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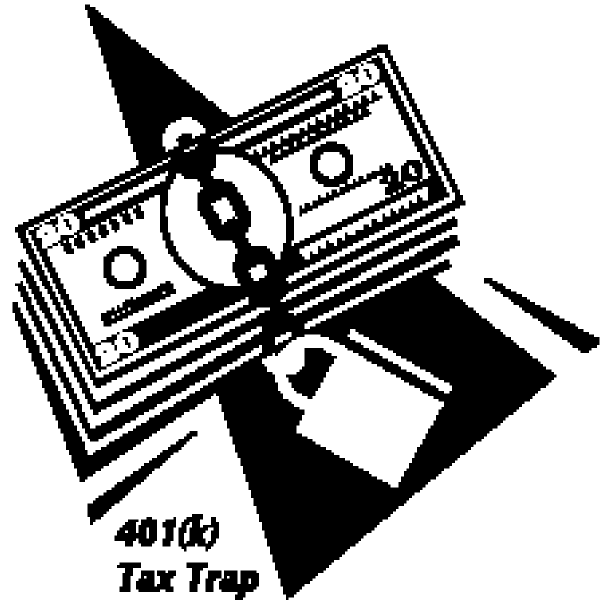
401(k) Tax Trap?

by Ho Kuen Ng

It is almost a universally accepted fact that tax-deferred savings are good. Deferral of taxable income and deferral of taxable investment earnings until they are distributed seem to be good ideas to lower taxes. Many articles have been written and numerical examples constructed to show people who are not as mathematically oriented the advantages of such savings. We will report on a recent paper that gives surprising results.

In the article "Tax Assistance to Qualified Retirement Savings Plans: Deferral or Waiver?" *Journal of Actuarial Practice*, Vol. 2, No. 1, 1994, Robert L. Brown studied whether taxes are deferred or waived. In this paper, the author called it a tax deferral if taxes paid with or without a certain tax provision are the same on an accumulated value basis. He called it a tax waiver if taxes paid with a certain tax provision are smaller than taxes paid without that provision, again on an accumulated value basis. Under very simple assumptions, the author showed that the deductibility of contribution is a tax deferral, whereas the nontaxation of investment income until distribution is a tax waiver for an individual or a tax subsidy from the government.

Mark W. Campbell gave a discussion of Brown's paper in the *Journal of Actuarial Practice*, Vol. 2, No. 2, 1994. He pointed out that Brown's conclusion followed from, and was only because of, the assumptions made. He proceeded to change the assumptions and drew different conclusions. For example, based on a certain set of assumptions, he concluded that the deferral of the taxation of investment income until distribution in fact provides gains to both plan participants and the government.



It should be noted that both papers discussed above are based on very simple economic assumptions and a simplified tax system. In Working Paper 01-08 "Does participating in a 401(k) raise your lifetime taxes?" of the Federal Reserve Bank of Cleveland, Jagadeesh Gokhale, Laurence J. Kotlikoff and Todd Neumann used a more elaborate set of assumptions and a much more realistic tax system to study the effects of participation in 401(k) plans on employees at various income levels. Specifically the authors consider the percentage change in lifetime taxes and spending on a present value basis. Everything else being the same, an increase in lifetime taxes corresponds to a decrease in lifetime spending, and conversely. The results are interesting.

The authors used the Economic Security Planner (ESPlanner), a financial planning program that makes detailed calculations on federal income tax, state income tax and social security benefit. The program can take into account factors such as housing, bequest, college expenses, life insurance, itemized deductions, exemptions, etc. that Brown and Campbell could not have done using only simple mathematical calculations.

In the simplest case, if tax rates are constant and social security benefits are not subject to tax, then participating in 401(k) plans results in a reduction in lifetime taxes. This is not surprising, and can be easily and algebraically proven.

For more detailed analysis, the authors considered a family consisting of a husband and a wife at the same age, with a child born when they are 25 years of age, and another child born when they are 30 years of age. They purchase their home at age 25 by making a 20% down payment and taking out a mortgage at 8%. Their earnings grow at the rate of 1% per year in real terms. The couple begins participating in a 401(k) plan at age 25, deferring 13.5% of their incomes and receiving a match equal to 3% of their incomes. As comparisons, the same family is considered under the alternative assumption that their employers pay them as incomes the amounts that are not contributed to a retirement plan.

The first surprising finding is that if the hypothetical family has income not exceeding $50,000, their lifetime taxes in fact increase if the real rate of return is 6% or more. Such increase in taxes increases further if a higher rate of return is achieved. On the other hand, for a couple with income at $200,000 or more, lifetime taxes are reduced based on a real return of 4%, 6% or 8%. For households with even higher income, they still enjoy a tax reduction, but such reduction may decrease as their incomes increase because their 401(k) contributions are limited by IRC section 415. In other words, if section 415 were repealed or substantially increased, the result would be more beneficial to the very high-income participants with no corresponding benefit to their low-income coworkers. One may ask why this is so.

For a low-income family, the accumulation of plan contribution and investment income and their subsequent distribution may push the family into a higher marginal income tax rate, whereas a family that is already at the top tax bracket will not suffer such a consequence. However there are two other important, but not often considered, factors that affect lower-income workers. One, more of their social security benefits will be taxed. Two, the reduction of taxable income due to 401(k) deferrals also reduces tax exemptions and mortgage deductions. In fact, if such a family only had earnings from employment, had no home and no children, and were exempt from participation in the social security system, their 401(k) plan would provide them with a reduction in lifetime taxes.

Based on the above finding, should a low-income couple not contribute to their 401(k) plan? The authors suggested that if this couple's employers match their deferrals in amounts that exceed the increase in lifetime taxes, then they should participate to take advantage of the match, but they may be better off if they defer income only to the extent that the maximum match is obtained.

The timing of contribution was also studied. The authors compared the results when a couple contributes for 25 years from age 25 to 50 with those when the same couple contributes from age 40 to 65. It was found that in the latter instance, even low-income couples have tax savings in most cases.

The authors also made comparisons between traditional IRA contributions and Roth IRA contributions. The main reason for the difference between the two is that contribution to a Roth IRA is after-tax and investment income in it is tax-free. The results are most striking. Traditional IRA contributions and subsequent withdrawals may increase lifetime taxes for low-income families when contribution limits are increased. On the other hand, Roth IRAs bestow tax benefits at all income levels.

> *"The increase in contribution limits and the nondiscrimination rules are supposed to encourage more people to defer and save for retirement."*

The authors considered many more alternative assumptions. Readers are encouraged to read the paper for all the interesting conclusions and analysis. The results, though surprising, are not unreasonable, and the authors gave detailed explanations of them.

This paper brings policy issues into question. The increase in contribution limits and the nondiscrimination rules are supposed to encourage more people to defer and save for retirement. But the effect, according to this paper, is that such tax provisions benefit high-income families more than low-income families, and in fact may hurt low-income families. This result seems to be contrary to the intent of lawmakers.

With the passage of the Economic Growth and Tax Relief Reconciliation Act, low-income families now have an additional incentive to save. They are entitled to a nonrefundable tax credit of up to 50% on a contribution of $2,000. It would be interesting if the authors could re-analyze the situation based on this additional detail.

EGTRRA also has catch-up provisions for older participants. One wonders how the results would change if a couple delays contribution to retirement plans and uses the catch-up provisions to make higher contribution when they become eligible.

Another perspective that is worth considering is the utility of money. People have different perceptions as to the importance of the ready availability of money, the amount of available money and the time when available money is spent. In their paper, the authors considered the cases when a couple desires a 10% higher and a 10% lower living standard in retirement. It would be interesting if the authors could analyze the situation based on different utility functions instead of a straight present value calculation.

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For Working Paper 01-08 of the Federal Reserve Bank of Cleveland, and electronic copy is at: **http://www.clev.frb.org/Research/Workpaper/2001/Wp0108.pdf.**