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## Thinking About a Roth 401(k)? Think Again

by Edward F. McQuarrie, Ph.D.

### Executive Summary

- In 2006, with the introduction of the Roth 401(k), high-income wage earners gained access to the Roth account structure for the first time.
- This article addresses the question of whether a couple with a moderately high income (\$195,000 in the example) should opt for a Roth 401(k), or instead continue to contribute to a regular 401(k).
- If the tax rate when making contributions is the same as the tax rate when taking distributions, Roth and regular 401(k) structures produce the identical outcome. This article debunks those "side fund" analyses purporting to show Roth superiority given equal tax rates. It shows that changing the complex interplay of the assumptions used—such as asset location, asset allocation, the taxpayer's marginal tax rates, percentage of income saved, and the taxpayer's age—can dramatically reduce or eliminate the Roth's superiority.
- A key point in any comparison of Roth and regular 401(k)s is distinguishing the taxpayer's marginal and effective tax rates. For couples with incomes under about \$450,000, the regular 401(k) will generally be the better choice because effective (average) rates applied to distributions will likely be lower than marginal rates applied to contributions. As incomes rise above \$450,000, the Roth 401(k) becomes a better bet.
- This conclusion is tested under a plausible scenario for future tax hikes. This scenario helps the planner make explicit underlying assumptions about future taxes so as to make the appropriate recommendation regarding Roth versus regular 401(k) structures in borderline cases.
- Last, issues concerning conversions, high tax states, and youthful wage earners are briefly addressed.

"Thanks to the incredible complexity of the U.S. fiscal system, it is impossible for anyone to understand her incentive to work, save, or contribute to retirement accounts absent highly advanced computer technology and software."  
(Kotlikoff and Ransom 2007, p. 1)

The choice whether to contribute to a regular 401(k) or a Roth 401(k) combines simple arithmetic with difficult projections of future tax rates. The arithmetic looks like this:

$$[(1 - \text{tax rate}) (\$X)] (1 + r)^N = (1 - \text{tax rate}) [(\$X) (1 + r)^N] (1)$$

Translated into English, earning X dollars, paying tax of, say, 35 percent, and then investing the remaining .65X at some rate of return  $r$ , for  $N$  years, necessarily yields the identical amount of money as investing the full amount X, at that return, for that period, and then paying tax at that same 35 percent rate on the resulting sum.<sup>1</sup>

Translated into pragmatic terms, if the client's tax rate in retirement will be the same as their tax rate while working (for example, 35 percent) and, regular or Roth, they expect to draw on their retirement funds at the same rate, over the same period, then in the language of economics, this client is *indifferent* to the choice between a regular 401(k) and a Roth 401(k).

But what will the client's tax rate be in retirement? That is the crucial question.

This article will show that the answer to that question is often not what is commonly believed. By carefully scrutinizing assumptions and exploring alternative analyses, the article goes beyond "what everybody knows" to provide a counter-weight to the rather thoughtless and excessive endorsement of Roth accounts that characterizes too much of the financial press.

The article addresses the specific case of the affluent wage earner client, and shows in an easy-to-grasp way why future *effective* tax rates for this group are unlikely to rise by much. This makes the Roth option generally unattractive to this group, despite the frequency with which it is recommended. Key to the analysis is its organization around the illuminating and crucial distinction, too often ignored, between present *marginal* tax rates and future *effective* tax rates. This distinction is developed using concrete examples rather than simply modeling the factors favoring the Roth versus regular 401(k) accounts in an academic or abstract way. Most important, the article highlights the political uncertainty surrounding the future of Roth accounts, and demonstrates how this uncertainty can be factored into a

recommendation to a client.

## Debunking Conventional Wisdom about Roth Accounts

Contrary to equation (1), you may have seen spreadsheet-based analyses that purport to show that over the long term a Roth account, where withdrawals are tax-free, will yield a greater after-tax return than a conventional retirement account, wherein the contribution is deducted when made, but withdrawals are 100 percent taxable (see, for example, Clements 2006, Fahlund 2006, and Lange 2006). For more on the basics of Roth with regular 401(k) accounts, see sidebar "Comparison of Roth with Regular 401(k) Accounts." Unfortunately, such "side fund" analyses, as I shall call them, often rest on untenable assumptions (Starr 2005). I'll compare them with a "self-funded" analysis which, consistent with the equation, shows that regular and Roth accounts must produce the identical after-tax return—unless the client's tax rate changes, or the Roth funds are put to a different use over a different period (Langdon et al. 2006). We'll then proceed to the less arithmetic and far more dicey task of forecasting a client's tax rate in retirement, since this is the factor that drives the choice between Roth and regular 401(k) accounts, all else being equal (Horan 2006).

For the initial examples, we'll take as our client a married couple, John and Jane, each 50 years old and employed, with household income of about \$195,000, living in a state like Texas or Florida. They don't pay state income tax and probably aren't subject to the alternative minimum tax, so their current tax rate can be estimated as 28 percent (in 2007, they were right at the ceiling of this bracket). At their age, they each can contribute \$20,500 a year (the 2007 and 2008 limits for those age 50 or older) to either a Roth 401(k) or a regular 401(k). We'll assume retirement withdrawals begin in 20 years, calculated according to required minimum distribution rules. The estimated rate of return is 8 percent, corresponding to the prototypical allocation, used by pension funds and other long-term investors, of 60 percent stocks (estimated return of 10 percent a year) and 40 percent bonds (estimated return of 5 percent a year). We will likewise increase their retirement contributions each year by 3 percent, since the maximum contribution amount is adjusted for inflation each year.

## Side-Fund Analysis

To contribute \$41,000 from earnings to their *regular* 401(k) accounts, John and Jane need only to put aside from their paychecks exactly \$41,000. To fully fund a *Roth* 401(k) from earnings, however, they must first earn \$56,944, pay taxes (at 28 percent) of \$15,944, and then place the remaining \$41,000 in the Roth (Roth contributions are not tax deductible).

In a typical side-fund analysis comparing regular and Roth accounts, the after-tax value of these incremental earnings (\$15,944 less 28 percent = \$11,480) is placed in a side fund and accounted for separately. The reasoning appears to be that to equate the regular and Roth accounts, one should start with the \$56,944 value. The Roth investor pays the tax up front, invests \$41,000, and pays no tax thereafter; the regular 401(k) investor, for purposes of comparability, is assigned \$41,000 in the regular 401(k) and \$11,480 in a side fund. The 401(k) accumulations are not taxed until the end, but the side fund is treated as a taxable account, with income taxed each year at an assumed rate; at the end, the final accumulation in the side fund will be separated into basis and appreciation, and the appreciation will be taxed at long-term capital gains rates (currently 15 percent) to determine the after-tax value of the side fund account. To conclude the side-fund analysis, the final accumulation in the regular 401(k) is taxed at John and Jane's 28 percent rate, and the remainder is added to the after-tax value of the side fund. This sum is then compared with the full nominal value of the Roth account (since no tax need be paid on withdrawals from the Roth).

Table 1 provides a sample spreadsheet showing one possible implementation of a side-fund analysis. A key issue is the amount of tax to subtract each year from the side fund. A typical approach is to assume that the side fund, like the other accounts, is invested in a 60/40 stock/bond mix, with each year's 8 percent return consisting of 2 percent interest taxed at 28 percent, 2 percent dividends taxed at 15 percent, and 4 percent of (unrealized) capital gains, on which no tax is paid until the end. In this application of the side-fund analysis, John and Jane are shown to be better off with the Roth 401(k)—the after-tax value of their accumulation in the Roth is about \$76,000 greater than what would have been the sum of their after-tax accumulations in the regular 401(k) and the side fund. If we assume that after 2010, dividends will again be taxed as ordinary income, and the capital gains tax will revert to 20 percent, the Roth advantage is even greater: just over \$84,000.

Before undertaking a detailed critique of this example of a side-fund analysis, it is useful to introduce the self-funded analysis for purposes of comparison. This takes the form of a spreadsheet illustration of equation (1).

## Self-Funded Analysis

Under the self-funded analysis, John and Jane have \$41,000 of earnings available to fund contributions to their retirement accounts. Their choice is to place all of that \$41,000 into regular 401(k) accounts, or to first pay taxes (at 28 percent) equal to \$11,480, and then place the remaining \$29,520 into Roth 401(k) accounts. As shown in Table 2, both accounts earn the same return during the accumulation period. After 20 years, the regular 401(k) account is reduced by applying a tax rate of 28 percent. The resulting after-tax value is exactly the same as the end value of the Roth account, consistent with the equation with which we began.

## Evaluation of the Side-Fund Analysis

Why does the side-fund approach yield a different answer to the question of whether to choose a Roth over a regular 401(k)? Simple: the taxes paid on the side fund during the accumulation period constitute a drag on its return. The "advantage" of the Roth is nothing more than the *disadvantage* associated with placing a portion of one's savings into a taxable side account. This is why the Roth advantage increases if we increase the tax rate applied to dividends and capital gains after 2010. What's really going on in a conventional side-fund

analysis is that there are two Roth accounts: the portion funded from the same earnings as could fund a regular 401(k) (\$29,520 in our example), and an additional portion, gathered by saving a greater percentage of one's income (providing an extra \$11,480). The first Roth account yields the same after-tax value as a fully funded regular 401(k), per the self-funded model. Not surprisingly, the second Roth account outperforms an equivalent dollar amount, invested at the same rate for the same period, in a taxable account.

Had John and Jane been unable to save any more than 20 percent of their income, the side-fund analysis would not apply (fully funding the Roth requires almost 30 percent of their earnings). Likewise, if the government had set the tax-sheltered contribution level at or above the maximum that John and Jane could set aside for savings, the side-fund analysis would not apply. Similarly, the side-fund analysis would cease to be applicable, for any client, if dollar limits on 401(k) contributions were removed. The first problem with the side-fund analysis, then, is its limited applicability.

The second problem with the side-fund analysis in Table 1 is that its result, favoring the Roth, is special to the assumptions used. By drawing on current thinking about asset location,<sup>2</sup> and by altering a few other assumptions, we can ultimately reverse the results of Table 1, and produce a side-fund analysis that shows a regular 401(k) plus side account to be *superior* to a Roth 401(k).

Table 3 shows what happens when we arrange assets across the regular 401(k) and the taxable side fund by placing only stock in the side fund, and keeping all the bonds in the regular 401(k). First, the side fund becomes a larger and larger portion of the total because it is increasing at the stock rate (10 percent less the drag of taxes on dividends). Translated: more and more of John and Jane's savings are located in the account that will be taxed at favorable rates (the side fund, where the capital gains rate will be applied to appreciation over basis), and less and less is located in the account that will be taxed at unfavorable rates (the regular 401(k), where the entire amount is subject to ordinary income rates). The result, as seen in Table 3, continues to show an advantage for the Roth account, but this advantage has been cut in half, to about \$39,000.

Next, suppose we give John and Jane a more conservative allocation of 40 percent stock and 60 percent bonds, but continue to take advantage of asset location theory. Now the Roth account's advantage is cut to just over \$20,000, or less than one percent (Table 4 gives a summary tally of the results as we make changes to the assumptions underlying Table 3). Next, let's assume slightly better performance by stocks, of 11 percent instead of 10 percent a year, and slightly worse performance of bonds, of 4 percent instead of 5 percent a year. With the side fund containing only stocks, and with a greater gap in performance between stocks and bonds, the Roth advantage is reversed—the combination of side fund and regular 401(k) produces an after-tax value that is about \$14,000 greater than the Roth (Table 4).

If altering the expected return on stocks and bonds strikes the reader as not appropriate, we can achieve the same result by altering other assumptions. Suppose we keep the 40/60 stock/bond allocation, and restore the original assumed returns of 10 percent and 5 percent, respectively. Now let's put John and Jane in the 33 percent tax bracket before and after retirement (equivalent to making \$195,000 their *taxable* income, rather than their income before retirement contributions; or to making them residents of a state with a moderately high income tax). Now the Roth advantage is cut from \$39,000 to under \$12,000. Their higher tax rate means a bigger side fund, and a bigger gap between ordinary income and capital gains rates. Next, let's make John and Jane 40 years old rather than 50, so that they have a 30-year investment horizon. This cuts the Roth advantage to about \$7,000. Finally, if we put this 40-year-old couple into the 35 percent bracket, the Roth now loses out by almost \$12,000.

The problem with the side-fund analysis in Table 1 is not that it is inferior to the one in Table 3, or to any of its modifications tabulated in Table 4; the problem is that any side-fund analysis produces results wholly dependent on the complex interplay of assumptions about tax rate, age and investment horizon, stock/bond allocation, stock/bond returns, asset location, and so on.<sup>3</sup> Altering these assumptions as we did above produces a different recommendation as to whether a Roth or regular 401(k) is the best choice.

In short, the fundamental problem with the side-fund analysis is that it can easily be modified to favor the Roth over the regular 401(k), or vice versa, to a greater or lesser degree, depending on assumptions, several of which concern unknowable future events. A single side-fund analysis taken in isolation can be quite misleading. Such an analysis may falsely pump up the attractiveness of the Roth, either by making untenable assumptions about savings behavior (for example, the ability to save 30 percent of pre-tax income, something most wage-earners simply cannot afford), or by finding special cases that combine exactly the right mix of assumptions concerning marginal tax rates, time horizon, and so forth.

The self-funded analysis, as summarized in equation (1), is superior because it is more generally applicable and requires fewer assumptions—mainly that retirement contributions, Roth or regular, shall be funded solely from earnings. The self-funded analysis is also useful because it shows so clearly that everything hinges on the client's tax rate in retirement, or more accurately, the relationship between the client's tax rate while working and their tax rate in retirement. That is where we now turn.

## Tax Rates in Retirement

Let's return to John and Jane, and re-examine a core assumption of all the analyses thus far: that their tax rate in retirement can be assumed to be the same as their current tax rate. Although routinely made, such an assumption is highly problematic. We can begin to probe this assumption by asking, "What asset value, at age 70, when their regular 401(k) accumulations will become subject to required minimum distribution (RMD) rules, would produce distributions that place them in the 28 percent bracket—after that bracket's boundary has been adjusted for inflation of 3 percent over the next 20 years?"

A first answer might be that a portfolio value over \$6.359 million would nudge them into the 28 percent bracket 20 years hence. This number is computed as follows:

1. In 2027, the *floor* of the 28 percent tax bracket, after 20 years of 3 percent inflation, will increase to \$232,085 (see Table 5)
2. The RMD divisor for a 70-year-old is 27.4
3.  $\$232,085 \times 27.4$  yields a portfolio value of \$6.359 million
4. Adding \$27.40 to this amount yields an RMD of \$232,086, one dollar into the 28 percent bracket as forecasted in the year 2027

Of course, this first answer is wrong *because it confuses marginal and effective tax rates*. A portfolio value of exactly \$6.359 million and a distribution of \$232,086 would produce an *effective* tax rate for John and Jane of about 19.4 percent—not 28 percent. That is, assuming 2007 rates stay the same except for inflation adjustments, the first \$28,000 or so of their distribution will be taxed at 10 percent, the next \$87,000 at 15 percent, the next \$117,000 at 25 percent, and the last dollar at 28 percent, for a blended or average rate of around 19.4 percent. To achieve a blended rate of 28 percent would require a much larger distribution of \$637,500, spread across the 10, 15, 25, 28, and 33 percent brackets, with even a tad in the 35 percent bracket. And that distribution presupposes a final 401(k) portfolio value of nearly \$17.5 million.

How reasonable is it to expect John and Jane to retire at age 70 with a retirement portfolio value of \$17.5 million? According to Table 2 and the self-funded analysis, making the maximum contribution for 20 years produces a pre-tax regular 401(k) balance of about \$2.34 million. At the assumed rate of return of 8 percent, if John and Jane have about \$3.5 million already saved in their 401(k) accounts at age 50, then they will likely end up with a balance near \$17.5 million in our scenario, and pay an effective tax rate on their RMD of 28 percent. But for two wage earners making \$195,000 at age 50, such a starting 401(k) portfolio value is very unlikely.

Thus, John and Jane aren't likely to pay 28 percent on their regular 401(k) distributions. Scarcely any taxpayer in the 28 percent marginal bracket today is going to pay an effective rate of 28 percent upon retiring. Most such taxpayers will be lucky to climb out of the 15 percent marginal bracket in retirement (which would require an ending portfolio value in 2027 that exceeds \$3 million).

Returning to the equation, whenever the *effective* tax rate on withdrawals during retirement will be lower than the *marginal* tax rate applied to contributions while working, a regular 401(k) will outperform a Roth 401(k). Using the side-fund analysis of Table 1, an effective tax rate in retirement of 19.4 percent instead of 28 percent will make the regular 401(k) plus side fund produce an after-tax value that exceeds that of the Roth by about \$125,000—almost a \$200,000 reversal from the initial side-fund analysis shown in Table 1.

Most affluent wage earners who are not truly wealthy can reasonably project effective future tax rates *lower* than their current marginal rates and hence should favor regular 401(k) accounts over Roth accounts. We can support this recommendation to wage earner clients by emphasizing that in a progressive tax system with inflation-adjusted brackets, the accumulation needed to be subject to an effective tax rate in the future, equal to the marginal tax rate at present, will always be dauntingly large in nominal dollar terms. We can highlight the huge sums involved by noting that if John and Jane were to save and invest so wisely that they did achieve the \$17.5 million needed to make the effective tax rate on their required minimum distributions exactly 28 percent, then, said distribution would represent 186 percent of their wages in the last year they worked. I have not seen replacement of 186 percent of pre-retirement gross income as a target in any financial planning text I have read. But that is the target we set for John and Jane when we assume that the effective tax rate on their future withdrawals will be the same as the 28 percent marginal rate they pay on earnings today.

The analyses presented thus far assume that tax rates in the future, and also the structure of tax brackets, will not change over John and Jane's 20-year planning horizon. In fact, every comparison of Roth to regular 401(k) accounts necessarily rests on some set of assumptions about future tax rates, to which we now turn.

## Future Taxes: Constructing a Plausible Scenario

At this point we move beyond arithmetic; there is no quantitative way to forecast the actions of as yet unelected Congresses many years down the road, and future tax rates will be whatever those future Congresses decree (on this point, see Perun and Steurle (2004) and Starr (2005, 2006)). But we can examine specific plausible scenarios to determine what John and Jane's effective tax rate might be under each scenario. If, under a plausible worst-case scenario, wage earners like John and Jane still have a projected effective tax rate less than their current marginal rate of 28 percent, the best advice we can give them is to fund a regular 401(k) and eschew a Roth 401(k).

Plausible worst-case scenarios are those where tax rates are significantly higher, but not so high as to suggest that Congress would also start chipping away at Roth protections. Clients must be made to understand that if the tax-free status of Roth accounts were to be in any way eroded or impaired, comparisons like those in Table 1 would quickly tilt in favor of regular 401(k)s. Thus, even a 3 percent effective tax on Roth distributions would eliminate the Roth advantage in many side-fund analyses. This risk is real. For example, a simple way for Congress to impose a stealth tax on Roth distributions would be to add Roth distributions to modified adjusted gross income, as is now done with "tax free" municipal bond interest for purposes of Social Security benefit taxation. This would cause Roth distributions to trigger higher Medicare B payments, and thus, in effect, tax these distributions. (For examples of other adverse actions a Congress might someday take, see McQuarrie 2007.)

## Heroic Assumptions

Authors writing on retirement planning sometimes seem to assume that no future Congress could ever tamper with the Roth account's tax-free status in any way. This is a heroic assumption. Just as advisors should lay out pessimistic scenarios about how increases in

future tax rates might affect the taxation of regular 401(k) distributions, they also have a duty to explain that the tax-free status of Roth accounts is likewise at the mercy of future Congresses. Starr (2005) cites the example of Social Security payments, which for decades were tax-free, but no longer are. What any one piece of legislation can create, another can undo.

The goal, then, is to imagine a future tax structure that represents a plausible worst-case scenario. We can then identify the distribution that would produce an effective tax rate of exactly 28 percent for John and Jane under that worst-case scenario, compute the portfolio value that would produce that distribution, and decide whether John and Jane can reasonably expect to achieve that portfolio value. If yes, they may consider contributing some money to a Roth 401(k), to the extent they find the worst-case tax scenario probable. If no, they should not consider the Roth 401(k) at all, since even under worst-case assumptions their tax rate in retirement will be lower, and a regular 401(k) superior.

Table 5 is one attempt to construct a plausible scenario for future tax hikes. It substantially increases the present top two brackets (this reflects ideas discussed by some 2008 presidential candidates). It makes the temporary 10 percent bracket permanent and leaves the 15 percent bracket unchanged. The remaining rates simply revert to what they were before the 2001 tax cuts (as is currently scheduled to occur in 2011). The bracket boundaries are the 2007 amounts, incremented by 20 years of inflation at 3 percent.

From the tabulation we can calculate that if John and Jane achieve a retirement portfolio value in 2027 of about \$12.4 million, this will trigger a required minimum distribution of \$452,000 and make their effective tax rate exactly 28 percent under this particular future tax scenario. This is somewhat lower than the portfolio value computed earlier, but still requires them to have already piled up over \$2 million in their retirement accounts at age 50.

What the example has shown is that even substantial hikes to the top marginal rate brackets need not alter the effective tax rate of middle- and upper-middle-income taxpayers by very much. As long as the 15 percent tax bracket remains, future effective tax rates for affluent wage earners are likely to remain lower than their current marginal rates. And no president has seen fit to alter the 15 percent bracket since it was introduced in 1986. In sum, individuals not in the top marginal tax bracket today are unlikely to pay effective tax rates in retirement that are higher than their current marginal rate, even if marginal rates in some top brackets move substantially higher. Therefore, such individuals should favor the regular 401(k).

In any case, if the 28 percent bracket should revert to 31 percent in 2011, as scheduled, the argument favoring a regular 401(k) over a Roth 401(k) will quickly re-assert itself. An even greater portfolio value, throwing off even more income, would be required to have an *effective* tax rate after retirement equal to a current *marginal* rate of 31 percent—as long as that 15 percent bracket stays in place. To some degree, fear-based arguments for Roth accounts, based on prospective tax hikes, are self-canceling—as soon as the tax rate increase occurs, arguments in favor of the regular 401(k) apply again with re-doubled force.

## Best Candidates for a Roth 401(k)

Although John and Jane can reasonably forecast a lower tax rate for their retirement, and should accordingly avoid the Roth 401(k), this will not be true of all clients. To see why, let us consider instead Jules and Jillian, who are rather better off—say, a surgeon married to an executive, with current income of \$1 million. The likely availability of generous corporate and partnership retirement plans, plus deferred compensation and their 401(k) plans, makes it likely that the Juleses and Jillians of the world will continue to pull down a joint income of at least \$1 million a year, in constant dollars, for the rest of their lives. They are far into today's top bracket of 35 percent, and can reasonably expect to be far into tomorrow's top tax bracket as well. *Their* effective tax rate in retirement 20 years hence, assuming that pensions and other taxable distributions amount to \$1.8 million a year, could well be markedly higher than their current marginal tax rate, as shown in Table 5. In fact, their effective tax rate in 2011, if the 2001 tax cuts merely lapse without any other change, will be higher than their marginal rate today.

It is generally a good idea to direct very wealthy clients like Jules and Jillian toward Roth 401(k) plans and away from regular 401(k) plans. The foundation for this recommendation is again the arithmetic of progressive tax brackets (Horan 2006). As one rises further into the top bracket of such a structure, the effective rate begins to converge with the marginal rate. Thus, even a small future increase to the top bracket rate easily translates into a future effective rate that is higher than the current marginal rate. It is this arithmetic that drives top bracket individuals to the Roth account structure.

A possible exception is the very wealthy client who is convinced that a low flat-tax rate will replace today's progressive tax structure within the retirement planning period. The future advent of a low flat tax would be a planning catastrophe for any high-income taxpayer choosing the Roth over the regular 401(k); it would also be a catastrophe were the income tax itself to be replaced with a sales levy, as currently contemplated by some legislators.

Finally, the third dollar amount given in Table 5 shows the value at which the future effective tax rate would exactly equal the current rate for the top marginal tax bracket (that is, 35 percent). This dollar value (\$805,000 in 2027 dollars, corresponding to \$445,700 in current 2007 dollars) shows the tipping point where a client becomes sufficiently wealthy that a Roth 401(k) may become a better bet than a regular 401(k), given the scenario laid out in Table 5. If a 50-year-old client's current income is less than \$445,700, and if their future portfolio value seems likely to be less than \$21 million (this produces an RMD of \$805,000 in 2027), a regular 401(k) remains the better bet.

Of course, my speculations about future tax rates aren't any better than yours. The point of these examples is that when faced with a client on the border of true wealth—say, income of \$400,000, with \$1 million or \$2 million already saved—the planner and client should

construct a scenario structured like that in Table 5, and agree on the future tax bracket and rate structure that will be assumed to apply. Once future brackets and rates are laid out along the lines of Table 5 and the future value of the client's retirement portfolio estimated, a reasonable projection of future effective tax rates for this client can be obtained and a defensible recommendation made concerning whether to contribute to a Roth or regular 401(k). In fact, all recommendations with respect to Roth versus regular 401(k) accounts necessarily assume a scenario structured like that in Table 5. The planner's choice is whether to leave these assumptions about future tax rates implicit, or to make them explicit, where they can be vetted in concert with the client. A few simple guidelines for the discussion are shown in the sidebar "To Roth or Not: Simple Rules."

## Special Cases

In closing, I want to address a number of special cases that are either exceptions to the main line of argument, or situations where it applies with special force.

**Other income.** For simplicity, I have assumed that 401(k) distributions will be the sole source of retirement income. In many cases, a client can also expect to receive Social Security payments, a pension, rent, royalties, or other taxable income. If these other income sources amount to less than \$30,000 a year in 2027 dollars, they can be safely ignored. The standard deduction and two personal exemptions will be approximately \$30,000 in 2027, given inflation adjustments using 2007 as a base, and these were not taken into account in the analyses. Therefore, other income less than that amount will not change the results. Alternatively, other income, to the extent it exceeds \$30,000, can simply be added to estimated retirement distributions, and the client's effective tax rate in retirement re-estimated.

**High tax states.** Just as wealthy clients should almost always be directed toward a Roth 401(k), wage earning clients in high tax states should almost always be steered toward the regular 401(k). This is because the current marginal tax rate applied to, say, a California professional is far higher than most realize. For example, suppose John and Jane move with their two kids to California, attracted by higher paying jobs, so that they now have an adjusted gross income, before retirement plan contributions, of between \$250,000 and \$400,000. At this level they will be subject to alternative minimum tax, plus state income tax of 9.3 percent. Their marginal tax rate will be 28% AMT + 7% AMT exemption phase-out + 9.3% state, or 44.3%. A regular 401(k) is one of the very few tax shelters available to current AMT victims, and a 44.3 percent government subsidy for retirement savings is sweet indeed, and not to be forgone.

**Young people.** Today a recent college graduate in California, single and with a salary over \$42,000, will be in the 25 percent federal and 9.3 percent state tax bracket, for a total marginal rate of 34.3 percent. A Roth 401(k) is unlikely to be the best choice for this heavily taxed young college graduate.

On the other hand, a teenager with wage income less than the standard deduction is in the 0 percent tax bracket. If he wishes to begin saving for retirement (or has a wealthy relative who so wishes), a Roth account structure is clearly the better choice. But a 68-year-old who has arranged his affairs so that his taxable income is less than the standard deduction plus personal exemption(s) will also be in the 0 percent tax bracket, and might also favor a Roth contribution, or even a conversion (Hulse 2003). Thus, age is largely irrelevant; it is only the relationship between the marginal rate now, versus the projected effective rate later, that matters.

A more difficult case is a young person with good prospects who is just beginning his or her career. For example, consider a single 25-year-old with income, after the personal exemption and standard deduction, of \$20,000—a college graduate with a humanities major, perhaps. In a state without an income tax, this person will be in the 15 percent bracket now, but can reasonably expect to be in a higher tax bracket as time goes on and their career flourishes. Should this person contribute to a Roth 401(k), given how low their current tax bracket is?

The answer, in terms of retirement math alone, is probably "no"; but in view of the advantages of the Roth structure for non-retirement purposes, it might be "yes." First, with another 25 years to run, all the values given earlier for 50-year-old John and Jane have to be doubled. Assuming marriage, this 25 year old will have to pile up a portfolio worth in excess of \$6 million dollars simply to escape the 15 percent bracket in retirement. At any lower portfolio value, he is indifferent between the Roth and regular 401(k), since his current marginal tax rate of 15 percent equals his expected future effective tax rate. Second, at this income level, even the 15 percent subsidy for savings that a regular 401(k) will provide may have a material impact on the amount he can afford to save. On the other hand, saving for a home or for some other short-term goal may be more important for a person in this situation than saving for retirement, and the great advantage of the Roth structure is the ability to withdraw the contributions at any time without penalty.

**Conversions.** Recent legislation has increased the opportunities to convert regular 401(k) accounts into Roth accounts, and these options will expand further in 2010. But the logic dictating whether converting to a Roth makes sense is exactly the same as the logic that applies to contributing to a Roth. A conversion only makes sense if the future effective rate is likely to be higher than the current marginal rate applied to the conversion; otherwise, it is best to forgo the conversion opportunity. Hence, Roth conversions, like Roth contributions, seldom make sense unless the taxpayer is currently far into the highest tax bracket. What is distinctive about conversions is that these may be undertaken close to retirement, when a more accurate prediction of future effective tax rates may be made.

## Conclusion

The Roth 401(k) is a wonderful creation, with many advantages for the small segment of very wealthy taxpayers to which it mostly applies. Roth 401(k) structures also have many advantages not considered in this article, when used for purposes other than providing retirement income—such as estate planning or obtaining early access to funds (these violate the assumption of equal Ns in equation (1)).

But the tax-deductible regular 401(k) plan is also a wonderful creation that allows a broad swath of wage earners to exploit certain mathematical properties of a steeply progressive income tax structure combined with inflation-adjusted brackets (Horan 2006, Kotlikoff and Ransom 2007). Those properties indicate that for most moderately affluent wage earners, today's marginal tax rates and the associated government subsidy for retirement contributions are likely to markedly exceed effective tax rates tomorrow, when that subsidy must be cashed out.

Financial planners are responsible for understanding the benefits and costs of each type of retirement account, and recommending the one most appropriate to the client at hand. Subjective preferences for either the Roth or regular 401(k) structures should play no role. As indicated by the quote from Kotlikoff and Ransom (2007) with which we began, it is a rare client who is going to be able to calculate the Roth versus regular 401(k) trade-off on their own. Financial planners have an opportunity to add value by assisting with this choice.

*Edward F. McQuarrie, Ph.D., is a professor in the Leavey School of Business at Santa Clara University in Santa Clara, California. His research interests include historical stock prices, effects of investment style, and retirement planning.*

## Endnotes

1. The importance of comparing present and future tax rates is a staple of most discussions of Roth versus regular retirement account structures. See, for example, Burman, Gale, and Weiner (2001); Chesser, Davis, and Thomasson (2007); Horan (2003); Horan and Peterson (2001); and Langdon, Grange, and Dalton (2006).
2. Optimal asset location across taxable and non-taxable account structures is a lively area of research to which I cannot do justice here. See Reichenstein (2006) for an introduction, and Dammon, Spatt, and Zhang (2004); Johnson (2003); and Poterba, Shoven, and Sialm (2004) for formal models of the problem.
3. For a variety of perspectives on the nature of this interplay, see Horan (2003, 2006), Hyde and Rosenfeld (2006), Kotlikoff and Ransom (2007), Krishnan and Lawrence (2001), Hrungr (2007), and the exchange between Watson (2006) and Starr (2005, 2006).

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#### **To Roth or Not: Simple Rules**

1. Favor the regular 401(k) if the effective tax rate on retirement distributions (the weighted average across all brackets in which income falls) will be lower than the present *marginal* tax rate (the rate paid on the last dollar of current income).
2. Most taxpayers whose marginal rate today falls in the middle brackets (25 percent, 28 percent, 33 percent) will satisfy this criterion and should thus favor the regular 401(k).
3. Taxpayers well into the top rate bracket (for example, income greater than \$500,000 in 2007) should carefully consider the Roth 401(k). The further into the top bracket, the stronger the indications for a Roth 401(k).
4. Taxpayers living in a high tax state should favor the regular 401(k); ditto for taxpayers currently subject to the alternative minimum tax.
5. Age of taxpayer and length of planning horizon are largely irrelevant; the key factor is the expected effective tax rate relative to the current marginal tax rate.

Note: None of the above rules need apply if the Roth account will be used for some purpose other than providing retirement income, such as estate planning. When retirement income is not the purpose, Roth and regular 401(k) accounts cannot really be regarded as substitutes for one another.