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TAX REFORM AND TARGET SAVING

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ABSTRACT

If the United States switched to a broad-based consumption tax, than all forms of saving would enjoy the tax-preferred status reserved primarily for retirement saving vehicles under the current income tax system. Because pensions have other unique characteristics besides their tax advantage, current results on the effect of pensions on saving may provide an unreliable guide to the saving response to fundamental tax reform. The net effect of reform on saving depends critically on household motives for saving. This paper documents the considerable variation in the reasons why households save and presents a buffer stock model of saving that allows for both life cycle and target saving. To the extent that specific targets that are not currently tax-favored motivate the saving of households in their preretirement years, fundamental tax reform that results in the elimination of current pension plans will reduce saving.

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In the past two presidential election years, proposals for fundamental tax reform were widely circulated and debated during the primaries. Challengers have discovered a large constituency for a switch from the present income-based tax regime to a system based more on consumption taxes. Even passing references to tax reform and tax simplification are met with considerable interest from the financial community. Much of the political attention is based on the perception that a consumption tax would increase the fairness and reduce the compliance costs of the tax system.

There is also a belief that fundamental tax reform would generate higher saving, thereby increasing the capital stock, worker productivity, and living standards. The proponents of this belief sometimes cite as evidence the twin observations that pension contributions account for a large share of private saving and that pensions enjoy several tax advantages relative to other methods of saving.[1] However, the empirical literature on whether pension funds actually represent "new" saving or net additions to the capital stock has failed to achieve a consensus.[2] More importantly, the fact that pensions have characteristics other than their tax advantage that distinguish them from other forms of private saving in the current tax regime makes it impossible to simply generalize that extending consumption tax treatment to a greater share of savings vehicles will lead to higher saving.

In particular, pensions are an illiquid and, in some cases, involuntary method of saving over horizons that do not extend to retirement. Once the underlying model of household saving is expanded from the standard Life Cycle model to allow for non-retirement reasons for

[1] See Sabelhaus (1997) for a decomposition of personal saving into pension and nonpension components.
[2] The literature is comprised of two sets of studies. The first pertains to Social Security and defined benefit (DB) pension plans and is well summarized in Gale (1995). The second set of studies analyzes individual retirement accounts (IRAs) and 401(k) plans, which have more of a role for individual contributions. Hubbard and Skinner (1996) provide a partial reconciliation of the mixed results in this literature.

households to save and for other capital market imperfections, these characteristics—not the tax advantage—may determine whether pension savings are simply offset by lower private savings. Chief among these alternative motivations is the desire to save as a precaution against uncertainty in future budget constraints or consumption needs. The main contribution of this paper is to show that the "target" saving described by Carroll (1997a) that may result in such a model drastically changes the degree to which households will offset lower pension wealth with higher wealth in other forms. Specifically, if pension coverage is not entirely voluntary and people with pensions are not saving primarily for retirement, then if employers dismantle their pensions in the wake of tax reform, private saving will not offset the lost pension saving and total savings will fall.

The remainder of the paper is organized as follows. The next section briefly describes the source of the relative tax advantages to pensions under the current income tax system and how those advantages would be extended to other forms of saving under fundamental tax reform. Self-reported data on households' motivations for saving are then analyzed, and several motives for saving that result in target rather than retirement saving behavior are identified. The theoretical framework from Samwick (1995) is then used to show that such target saving behavior is consistent with reasonable parameterizations of the Life Cycle model under uncertainty. The implications of this model and the self-reported data are then used to describe the likely responses of both target and life cycle savers to a consumption tax reform that causes their pensions to be eliminated. The last section discusses the implications of this finding for the effect of fundamental tax reform on saving and economic welfare.

Preferential Tax Treatment of Saving

The current tax regime is designed to tax resources when they are earned as income. However, there are many examples of income flows that receive preferential treatment in the form of a lower effective tax rate. Such preferences are often referred to as "consumption tax treatment," and fundamental tax reform that switched to a consumption-based tax would be analogous to extending this treatment to a broader array of savings accounts. This section briefly illustrates the source of potential tax advantages in the context of employer provided pensions before and after a tax reform. More detailed discussions can be found in Salisbury (1995) and Engen and Gale (1996a, b).

Engen and Gale (1996b) use the following expression to denote the amount of wealth that a dollar of income could generate in T years if saved by an employee in a taxable account:

$$B1 = \left(1 - t_0 - S_{EE}\right)\left(1 + r\left(1 - t_1\right)\right)^T$$

where:

t_0 = the income tax rate when the income is received
S_{EE} = the share of the payroll tax paid by the employee
r = the rate of return before individual (but after corporate) taxes have been paid
t_1 = the income tax rate on asset income between the current year and year T

Note that income and payroll taxes are paid immediately on the full amount of income when it is received by the employee. Income taxes are also due each year on the taxable interest or dividends generated by the asset over the next T years. In contrast, if the employer were to contribute that dollar to a pension account instead, it would generate the following amount after T years:

$$B2 = \left(1 + S_{ER}\right)\left(1 + r\right)^T \left(1 - t_T - \theta_T\right)$$

where:

S_{ER} = the share of the payroll tax paid by the employer
t_T = the income tax rate in year T when the account is liquidated
θ_T = the (possibly zero) tax penalty on liquidating the account in year T

Under this strategy, the initial amount that can be contributed includes the employer's share of the payroll tax because non-employee pension contributions are exempt from the payroll tax. That amount grows at the pre-tax rate of return while in the fund. Upon withdrawal, the funds are subject to the income tax rate in year T and, possibly, a penalty for early withdrawal.

The tax advantage therefore has three components: 1) the employer's contribution is exempt from the payroll tax (if the account is employer-sponsored), 2) the "inside buildup" on the contributions is not taxed, and 3) the income tax rate paid on the withdrawal may be lower than when the contribution was made, especially if the withdrawal is made during retirement. These advantages may be sufficient to outweigh any potential penalties that are applied to early withdrawals, such as the ten percent excise tax and the twenty percent withholding tax on distributions that are not rolled over into qualified accounts. These penalties are the price for converting an illiquid retirement account into a liquid savings account.

Under fundamental tax reform, some or all of these relative advantages will be eliminated from the perspective of a household that is actively saving for retirement. In particular, the removal of the tax on interest (t_1) will make saving outside of pension accounts much less disadvantaged relative to pension contributions. This is the source of most of the tax advantage to pensions and is at the heart of all consumption tax proposals. If, in addition, the tax reform eliminates some of the progressivity of the current tax system by imposing a "flat tax" on consumption, then the advantages associated with a lower marginal tax rate in retirement will

vanish. A reform that offered tax credits for payroll taxes would eliminate the advantage that pensions enjoy through payroll tax deductibility. As discussed below, if the tax advantage were made more widely available, then the employer costs of administering the pension and complying with regulations would also be eliminated.

Household Motives for Saving

The importance of heterogeneity in household saving behavior has recently become the topic of research on saving and wealth holding.[3] Economic intuition suggests that the magnitude of the behavioral response to any price change depends critically on the amount of the household's budget that was used to purchase the item whose price changed. In the case of tax reform, it is the after-tax rate of return on saving that changes, and the item that is being purchased is, for example, retirement consumption. It is therefore essential to understand how important a motive retirement is for saving.

This section uses the household responses to questions about financial decision-making in the *Survey of Consumer Finances* (SCF) 1992 to demonstrate that a majority of the households are not in fact focusing on their retirement needs when making their consumption plans. This result is quite general and is robust to controlling for expected differences in pension coverage, expected retirement income adequacy, and the horizon for financial decision-making. The next section reconciles the empirical results on saving motives with a "Buffer Stock" model of consumption under uncertainty.

The SCF 1992 was the fourth in a series of triennial surveys conducted by the Federal Reserve Board to obtain detailed information on wealth and other household characteristics. The

[3] Dynan, Skinner, and Zeldes (1997) and Carroll (1997b) have addressed the issues of whether and why rich households save more than other households do. Samwick (1997) examines the extent to which heterogeneity in tastes, parameterized by the discount rate, is a viable explanation for the distribution of wealth.

sample size in the SCF 1992 is 3906, comprised of an area-probability sample and an oversampling of high income taxpayers. Using the sample weights, the SCF is a nationally representative sample of the entire U.S. population of households.[4] The SCF contains several questions on household expectations and attitudes, including a question that solicits up to five of the household's most important reasons for savings (though only one third gave more than one and less than one tenth gave more than two).

Table 1 tabulates the responses to these questions for all households in the sample, stratified by the age of the head of household. The head of household for a married couple is the spouse with the higher labor income. If the spouses have the same income (usually zero), then the older spouse is selected as the head. The first row reports the percentages of households that gave "retirement or old age" as their most important reason for saving. The values grow steadily with age before age 65, from a low of 3.62 percent for households under age 25 to a high of 37.56 percent for households between 55 and 64. The column marked "All" shows that for the whole sample, 18.25 percent listed retirement as their most important reason. The last column in the table ("Any Mention") reports the percentage of households who listed retirement among their most important reasons for saving, even if it was not the first most important. Approximately one fourth of the sample listed retirement as an important reason to save.

By itself, the finding that only one fourth of the households list retirement as an important reason to save should cast suspicion on the most basic version of the Life-Cycle Hypothesis in which retirement is the primary reason that households save, *regardless* of their age. The next row presents the analogous percentages of households reporting "uncertainty" as their most important reason for saving. The percentages average 34.02 percent and show no systematic

[4] See Kennickell (1996) for documentation of the SCF 1992. The SCFs from 1989 and 1995 yield similar results.

trend with age, although the risks confronting households surely change over the life-cycle.[5] The last column shows that 43.73 percent of the households list uncertainty as an important reason to save. Uncertainty is the most important reason for saving for more households of every age except 55 - 64, when most households begin to make the transition into retirement.

The remaining rows of the table present the analogous percentages for other savings motivations. The third row pertains to saving done to purchase the household's primary residence. The percentage starts at about nine percent for households under 35 and then declines with age.[6] The fourth row reflects other saving done to acquire more valuable real estate, including second homes, home improvements, and durable goods (many of which are home furnishings). Roughly three percent of households across all age categories save primarily for this reason. The fifth row shows that the most important reason for the saving of ten percent of the households is to make transfers to other family members, largely through payments for their education.[7] The sixth row reflects saving done for special purchases, including cars, vacations, own education, burial expenses, and charitable gifts. The last two rows show that almost ten percent of the households save primarily because they believe that saving is simply a good thing to do, and a slightly larger number do not save, primarily because they don't believe they have enough resources.[8]

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[5] Households could give four different answers to be coded into this category: 1) Reserves in case of unemployment, 2) In case of illness; medical/dental expense, 3) Emergencies; "rainy days"; other unexpected needs; for "security"/independence, and 4) Liquidity; to have cash available/on hand. Of these, (3) is by far the most important.

[6] See Engelhardt (1996) for an analysis of saving for downpayments.

[7] The specific responses are: 1) Children's or grandchildren's education, and 2) "For the children/family"; "to help the kids out." See Feldstein (1995) for an analysis of saving for college educations.

[8] Samwick (1998) shows that results are similar when the responses are weighted by the household's amount of financial assets. A dollar-weighted calculation is more appropriate when answering the question of how much wealth will be offset, rather than what fraction of households will be affected. The overall dollar-weighted fraction reporting retirement is equal to that reporting uncertainty, with retirement prevailing by a substantial margin between ages 45 and 64. Since pension wealth is far less concentrated than financial assets, the most appropriate tabulations lie intermediate between those in Table 1 and the dollar-weighted calculations. Even so, these differences are not large enough to be inconsistent with the application of the buffer stock model discussed in the next section.

One reason why Table 1 might give a misleading account of saving motives is if survey respondents interpreted the "saving" to exclude the saving that is implicitly done for them in the form of pensions and Social Security. In order to address this possibility, Table 2 presents the percentages of the working population reporting "retirement" and "uncertainty" as the most important reason, controlling for expected retirement adequacy. The five categories are the households' answers to the question, "How would you rate the retirement income you (expect to) receive from Social Security and job pensions?" The three sets of numbers in the table are for the full sample of households in which the head is working, households in which at least one member is covered by a pension (55.14 percent), and households in which no one is covered by a pension (44.86 percent).

These tabulations confirm that retirement is not the primary reason for saving. For the full sample, the percentage reporting retirement as the most important reason is lower than that for uncertainty for each of the categories. For the results by pension coverage, this result obtains in 9 out of 10 comparisons. The percentage citing uncertainty fluctuates primarily between 30 and 40 percent across retirement income categories and is not particularly sensitive to pension coverage. The increasing percentages citing retirement for higher expected retirement income are also not consistent with the objection, since households that expect low returns from Social Security and pensions do not appear to make up for it by placing more of an emphasis on saving for retirement.

Table 3 provides some evidence for why retirement is not more prominently featured as a reason to save. The columns in the table are the households' response to a question asking which time period is most important to the household in planning its saving and spending. The responses to that question are consistent with the households' most important reasons for saving:

there is a strong positive relationship between the length of the planning horizon and the probability that retirement is the most important reason for saving, regardless of pension coverage. However, only 35 percent of those without pensions and 45 percent of those with pensions have a financial planning horizon of five years or greater. It is interesting to note that retirement would be just as important a reason for saving as uncertainty if the population were entirely like the "Over 10 Year" subsample.

Precautionary Saving in a Buffer Stock Model

The results in Table 1 suggest three different types of saving motives. The first is the life cycle motive, which is reflected by the households that cite retirement as their most important reason for saving. The saving of these households should be well described by the standard life cycle model. The second is the somewhat smaller percentage of households that cite explicit targets such as home purchases and family transfers. Their decision to save in one form or another should be motivated by how well the saving vehicle enables the target to be achieved. The third is the sizable proportion of the population that cites uncertainty as the most important reason for saving. Recent advances in the theory of precautionary saving by Carroll (1992, 1997a) can be used to show that, under a broad range of circumstances, these households will behave in a manner similar to target savers. The model of consumption under uncertainty in Samwick (1995) will be used below to illustrate this point. The model is general enough to encompass both precautionary and life cycle motives for saving (though for simplicity, it abstracts from other explicit targets for saving). Different parameterizations of the model can lead to profiles of wealth accumulation over the life cycle that reflect varying degrees of the two motives.

The essential result from this model can be summarized by the following condition,

which is based on the work of Deaton (1991):

$$\frac{1}{\rho}(r-\delta)+\frac{\rho}{2}\sigma_{\eta}^{2}<g$$

where ρ is the coefficient of relative risk aversion, r is the interest rate, δ is the household's rate of time preference, σ_{η}^{2} is the variance of shocks to permanent income, and g is the rate of growth of household income.

Carroll (1997a) shows that if this inequality is satisfied, then households will save in order to maintain a target wealth-to-income ratio. He denotes this behavior as "Buffer Stock" saving. The first term on the left-hand side is the expected growth rate of consumption in an infinite-horizon model with no uncertainty. Consumption will grow more slowly if interest rates are low, risk aversion is high,[9] or rates of time preference are high. Carroll (1997a) denotes the situation in which the inequality holds in the absence of uncertainty (i.e., $\sigma_{\eta}^{2} = 0$) as "impatience." The second term on the left-hand side is the effect of income uncertainty on the growth rate of consumption. Kimball (1990) denoted the precautionary saving motive as "prudence." In this model, ρ reflects the household's prudence as well as its degree of risk aversion. The more prudent the household or the greater the uncertainty faced, the higher is expected consumption growth. In other words, the effect of precautionary saving is to depress current consumption and thereby raise the expected growth rate of consumption. It is by consuming less today that the household can provide some insurance against the possibility of low consumption in the future.

Thus, buffer-stock behavior emerges whenever the expected growth rate of consumption

[9] When Constant Relative Risk Aversion (CRRA) utility is assumed, then the inverse of the coefficient of relative risk aversion is the intertemporal elasticity of substitution. A high degree of risk aversion is therefore analogous to a low willingness to substitute consumption from the current period to future periods. This parameter restriction does

is lower than the expected growth rate of income, with the magnitude of the buffer stock determined by the relative strength of impatience and prudence. Carroll (1997a) shows that buffer-stock behavior is more likely to obtain during the early years of the life cycle, when income growth is relatively high, and shows that the buffer-stock model is consistent with a variety of empirical regularities in the distribution of wealth. Carroll and Samwick (1997) present evidence that the buffer-stock model is an appropriate characterization of the behavior of most households over most of their working lives. The buffer-stock model is further supported by the results for consumption profiles in Gourinchas and Parker (1995). Using the buffer stock model to derive an empirical specification, Carroll and Samwick (1998) find that approximately one third of aggregate wealth can be attributed to precautionary motives.

A primary contribution of Samwick (1995) is to show through simulations of this model that even a buffer-stock consumer will eventually behave as if retirement is an important reason to save as the date of retirement approaches. The key point is that in a finite horizon model, the appropriate value of 'g' on the right-hand side of the inequality is similar to a present value of all future income growth rates. Since retirement is represented in this model by a large negative value for income growth in the year of retirement, the inequality will inevitably fail to hold as the date of retirement approaches.

This result is presented graphically in Figure 1. The four different curves correspond to progressively higher retirement replacement rates of Social Security and pensions, ranging from 25 to 100 percent of pre-retirement income.[10] A striking feature of this graph is that all four households hold almost identical buffer stocks for the 20 years between ages 25 and 45. During

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not affect the basic interpretation of the condition.

[10] This model assumes that all pensions are defined benefit and can be characterized by their promised retirement income flows. See Engen (1994) for a model in which the household jointly chooses the level of saving and pension

this time period, the anticipated drop at retirement is so far away that it has no effect on wealth holdings. It is worth emphasizing that this lack of sensitivity to the replacement rate is not based on any irrationality. Instead, it is due to the particular choice of parameters: $\rho = 3$, $r = 0.02$, and $\delta = 0.08$ in all periods; $g = 0.015$ and $\sigma_\eta = \sigma_\varepsilon = 0.10$ before retirement; and $g = 0.00$ and $\sigma_\eta = \sigma_\varepsilon = 0.00$ after retirement. The condition guaranteeing buffer stock behavior is easily satisfied at young ages.[11]

Each of the wealth profiles in which the replacement rate is less than one do eventually begin to accumulate more than just a buffer stock of wealth. This occurs when the finite-horizon analog to the inequality fails to hold as date of retirement inevitably approaches. The crossover point is earlier—and the subsequent accumulation of wealth is larger—for households with larger anticipated drops in income at retirement. Note that this age-wealth profile is consistent with the results in Table 1 that showed that retirement becomes a more important reason for saving for an ever larger share of the households as they age. If the inequality is not satisfied even at young ages, then the household never engages in a period of buffer stock saving and begins saving actively for retirement immediately. Table 1 clearly shows the presence of young households that already cite retirement as their most important reason for saving.

The salient feature of Figure 1 is that it shows that over much of the working life, households engaged in buffer stock saving will not alter their wealth holdings in response to fairly sizable changes in their retirement replacement rates. In the context of fundamental tax reform, changing the replacement rate is akin to eliminating the retirement income in the form of

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contributions.

[11] The high value for the time preference rate is chosen to emphasize the point that even very impatient consumers will eventually save for retirement as long as income drops at retirement. The same qualitative results hold (with a larger buffer stock) when a lower value is chosen as long as the inequality is still satisfied. However, see Carroll and Samwick (1997), in addition to the results in Table 3, for a justification of a time preference rate of this magnitude.

an employer provided pension. If the condition for buffer-stock behavior is met, then the saving response of households who save primarily as a precaution against uncertainty will be similar to that of the households who were target savers for reasons such as a home purchase or transfers for education. Households who save primarily to achieve preretirement targets will be unlikely to offset the reduction in expected retirement income with higher values of personal saving.

Pension Saving After Tax Reform

Under the present income tax regime, the tax advantages of pension plans are associated with two primary costs. The first is the administrative cost to the employer of setting up and operating the plan. If the tax advantages of pensions are made available to employees outside of the pension, then a pure efficiency gain results. The resources that the employer previously devoted to administering the plan will be returned to the shareholders as higher profits or the employees as higher wages. The amount of this gain that is saved will reflect the marginal propensities to save of those who receive it.

The second is the cost associated with the uniformity of the pension plan across all workers at a given firm. Table 3 clearly demonstrates that there is substantial heterogeneity in both the motives and horizons for saving among workers with pensions. This heterogeneity, little of which can be ascertained systematically by the employer, means that it is not possible for the employer to design a pension plan that explicitly matches the desired amount of tax advantaged saving on a worker-by-worker basis. At best, employers can establish a plan that provides the optimal benefits for a large subset of employees, perhaps those that the firm is most interested in retaining. However, given the inability of the employer to ascertain which employers want the pension and which do not, the contributions can be funded only by reducing the wages of *all* workers covered by the plan. The imperfect match between workers' saving

preferences and the degree to which their pensions allow them access to tax advantaged saving imposes a welfare cost relative to a more straightforward consumption tax treatment of all saving.[12]

Federal regulations on the distribution of pension contributions across employees at a given firm further prevent employees from obtaining their exactly preferred amount of tax advantaged saving under current pension plans. A complicated set of nondiscrimination rules requires a rough parity of contributions made across different categories of employees (highly versus non-highly compensated workers) if the contributions are to be tax advantaged.[13] Regulations such as nondiscrimination rules are common when an exception (such as the consumption tax treatment of pension contributions) is made to the income tax code to ensure that the benefits of that exception are distributed in a way that is deemed to be equitable. Garrett (1995) analyzes the extent to which the nondiscrimination rules are binding and demonstrates large effects of the rules on the relative contributions on behalf of highly and non-highly compensated workers.

Given the presence of nondiscrimination rules, employees who wish to access the tax advantage of pensions must cross-subsidize the pension accounts of other employees who would prefer to receive their compensation in wages. Enacting fundamental tax reform would allow the employees who wish to save at the pre-tax interest rate the opportunity to do so without having to comply with nondiscrimination rules. Because pensions will no longer be as valuable to the workers who currently desire them most, it is reasonable to expect that a sizable percentage of

[12] There are circumstances under which this welfare cost can be at least partially recouped. For example, if there are sufficiently many different combinations of wages and pension plans across employers, then workers can sort themselves according to their preferences for saving without compromising their productivity. Given the heterogeneity in Table 3, this seems unlikely. Another possibility is for the pension plan itself to accommodate many different tastes for saving. Ippolito (1996) presents a model in which this is accomplished via the employer match

firms that currently sponsor pensions will terminate them as a result.[14]

To simplify the analysis only slightly, the saving response by different workers to fundamental tax reform can be viewed as the combination of two factors. The first is whether the worker was saving primarily to support consumption during retirement as in the standard life cycle model or to achieve more specific, near-term targets like a buffer stock against uncertainty, a home purchase, or transfers to family members. The second is whether the pension plan that covers the worker offers sufficient access to the tax advantage that it fully achieves the worker's desire for saving, whether life cycle or target.[15]

Consider first the workers who report "retirement" as their primary reason for saving and have pensions that allow them to achieve most of their retirement saving objectives. If due to nondiscrimination rules they were cross-subsidizing the saving of other workers covered by their pension plans, then fundamental tax reform presents them with an increase in their after-tax rate of return on saving (equal to the size of the cross-subsidy). This change in the return to saving will induce the familiar income and substitution effects. Because retirement consumption is now cheaper, households will save more out of current income to purchase more in retirement, other things equal. The income effect arises precisely because other things are not equal. Lowering the price of retirement consumption means that the level of retirement consumption the household was previously expecting can be achieved by saving less today. The substitution

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rate in 401(k) plans.

[13] See McGill, Brown, Haley, and Schieber (1996) for a description of nondiscrimination rules.

[14] Pensions will not disappear entirely because there are other reasons to set up pensions beyond the tax advantages. The most prominent reasons include the ability to purchase group annuities, to control turnover and retirement through deferred compensation (Gustman and Steinmeier (1995) and Kotlikoff and Wise (1987)), and to sort workers based on unobservable aspects of productivity (Ippolito (1996)).

[15] It is worth noting that the same factors are relevant for the more familiar debate of whether the amounts in pension funds represent "new" saving that would not have otherwise been done if pensions were not available. That debate concerns proposals to extend the availability of tax advantaged saving through the *current* system, rather than through fundamental tax reform.

effect leads to more saving, but the income effect leads to less. Thus, even in the case of households that are actively saving for retirement, a change in the after-tax interest rate when consumption tax treatment is extended to another type of income will have an ambiguous effect on saving.[16]

Next consider workers who report retirement as their reason for saving but who have pensions that do not offer enough of a tax advantage to fully achieve their retirement saving objectives. These workers will be saving additionally outside of the pension to achieve their goals, possibly at the current after-tax rate of return. Given the widespread result that workers covered by pensions have no less wealth *outside* of their pensions than do workers not covered by pensions, this scenario is probably the norm for pension covered workers.[17] Maintaining the assumption that retirement savers experience an increase in the after-tax rate of return (due to the elimination of the cross-subsidy), the income effect will be comparatively large for them and on balance they can be expected to increase their consumption.

The response of target savers will analogously depend on whether their pensions were previously a convenient means of achieving their target, despite their illiquidity. Suppose that a worker was saving primarily for a downpayment on a home purchase or a child's education through a 401(k) plan, intending to borrow against the plan or change jobs to receive the lump sum distribution (net of tax penalties) when the funds were needed. Since the pension met the goal at the lowest possible cost, this worker would not have large balances outside of the 401(k) plan. Fundamental tax reform would cause this saving to be done in a different tax advantaged

[16] Note that this set of effects is similar to that experienced by a worker saving for retirement who did not have access to a pension. The latter worker would experience the effect for the entire change between the pre-tax and after-tax interest rates, however, rather than just the pre-tax return net of the cross-subsidy to the pre-tax return itself.

[17] See Gustman and Steinmeier (1998) for a recent example of such a study and a review of the literature.

account, but the overall level of saving would remain about the same. Since these targets are fairly near-term, there would not be large substitution or income effects, even if these workers were also cross-subsidizing others covered by their plan.

Suppose instead that a target saver found that it was not possible to use a pension plan to achieve the target. This could happen if the pension had no loan provisions or if the target was a buffer stock and the prospect of changing jobs just to receive the balances was not a desired outcome. Such a worker would be voluntarily contributing as little as possible to the pension and saving for the target outside of the plan. In the wake of fundamental tax reform, this worker would consume any pension balances accumulated on his behalf. Because this worker would not be cross-subsidizing any other worker through the plan, he would be in the same position as a worker not covered by a pension in other respects. The shift to consumption tax treatment of saving in liquid accounts introduces substitution and income effects on the entire difference between the pre-tax and after-tax rates of return. Since the buffer stock accumulated in Figure 1 is very insensitive to the rate of return, the income effect is likely to dominate the substitution effect and the worker will consume more immediately and achieve his target with lower saving at the higher interest rate.[18]

Some evidence on the issue of what would happen to pension account balances after fundamental tax reform can be inferred from Chang (1996). She examines the effect of the introduction of the ten percent penalty on lump sum distributions under the Tax Reform Act of 1986 on the probability that households who received distributions "rolled them over" into another retirement account. She finds that rollover rates are fairly insensitive to the tax penalty

[18] It is also possible that the size of the non-precautionary targets expands (i.e., a bigger house or a better college) or that the higher interest rate increases consumption growth to the point where the worker no longer engages in buffer stock behavior.

and attributes the result to the presence of liquidity constraints among low-income households. Although the receipt of a distribution is endogenous in that context,[19] her results do suggest that if workers were given access to their pension funds in liquid form in the aftermath of a consumption tax reform, they would be inclined to spend them rather than continue to save them.

Implications for Tax Reform

An ongoing debate in the literature on saving is whether amounts in pension funds actually represent "new" saving. The analysis in this paper shows that even if this claim is true, it provides an unreliable guide to the likely effects of fundamental tax reform on saving. The critical factor is the heterogeneity in household motives for saving. Some pension balances are clearly the result of extra saving to take advantage of the higher after-tax rate of return by households who cite retirement as their most important reason for saving. But other pension balances are the result of households who don't actively save for retirement being unable to dissave their retirement balances because what little wealth they do hold is earmarked for a down payment on a home, a child's education, or a buffer stock against uncertain income.

When tax reform extends the higher after-tax rate of return to forms of saving other than pensions, the workers at each firm who valued the opportunity to save for retirement at a higher interest rate will no longer need to rely on a pension plan to do it. Because the pension plan imposes costs of both administration and regulation, there will a strong incentive for these savers to take their compensation in the form of higher wages and save the extra pay outside of a pension. While their total saving may not change too much in either direction, the saving that was previously done on behalf of workers who were otherwise target savers will simply not be made up by higher personal saving.

[19] Lump sum distributions are typically received only when an employment relationship ends. The set of workers

This somewhat pessimistic conclusion demonstrates that there is a clear distinction to be made between policies that raise the level of saving and policies that raise the level of economic welfare. While it is true that if the nation's capital stock were increased exogenously or possibly due to lower taxation of capital income (with the revenue recouped in a more efficient manner), the extra capital could be put to use in production and raise the standard of living. That is not exactly what happens when the government offers a tax advantage to pension saving in an income tax system and requires cross-subsidies to target savers. The target savers have other economic goals in mind, and forcing retirement balances on them (possibly at the direct cost of lower wages) is not the way to make them better off. This is especially true if they are liquidity constrained in their consumption decisions.

This distinction does not mean that fundamental tax reform should not be pursued with the goal of raising the level of national saving. It simply cautions that the distribution of pension saving across the population may currently be at odds with individual household objectives. Under the current tax system, both the tax advantage and the illiquidity are important aspects of how much wealth is held in the form of pensions. Tax reform will open up opportunities for households to make themselves better off, possibly by changing their compensation from pension contributions to wages if pensions lose all of their relative tax advantages. The theory and evidence presented in this paper strongly suggest that this will result in a reduction in private saving. This possibility must be weighed against the more traditional predictions from standard life cycle models that suggest that a higher after-tax rate of return will raise saving in the long term.

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who change employers is likely to be less committed to retirement saving than those who continue with an employer.

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Table 1: Household Reasons for Saving, by Age

	Age Category							Any
Reason for Saving	Under 25	25 - 34	35 - 44	45 - 54	55 - 64	Over 65	All	Mention
Retirement	3.62	8.57	15.44	25.38	37.56	17.29	18.28	26.33
Uncertainty	26.57	37.75	32.83	30.78	31.69	37.60	34.07	43.73
Home Purchase	7.02	9.86	4.13	2.43	1.64	0.31	4.03	5.87
Other Housing	3.67	2.14	2.72	2.85	2.52	2.38	2.57	4.76
Transfers to Family	9.36	13.40	15.06	9.92	2.93	3.37	9.48	16.41
Special Purchases	10.04	5.81	5.29	6.12	3.19	6.95	5.87	12.99
Investment/Business	0.69	1.13	1.26	0.04	0.16	0.88	0.78	1.50
Cover Expenses	4.32	3.26	3.53	2.78	4.43	7.86	4.45	6.54
Just a Good Idea	20.35	9.21	8.49	7.97	3.52	8.35	8.51	11.44
Don't/Can't Save	14.35	8.89	11.26	11.73	12.36	15.02	11.97	12.52
Population Share	5.22	20.63	23.17	16.48	12.77	21.74	100.00	

Source: Author's calculations from the Survey of Consumer Finances, 1992

Notes:

1) Question is: "What are your (family's) most important reasons for saving?"

2) Total Population is 95.92 million households.

Table 2: Reasons for Saving, by Expected Retirement Income Adequacy

	Expected Retirement Income Adequacy					
Sample Saving Reason	Totally Inadequate	Inadequate	Enough to Maintain	Satisfactory	Very Satisfactory	Total
Working Households						
Retirement	15.90	21.03	24.48	17.13	26.90	20.45
Uncertainty	34.01	37.31	33.61	29.71	31.06	34.05
Population Share	38.70	16.65	33.79	4.03	6.83	
Pension Coverage (55.14%)						
Retirement	20.00	24.90	28.85	23.11	32.50	25.47
Uncertainty	38.13	34.96	34.05	32.16	29.51	34.98
Population Share	30.81	16.52	38.96	5.35	8.37	
No Coverage (44.86%)						
Retirement	12.69	16.35	16.84	0.87	15.24	14.28
Uncertainty	30.79	40.16	32.85	23.04	34.27	32.92
Population Share	48.40	16.81	27.43	2.42	4.94	

Source: Author's calculations from the Survey of Consumer Finances, 1992

Question is: "How would you rate the retirement income you (expect to) receive from Social Security and job pensions?"

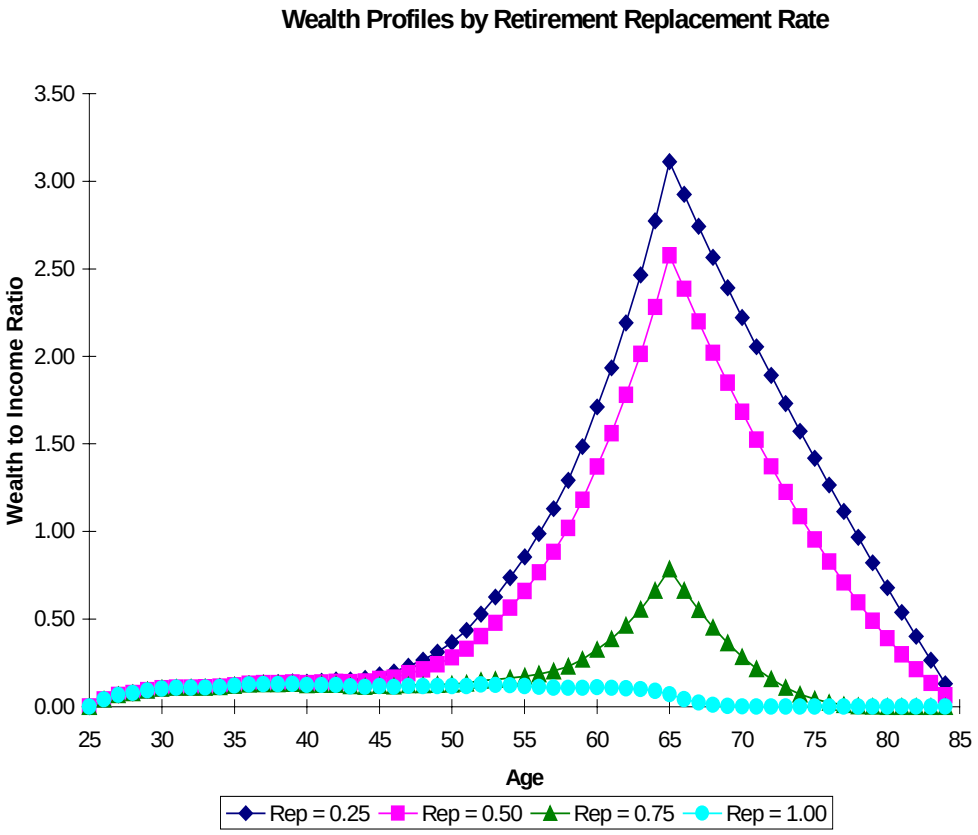
Table 3: Reasons for Saving, by Financial Planning Horizon

	Most Important Time Period for Financial Planning					
Sample Saving Reason	Next Few Months	Next Year	Next Few Years	Next 5 - 10 Years	Over 10 Years	Total
Working Households						
Retirement	5.63	13.68	19.49	29.20	31.74	20.49
Uncertainty	35.86	39.65	36.91	29.23	30.96	34.12
Population Share	20.27	12.63	25.05	24.14	17.90	
Pension Coverage (55.14%)						
Retirement	8.35	17.07	22.64	34.53	34.80	25.50
Uncertainty	39.46	47.23	39.30	27.05	30.02	35.01
Population Share	15.51	11.34	25.64	26.96	20.56	
No Coverage (44.86%)						
Retirement	3.62	10.36	15.41	20.63	26.47	14.33
Uncertainty	33.20	32.24	33.82	32.76	32.56	33.03
Population Share	26.11	14.23	24.33	20.68	14.64	

Source: Author's calculations from the Survey of Consumer Finances, 1992

Question is: "In planning your (family's) saving and spending, which of the time periods listed on this page is most important to you (and your [husband/wife/partner])?"

Figure 1


Wealth Profiles by Retirement Replacement Rate
Wealth to Income Ratio
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
25
30
35
40
45
50
55
60
65
70
75
80
85
Age
Rep = 0.25
Rep = 0.50
Rep = 0.75
Rep = 1.00