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WOULD THE FAIRTAX RAISE OR LOWER MARGINAL AND AVERAGE TAX RATES?

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ABSTRACT

This paper compares marginal and average tax rates on working and saving under our current federal tax system with those that would arise under a federal retail sales tax, specifically the FairTax. The FairTax would replace the personal income, corporate income, payroll, and estate and gift taxes with a 23 percent effective retail sales tax plus a progressive rebate. The 23 percent rate generates more revenue than the taxes it replaces, but the rebate's cost necessitates scaling back non-Social Security expenditures to their 2000 share of GDP.

The FairTax's effective marginal tax on labor supply is 23 percent. Its effective marginal tax on saving is zero. In contrast, for the stylized working households considered here, current effective marginal labor taxes are higher or much higher than 23 percent. Take our stylized 45 year-old, married couple earning $35,000 per year with two children. Given their federal tax bracket, the claw-back of the Earned Income Tax Credit, and the FICA tax, their marginal tax is 47.6 percent.

The FairTax imposes a zero marginal tax on saving meaning that reducing this year's consumption by a dollar permits one to increase the present value of future consumption by a dollar. In contrast, the existing federal tax system imposes very high marginal taxes on future consumption. For our stylized working households foregoing a dollar's consumption this year to uniformly raise consumption in all future years raises the present value of future consumption by only 45.8 to 77.4 cents, i.e., the effective marginal tax rates on uniformly raising future consumption via saving facing our households ranges from 22.6 percent to 54.2 percent. The FairTax also reduces most of our stylized households' remaining average lifetime tax rates – and, often, by a lot. Consider our stylized 30 year-old, single household earning $50,000. The household's average remaining lifetime tax rate under the current system is 21.1 percent. It's 16.2 percent under the FairTax.

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I. Introduction

With over 17,000 pages and counting, the U.S. federal tax law is anything but straightforward. Nor is it cheap to use. The annual cost of administering, enforcing, and complying with federal personal and business taxes runs, according to the GAO (2005), in the hundreds of billions of dollars. The GAO also estimates that the annual efficiency losses arising from the disincentives of the current tax system range from 2 to 5 percent of GDP.

A small army of well educated and highly talented lawyers, accountants, and auditors spends every hour of each working day coping with the U.S. tax code. With all this effort, one might expect real understanding of how our tax system works. But the system is so complex that no one can claim to fully comprehend its provisions, incentives, or the degree to which it is redistributing resources among current and future Americans.

This is particularly true when it comes to the structure of work and saving incentives. Calculating the rates of total effective federal marginal taxation of labor income and saving is no minor task. Consider, for example, trying on one's own to determine the net marginal effective tax rate facing low income workers on an extra dollar of earnings. Doing so necessitates considering the employer and employee portions of the payroll tax, the worker's marginal federal tax bracket, the size of the earned income tax credit, the role of the alternative minimum tax, the effect of extra current earnings on future Social Security benefits, the extent of future income taxation of future Social Security benefits, the interaction of the payroll tax and the federal income tax, and the procedure for present valuing changes in future Social Security benefits net of changes in future federal income taxes.

Millions of Americans see the ingredients used to make this tax code sausage and yearn for a

simple, fair, transparent, and easy to administer tax system. There are several such candidates, including a value added tax (VAT), the Hall-Rabushka (1995) Flat Tax , and a federal retail sales tax. Of these the most straightforward is the federal retail sales tax, which taxes purchases of consumption goods and services at a single rate. The VAT and Flat Tax would also tax consumption, albeit indirectly and only if they are implemented without special transition rules that exempt from taxation the sale of existing capital goods.

For economists, shifting from our current system, which primarily taxes labor income, to taxing consumption has a number of interesting and important features. First, it broadens the effective tax base from equaling primarily current and future labor income to current and future labor income plus existing wealth. The reason the consumption tax base effectively includes these two components is that current and future consumption purchases are financed by current and future labor earnings plus existing wealth. And taxing these purchases is effectively equivalent to taxing what is used to pay for them.

Second, because it effectively taxes existing wealth, taxing consumption penalizes the rich, potentially enhancing overall tax progressivity. Even if the rich save their existing wealth and bequeath it, plus any accrued capital income, their wealth still ends up getting hit with a tax once their children or other heirs spend these resources. The present value of the taxes paid on the consumption financed by the bequeathed wealth plus the accrued income on that wealth is the same as taxing the wealth immediately (i.e., spending all the wealth immediately and paying consumption taxes immediately on the purchases).

Third, since the elderly have very little labor income and own roughly two thirds of the nation's wealth, switching to a consumption tax lifts some of the burden of taxation from today's and

tomorrow's workers and shifts it onto retirees. While current and future workers are still effectively taxed on their labor earnings when they spend them on consumption, the effective tax rate on those earnings would be lower than under the existing system. This is thanks to the base broadening arising from the switch to consumption taxation, viz., the inclusion of existing wealth.

Now many would think that hitting the poor elderly with a higher tax burden is unfair and immediately discount a consumption tax on that basis. But under our current Social Security system the poor elderly, whose income comes almost exclusively from that source, would be totally unaffected by a consumption tax. The reason is that the system's annual inflation indexation guarantees the real purchasing power of recipients' benefits. To see this, consider what would happen were a retail sales tax adopted. Any increase in prices associated with the sales tax would lead to equal percentage increases in Social Security benefits.

Fourth, switching our federal tax system in its entirety to consumption taxation would permit reducing effective marginal taxes on labor supply (due to the base broadening) and eliminate entirely the marginal taxation of saving. Since economic distortions depend in a non-linear manner on the level of effective marginal tax rates, reducing these tax rates holds the promise of significantly reducing economic inefficiency.

Fifth, a large volume of simulation studies starting with Summers (1981) and Auerbach and Kotlikoff (1987) show that switching to consumption taxation can dramatically raise a nation's national saving, domestic investment, capital per worker, labor productivity, and real wages. The increase in national saving reflects the elimination of the tax on saving as well as the redistribution away from older spenders to younger savers. As shown in Gokhale, Kotlikoff, and Sabelhaus (1996), America's elderly have much higher propensities to spend, when properly measured, than do

the young and, certainly, future generations.

For the U.S., the predicted increase in domestic investment from switching to consumption taxation occurs whether or not one views the economy as open or closed, at the margin, to international capital flows. If an economy is closed, all national saving is invested at home, so every extra dollar in national saving translates directly into an extra dollar of domestic investment. If an economy is open, domestic investment is determined by how much savers in the U.S. and abroad want to invest in the country. But if, as in the U.S., the wholesale switch to consumption taxation would entail the elimination of a corporate income tax whose marginal effective rate is quite high (the current U.S. value is roughly 32 percent), both domestic and foreign savers will find investing in the zero-corporate tax country highly attractive.

The extent to which U.S. tax reform delivers the saving, domestic investment, income, equity, and efficiency gains that appear available in moving to consumption taxation depends, of course, on the degree to which the reform actually taxes consumption. The FairTax, awaiting passage in Congress as HR25, does tax consumption. Indeed, except for imputed rent on existing housing and durables, the FairTax taxes all consumption (including rents on housing, new rental and new owner-occupied housing, and new durables). And it does so directly via a federal retail sales tax.

The FairTax would replace the federal personal income tax, the federal corporate income tax, the federal payroll (FICA) tax, the federal estate tax, the federal gift tax, and the federal generation-skipping tax with a federal retail sales tax, assessed at a single rate. The FairTax also provides a rebate to each household based on its demographic composition. The rebate is set to ensure that households living at or below the poverty line would pay no taxes on net.

This paper compares average and marginal tax rates on working and saving under the current system with those that would arise under the FairTax. As specified in HR25, the FairTax's tax rate is 23 percent. This tax rate is measured on a tax-inclusive basis, meaning that a dollar's expenditure would yield 77 cents in consumption after payment of the retail sales tax.

As mentioned, the effective tax base of a consumption tax is existing wealth and current and future labor income. Given its 23 percent rate, the FairTax would effectively tax both existing wealth and current and future labor earnings at a 23 percent rate. As shown here, total effective federal marginal tax rates on labor supply appear to be either higher or much higher for almost all American households under our current system than they'd be under the FairTax.[1] Indeed, the current system's marginal wage tax rate exceeded the FairTax's 23 percent marginal rate for 38 of the 42 single and married stylized households we consider.

For some low and middle income households, the marginal tax on working under our current tax system is more than twice the 23 percent FairTax rate! Take, as an example, a married couple earning $35,000 per year with two children. Thanks to their federal tax bracket, their loss, at the margin, of the Earned Income Tax Credit from earning extra income, and marginal FICA taxation, their current marginal tax is 47.6 percent!

Since the FairTax taxes consumption at the same rate no matter when it occurs, it imparts no incentive to consume now as opposed to later and, thus, no disincentive to save. In economic terms, the FairTax's marginal effective tax rate on saving is zero. In contrast, the existing federal tax system imposes very high marginal effective tax rates on saving. For the 42 households considered here, marginal effective tax rates on saving range from 22.6 percent to 54.2 percent. To be precise, a

1 Note that the current fiscal system has additional marginal taxes on working and saving that arise from state

dollar more of current saving, which is then spent to uniformly increase future consumption, raises the present value of future consumption by only 45.8 to 77.4 cents.

In addition to imposing, in almost all cases, much lower marginal taxes on working and, in all cases, dramatically lower marginal taxes on saving, the FairTax imposes much lower average taxes on working-age households than does the current system. The FairTax's reduction in average tax rates on the working age population reflects the broadening of the tax base from what is now primarily a system of labor income taxation to a system that taxes, albeit indirectly, both labor income and existing wealth. Consider, as an example, a single household earning $50,000. The household's average tax rate under the current system is 21.1 percent. It's 16.2 percent under the FairTax. As another example, compare the current 24.0 percent remaining lifetime average tax rate of an age-45 married couple with $100,000 in earnings to the 17.7 percent rate that arises under the FairTax.

Since the FairTax would preserve the purchasing power of Social Security benefits and also provide a tax rebate, older low-income workers who will live primarily or exclusively on Social Security would be better off. As an example, the average remaining lifetime tax rate for an age -60 married couple with $20,000 of earnings falls from its current value of 10.1 percent to -6.1 percent under the FairTax.

This study also examines Bill Gale's (2005) recent analysis of the tax rate under the FairTax. Gale concludes that the tax rate under the FairTax would be dramatically higher than the 23 percent rate stipulated in HR25. In reaching this view, Gale contemplates a fiscal reform that differs dramatically from the actual FairTax proposal. In particular, the reform Gale considers entails

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income taxes and from non-Social Security transfer programs.

substantially higher real federal spending than is stipulated by the FairTax. Moreover, Gale makes no attempt to compare either the actual 23 percent FairTax rate or his own FairTax tax rate with the combined average and marginal tax rates prevailing under the current system.

Gale's failure to assess the current total effective tax rates with those under the FairTax is understandable. Doing so is no picnic. As indicated, the current federal fiscal system is highly complex. Understanding its work and saving disincentives for any given household requires very sophisticated software – software that deals with a) all major provisions of the federal income tax, including the earned income tax credit, the child tax credit, the alternative minimum tax, social security benefit taxation, the decision to itemize deductions, the indexation of tax brackets, exemptions, and standard deductions, and the interaction of the federal income tax with each state's personal income tax, b) the complex determination of Social Security benefits, which include the calculation of primary insurance amounts, early retirement benefit reductions, delayed retirement credits, recomputation of benefits, the earnings test, family benefit maxima, and the scheduled rise in the age of normal retirement, c) the payroll tax, including its separate employer and employee components, its interaction with federal income taxation, and the projected increase in the covered earnings ceiling, and d) the reduction in after-tax returns arising from the U.S. corporate income tax.

The method used here to study average and marginal taxes under the existing federal tax system is to run a set of stylized households through *ESPlanner*™ (Economic Security Planner™), a personal financial planning software program. The program, which was co-developed by Jagadeesh Gokhale and Laurence Kotlikoff, smooths households' living standards to the maximum extent possible without violating the households' borrowing limits. The idea of using *ESPlanner* to calculate effective tax rates was developed by Gokhale, Kotlikoff, and Sluchynsky (2002).

In performing its consumption smoothing, *ESPlanner* makes highly detailed, year-by-year federal and state income tax and Social Security benefit calculations, which take into account all the aforementioned tax and benefit provisions as well as a host of others. Because it focuses on lifetime planning, ESPlanner considers how current work and saving decisions affect not just current taxes and Social Security benefits, but also all future taxes and Social Security benefits. This life-cycle/dynamic element is vital for understanding the size of effective marginal taxes. The reason is simple. Earning or saving another dollar this year alters not just this year's taxes and, potentially, Social Security benefits, but also, potentially, all future taxes and Social Security benefits. Ignoring any of those future taxes and benefits can seriously distort the measurement of the true gain from extra work or saving.

This paper proceeds by discussing the measurement of effective marginal tax rates on working and saving. It then describes *ESPlanner* in some detail. Next it compares, for a set of stylized households, total effective marginal and average tax rates under the current system with those that would arise under the FairTax. The next to last section considers Gale's (2005) analysis of the size of the FairTax rate, and the final section summarizes and concludes.

II. Measuring Effective Tax Rates

Economists measure the gain from extra work or saving in terms of consumption. The gain from extra work is typically measured in terms of its *maximum* impact on current consumption. Thus, if a worker earns an extra $100 this year permitting this year's consumption to rise, at most, by $50, we say the worker faces a 50 percent marginal tax of her labor supply.

The gain from extra saving is typically measured in terms of the impact on future

consumption of forgoing a fixed amount of current consumption. Consider, for example, a two period (youth and old age) framework. In the absence of any effective marginal tax on saving, reducing current consumption when young by X would lead to an increase in consumption when old, measured in present value, of exactly X. If consumption when old, measured in present value, rises by only one half of X, we can say that the saver faces a 50 percent marginal tax on saving. More precisely, we say that the tax on future consumption is 100 percent since the price, measured in present value, of consuming X when old has risen from X to 2X.

ESPlanner is ideally suited to measuring these tax rates on working and saving thanks to its underlying consumption-smoothing algorithm and its standard of living index feature, which allows users to specify if and how they'd like their living standard to change in the future. The program can, in effect, be told to spend on current consumption and only on current consumption all the net proceeds arising from additional current earnings. Net proceeds means the additional current earnings themselves less any increase in current and future taxes plus any increase in current and future Social Security benefits, where changes in future taxes and Social Security benefits are measured in present value. And in measuring the marginal effective tax on saving, the program can, in effect, be told to spend the proceeds of additional current saving in any particular future year one wants or, if one wants, in all future years on a uniform basis.

Borrowing Constraints

In running *ESPlanner* one is free to specify the maximum amount that can be borrowed to smooth one's living standard. If the household in question does not need to borrow beyond its borrowing limit, which can, and typically is, set to zero, the program will generate a spending,

saving, and insurance plan that entails the household's having the exact same living standard (per equivalent adult) through time as well as for all years following the death of the household head or spouse/partner. If, on the other hand, achieving a perfectly smooth living standard is not possible without exceeding the household's borrowing limit, the program will determine the smoothest possible living standard path. But this will involve a rise at some point over time in the household's living standard.

Take, as an example, a household age 45 that earns $50,000 a year, has very little savings, but expects to inherit $1 million at age 65. If the household can't borrow against the $1 million, it will have to live with a lower living standard prior to age 65 and a higher one thereafter. *ESPlanner* smooths the living standard prior to age 65 at the highest level possible so that the household can afford the same standard right up to age 65, and it also smooths the living standard for all years at and after age 65. So there is a jump up in the household's living standard at age 65 from one previously constant living standard level to a higher constant level.

Depending on the particular pattern of future income and non-smoothable expenditures (e.g., mortgage payments), households may have multiple periods of liquidity constraints over their lifetimes. In this case *ESPlanner* will raise their living standards through time, smoothing their living standard perfectly within each liquidity-constrained interval.

This discussion is important for considering the calculation of effective marginal taxes. To see this, consider the decision by the 35 year old to work more in the current year and earn, say, an extra $1000. Assume, as is likely, that this decision raises the 35 year-old's future Social Security benefits. If, because of his borrowing limit, the 35 year old cannot access that benefit increase in terms of his current spending (his spending at age 35), we can no longer describe his effective

marginal tax rate in terms only of its impact on his current spending. We'd have to say that earning an extra $1000 at age 35 affects not just current but also future spending. The result would be a complicated description of effective marginal taxes.

To avoid this problem we set the borrowing limit on *ESPlanner* high enough to ensure that the stylized households we consider are able to smooth their living standard perfectly over their lifetimes. In addition, to ensure that all the additional spending power from additional current-year earnings is concentrated solely on current-year spending, we ran *ESPlanner* in the following manner. First we ran the program with earnings at their initially specified levels and recorded the level of 2005 consumption. We then ran the program again assuming a higher level of earnings in 2005, keeping earnings in all future years unchanged.

In running the program the second time, we also lowered the program's standard of living index for all post-2005 years to ensure that consumption levels after 2005 would remain at their previous values and, consequently, all of the additional purchasing power from the higher 2005 earnings would be spent solely on higher 2005 consumption. This required some iteration to get the right living standard index adjustments. The ratio of the change in 2005 consumption across the initial and new runs of *ESPlanner* to the change in 2005 earnings provide the effective marginal tax rates on working reported below.

ESPlanner's Standard of Living Index

The program's standard of living index is fixed at 100 for the current year and can be separately adjusted up or down from 100 for all future years. If, for example, one sets the living standard index to 115 for, say, the years 2020 and beyond, the program will know to raise the

household's living standard by 15 percent starting in 2020 *relative to the living standard in 2005*. Since the household's resources (assets, income, pensions, etc.) are not changed when one changes the index, the program will lower the absolute living standard prior to 2020 (and thus its pre-2020 recommended consumption spending) and raise it starting in 2020 (and, thus, its recommended level of consumption spending in 2020 and thereafter).

As another example, consider setting the living standard index to 95 for all years starting in 2006. The program will then know to lower the household's living standard by 5 percent in each year starting with 2006 *relative to the living standard in 2005*. Again, making this change in the living standard index leaves current and future resources unchanged. So the program will raise the household's absolute living standard in 2005 (and, thus, its 2005 recommended consumption spending) and lower its absolute living standard starting in 2006 (and, thus, its recommended consumption spending for 2006 and beyond).

Now consider changing the household's resources at the same time you change the living standard index from its default values, which are set at 100 for all years. For example, consider uniformly lowering to 95 the value of the living standard index for all future years starting with 2006 while a the same time increasing 2005 earnings by, say, $1000. In this case, the program will still end up with a 2005 living standard that is 5 percent higher than after 2005, but the absolute post-2005 living standard will not necessarily be lower than it was initially since there are now extra resources for the program to spend. If one sets just the right values of the post-2005 index, which may be lower or higher than 95, one can keep post-2005 consumption at precisely its initial values and, thereby, concentrate all additional spending just on 2005.

But if future Social Security benefits are higher, how does the program keep future spending

from being higher as well? The answer is that it effectively borrows against those future higher Social Security benefits (net of any changes in taxation of those benefits), leaving the household in old age with higher Social Security benefits, but also with lower assets than would otherwise be the case.

The reason we say that all the additional purchasing power in these calculations is spent on additional 2005 consumption is that the households we consider not only end up consuming the same amounts every year after 2005, but they also end up with no remaining assets or liabilities at the end of life. In short, the households die broke. Consequently, every penny that can be spent on additional 2005 consumption without altering future consumption and future living standards is, indeed, being spent. So the change in 2005 consumption takes into account the impact of higher earnings not just on current taxes, but also on future Social Security benefits as well as future taxes of those benefits. And, to repeat, a comparison of the increase in 2005 earnings with the increase in 2005 consumption provides the measure of the effective marginal tax on working.

Calculating Effective Marginal Taxes on Saving

Unlike the calculation of effective marginal tax rates on labor supply, when there is more than one period (more than one future year) in which to consume, there is no standard definition of the effective tax rate on saving. One could, for example, consider how much reducing this year's consumption by, say, $100 will increase the present value of future consumption spending assuming the additional future spending power is all allocated to next year's consumption. Alternatively, one could allocate all the future spending power to consumption 10 years out, or 20 years out, or in any future year one chooses. One could also spread the extra spending power uniformly over all future

years. Each such choice will generate a different measure of the effective tax rate. The reason is that the longer one pushes out the allocation of the extra spending power, the higher will be the effective tax rate will be thanks to the nature of compounding.

To understand more clearly what is going on, note that the underlying goods that households are choosing when they make their work and saving decisions are really how much leisure and consumption to purchase in the current year as well as in each future years. These fundamental goods have prices in the absence of any taxes, and they have different prices in the presence of taxes. The difference between the prices of leisure and consumption with and without taxes determines the tax rate on these underlying goods.

Consider what we've been calling the tax on work. In fact, the tax on work is really telling us about the price of current leisure. If a worker can earn $20 an hour with no taxes, but only $10 an hour with taxes, the tax system has lowered the price of leisure by half – from a loss of $20 of consumption per hour of leisure to a loss of only $10 of consumption per hour of leisure. So the tax on work corresponds to a negative tax – a subsidy – on leisure. In this case, the subsidy rate is 50 percent.

Now consider consumption in future years. Take consumption in 2010 as an example. We measure the price of consumption in 2015 in terms of the sacrifice in current (2005) consumption needed to raise future consumption by $1. To make this concrete, let the pre-tax rate of return be 5 percent. In this case, the price, in the absence of taxes, of consuming $1 more in 2010 is 78.3 cents measured in terms of current consumption. The reason is that one can invest 78.3 cents for 5 years at 5 percent starting in 2005 and end up with $1.00 in 2010.

If the price of consuming a dollar in five years is that you have to give up 78.3 cents now,

what would the price be were you to face taxes on the return you earn from saving and the after-tax return was not 5 percent, but only 3 percent? The answer is 86.3 cents because investing 86.3 cents for five years at a 3 percent return yields $1.00.

So consuming one dollar in five years costs you 86.3 cents today in the presence of taxes, but only 78.3 cents in the absence of taxes. The difference in these two numbers indicates the effective tax rate on consumption five years from now. Indeed, since 86.3 divided by 78.3 equals 1.10, we can say that the tax system imposes a 10 percent tax on consuming five years from now.

If we do the same calculations with respect to consuming not five years from now, but 20 years from now, the no-tax price of consuming one dollar 20 years hence is 37.7 cents. But it's 55.4 cents in the presence of taxes. The ratio of 55.4 to 37.7 indicates that the tax rate on consuming 20 years from now is 46.9 percent. Clearly, which year in the future one considers makes a big difference to one's measure of the size of the incentive to consume now (to dissave) rather than consume in the future (to save).

In the calculations presented below we show the effective tax rate on saving assuming that the reduction in 2005 spending is allocated uniformly to all future periods such that the living standard in all future periods rises by the same percentage. To effect this outcome in *ESPlanner* we simply raised the living standard index for all years from 2006 onward by 10 percent and compared the increase in the present value of consumption spending from 2006 onward with the reduction in consumption spending in 2005. The discount rate used to determine the present value change in future consumption, all measured in 2005 dollars, is 7.0 percent, which is our assumed pre-tax real rate of return. This pre-tax return is the return one would receive before the application of any federal personal or corporate income taxes.

In running *ESPlanner* we assume that effective marginal federal corporate tax rate equals 35 percent, which happens to be the statutory rate. Since 65 percent of 7 percent is 4.55 percent, we assume that the real return to households is 4.55 percent. Coupling this assumption with our 3.0 percent inflation rate assumption led us to enter a nominal return of 7.69 percent in running the program.[2]

In this and all other calculations carried out for this study, we assumed that the stylized households being examined live in a state with no state personal income tax or state corporate income tax. The reason is that the goal of this paper is to compare total effective federal marginal and average tax rates under our current tax regime with the corresponding rates that would arise under the FairTax. Including state income taxes in the analysis would muddy this comparison because of the interaction of state and federal taxation. Indeed, because of this interaction, it's not possible to clearly distinguish federal from state marginal taxation.

To see this, consider a New York household that increases its 2005 earnings by $1000. This raises the household's federal personal income taxes as well as its New York state income taxes. But the extent to which the federal taxes rise depends on the extent of New York state income taxes, since state income taxes are deductible from the federal income tax provided the household itemizes its deductions. One could just as well say that the reduction in federal income taxes arising from the payment of state income taxes reflects a lower federal marginal rate or a lower state marginal rate. Similar problems of distinguishing federal from state marginal taxation of saving arise in the presence of state corporate income taxation.

Our analysis also leaves out federal and state excise and sales taxes. The effective federal

2 Note that the nominal interest rate equals 1 plus the inflation rate times 1 plus the real rate minus 1.

excise tax rate appears to be roughly .9 percent of consumption. Were we to include it in our analysis, it would raise effective marginal tax rates on working by essentially the same amount under both the current system and the FairTax; i.e., it would not alter our assessment of the differences in rates between the two systems. We exclude state sales taxes as well as the implicit tax rates associated with all federal and state non-Social Security transfer programs in order to highlight the changes in federal taxation that would arise under the FairTax.

Calculating Average Remaining Lifetime Tax Rates

In addition to comparing marginal incentives to work and save under the current federal tax system and the FairTax, we compare overall fiscal burdens by examining average remaining lifetime net tax rates under the two systems. The term remaining lifetime simply refers to the household's remaining years of life; i.e., the calculations are prospective, rather than retrospective. The calculations also consider all future federal tax payments net of Social Security benefits.

We define the average remaining lifetime tax rate as (A-B)/A, where A is the present value of spending, defined here as consumption and non-fungible spending (college tuition, mortgage and other housing expenses, and life insurance premiums) in the absence of any federal taxation of any kind and B is the present value of spending under the tax regime in question. The term spending, as used here, does not include payment of the FairTax. Note that in the absence of any federal taxation, A is also equal to the present value of the household's remaining lifetime resources – its current assets plus the present value of its current and future labor earnings and current and future Social Security benefits. So the average tax rates being computed here are measured relative to the most comprehensive resource measure available. In forming these present values, we discount at the pre-

all tax 7.0 percent rate of return. In words, (A-B)/A indicates the percentage reduction in the present value of spending arising from the tax in question.

To determine the value of B under the FairTax, we ran the program with all federal taxes turned off, calculated the present value of all spending, and then divided this amount by 1.30. The figure 1.30 represents the price of buying a dollar's worth of real consumption under the FairTax inclusive of the sales tax. To see this, note that if the FairTax's retail sales tax rate is set at 30 percent, ever dollar of income will yield only 77 cents of consumption since $1.00 divided by $1.30 equals 77 cents. Of course, the fact that the $1.00 of income is only able to purchase 77 cents worth of consumption means that the income is effectively being taxed at a 23 percent rate.

III. *ESPlanner*

ESPlanner uses dynamic programming techniques to smooth a household's living standard over its life cycle to the extent possible without allowing the household to exceed its borrowing limit. In making its calculations, *ESPlanner* takes into account the non-fungible nature of housing, bequest plans, economies of shared living, the presence of children under age 19, and the desire of households to make "off-the-top" expenditures on college tuition, weddings, and other special expenses. In addition, *ESPlanner* simultaneously calculates the amounts of life insurance needed at each age by each spouse to guarantee that potential survivors suffer no decline in their living standards compared with what would otherwise be the case.

ESPlanner's calculates time-paths of consumption expenditure, taxable saving, and term life insurance holdings in constant (2001) dollars. Consumption in this context is everything the household gets to spend after paying for its "off-the-top" expenditures – its housing expenses, special

expenditures, life insurance premiums, special bequests, taxes, and net contributions to tax-favored accounts. Given the household's demographic information, preferences, and borrowing constraints, *ESPlanner* calculates the highest sustainable and smoothest possible living standard over time, leaving the household with zero terminal assets apart from the equity in homes that the user has chosen to not sell. The amount of recommended consumption expenditures needed to achieve a given living standard varies from year to year in response to changes in the household's composition. As indicated above, it also rises when the household moves from a situation of being liquidity constrained to one of being unconstrained. And to repeat, recommended household consumption will change over time if users intentionally specify, via the program's standard of living index, that they want their living standard to change.

ESPlanner's algorithm is complicated. But it's easy to check *ESPlanner's* reports to see that, given the inputs, preferences, and borrowing constraints, the program is recommending the highest and smoothest possible living standard that the household can sustain over time. Moreover, anyone can use the program to make the same and related tax rate calculations presented here.

Since the taxes paid by households depend on their total incomes, which include asset income, how much a household pays in taxes each year depends on how much it has consumed and saved in the past. But how much the household can consume and, therefore, how much it will save depends, in part, on how much it has to pay in taxes. Thus taxes depend on income and assets, which depend on taxes. This simultaneity means that the time-paths over the household's life cycle of consumption, saving, and tax payments must be jointly determined. *ESPlanner* achieves this simultaneous and consistent solution not only with respect to consumption and saving decisions, but

also with respect to the purchase of life insurance.[3]

The solution method is iterative dynamic programming. *ESPlanner* patented algorithm has two dynamic programs that pass data to each other on an iterative basis until they both converge to a single mutually consistent solution to many decimal points of accuracy. The program begins its calculations with initial guesses of taxes, spending, life insurance holdings, and other variables and then updates these variables in successive calculations that smooth the household's living standard through time and find the year-specific life insurance needed to preserve each year's calculated living standard.

Because taxes and Social Security benefits make a critical difference to how much a household should consume, save, and insure, casual calculations of these variables is a prescription for seriously misleading financial recommendations.[4] As mentioned, *ESPlanner* has highly detailed federal income tax, state income tax, Social Security's payroll tax, and Social Security benefit calculators. The federal and state income-tax calculators determine whether the household should itemize its deductions, computes deductions and exemptions, deducts from taxable income contributions to tax-deferred retirement accounts, includes in taxable income withdrawals from such accounts as well as the taxable component of Social Security benefits, and calculates total tax liabilities after all applicable refundable and non refundable tax credits.

These calculations are made separately for each year that the couple is alive as well as for each year a survivor may be alive. Moreover, *ESPlanner's* survivor tax and benefit calculations for

3 The program not only calculates the appropriate levels of life insurance at each age for each spouse when both are alive. It also determines how much life insurance each surviving spouse needs to purchase.

4 See Gokhale, Jagadeesh, Laurence J. Kotlikoff, and Mark Warshawsky, "Comparing the Economic and Conventional Approaches to Financial Planning," in Laurence J. Kotlikoff, *Essays on Saving, Bequests, Altruism, and Life-Cycle* Planning, Chicago, Ill.: University of Chicago Press, NBER volume, 2001, 489-560.

surviving wives (husbands) are made separately for each possible date of death of the husband (wife). I.e., *ESPlanner* considers separately each date the husband (wife) might die and calculates the taxes and benefits a surviving wife (husband) would receive each year thereafter.

IV. The Stylized Households

Our stylized households consist of either single individuals or married couples, whose spouses are the same age. We consider households age 30, 45, and 60. Both the single-headed households and the married households have two children to whom they gave birth at ages 27 and 29. Table 1 lists key assumptions about the seven single and seven married households we consider. The seven single households have initial labor earnings ranging from $10,000 to $250,000. For the seven married couples, the range is double that of the singles, i.e., it goes from $20,000 to $500,000. All household heads and spouses retire at age 65 and start collecting Social Security benefits at age 66. Earnings between the household's current (2005) age and retirement are assumed to remain fixed in real terms.

Each household is assumed to have a home, a mortgage, and non-mortgage housing expenses. The 30 year-old households have initial assets equal to a quarter of a year's earnings. The older households are assumed to have the same assets that the 30 year-olds have accumulated by the age at which we consider the older households. Table 1 also shows our assumed annual college tuition and other expenses. The households pay these amounts each year for four years for each child when the child is age 19 to 22.

V. Treating Employer-Paid FICA Taxes and Corporate Income Taxes

Since users enter their earnings net of employer-paid FICA taxes *ESPlanner* does not

explicitly calculate these taxes. Nor does it explicitly calculate corporate income taxes since users enter their expected returns net of such taxes. From an economics perspective, employer-paid payroll taxes are no less of a burden or a work or saving disincentive than are those paid directly by employees. Indeed, there is only one economic difference between employer-paid and employee-paid payroll taxes; employer-paid payroll taxes are excludable from the calculation of adjusted gross income in determining federal personal income tax liability, whereas employee-paid payroll taxes are not.

In calculating marginal work taxes, our procedure for including the employer FICA tax is to a) input into *ESPlanner* a given increase in current earnings, say $500, b) iteratively and uniformly adjust the standard of living index values for 2006 and thereafter to ensure that the program's recommended consumption expenditure and standard of living for 2006 and thereafter remains unchanged, even though its recommended consumption and standard of living for 2005 rise, and c) compare this so-derived increase in 2005 consumption spending with not $500, but rather with $500 plus the additional FICA tax paid on $500. This sum represents the full pre-tax compensation being paid to the household.

We used this same procedure in calculating average remaining lifetime tax rates under the current system. I.e., we first calculated for each stylized household its present value of spending under the current tax system and compared this present value with the present value of spending that would arise were the household to earn the same amount, but grossed up by the employer FICA tax. In determining employer-paid FICA taxes, we incorporated the fact that the OASDI portion of the FICA tax is paid only up to the covered earnings ceiling, whereas the HI FICA portion is paid on all FICA-eligible earnings.

Like employer-paid payroll taxes, corporate income taxes also reduce the return to input suppliers. But unlike payroll taxes, where the input supply is labor, the input supply relevant to the corporate income tax is household savings. This savings helps finance corporations, and when corporations have to pay taxes, they can't pay as high a return to their investors. To capture this discrepancy between the pre- and post-corporate tax rates of return, we use the pre-corporate tax assumed 7.0 percent real return in all the discounting used to from marginal effective saving tax rates as well as average remaining lifetime tax rates. However, in actually running *ESPlanner* with federal taxes turned on, we enter the post-corporate return as an input in the program since, to repeat, *ESPlanner* doesn't calculate corporate taxes. On the other hand, in determining spending in the absence of any taxes, we enter the pre-corporate return in *ESPlanner*, since this is what savers would receive in a no-tax world.

VI. Findings

Tables 2 through 5 present our findings. Table 2 compares the marginal effective tax rates on working under the current tax system with the 23 percent rate that would prevail under the FairTax.5 Except for single households with extremely low earnings, the marginal tax on work is higher, and often very much higher, under the current system than under the FairTax.

Take, as an example, a 45-year old couple in which each spouse earns $50,000. Each spouse faces a 33.7 percent marginal tax on an extra dollar earned, which is almost fifty percent higher than the 23 percent rate they'd face under the FairTax. Since the efficiency cost of the distortion in work and other economic choices rises with the square of the tax levied on the choice, the welfare loss

5 The effective FairTax rate is actually slightly smaller than the 23 percent rate reported in the tables. The reason is that the FairTax exempts tuition payments and part of mortgage payments, which we don't take into account.

visited on this stylized couple simply from distorting its work-leisure decision is 2.15 times higher with today's tax system as it would be under the FairTax.

As a second example, consider the age 45 single household with $25,000 in earnings. The current marginal work tax is 47.7 percent. This rate is more than twice the FairTax rate and engenders 4.3 times the amount of economic distortion. The reason this rate is so high is the fact that each dollar of earnings lowers the single individual's earned income tax credit by roughly 22 cents. Add that to a 10 percent federal tax rate and 15.3 percent payroll tax rate, and you can quickly see that our calculation of a rate this high is no mistake.[6]

The earned income tax credit (EITC) explains the negative effective tax rate on working for single households earning $10,000 or less. By the time the single household head reaches age 60, she can no longer receive the credit because her asset income exceeds the eligibility limit. At that point her marginal tax rate is a positive 29.8 percent.

The striking pattern in table 2 is that, under our current tax system, there is no pattern, or at least no monotonic pattern, connecting the size of marginal tax rates on working with the level of earnings. Take 45-year old married couples. When total household earnings equal $20,000 per year (in today's dollars), the marginal work tax rate is 41.4 percent. This rises to 47.6 percent at $30,000 of earnings, falls to 28.2 percent at $70,000 of earnings, and then rises to 38.4 percent at $500,000 of earnings. There is also no clear pattern by age of these marginal wage tax rates. For some earnings levels, the marginal tax rate rises with age. For other levels, it falls with age.

6 One cannot strictly add these rates together because the employer's FICA contribution is an exclusion from the federal personal tax, because earning more at age 45 affects future Social Security benefits as well as taxation of those benefits, and because there are a variety of features in the personal income tax (including tax credits, the alternative minimum tax, and the claw back of itemized deductions at high levels of adjusted gross income) that influence that tax's effective tax

Marginal Tax Rates on Saving

In addition to generating higher and, often much higher, work disincentives than the FairTax, the current tax system embeds very significant saving disincentives. In contrast, the FairTax generates no saving disincentives whatsoever. As Table 3 shows, the effective tax rate levied on saving, as measured here, ranges from a low of 23.1 percent to a high of 43.0 percent for single households and from a low of 22.6 percent to a high of 54.2 percent for married households.

Unlike the wage tax rates of Table 2, marginal saving tax rates are almost always higher at higher levels of earnings. And they generally decline with age holding the level of earnings fixed. The former pattern simply reflects the fact that higher incomes put households in higher federal income tax brackets. The latter pattern reflects the fact that older households have relatively few years over which to spend their saving and, therefore, relatively few years over which to lose what would otherwise be a much higher real return to saving.

Table 4 reexamines the marginal saving tax rates of Table 3 with one change in assumption, namely that all assets are invested in assets whose return comes either in the form of a capital gain or a dividend. The income from such assets is taxed at most at a 15 percent rate. The ability to pay capital income taxes at a lower rate explains why the saving tax rates under the current system are lower, particularly for upper income earnings, than they are in Table 3. Nevertheless, there is still a major tax on saving tax and a major reduction in the disincentive to save from switching to the FairTax.

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bracket.

Average Remaining Lifetime Tax Rates

Table 5 presents our calculations of average remaining lifetime tax rates -- both those now prevailing and those that would prevail under the FairTax. To repeat, these tax rates net out Social Security benefits as well as the FairTax rebate. In the case of the FairTax, the Social Security benefits are adjusted to maintain the purchasing power of the benefits.

For single as well as married households, for young and old households, and for low earning and high earning households the FairTax entails a lower remaining lifetime tax rate The one exception is married households earning $20,000 in total, where there is a modest increase in the average tax rate.

A striking feature of Table 5 is the negative average tax rates under the FairTax of low-income 60 year-olds. This reflects three factors. First, to repeat, the FairTax preserves the real Social Security benefits of the elderly, and these 60 year-olds are close to receiving those benefits. Second, the FairTax provides a rebate. Third, the FairTax repeals the regressive FICA tax that these 60 year-olds would otherwise have to pay during their remaining five years of working. And fourth, the FairTax's effective tax rate of 23 percent is relatively low. These same factors also explain the substantial decline in average remaining lifetime tax rates for middle- and high-income households.

Another key feature of the Table is the very substantial spread for almost all the middle- and upper-income households in average tax rates between the two tax systems. The stylized single household age 45 earnings $35,000 pays, for example, 20.7 percent of its remaining lifetime resources to the government under our current tax system, but only 10.8 percent under the FairTax. The same aged married couple in which both spouses earn $35,000 faces a 21.3 percent current average tax rate, but only a 15.5 percent average tax rate under the FairTax.

VII. How Much Revenue Does the 23 Percent FairTax Generate?

As indicated in the introduction, Bill Gale (2005) has argued that the FairTax tax rate would have to be much higher than 23 percent. Gale's argument rests on the proposition that implementing the FairTax would require maintaining the real values of all federal transfer payments as well as the real value of federal government purchases. While HR25 explicitly calls for maintaining the real purchasing power of Social Security benefits, it also quite clearly rules out maintaining the real purchasing power of non-Social Security transfer payments. Nor does it require that the real level of government purchases stays fixed. So when Gale assesses the tax rate needed to balance "the budget," he's considering a budget that bears no necessary connection to the budget implicitly envisioned by the FairTax.

Clearly, there is nothing inviolate about maintaining the current level of real federal purchases. As indicated above, these purchases, measured as a share of GDP, have risen by one fifth over the past five years. During the 1990s, the share of GDP devoted to federal purchases fell by 30 percent. So what is now up can also go down.

What about Gale's other proposition -- that the real value of non-Social Security transfer payments needs to remain fixed? Presumably, Gale reached this view because he couldn't see a reason to treat non-Social Security transfer payments differently from Social Security transfer payments. Here are two possible reasons. First, current law mandates annual inflation indexation of Social Security benefits. Since HR25 does not purport to change Social Security law, it simply acknowledges that these benefits will be adjusted in accordance with any rise in the consumer price level associated with the bill's proposed federal retail sales tax. Second, since HR25 introduces a brand new and *very* large transfer payment, in the form of its sales tax rebate, there would appear to

be clear political and economic scope to reduce other transfer payments.

As indicated above, the FairTax rebate, in conjunction with the indexation of Social Security benefits, actually over-compensates those elderly who are living solely on Social Security; i.e., the bill raises their real incomes. While HR25 protects the real incomes of the poor in general and over protects the real incomes of the elderly poor, the legislation is not meant to insulate all members of society from bearing a tax real burden either in terms of what their labor earnings will purchase, what their wealth will purchase, or what their non Social Security transfer benefits will purchase.

But Gale (2000) seems to be suggesting just this when he claims that all transfer payments should remain fixed in real terms. Whatever prompts him to reach this conclusion could just as well lead him to argue that the real purchasing power of all labor earnings as well as all wealth be protected from the effects of the FairTax. Taken to this extreme, Gale's argument would have the FairTax collect no net resources from the public and have no means of paying for any government purchases let alone servicing government debt.

Once one acknowledges that the FairTax is precisely what is written in HR25, the question becomes how much real revenue would the FairTax generate relative to the current tax system? In addressing this question, we assume that the consumer price level would rise by 30 percent with the introduction of HR25. We also follow Gale in considering the government's 2003 fiscal accounts.

According to Gale's Appendix Table 3, HR25-taxable private plus state government purchases would have totaled $7,748.4 billion in 2003. HR25 would also tax the federal government on its purchases, but since the federal government would need these revenues to meet its own sales tax bill, having the feds pay the sales tax generates no net revenue. The total 2003 FairTax base is then $7,748.4 billion. To determine the real revenue from this tax base, one needs to multiply

$7,748.4 by .23 or, equivalently, by the ratio of .30 to 1.30. Multiplying by .30 generates nominal tax revenue and dividing by 1.30 transforms this nominal revenue into real revenue; i.e., revenue valued at the initial pre-sales tax consumer price level.

The product of $7,748.4 and .23 is $1,782.1 billion. By way of reference, the 2003 revenue generated by all of the federal taxes that would be replaced by the FairTax was less, namely $1,660.5 billion. So the FairTax would collect $121.6 billion more in real revenue than our existing federal tax system. Hence, the answer to the question of how much real spending would have to be cut if one adopted a the FairTax is that real spending would not have to be cut. Indeed, it could be raised by $121.6 billion.

In addition to explicitly collecting $121.6 billion more in real 2003 revenues, HR25, had it been enacted in 2003, would have implicitly generated another $900.1 billion in real revenues, albeit on a one-time basis. The source of this implicit, but no less real, revenue generation is the decline in the real value of outstanding government debt held by the public that would accompany a 30 percent rise in the consumer price level. Given the close to 3 percent real return that long-term inflation indexed bonds yielded in 2003, the $900.1 billion corresponds to $27.0 billion on a flow basis. Adding this to the $121.6 billion would have left the federal government with $148.6 billion more in real revenues 2003 than the actual tax system collected.

While total real spending could have risen had the FairTax been adopted in 2003, the composition of that spending would have changed. According to Gale's Appendix Table 4, the new transfer payment introduced by the FairTax, namely the rebate, would have cost $429.3 billion in real 2003 dollars. To put this figure in perspective, total Social Security outlays in 2003 were $470.5.

Paying for the $429.3 billion without increasing federal debt would have necessitated a

$280.7 ($429.3 - $148.6) billion reduction in real spending on other transfer payments or government purchases. Since real 2003 federal purchases totaled $825.4 billion and non-Social Security transfer payments totaled $710.9 billion, the FairTax implicitly proposes introducing a new $429.3 billion transfer program (the rebate) at the cost of reducing existing federal purchases and non-Social Security transfer payments by $280.7 billion or 18.3 percent.[7] Doing so would have restored federal purchases and non-Social Security transfer payments to roughly the same share of GDP that they constituted back in 2000. Alternatively, if the government chose to introduce the FairTax without reducing real non-Social Security spending by $280.7 billion it could do so by enacting the FairTax with a roughly 27 percent effective tax rate.

But this is what economists refer to as a *partial equilibrium* perspective. It fails to consider the very significant expansion of the economy that would almost surely attend the nation's switch from income (primarily wage income) to consumption taxation. These *general equilibrium* macroeconomic feedback effects would, over time, expand not just the economy, but also the level of overall consumption and, thus, the FairTax tax base. Consequently, one can reasonably expect the economy to be able to afford a somewhat higher level of federal spending relative to GDP. Indeed, as discussed in Jokisch and Kotlikoff (2005), introducing the FairTax would likely raise real wages by 19 percent over the course of the century relative to what technological improvements would otherwise generate.

On the other hand, Jokisch and Kotlikoff's paper shows that the aging of society, interacting with our Social Security and government healthcare systems will place significant stresses on the nation's finances. And the ability of the government under a FairTax to maintain the tax system's

7 This assumes not loss of revenues due to enforcement problems. In the presence of such enforcement problems,

tax rate at 23 percent or, indeed, even lower it will depend critically on reforming these major entitlement programs.

VIII. Conclusion

The FairTax as embodied in HR25 would significantly reduce marginal taxes on work, dramatically reduce marginal taxes on saving, and substantially lower overall tax burdens on the vast majority of current and future workers.[8] The 23 percent effective tax rate specified by HR25 would generate more revenue than the current federal tax system and permit more overall spending. But part of this spending would come in the form of a highly progressive transfer program, namely the tax rebate, which is geared to eliminate any net tax burden on the poor. Since a goodly portion of federal spending would be allocated to this new transfer program, the FairTax would likely require reducing other federal spending, measured as a share of GDP, to its 2000 level.

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the cut in non-Social Security expenditures would need to be larger.

8 In future work we intend to incorporate state marginal taxes and implicit marginal taxes arising from non-Social Security transfer programs. In excluding those additional taxes we've understated the potential efficiency gains from moving to the FairTax since the excess burden of marginal taxation rises with the square of the total effective tax rate on the economic choice being distorted.

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Table 1

Profiles of Stylized Households

Single Households							
Total Household Income	**Assets at Age 30**	**Annual College Expense**	**House Value**	**Mortgage**	**Monthly Mortgage Payment**	**Annual Property Taxes**	**Annual Home Maintenance**
$10,000	$2,500	$2,500	$20,000	$16,000	$200	$200	$67
$15,000	$3,750	$3,750	$30,000	$24,000	$300	$300	$100
$25,000	$6,250	$5,000	$50,000	$40,000	$500	$500	$167
$35,000	$8,750	$7,000	$70,000	$56,000	$700	$700	$234
$50,000	$12,500	$10,000	$100,000	$80,000	$1,000	$1,000	$333
$100,000	$25,000	$20,000	$200,000	$160,000	$2,000	$2,000	$666
$250,000	$62,500	$20,000	$500,000	$400,000	$5,000	$5,000	$1,667
Married Households							
Total Household Income	**Assets at Age 30**	**Annual College Expense**	**House Value**	**Mortgage**	**Monthly Mortgage Payment**	**Annual Property Taxes**	**Annual Home Maintenance**
$20,000	$5,000	$5,000	$40,000	$32,000	$400	$400	$133
$30,000	$7,500	$7,500	$60,000	$48,000	$600	$600	$200
$50,000	$12,500	$10,000	$100,000	$80,000	$1,000	$1,000	$333
$70,000	$24,500	$14,000	$140,000	$136,000	$1,400	$1,400	$466
$100,000	$25,000	$20,000	$200,000	$160,000	$2,000	$2,000	$667
$200,000	$50,000	$40,000	$400,000	$320,000	$4,000	$4,000	$1,334
$500,000	$125,000	$40,000	$1,000,000	$800,000	$10,000	$10,000	$3,333

Table 2

Marginal Effective Federal Tax Rates on Working

Single Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$10,000	-23.1%	23.0%	-23.2%	23.0%	29.8%	23.0%
$15,000	33.3%	23.0%	33.8%	23.0%	22.4%	23.0%
$25,000	34.2%	23.0%	47.7%	23.0%	26.2%	23.0%
$35,000	50.2%	23.0%	28.3%	23.0%	29.0%	23.0%
$50,000	28.2%	23.0%	22.4%	23.0%	36.5%	23.0%
$100,000	27.6%	23.0%	27.5%	23.0%	28.6%	23.0%
$250,000	41.5%	23.0%	37.2%	23.0%	35.5%	23.0%
Married Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$20,000	33.8%	23.0%	41.4%	23.0%	23.5%	23.0%
$30,000	33.7%	23.0%	47.6%	23.0%	28.2%	23.0%
$50,000	28.0%	23.0%	28.2%	23.0%	28.2%	23.0%
$70,000	28.3%	23.0%	28.2%	23.0%	32.7%	23.0%
$100,000	33.5%	23.0%	33.7%	23.0%	34.3%	23.0%
$200,000	35.3%	23.0%	31.2%	23.0%	37.5%	23.0%
$500,000	38.4%	23.0%	38.4%	23.0%	37.2%	23.0%

Table 3

Marginal Effective Federal Tax Rates on Saving

Single Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$10,000	24.6%	0.0%	25.2%	0.0%	24.8%	0.0%
$15,000	24.6%	0.0%	26.2%	0.0%	23.1%	0.0%
$25,000	24.7%	0.0%	27.2%	0.0%	23.2%	0.0%
$35,000	25.2%	0.0%	27.3%	0.0%	26.4%	0.0%
$50,000	25.3%	0.0%	31.3%	0.0%	32.4%	0.0%
$100,000	30.2%	0.0%	34.8%	0.0%	39.2%	0.0%
$250,000	36.0%	0.0%	43.0%	0.0%	37.2%	0.0%
Married Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$20,000	26.5%	0.0%	27.2%	0.0%	22.6%	0.0%
$30,000	26.6%	0.0%	27.1%	0.0%	23.6%	0.0%
$50,000	29.0%	0.0%	27.5%	0.0%	23.6%	0.0%
$70,000	28.9%	0.0%	30.5%	0.0%	32.2%	0.0%
$100,000	33.4%	0.0%	33.8%	0.0%	36.4%	0.0%
$200,000	37.3%	0.0%	39.4%	0.0%	35.2%	0.0%
$500,000	54.2%	0.0%	50.7%	0.0%	38.2%	0.0%

Table 4

Marginal Effective Federal Tax Rates on Saving Assuming Return is Taxed at Capital Gains/Dividend Rate

Single Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$10,000	24.6%	0.0%	25.0%	0.0%	21.5%	0.0%
$15,000	24.6%	0.0%	25.1%	0.0%	20.7%	0.0%
$25,000	24.7%	0.0%	26.5%	0.0%	20.1%	0.0%
$35,000	25.2%	0.0%	26.9%	0.0%	24.0%	0.0%
$50,000	25.3%	0.0%	27.8%	0.0%	23.9%	0.0%
$100,000	28.8%	0.0%	33.8%	0.0%	38.1%	0.0%
$250,000	30.4%	0.0%	33.7%	0.0%	26.9%	0.0%
Married Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$20,000	26.3%	0.0%	25.9%	0.0%	21.3%	0.0%
$30,000	26.9%	0.0%	26.1%	0.0%	21.4%	0.0%
$50,000	27.3%	0.0%	26.5%	0.0%	21.1%	0.0%
$70,000	27.8%	0.0%	27.2%	0.0%	23.7%	0.0%
$100,000	31.9%	0.0%	29.2%	0.0%	27.6%	0.0%
$200,000	32.9%	0.0%	34.1%	0.0%	29.7%	0.0%
$500,000	39.8%	0.0%	38.3%	0.0%	29.8%	0.0%

Table 5

Average Remaining Federal Lifetime Tax Rates – the Current System vs. the FairTax

Single Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$10,000	-12.3%	-7.3%	6.2%	-4.2%	6.5%	-19.6%
$15,000	-4.0%	2.3%	11.3%	-0.8%	9.8%	-19.2%
$25,000	10.2%	10.2%	17.7%	9.9%	14.1%	-2.6%
$35,000	18.5%	13.6%	20.7%	10.8%	16.7%	-1.8%
$50,000	21.1%	16.2%	23.5%	15.2%	21.5%	5.8%
$100,000	27.5%	19.4%	30.3%	17.7%	32.1%	10.9%
$250,000	27.9%	21.5%	33.6%	21.0%	40.8%	18.7%
Married Households						
Total Household Income	Young Adult (Age 30)		Middle Aged (Age 45)		Senior (Age 60)	
	Current System	FairTax	Current System	FairTax	Current System	FairTax
$20,000	3.1%	7.0%	11.0%	7.3%	7.2%	-7.2%
$30,000	12.5%	11.9%	15.3%	9.3%	10.1%	-6.1%
$50,000	19.1%	16.0%	19.6%	14.8%	14.2%	3.2%
$70,000	21.1%	17.8%	21.3%	15.5%	17.0%	4.3%
$100,000	23.2%	19.1%	24.0%	17.7%	22.4%	8.9%
$200,000	27.2%	20.8%	29.0%	19.4%	32.2%	13.2%
$500,000	30.6%	22.1%	35.6%	21.6%	41.5%	19.5%