

Compounding Taxable Interest

Here is an interesting comparison of three different customers of a local bank.

A 35-year old person has \$50,000 in a **Roth IRA** at their bank earning 6%. Assuming they are in a 40% marginal income tax bracket and the Roth IRA continues to earn the same interest rate throughout, how much money will this person have at age 65?

The account would compound to \$287,175 over the 30-year time period. And if it is cashed in at age 65, no tax would be due because qualified distributions such as this from Roth IRAs are income tax-free.

Another 35-year old customer at the same bank puts \$50,000 in a **tax-deferred fixed annuity** appreciating in value at the same 6% crediting rate. Assuming this customer is in the same 40% marginal income tax bracket and the annuity continues to earn the same rate throughout the 30-year holding period, how much money would they have at age 65?

This person would have accumulated \$287,175 as well. But if the annuity were to be cashed in at 65, \$94,870 would have to be paid in income taxes (40% of the taxable gain above the initial \$50,000 after-tax premium paid into the annuity).

Yet another 35-year old person opened an **ordinary Certificate of Deposit** at this bank (commonly referred to as a CD) with a \$50,000 deposit, compounding the 6% interest in the account each time it renewed until age 65 without making any withdrawals. Assuming the same 40% marginal income tax bracket and a level interest rate throughout, how much money would this person have in the account at age 65?

This person would have accumulated \$287,175, too. But there are more factors to consider than might appear at first glance. Taxes would have had to be paid annually along the way each year at the same 40% marginal rate, but this bank customer would have had to pay another cost perhaps without even being aware.

Although the three people above have the same amount of money at age 65, each one's cost to individually acquire the \$287,175 in their respective accounts was quite different.

- The person with the **Roth IRA** fared the best. That's because income taxes neither had to be paid during the accumulation period nor upon distribution at 65. This customer netted the full **\$287,175**.
- The second person with the **fixed annuity** fared second best. After paying \$94,870 in income taxes upon the lump sum distribution, this customer would be able to keep \$192,305.
- The third bank customer with the **ordinary CD** compounding the interest experienced the highest cost. While paying \$94,870 in income taxes, unlike the annuity owner, they were not paid out in one sum at age 65. Rather, taxes were paid out incrementally each year as the interest was earned. So this customer not only paid the tax each year but also had to pay the price associated with what that tax could have grown in value if it were allowed to

grow in value throughout the remainder of the 30-year time horizon. Using the time value of money to calculate total true costs and assuming an after-tax investment rate of 6%, this person would lose an additional \$111,896 in potential lost earnings on those taxes. In other words, since this person pays income taxes sooner than later, they experience a higher cost than the other customers. The true cost of this compounding strategy is actually \$206,766. While having an account statement that indicates a balance of \$287,175, this bank customer's net financial position would really be **\$80,409**, a gain of only \$30,409 over this 30-year time horizon!

- One might ask, "What if the third bank customer paid income taxes out of CD account itself each year (netting for taxes) instead of compounding the interest?" They would have fared far better. While they would have accumulated \$144,465 at age 65, they would have avoided the time value of money cost described above. Therefore, of the four possible ways to accumulate long-term savings, tax-free, tax-deferred, and netting for taxes out of the same account are all less costly than compounding interest in a taxable account. This fact is generally true regardless of the interest rate and tax rate assumptions used.

LEAP[®] may help you eliminate some or all of the financial costs associated with owning a taxable compound interest account while still maintaining its benefits. LEAP uses a unique cash flow money strategy to help accomplish these goals.

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