

**Optimal Annual Contributions
to Flexible Spending Accounts:
A Rule-of-Thumb**

John T. Cuddington*

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Economics Department
Georgetown University
Washington, D.C. 20057-1036

* Professor of Economics. Thanks to my colleagues Serge Moresi and Ian Gale, and Lee Snyder of the GU Benefits Office, for helpful comments.

E-mail: cuddingj@gunet.georgetown.edu

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Abstract

This note argues that many employees under-contribute to so-called flexible spending accounts. A simple rule-of-thumb is developed for making optimal contributions (for risk neutral employees): After-tax income net of (uncertain) medical expenditures will be maximized if you contribute to your flexible spending account (FSA) until the probability of not spending the last dollar in your FSA is equal your marginal tax rate. JEL Classification: D81, I18

I. Under-Contribution to Flexible Spending Accounts

Many employers offer their employees the option of paying pre-tax dollars into so-called flexible spending accounts (FSA) for use in paying allowable (non-insured) medical and dental expenses. There is a similar account for paying dependent care (i.e. child and elderly care) expenses. These accounts have several key features. First, they have the advantage of paying allowable expenses out of pre-tax dollars, a benefit whose value depends on the employee's marginal tax rate. Second, there is an annual cap of \$5000 on the maximum contribution to each account. Third, Internal Revenue Service (IRS) regulations require that unused contributions at the end of each year are recaptured by the employer. That is, once employees contribute funds to the flexible spending account, it's "use it, or lose it."

This note addresses the question faced by employees each year: Given the inherent uncertainty of medical/dental expenditures (above and beyond those covered by health insurance), how much should one contributed to the FSA? Employers often advise employees to contribute conservatively to their FSA. Georgetown University's *Flexible Benefits Plan: Summary Plan Description* (11/08/95, p.5), for example, gives the following advice:

Be conservative when you decide how much you want to contribute. [my emphasis] The IRS requires that you incur expenses for the amount of money in

your account by year end or the balance will be forfeited.

It is my contention that this advice is incorrect. In any event, it provides no guidance on the decision rule employee's should use in deciding whether and how much to contribute to their FSAs.

I show below that the expected after-tax income net of (uncertain) medical expenditures will be maximized if the following rule is used: **Contribute to your flexible spending account (FSA) until the probability of not spending the last dollar in your FSA is equal your marginal tax rate.** This rule of thumb implies, for example, that for someone in a 30% (federal plus state and local) tax bracket, there should be a 30% probability of leaving FSA money unspent at the end of the year. If you are not leaving money unspent in your FSA in some years, you are probably under-contributing.¹

It is interesting to note that if employee's follow the optimal contribution rule, this will also generate revenue for the employer, in the form of the "claw back" of unspent FSA contributions. Thus, both employers and their employees benefit – at the expense of the IRS – when employees follow the optimal rule. It is in employers' interest, as well as their employees, to make sure employees contributed sufficiently to their accounts.²

¹ This is reminiscent of a comment attributed to economist George Stigler: if you've never missed an airplane, you're probably spending too much time in airports!

² An empirical tidbit: In 1996, 645 Georgetown University employees contributed to FSA; a total of approximately \$15,000 was left unspent in these accounts at yearend. That's about \$23 per participant.

How much additional revenue could GU raise by inducing employees to increase contributions to the optimal amount? Suppose 2000 of the total 6000 employees used FSA and left unspent an average of \$23. That would be \$46,000.

II. Proof of the Optimal Contribution Rule

Suppose an employee's objective is to maximize the expected value of "discretionary income" YD , defined as after-tax income net of (uncertain) medical expenditures:³

$$YD \equiv (Y-A)(1-t) - \max[\tilde{M}-A,0] \quad (1)$$

where Y is gross income, A is the contribution to the FSA, t is the marginal tax rate, and M is the uncertain amount of medical expenditures (net of health insurance reimbursals). M is a random variable with the probability density function $f(M)$. The last term in (1) reflects medical spending in excess of the FSA contribution, which must be paid out of after-tax income.

The optimal contribution to the FSA, denoted by A^* , is determined by choosing A to maximize:

$$E(YD) = (Y-A)(1-t) - \int_A^{\infty} (M-A) f(M) dM \quad (2)$$

Differentiating (2) with respect to A and then setting the resulting expression equal to zero to find the maximum yields the optimum rule:

$$1 - t = 1 - F(A^*) \quad (3)$$

where $F(A^*)$ is the cumulative density function evaluated at the optimal contribution level A^* .

³/ More generally, one maximizes the expected utility of discretionary income. Our specification amounts to assuming risk neutrality.

In words, **the optimal rule is to contribute to the FSA until the marginal *after-tax* cost of contributing, $(1-t)$, equals the probability that dollar will be spent, $1-F(A^*)$.** Equivalently, the probability of not spending the last dollar in the FSA should equal your marginal tax rate: $t=F(A^*)$.

Note that the optimal rule differs substantially from the advice to contribute “conservatively” to the FSA, if that means “try to be virtually certain that you’ll need to spend the funds before contributing them to your FSA.”

III. Complications

Like most rules-of-thumb, the one above ignores various complications. Here’s one: above, the allowable expenditure (M) was assumed to be an exogenous stochastic process. In reality, employees have incentives to find a way to spend FSA contributions before year end by altering discretionary items or shifting expenditures intertemporally. Having excess contributed funds near year-end, they might, e.g., buy a new pair of glasses, buy disposable contacts in advance for the next five or six months, or advance their next dental checkup or physical exam to December from its scheduled time in January or February. If nonmonetary (shopping, accounting, information collection) costs are zero, employees would always spend their FSAs dry. Taking this complication into account, optimizing employees would be *more* aggressive (not more conservative) than the rule-of thumb dictates. On the other hand, employers hoping to recoup unspent FSA funds would benefit less.

In any event, the rule-of-thumb presented here provides a logical way of thinking about the marginal costs and benefits of contributing to flexible spending accounts, thereby leading to more rational decisions.