withdrawals placed into the after-tax environment will be taxed on growth—interest, dividends and realized capital gains on after-tax accounts are taxed annually. This level of taxation does not exist in the tax-free Roth IRA where no distributions were required, and an advantage begins to occur. Please refer to the prior graph showing how this advantage begins after age 70 1/2:

Figure 15



If death of the IRA owner occurs well after age 70 1/2 and no withdrawals have been made from the Roth, these two scenarios will find the beneficiary with either a tax-free Roth or a combination of after-tax funds and traditional IRA funds. The beneficiary can grow this comparatively small advantage at the date of death to a large advantage over his/her lifetime.

If death occurs before the owner's RMD starts at age 70 1/2 and the owner did the conversion and paid the tax out of the IRA conversion amount, there will be no income tax advantage for the beneficiary if he is in the same tax bracket as the owner. This is because the beneficiary takes RMDs from both the traditional IRA inheritance and the Roth IRA inheritance. Another example where paying the tax on the conversion would not be helpful in reducing income taxes is if you need the money from the RMD to meet your expenses. Then, the tax-favored savings can't occur. Of course, if the beneficiary is in a higher tax bracket, then there could be an advantage. The other advantage to the beneficiary is the savings on federal estate taxes and/or state inheritance taxes.

Key Lesson for this Chapter

Some of you want to understand the Math of why Roth IRA conversions are so favorable. It isn't easy, but it isn't rocket science either.