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Consumption Taxes and the Level and Composition of Saving

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Summary

Many proposals for tax reform would shift the base of taxation from income to consumption. Two arguments for a consumption tax are frequently made. One, a consumption tax is argued to encourage saving, at least more so than the current income tax. And two, a consumption tax is often considered a more efficient means of tax collection. In this paper, the merits of these arguments are analyzed. To accomplish this, the present income tax is compared to a generic consumption tax.

By definition, a consumption tax does not include non-consumed accretions to wealth in the tax base. Hypothetically, each individual has a savings account where unspent income accumulates. Over the course of the year, all net gains to the account are deducted from wage earnings and net losses to the account added. The resulting total is the individual's consumption and represents the taxable base. The appropriate tax rate is then applied to the derived annual consumption. All saving is in effect free from taxation.

However, the added saving incentive (or lack of disincentive) implicit in a move to a consumption tax may not be as large or effective as anticipated; the current tax code already favors saving through a variety of income tax advantages for non-consumption. Further, to the extent a consumption tax does ease the tax burden on saving, evidence is ambiguous on the magnitude of response that would occur. Thus, a shift from the current income tax to a consumption tax may not produce as large a gain in saving as some theorists suggest. It would, however, likely result in a reallocation of existing saving among different saving vehicles. The purpose of this report is to explore the current tax treatment of non-consumed income and to analyze the likely effect on saving, specifically retirement saving, of adopting a consumption tax.

Contents

Saving Under Current Tax Laws Compared to a Consumption Tax	2
Social Security	4
Tax-Favored Employer-Sponsored Pensions	4
Defined Benefit Pension Plans	5
Defined Contribution Pension Plans	6
Tax-Favored Personal Saving	7
Individual Retirement Accounts (IRAs)	7
Life Insurance	9
Owner Occupied Housing	9
Taxed Personal Saving	10
Equities	10
Financial Intermediary Instruments	10
Direct Business Investment	11
Summary	11
Saving Literature Review	12
Tax Reform and Saving Literature	12
Specific Saving Vehicle Literature	14
IRAs	14
401(k)s	15
National Saving Literature	16
The Evidence in Sum	17
Conclusion	17
References	19

Consumption Taxes and the Level and Composition of Saving

This report examines how the composition of saving might change with the introduction of a consumption tax. Specifically, the report analyzes the possible impact of a consumption based tax system on various forms and levels of saving¹.

In 1999, annual personal saving in the United States was 2.2 percent of disposable personal income, much lower than in other developed economies.² Another measure of saving, gross saving as a percent of gross national product, averaged 17.1% over the 1990's (1990 to 1999), a significant decline from 20.9% in the 1960's (1960 to 1969).³ The cause of the relatively low saving rate is a frequent topic of study for economists as well as policy makers. Many economists suggest that the design of our tax code alters the saving decision, perhaps partially explaining the relatively low saving balances. In response, policy makers have introduced legislation in several recent congresses which taxes consumption instead of income hoping to encourage more saving as well as improve economic efficiency.⁴ Logically, if individuals can either consume or save and consumption is taxed and saving not, then saving should increase and consumption decline under a consumption tax.

Several forms of consumption taxes, which are thought to encourage saving, have been proposed in past years. Three prominent proposals in previous sessions include the Nunn-Domenici USA Tax (104th Congress, S. 722), the Armev Flat Tax (106th Congress, H.R. 1040) and the Tauzin retail sales tax (106th Congress, H.R. 2001). This trend may well continue through the 107th Congress. A review of tax reform legislation in the 106th Congress can be found in CRS Issue Brief IB10013 *Major Tax Issues in the 106th Congress: A Summary*. The stylized consumption tax analyzed for this report can be modified to resemble any of the above proposals.

¹For a textbook comparison of the consumption tax to the income tax, see: Musgrave, Richard A., and Peggy B. Musgrave. *Public Finance in Theory and Practice*. Fifth Edition. New York, McGraw-Hill, Inc., 1989. p. 224-226.

²Department of Commerce, Bureau of Economic Analysis. NIPA basis for aggregate savings which reports the difference between disposable personal income and expenditures.

³For an overview of the various measures of saving, see CRS Report 98-580E, *Saving in the United States: Why Is It Important and How Has It Changed?*, by Brian W. Cashell and Gail Makinen.

⁴For a detailed taxonomy of the theoretical variations of the consumption tax, see CRS Report 95-1141E, *The Flat Tax and Other Proposals: Who Will Bear the Tax Burden.*, by Jane G. Gravelle, and CRS Issue Brief IB95060, *Flat Tax Proposals and Fundamental Tax Reform: An Overview*, by James M. Bickley.

However, the added saving incentive (or lack of disincentive) implicit in a move to a consumption tax may not be as large or effective as thought; the current tax code already favors saving through a variety of income tax advantages for non-consumption. Further, to the extent a consumption tax does ease the tax burden on saving, evidence is ambiguous on the magnitude of response that would occur. A consumption tax, however, likely would result in a reallocation of existing saving among different saving vehicles. The purpose of this report is to explore the current tax treatment of non-consumed income and to analyze the likely effect on saving, specifically retirement saving, of adopting a consumption tax.

The first section describes the current tax treatment of various saving vehicles and analyzes the effect on particular saving instruments when moving to a typical consumption tax. The second section reviews the current literature addressing the effectiveness of saving incentives. And the last section offers some concluding comments.

Saving Under Current Tax Laws Compared to a Consumption Tax

The present federal tax structure has two basic vehicles for revenue collection: a payroll tax and an income tax. A first step in understanding the preferences for each saving vehicle is to identify the location along the income and expenditure cycle where the tax preference is applied. The payroll tax is applied at the earliest stage, when wages are paid, and the employer and employee each pay an equal share. Here, deferred compensation, such as employer contributions to a pension plan, are not included in wages and thus are not subject to the *payroll* tax.⁵ This is the first tax preference for long term saving. The remainder of the paycheck (including the employee's share of the payroll tax) is considered taxable income for the *income* tax. Some wages paid after the payroll tax can, however, avoid the income tax.

Income, as typically defined in economics, includes all accretions to wealth over the tax year and as such includes capital income as well as wage income. The second tax preference appears at this stage. The "inside build-up" arising from investments in certain tax favored retirement accounts (including IRAs) generally are not included in the income tax base. Alternatively, most investments in liquid, non-retirement vehicles do not enjoy such treatment and are subject to the income tax. The third tax preference arises from the tax deferral of some deposits into retirement accounts. All else equal, rational taxpayers prefer to pay taxes later rather than sooner. The simplest example is an IRA where up to \$2,000 (single filer) may be deductible and thus not subject to the income tax. For an individuals in the higher marginal income tax brackets, this advantage translates into a significant tax saving. When the funds are withdrawn at retirement the income tax is applied, usually when the taxpayer resides in a lower marginal tax bracket. A variation of this advantage is the back-

⁵Assuming that the retirement plan qualifies for such treatment. While 401(k) salary deferrals are thought to be "elective employer contributions," these amounts are subject to the payroll tax.

loaded "Roth IRA" where, instead of deposits being income tax free, withdrawals are income tax free.

Summarizing, the current tax code has three primary tax preferences for saving: payroll tax exemption, tax free "inside build-up", and tax deferral on funds deposited until savings are received.⁶ The tax preferences generally apply to long term saving rather than short term saving—for example, to pensions and not bank deposits—and accordingly the next section focuses primarily on long term saving instruments.⁷

Moving to a consumption tax would have two countervailing effects. The removal of the disincentive on short term saving (e.g., time deposits such as certificates of deposit) will appear as an increase in future income (the rate of return is now higher given interest earnings are not taxed) and individuals may respond to the tax cut with increased consumption today and lower saving. In other words, less needs to be saved today to meet future expenditure targets. Conversely, the consumption tax will also raise the price of current consumption and lower the price of future consumption (saving). Taxpayers may sacrifice current consumption for future consumption which is now less expensive. This move away from current consumption would counter the income generated push for greater consumption today. Which effect dominates dictates what happens to overall savings.⁸ Some observers believe that retirement saving, or more generally long term saving, will decline and short term saving increase as short term investments gain tax equivalency.

Another layer of analysis might explore the generational effects of the two principal forms of a consumption tax.⁹ A wage tax and a retail consumption tax are theoretically identical for the young. The same level of revenue can be raised through collecting a fixed percentage of wage payments or a fixed percentage of consumption expenditures, the only difference being the rate of taxation. The consumption base is smaller thus the fixed percentage would have to be higher to raise the same level of revenue.

Assuming there are two types of taxpayers, older and younger, where the older generation is dissaving and the younger saving, the type of tax will have differential effects on these cohorts. A retail consumption tax would increase the burden on the older Americans who are dissaving and the younger generation would enjoy a relatively lower tax burden. A wage tax would have the opposite effect where older Americans, assumed to be living off of accumulated wealth, would recognize a tax reduction to be paid for by the younger cohort. Thus, underlying the analysis is the potential for differential distributional effects generated by the style of consumption

⁶See: Samwick, Andrew A. *Tax Reform and Target Saving*. NBER working paper 6640. July 1998. He recognizes the same tax preferences. Tax-free refers to the fact that annual gains to the fund are not taxed.

⁷In addition to providing different tax consequences, short and long term saving are motivated by different objectives.

⁸Economists refer to these effects as the income and substitution effects respectively.

⁹Another aspect is the overall objective of the tax reform. We assume throughout this report that the tax change is revenue neutral.

tax chosen. For ease of exposition, this paper assumes taxpayers do not change their consumption patterns over the life-cycle.

Following is a more detailed review of savings vehicles categorized by their tax treatment. The current tax preference (if any) of the vehicle is described then the anticipated effect of a consumption tax on the vehicle is discussed. Theoretically, assets in vehicles previously tax advantaged will shift to vehicles now on equal footing in the tax code. The list is by no means comprehensive.

Social Security

Social Security is perhaps the most commonly known source of retirement savings. Social Security is funded by the payroll tax where almost every working American contributes 7.65% of their salary before income taxes to the Social Security trust fund. The 7.65% is composed of 6.2% for Old Age and Survivors Disability Insurance (OASDI) retirement up to adjusted gross income of \$72,600 (1999 tax year) and 1.45% for medicare (HI) which applies to all wages regardless of income. Employers match the employee contributions. Calendar year 1998 payroll tax contributions to the OASDI portion of the Social Security trust fund were approximately \$430 billion and the HI portion collected \$124 billion.¹⁰

Social Security benefits are often not taxed. However, higher income individuals gradually lose tax free status of their Social Security benefit disbursements. The current tax code favors Social Security savings; however, the return is lower than most other retirement vehicles even considering the privileged tax status. If payroll tax funding for Social Security remained under a consumption tax, balances in the Social Security trust fund would become partially dependent upon the employers choice of employee compensation. Without the ability to predict employer trade-offs between deferred compensation and wage compensation, the net impact on the Social Security trust fund are difficult to project.

Tax-Favored Employer-Sponsored Pensions¹¹

Employer-sponsored pensions do not cover as many participants as the nearly universal Social Security system, though a majority of working adults have some type of retirement benefit other than Social Security.¹² These plans usually enjoy all of the tax preferences outlined earlier. However, to maintain their tax preferred status most employer sponsored pensions are subject to nondiscrimination regulations to ensure that highly compensated employees are not disproportionately favored in the pension

¹⁰U.S. Social Security Administration Board of Trustees, 1999 Annual Report.

¹¹For an extensive review of the structure of various plans, see: Library of Congress. Congressional Research Service. *Retirement Plans with Individual Accounts: Federal Rules and Limits*. Report No. 98-171 EPW, by James R. Storey and Paul Graney.

¹²Social Security covered approximately 141 million workers in 1995. About 56% of full and part-time workers participated in some type of retirement other than or in addition to Social Security in 1993-1994. Source: *EBRI Databook on Employee Benefits*, 4th Edition. Washington, DC: Employee Benefits Research Institute, 1997.

program. Some plan types, usually for small businesses, need not comply with nondiscrimination regulations. Nevertheless, to maintain tax preferred status most plans generally must satisfy the coverage and nondiscrimination tests.¹³

Defined Benefit Pension Plans. Defined benefit pensions provide a target income for the employee's retirement. Often these plans are integrated with Social Security to provide a given retirement package that meets a target income. Both employer and employee contributions are deductible within limits. The limit on deductible contributions are calculated based upon the future benefit distributions. Generally, to remain tax favored, the annual indexed retirement *benefit* cannot exceed 100% of the participant's average compensation over the three highest consecutive years of compensation. In addition to the benefit limitation, the computed average annual compensation cannot exceed the indexed dollar amount of \$130,000 for limitations ending in 1999. If the caps are binding on an individual, the benefit package is often augmented by another, non-tax favored retirement arrangement.

For almost all defined benefit pension plans, full vesting must occur within five years of continuous employment or seven years under graded vesting. The vesting requirement is designed to keep the employee with the company long enough to cover much of the firm's initial human capital expenditures. If a substantial portion of retirement earnings are held contingent upon remaining with the firm for the vesting period, then the firm can potentially recover some of the training and hiring costs invested in the employee. However, the same objective could be achieved without holding retirement contributions until employees are vested. Lump sum payments after a benchmark number of years of employment are arguably a more efficient method of remuneration for loyalty.

The present income tax favors retirement fund vesting over the lump sum design through the deductibility of annual pension contributions and the exemption from payroll taxes. For example, assume that Company X contributes 5% of an employee's salary to a defined benefit pension for five years at which time the employee becomes fully vested.¹⁴ If the employee were to leave before becoming vested, the funds residing in the pension fund remain in the pension trust. The present five year limit on cliff vesting allows Company X to effectively shelter (avoiding taxation) earnings in retirement plans for up to five years. Alternatively, a lump sum distribution under the current income tax is less desirable from the firm's perspective given the inability to shelter periodic contributions, as is the case with pension contributions.

A consumption tax would treat loyalty incentives more equally, reducing the advantage of deferred compensation, although, the existence of the payroll tax would still discourage the lump sum apparatus and favor the deferred compensation

¹³The Minimum Participation Test, which does not apply (since 1997) to defined contribution plans, requires that at least 50 employees participate in the defined benefit plan. If a small employer, then the greater of 40% of employees or two employees must participate.

¹⁴Referred to as 'cliff vesting,' which implies that 100% vesting occurs at one point in time as opposed to gradual increments.

retirement vehicle. However, the diminution of the tax advantage may induce a shift from retirement pensions to lump sum distributions.¹⁵

Another complication affecting the defined benefit pension system when shifting to a consumption tax is the effect on the insurance agency overseeing defined benefit pension plans. In response to the expected decline of new participant enrollment, the Pension Benefit Guarantee Corporation (PBGC) may need to increase premiums to compensate for funding shortfalls. The increase in administrative costs of maintaining the benefit plan would further discourage this style of compensation.

In summary, focusing on employer behavior, a shift from the present income tax to a consumption tax could lead to lower retirement savings in general as employer defined benefit pension contributions are no longer as tax advantaged. Without the impetus of employer contributions and incentives, employees with more saving flexibility may not choose the same level and time profile of saving that currently characterizes defined benefit pensions.

Defined Contribution Pension Plans. For these plans, the most common of which are referred to as 401(k) and 403(b) plans, employer contributions up to the statutory limit of \$10,000 are deductible business expenses and the total contribution, including the employees share, is limited to the lower of 25% of pay or \$30,000 annually. Employees defer taxes on accumulated interest and principal until funds are withdrawn after age 59½. Early withdrawals are assessed a 10% excise tax unless the participant has died, become disabled, taken an early retirement after age 55, or incurred excessive medical expenses. Transfers to other tax deferred retirement accounts may also be exempt from the excise tax.

The 401(k) and 403(b) plans' popularity stems from the comprehensive tax advantage and the shift of potential investment risk (and return) from the employer to the employee. Under the consumption tax, if pension contributions are included in the tax base (as in the USA Tax), employers and employees will no longer enjoy the tax advantages of contributing to 401(k) plans and as such employees will likely opt for direct wage compensation.¹⁶ The impact on saving will depend upon how individuals choose to spend the additional income.

If the pension plan were inducing saving beyond the employee's target, the income effect would dominate and saving would decline. On the other hand, if the employee would save more if not for the strictures on 401(k) balances, then removing the liquidity constraints may induce greater saving, albeit possibly short term saving.¹⁷

¹⁵Another factor is the administrative cost of retirement plans. Assuming lump sum plans are not subject to the Pension Benefit Guarantee Corporation (PBGC) premium and non-discrimination rules, they may be less expensive to administer. The PBGC is analogous to the Federal Deposit Insurance Corporation (FDIC) which insures bank deposits.

¹⁶If pension contributions are still exempt from the payroll tax, they would still be favored over wage payments. Consumption tax proposals are mixed in their treatment of the payroll tax. Flat taxes and value added taxes generally leave the payroll tax intact.

¹⁷Though not explored in depth, another factor to consider is the role of anti-discrimination (continued...)

In summary, employer sponsored defined contribution plans will more than likely decline in popularity with a consumption tax. Wages and pensions (deferred compensation) under the consumption tax are treated much more equally than under the present income tax. If the equality is extended through the elimination of the payroll tax, the dampening effect on defined contribution plans is even more extreme. With both defined benefit and defined contribution plans, the typical consumption tax eliminates all pecuniary incentives for employer sponsored pension plans. As such, the likely effect on this style of 'forced' saving when moving from the current income tax to a consumption tax would be to reduce long term saving. However, the reallocation from employer sponsored plans to those initiated by the employee would partially compensate for the impact on employer sponsored plans.

Tax-Favored Personal Saving

Tax-favored personal savings gain their advantage through their deferral of income taxes and on their tax free inside build-up. The deferral can have an added benefit for those who avoid taxes while still in the higher tax bracket and pay taxes on deferred income when they enter a lower tax bracket. In contrast to the employer contributions to employee pensions, contributions to personal accounts are subject to the payroll tax (i.e., are not deductible) and amounts above statutory limits are included in the income tax base. The following section focuses on the income tax treatment rather than the overall tax liability incorporated into the return of the asset.

Individual Retirement Accounts (IRAs). Funds designated as an IRA account are typically invested through banks, mutual funds, or securities firms.¹⁸ These plans are not salary deferral plans and as such, employers have little direct influence on the amount held in these accounts. Individuals with wage income can contribute up to \$2,000 per year in an account before income taxes prior to reaching the age 70 ½. However, there is an income cap for full deductibility for those with an employer plan. To maintain full deductibility from gross income, the maximum Adjusted Gross Income (AGI) in 2001 for a single filer is \$33,000 and for those filing jointly, \$53,000.¹⁹ Without the deductibility from income taxes, the sole advantage of the IRA is the tax deferral of accumulated earnings until distribution after the age of 59 ½. Most early withdrawals are assessed a 10% penalty.

A variation of the above account is the "Roth IRA." A Roth IRA allows for after tax contributions which grow without any future tax liability like a tax exempt

¹⁷(...continued)

laws presently in the tax code. Generally, retirement plans must follow guidelines that ensure lower income workers are offered similar retirement benefits of the higher income workers. To achieve equality between low and high income workers, employers will often induce the low income employees to contribute to a retirement plan. Replacing the current income tax with a consumption tax would remove the low-income worker forced saving.

¹⁸According to the Investment Company Institute (1998, Table 4), in 1997, 42% of IRA's were in mutual funds, 38% in brokerages, 13% in banks, and 7% in life insurance companies.

¹⁹The deductibility phase out is complete when income for a single filer reaches \$43,000 and \$63,000 for joint filers. The range of values increases until 2005 for single filers and through 2007 for joint filers.

bond. The annual contribution limit is the same as the standard IRA, \$2,000, but unlike the traditional IRA, contributions are allowed after age 70 ½. Also, the income phase out of deductibility is set much higher for the Roth IRAs. For single filers, the phase out begins at an AGI of \$95,000 and is complete at \$110,000. The phase out range for joint filers is AGI of \$150,000 through \$160,000. Distributions are tax free if the account is held for at least five years and the individual is over age 59 ½. If those conditions are not met, early withdrawals of funds not previously taxed are included in gross income and assessed a 10% penalty. However, withdrawals are treated as coming first from taxed contributions. Younger investors in lower marginal tax brackets would benefit the most from Roth IRA contributions.

Under a consumption tax, one could think of all saving as an IRA without a limit except that you could not use existing assets to finance contributions. To analyze the effect of a switch to a consumption tax on the level of assets in IRAs, it is informative to subdivide savers into two types: those saving at the IRA limit and those not saving at the IRA limit. For those at the limit, it is reasonable to assume that they have additional assets beyond the IRA. More than likely, those additional assets are not receiving the tax-favored treatment inherent in IRAs. However, in return for lack of tax advantage, these assets are often more liquid and may have an after tax return relatively close to the IRA. The change to a consumption tax will then bestow the tax preference upon these assets which were previously not tax favored, which in turn induces a shift from IRAs to these accounts. One might then expect limit savers to abandon IRAs for the now more lucrative liquid assets.

The savers that have not reached the annual IRA limit probably do not have significant discretionary saving beyond the IRA. Nevertheless, they are also likely to switch to accounts that exhibit greater flexibility and rates of return, although, the transition may not be as seamless as for those with other taxable saving accounts already in place. Whether the entire IRA balance is shifted is dependent upon the countervailing income and substitution effects alluded to earlier. These savers will be induced to save more if IRA illiquidity were the predominant reason for saving less than the limit. The increased liquidity of saving in general would appear to these savers as an increase in the attractiveness of saving. However, if they are saving for a target, the income effect would dominate and saving would decrease as the rate of return has increased.

In summary, with the limit on deductibility for IRAs removed, those that are presently contributing the maximum amount will likely save in different accounts. Those that are not contributing at the limit may save less as the income effect dominates for target savers. Engen, Gale, and Scholz (1994) calculate that only 5.7% of all IRA contributors were 'falsely constrained' by the contribution limit.²⁰ This finding indicates that those who would react the removal of the limit are in the significant minority of IRA savers.

²⁰Falsely constrained meaning that they would have contributed more if not for the contribution limit. For more information, see: Engen, Eric M., William G. Gale, and John Carl Scholz. *Do Saving Incentives Work? Brookings Papers on Economic Activity*. Number 1, 1994, p. 136. Data are from the mid 1980s.

Life Insurance. Life insurance policies are free from taxation of the “inside buildup.” Also, employers are allowed to deduct life insurance premiums if the business is not a direct or indirect beneficiary. Though relatively insignificant in terms of total assets invested, this form of saving does benefit from the current income tax rules. A consumption tax would expand the deductibility of contributions though other saving instruments with greater flexibility and would compete for assets previously held in life insurance.

Owner Occupied Housing. The primary income tax advantage of owner occupied housing is the absence of a tax on imputed rental income. That is, occupiers of their own home do not pay tax on the stream of residential services the home, in effect, provides. A comprehensive income tax would include such income. The best way to exhibit this is through an example. First assume two individuals purchase homes next to each other. If they trade places and rent to one another then they both would claim their rental income as regular income.²¹ The absence of a tax on the imputed rental income creates an advantage for owner occupied housing over other types of investment.

There are two other tax preferences for housing relative to other consumer goods often cited (albeit for itemizers): income tax exemption for mortgage interest payments and a deduction for local property taxes paid. Another advantage of housing investment is the ability to exclude capital gains taxes on sales. Gains from home sales (after May 6, 1997) are not included in taxable income (capped at \$250,000 for single filers and \$500,000 for joint filers). The strongest condition for receiving this tax break is that the taxpayer must have lived in the old house for at least 2 of the 5 years before the sale to exclude the capital gain. Home ownership is clearly a strongly favored asset under the current income tax.

With a consumption tax where taxes are paid when funds are removed from a saving account, the effect on housing stock is uncertain. The financing and prices of homes, however, will adjust. Home purchases can be financed with either debt or equity. Drawing down financial assets to purchase a home with equity becomes expensive because the consumption tax will apply to net changes in the savings account balance. Buying a house with debt, on the other hand, becomes relatively more lucrative. Paying off the mortgage appears as a net gain to the saving account and can lower tax liability. Many may even refinance homes to take advantage of this tax preference. As for the price of housing, Capozza, Green, and Hendershott suggest that the price of housing will decline as the previous tax advantages, including the mortgage interest and property tax deductions, are eliminated.²² Indeed, with lower prices, long term adjustments may include a decline in the stock of housing or a slower growth than would have taken place under the present tax system.

²¹Indeed, one could make the argument that all consumer durables are tax favored. Although true, homes represent a much larger expenditure and are most often considered assets.

²²See: Capozza, Dennis R., Richard K. Green, and Patric H. Hendershott. *Taxes, Mortgage Borrowing, and Residential Land Prices*. In Aaron, Henry J. and William Gale, eds. *Economic Effects of Fundamental Tax Reform*. First Edition, 1996. The Brookings Institution, p. 196. They estimate that prices will fall by approximately 10%.

Taxed Personal Saving

The current income tax does not have any provisions that favor the following types of investments. However, the capital gains tax that applies to them in some cases has been gradually reduced thus decreasing the tax liability over time.

Equities. Corporate equities have perhaps the least favorable income tax treatment. Corporations are taxed on net income and thus indirectly so are the shareholders. In addition, dividend payments and realized capital gains that occur throughout the year are taxed again through the individual income tax. The double taxation of shareholder's investment in corporations discourages this type of saving. However, the potential return of equity investments has been significantly greater over the long term than other investment options.

Investment in equities by individuals, directly or through mutual funds, may become more popular under a consumption tax. In theory, however, equity prices under a flat tax style consumption tax would decline in value. Generally, new capital investment is immediately expensed under the flat tax which raises the effective rate of return of new capital relative to old capital. Thus, existing equity prices of firms with old capital should drop to compensate for this lower relative return.

In addition, pension funds which currently hold a mix of equities, bonds and cash, may shift away from equities into less volatile assets such as bonds to reflect the generally risk averse nature of individuals. Presently, pension managers design pension plans with long term growth objectives in mind which on most accounts includes a significant share of assets held in equities. When individuals have a greater role in asset allocation decisions, it is uncertain whether they will choose the same profile of assets. Possibly, risk averse individuals will choose less volatile asset mixes which could possibly imply a smaller share of equities.

The increase in demand for direct ownership of equities resulting from their new found tax preference may be accompanied by a drop in demand for equities as short term saving arrangements with less volatility become more prevalent and equity prices in general decline. In short, it is difficult to predict which effect will prevail.

Financial Intermediary Instruments. Short term saving accounts such as certificates of deposit (C.D.'s), traditional passbook savings accounts, and retail non-retirement mutual fund accounts, generally do not possess any income tax advantages.²³ The liquidity offered by these savings vehicles explains much of their popularity. If the relative tax disadvantage of short term savings accounts were eliminated, the level of saving in these accounts would almost surely increase under a consumption tax. Assets held in these accounts will clearly expand as their tax disadvantage vanishes with the consumption tax. However, the additional funds in these accounts may not represent new saving, rather a shift from previously tax advantaged accounts, such as IRAs and other retirement accounts.

²³However, many mutual fund families have tax advantaged funds that invest in income tax free municipal debt.

Direct Business Investment. Capital investment by a small business is in a sense saving. Entrepreneurs invest with the hopes that the business will earn a rate of return that exceeds that of other potential investments. The tax code does little to encourage such investment other than immediate expensing for capital expenditures by small businesses and accelerated depreciation deductions. For tax year 2001, \$24,000 of business investment in qualified property (generally equipment) is considered a business expense, which is essentially consumption tax treatment. This limit rises to \$25,000 in 2003 and is available only to qualified small businesses. Once \$200,000 worth of qualified property is put in place, the provision is gradually phased out.

If all business investment were to qualify as saving under a proposed consumption tax (the USA tax, for example), assets held in business investments should theoretically increase. A consumption tax would appear to encourage new investment as capital purchases are immediately deductible, without limits. Under our present income tax, the deductibility is roughly stretched over the life of the investment through depreciation. Thus, there could be an increase in new business investment when moving to a consumption tax given the front loaded deductibility.²⁴ Economic theory would also predict the consumption tax to encourage capital investment over labor. Thus, saving in the form of business investment eligible for expensing would likely increase under a consumption tax.

Summary

The current tax code clearly favors some types of saving over others. Most economists would suggest that the variety of saving instruments available has complicated the tax code and created distortions in taxpayer behavior. One could argue that current tax provisions serve to encourage those who would not save for retirement to do so. Others contend that inducing individuals to move into illiquid retirement saving may not necessarily be desirable.

There are two general points to keep in mind. One, the relative tax treatment of various saving vehicles would change under a consumption tax. Therefore, the distribution of saving would also change. And two, since some saving is already tax favored, its relative treatment may not be greatly improved by any of the contemplated changes.

Following is a review of current literature addressing the individual's saving decision. Generally, there are *macroeconomic* issues such as the national saving rate and *microeconomic* issues such as individual choice of saving instrument. Tax reform which introduces some variant of a consumption tax has implications for both branches of research.

²⁴Somewhat paradoxically, existing capital owners may not fare as well. Thus, capital intensive industries may not initially benefit from a move to a consumption tax.

Saving Literature Review

The purpose of this literature review is to explore the effect on saving when moving from the current income tax to a stylized consumption tax. Certainly the answer is dependent upon how individuals respond to a change in the relative price of saving, especially retirement saving. Much of the existing literature on retirement saving has focused primarily on the affect on saving of some external change in the tax rules affecting a particular saving incentive. Others have explored a more general question, that is, what happens to saving when the rate of return changes. Both branches of the literature are relevant to the analysis of a consumption tax where all saving vehicles are treated equally. Though not addressing precisely the same question, previous literature can still be used successfully as a guidepost for explaining what might happen when a consumption tax is introduced.

Tax Reform and Saving Literature

Recently, academic interest in retirement saving under a consumption tax has intensified. Research by Christopher D. Carroll and Andrew A. Samwick introduced an expanded life cycle model to explain the potential effects on saving when moving to a consumption based tax.²⁵ The basic life-cycle model is motivated by the observation that individuals have a lifetime earnings profile that begins relatively low, rises to a peak around mid-life, then declines after retirement. Consumption, on the other hand, is relatively constant over time, perhaps growing gradually as one ages. Thus, to maintain constant consumption throughout retirement, individuals should save for retirement during their peak earnings years.

In Carroll and Samwick's expanded specification, saving can also be motivated by the desire to hold a 'buffer-stock' of saving or precautionary balances.²⁶ The inclusion of precautionary balances, which are relatively insensitive to changes in interest rates, reduces the overall sensitivity of saving to changes in the rate of return. An increase in the rate of return of saving, be it through more favorable tax treatment or changes in market conditions, thus does not have the same impact on the level of saving as would be the case in the absence of buffer stock saving. The higher return allows for the same future balances to be achieved with smaller annual contributions. According to Samwick, switching to a consumption tax, which increases the rate of return of all saving, would then not increase saving as significantly as some have

²⁵Carroll, Christopher. Buffer-Stock Saving and the Life Cycle/Permanent Income Hypothesis. *Quarterly Journal of Economics*. vol. 112, no. 448. February 1997; Engen, Eric M., William G. Gale, and John Carl Scholz. Do Saving Incentives Work? *Brookings Papers on Economic Activity*. Number 1, 1994; and Carroll, Christopher D. and Andrew A. Samwick. How Important Is Precautionary Saving? *Review of Economics and Statistics*. vol. 80, no. 3. August 1998. pp. 410-419, have all explored precautionary balances or 'buffer stock' saving.

²⁶The amount held as a buffer is some target portion of permanent income.

suggested. Samwick concludes that "the theory and evidence presented in this paper strongly suggest that this [tax reform] will result in a reduction in private saving."²⁷

The inclusion of precautionary balances, or as some suggest, income uncertainty, is not altogether new. Engen and Gale refer to previous analysis noting that:

the effects of consumption taxes within a stochastic life-cycle model [a model that includes, for example, uncertainty about future income, unemployment, disability or illness] yields increases in saving that are as much as 80 percent smaller than those produced by a certainty life-cycle model.²⁸

The analysis of Samwick agrees in principle with the proposition that the saving sensitivity to the rate of return is not as strong as the life-cycle hypothesis would suggest.²⁹ To that end, Engen, Gravelle, and Smetters compare estimates of the saving response to a change in the rate of return which accompanies consumption tax reform.³⁰ Two of the dynamic tax models examined are based on the life-cycle hypothesis; one with precautionary saving, the other without. The inclusion of precautionary balances or earnings uncertainty "...yields gains in savings and output that are only half the size of the gains when uncertainty is turned off."³¹ The analysis of Samwick and the finding of Engen, Gravelle, and Smetters serve as evidence that the change in saving under a consumption tax is dependent upon how interchangeable long term saving is with precautionary saving.

It is then not surprising that a consistent theme throughout the saving incentive debate is whether or not the funds flowing into tax preferred accounts represent new saving. On the one hand, if growth in the tax preferred accounts is new saving then the incentive is effective. On the other hand, if the funds are simply transferred from other saving accounts then the incentive simply benefits those who are already saving.³² Further, if the tax expenditure were funded through public debt, the saving incentive may actually reduce national saving by way of reduced federal tax revenues.

²⁷See: Samwick, Andrew A. *Tax Reform and Target Saving*. NBER working paper 6640. July 1998, p. 19.

²⁸See: Engen, Eric M., William G. Gale, and John Carl Scholz. The Illusory Effects of Saving Incentives on Saving. *Journal of Economic Perspectives*. vol. 10, no. 4. Fall 1996, p. 94.

²⁹See: Samwick, Andrew A. *Tax Reform and Target Saving*. NBER working paper 6640. July 1998.

³⁰See: Engen, Eric, Jane Gravelle, and Kent Smetters. Dynamic Tax Models: Why They Do the Things They Do. *National Tax Journal*. vol. L, no. 3. September 1997, 657-682.

³¹*Ibid.*, p. 678.

³²If the profile of current savers is reviewed, one finds that the wealth of those that save is significantly higher than those who do not save, a fact consistent with the argument that saving is a 'normal good'. The tax break is then enjoyed by those that are relatively well off, which would tend to flatten the progressivity of the income tax.

Specific Saving Vehicle Literature

The two saving vehicles most commonly studied to identify the saving response to tax changes are the IRA and the 401(k). These saving devices are differentiated in mechanics as well as participation profile. IRAs are personalized, retirement accounts where the employer has little if any direct role in contributions. 401(k)s, on the other hand, are contingent upon employer sponsorship and thus are influenced directly by employer behavior. As for who participates, Hubbard and Skinner (1996) note that: "Households who contribute to IRA accounts tend to be wealthier, older and have higher incomes than those who do not."³³

The literature reviewed below is structured to reflect the prominent role the tax treatment of IRAs and 401(k)s have had in explaining what happens to savings when the price of doing so changes. Both sides of the debate present rather vigorous arguments to support their views.

IRAs. Venti and Wise assume that individuals choose between three avenues for their income: tax preferred saving (IRAs), regular saving, and consumption. If tax preferred saving is not a perfect substitute for regular saving, then the introduction of a saving incentive (an IRA) will necessarily be funded partially from a reduction in consumption. Using data from the Consumer Expenditure Survey, they find that "...if the IRA limit were raised, about two-thirds of the increase in IRA saving would be funded by a decrease in current consumption and about one third from a reduction in taxes; only a very small proportion would come from other saving."³⁴

There are two related criticisms of this study. One arises from the fact that as the individual saving decision function is modeled, all non-IRA investment is assumed to be relatively homogeneous.³⁵ In reality, non-IRA saving can be any manner of saving, some very similar in objective to an IRA and others very dissimilar. Clearly, those components which are dissimilar will tend to drive the lack of substitutability and ultimately the Venti and Wise results. A better specification as suggested by Gravelle would group IRA's and other illiquid long term saving together as an argument in the decision function which "...recognizes that IRAs will be perfect substitutes for S_2 [long term] saving but not necessarily for consumption or short term saving."³⁶ With this specification, whether IRA balances represent new saving is uncertain.

The second criticism arises from the observation that many IRA contributors do so at the limit. Individuals contributing at the limit, usually the financially well off,

³³See: Hubbard, R. Glenn, and Jonathan Skinner. Assessing the Effectiveness of Saving Incentives. *Journal of Economic Perspectives*. vol. 10, no. 4. Fall 1996, p. 75.

³⁴See: Venti, Steven F. and David Wise. Have IRAs Increased U.S. Saving?: Evidence From Consumer Expenditure Surveys. *Quarterly Journal of Economics*. vol. 5, issue 3. August 1990, p. 691.

³⁵See: Gravelle, Jane G. Do Individual Retirement Accounts Increase Savings? *Journal of Economic Perspectives*. vol. 5, no. 2. Spring 1991.

³⁶Ibid., p. 142.

simply transfer funds from other saving accounts to take advantage of the tax savings inherent in an IRA. The fact that they contribute at the limit is tacit confirmation that the saving incentive is not marginally effective in inducing additional saving.

With the consumption tax, where all saving is tax preferred, the comparative tax benefit of IRA style saving is effectively removed. Consequently, the marginal incentive to save becomes independent of the relative prices of different saving vehicles. Rather, the choice is between consuming or saving directly, not between tax preferred and non-tax preferred. Thus, the literature describing the effects of the incentive effects of IRAs relative to other types of saving is not directly applicable when analyzing the changes in saving upon a move to a consumption tax. What can be gleaned from the IRA literature is how individuals respond to changes in the rate of return of non-consumed income. When offered the IRA option, which increased the rate of return of saving, there is no consensus among economists about the effect on overall saving. However, there is a shift from other types of saving into retirement saving. The second vehicle, the 401(k), requires a slightly different analysis.

401(k)s. Poterba, Venti, and Wise support the belief that incentive induced saving is actually new saving.³⁷ Utilizing the feature of 401(k) plans that eligibility is contingent upon the employer, they compare the level of financial assets of non-eligible to eligible workers. If the 401(k) incentive is effective, then the level of financial assets of eligible workers should exceed that of non-eligible workers, controlling for income and demographic characteristics. They show that for 1987, the ratio of total financial assets of eligible employees to non-eligible was 1.62 and in 1991, 2.22.³⁸ Workers eligible for 401(k) programs appear to be lured into saving more than their ineligible counterparts. This evidence is quite convincing but there are potential flaws.

Engen, Gale, and Scholz provide a series of arguments that question the above 'experiment'.³⁹ They do not disagree with the general assumption that 401(k)s will increase saving for some, though they do dispute the size of the effect. Following are their arguments. One, comparing a cohort which is eligible for a saving incentive plan with an otherwise similar cohort which is not eligible for a saving incentive plan, biases upward the effect of saving incentives. It is likely that the eligible cohort has sought out and remained with an employer that offered the 401(k) saving plan. Thus, the eligible cohort has a "... systematically stronger taste for saving than other households."⁴⁰ Two, the Poterba, Venti, and Wise approach examines total assets as opposed to net assets; it is conceivable that individuals have assumed more debt to

³⁷Poterba, James M., Steven Venti, and David Wise. *Personal Retirement Saving Programs and Asset Accumulation: Reconciling the Evidence*. NBER working paper 5599. May 1996; and Poterba, James M., Steven Venti, and David Wise. How Retirement Saving Programs Increase Saving. *Journal of Economic Perspectives*. vol. 10, no. 4. Fall 1996. pp. 91-112.

³⁸Ibid, p. 99.

³⁹See: Engen, Eric M., William G. Gale, and John Carl Scholz. The Illusory Effects of Saving Incentives on Saving. *Journal of Economic Perspectives*. vol. 10, no. 4. Fall 1996, pp.113-138.

⁴⁰Ibid., p.114.

contribute more to 401(k) programs. Three, substitutes for 401(k)s (e.g., social security) and financial markets themselves have changed significantly over their period of study thus limiting the reliability of the estimates. Four, the level of saving in 401(k)s is pretax which overstates their value. And finally, the Poterba, Venti, and Wise approach ignores the total compensation package when comparing individuals by income. Eligible workers are also receiving matching employer contributions which should be considered income when comparing individuals based upon income. Even though the benefit is deferred compensation, it is still compensation and should be included as income.

National Saving Literature⁴¹

Another perspective on the debate is the effect on *national* saving incentives. The estimated revenue loss on saving incentives is \$56.2 billion in 1998.⁴² Some have argued that this amount, if financed through larger budget deficits or smaller surpluses, actually reduces national saving.⁴³ To counter this argument, Martin Feldstein suggests that the appropriate method of estimating the cost and benefit of saving incentives (in his study, the incentive is the IRA which accounts for \$3.3 billion of the above tax expenditure estimate) is to include the growth in investment that produces a taxable revenue stream at the corporate level.⁴⁴ Through including this revenue, Feldstein finds the cost of IRAs in terms of tax revenue lost is offset by about one-third over the first five years and two-thirds over the first ten years.⁴⁵

Engen, Gale, and Scholz again provide a counter argument to the above findings.⁴⁶ They argue that the estimates above are inflated for several reasons. Perhaps the most contentious is the Feldstein assumption that at least half of IRA saving is new saving; an assertion that is refuted by other studies cited earlier. With such uncertainty concerning the degree to which IRA balances represent new saving, predicting tax revenues well into the future is difficult.

⁴¹Again, for a more comprehensive review of the national saving literature see: Library of Congress. Congressional Research Service. *Saving in the United States: Why Is It Important and How Has It Changed?* by Brian Cashell and Gail Makinen. Report 98-580. June 1, 1998.

⁴²See: EBRI Databook on Employee Benefits, 4th Edition. Washington, DC: Employee Benefits Research Institute, 1997., Table 5.3, p. 42-43. Government employers represent the largest share of this sum.

⁴³See: Engen, Eric M., William G. Gale, and John Carl Scholz. Do Saving Incentives Work? *Brookings Papers on Economic Activity*. Number 1, 1994. pp. 85-151. They address the effect on national saving of saving incentives.

⁴⁴See: Feldstein, Martin. The Effects of Tax-Based Saving Incentives on Government Revenue and National Saving. *Quarterly Journal of Economics*. Vol. 110, No. 2, May 1995, pp.475-494.

⁴⁵Ibid., p. 478.

⁴⁶Engen, Eric M., William G. Gale, and John Carl Scholz. Do Saving Incentives Work? *Brookings Papers on Economic Activity*. Number 1, 1994. pp. 85-151.

The Evidence in Sum

Taken in sum, the literature does not definitively support the proposition that the use of tax incentives for saving increases private or national saving, at least in the short run. The contentious debate is not surprising; economic theory suggests that the tradeoff between the income and substitution effects associated with a tax cut for saving yields ambiguous results. What we do know is a shift to a consumption tax will effectively remove the preference for illiquid IRA contributions and encourage a shift to short term, liquid saving. If individuals are as sensitive to the favorable tax treatment of IRAs in a positive direction (as suggested by Venti and Wise), then removal of the relative preference for IRAs will diminish their popularity. However, as noted above, the applicability of the estimates provided by research into the incentive effects of IRAs is questionable.

The literature concerning 401(k)s would also seem to suggest that upon removal of the tax preference for retirement plan contributions, assets held in these accounts would likely decline given the lack of employer encouragement through matching contributions. As for saving incentive effects on national saving, it appears that a consensus in the literature has not been reached.

Conclusion

Generally, an efficient tax regime minimizes the distortion of taxpayer behavior. A consumption based tax which eliminates the peculiarities and preferences inherent in the treatment of saving would eliminate many of the saving incentives presently in place. In place of those incentives, the consumption tax would instead offer a broadly applied incentive to save. A critical question explored here is whether the existing incentives accomplish a similar objective. If the current array of incentives in the present income tax are effective, then the consumption tax will not significantly encourage more saving when they are removed.

Even though the potential increase in efficiency arising from less distortion in taxpayer behavior might be reason enough for its proponents to endorse a consumption based tax, it is not clear that saving under a consumption tax, relative to the present income tax, would actually increase beyond existing levels. What is fairly certain is that the allocation of saving assets will adjust. Short term saving will increase and previously tax favored long term saving such as retirement will actually decline.

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