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SIX TAX LAWS LATER: HOW INDIVIDUALS' MARGINAL FEDERAL INCOME TAX RATES CHANGED BETWEEN 1980 AND 1995

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ABSTRACT

We examine the evolution of marginal federal income tax rates from 1980 to 1995 using panel and cross-section data. Marginal rates fell dramatically for most taxpayers. Whereas in 1980, three-quarters of taxpayers faced statutory tax rates above 15 percent, less than one-quarter of taxpayers were in that situation in 1995. Individuals' tax rates also rose and fell due to life-cycle changes in income. Young people (age 30-44) were twice as likely to experience tax rate increases as older taxpayers. Nonetheless, the majority of taxpayers in every age group experienced rate reductions. The large tax rate cuts in 1981 and 1986 clearly dominate life-cycle effects.

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Introduction

The 1980s and 1990s have been extraordinarily turbulent times for federal income tax policy. The income tax was significantly altered seven times: in 1981, 1982, 1984, 1986, 1990, 1993 and 1997, with additional changes made in others years as well.[1] Those changes have modified numerous features of the tax law, including the base, the level and structure of tax rates, the existence and generosity of deductions, exemptions, credits, and other tax expenditures, the indexation provisions for inflation, and other factors.

This paper examines one aspect of those changes: their effect on individuals' marginal tax rates. Data are not yet available to assess the effects of the 1997 tax act, but we are able to examine how 15 years of tax reforms and tinkers–from 1980 to 1995–have played out in terms of marginal tax rates under the federal individual income tax. We estimate the overall changes in marginal tax rates that households face and also attempt to decompose those changes into the portion due to tax law and the portion due to life-cycle changes in income.

The level of marginal federal income tax rates is an important determinant–although far from the only one–of the burden of the income tax. The rule of thumb from the optimal tax literature is that the deadweight loss of the income tax is proportional to the square of the marginal tax rate. Thus, cutting marginal tax rates in half from 40 percent to 20 percent would, all else equal, reduce the efficiency cost of the income tax by 75 percent (Rosen 1995).[2] Low marginal tax rates reduce disincentives to work and save, and reduce the incentive to avoid or evade taxes. There are few systematic estimates, however, of the effect of tax law changes on the marginal tax rates faced by households over this period.[3]

Changes related to life-cycle factors–primarily work and retirement–are also important. Many economic decisions depend on how tax rates evolve over the life cycle. For example, the decision to invest in a traditional front-loaded IRA or the new back-loaded Roth IRA depends in part on a taxpayer's estimates of how his or her marginal income tax rate will evolve over time. If tax rates fall, a taxpayer is better off with the front-loaded IRA; if they increase, then the back-loaded IRA is a better deal. The effective tax rate on

such tax-deferred saving, and thus the long-run distributional and revenue effects, also depends on the evolution of tax rates.[4]

Holding tax law constant, under a progressive income tax, marginal tax rates will tend to be higher during individual's peak earning years than in retirement. No estimates exist, however, of how marginal tax rates vary over the life cycle, or of how these changes compare with the magnitude of statutory changes in tax rates.

To measure those effects, we use data from the Statistics of Income file for 1995, as well as data from a panel of taxpayers from 1980 to 1995. We supplement those data with matched information from Social Security earnings records that allows us to determine the age of each taxpayer. We use those data to examine statutory and effective tax rates in 1995 and the evolution of statutory marginal tax rates from 1980 to 1995. The statutory tax rate includes only the explicit tax rates effected through the ordinary income tax or the alternative minimum tax. Our measure of effective tax rates includes implicit taxes created by the phase-out of the earned income tax credit, the phase-out of personal exemptions and itemized deductions, and the taxation of Social Security earnings.

Our analysis yields several major conclusions. Marginal federal income tax rates fell dramatically for most taxpayers between 1980 and 1995. Whereas more than three-quarters of taxpayers faced statutory tax rates above 15 percent in 1980, by 1995, less than one-quarter of taxpayers were in that situation. The proportion of taxpayers facing rates of 28 percent or less rose from 77 percent in 1980 to 96 percent in 1995. Put another way, the tax rate increases enacted in 1990 and 1993 affected only four percent of taxpayers. The highest tax rates effected by the controversial tax increase–36 percent or more–applied to less than one percent of taxpayers in 1995; in contrast, 14 percent of taxpayers faced such high marginal tax rates in 1980. The sharp decreases in rates in 1981 and 1986, which cut top statutory tax rates from 70 percent to 28 percent, were clearly the dominant factor.

Individuals' tax rates also rose and fell due to life cycle changes in income. In the panel of taxpayers,

young people (age 30-44) were more than twice as likely to experience tax rate increases over the 15-year time span as older taxpayers. But, the effects of the major tax changes dominate even in the youngest group. As a result, the majority of taxpayers in every age group experienced rate reductions.

Selected Effects of Major Tax Policy Changes Between 1980 and 1995

As of 1980, federal income tax rates for married couples filing jointly ranged from a low of 14 percent (on taxable income in excess of $3,400) to a high of 70 percent (on taxable income above $215,400).[5] The Economic Recovery Tax Act of 1981 phased in across-the-board reductions in marginal tax rates, and indexed for inflation the personal exemption, standard deduction, and taxable income brackets, starting in 1984.

The Tax Reform Act of 1986 reduced the number of statutory tax rates to two, with rates of 15 percent and 28 percent, applicable starting in 1988. However, the phase-out of personal exemptions and the 15-percent rate bracket caused the effective marginal tax rate to increase to 33 percent in a range of higher incomes (sometimes called, unaffectionately, the "bubble"); beyond that range, the rate fell back to 28 percent.

The political consensus reached in the 1986 act, which allowed for lower rates and a broadened tax base, gradually gave way to the 1990 and 1993 budget agreements. The 1990 budget agreement eliminated the 33-percent bubble, created a new 31-percent tax bracket, introduced temporary limits on itemized deductions and a phase-out of personal exemptions, and expanded the earned income tax credit. The 1993 agreement created high-income brackets of 36 percent and 39.6 percent, expanded the earned income tax credit further, and made permanent the phase-outs of itemized deductions and personal exemptions.

One way to gauge the impact of these changes is shown in Figure 1, which reports estimates of how marginal income tax rates have changed over time for a four-person family with all of its income from wages. (U. S. Department of the Treasury 1998) For a family with the median level of income, the marginal

income tax rate fell slightly between 1980 and 1986, and then dropped by seven percentage points because of the 1986 act. The marginal tax rate for a family with twice the median income fell from 43 percent in 1980 to 38 percent in 1986, and then to 28 percent by 1988. For a family with half of median income, the marginal tax rate fell from 18 percent in 1980 to 14 percent in 1986, and then rose to 15 percent after the 1986 act. It rose dramatically in the 1990s because a four-person family with income at half the median fell into the phase-out range for the earned income tax credit for the first time in 1991. The subsequent trend upward was due to the increases in the phase-out rate enacted in 1990 and 1993.

Data

We examine the impact of the changes listed above on marginal federal individual income tax rates using data from two sources: the 1995 Statistics on Income (SOI) sample, and a panel of randomly selected taxpayers in 1980 and 1995.

Our tabulations of the SOI sample exclude the returns of individuals claimed as dependents on other returns.[6] The data were matched with Social Security earnings records to establish taxpayers' ages. Our SOI sample uses all returns where the age of the primary taxpayer (i.e., the taxpayer with the first Social Security number listed on the tax return) is between 25 and 89. We adjusted the data to account for nonfilers in each age group. Filers in the SOI were compared with filing units constructed from the March 1996 Current Population Survey (CPS). The number of nonfilers was approximated by comparing the number of filers for each age cohort with incomes under $10,000 to the number of filing units present in the CPS. The excess of the CPS figure over the SOI figure was added to the lowest income group in each age cohort as a rough approximation for differences in filing across cohorts. The nonfiling group was assumed to face a zero marginal income tax rate. Our sample of SOI filers represents about 92 million returns. To this figure, we added approximately 18 million nonfilers on the basis of the CPS data.[7]

Calculations of effective tax rates are fraught with difficult conceptual and measurement problems

concerning the appropriate definition of "taxes" and "income." We do not claim to resolve those issues here. Rather we simply report how we construct our estimates and indicate why we believe the estimates may be useful.

Our estimates of effective marginal tax rates using the 1995 SOI sample are simulated by adding $1,000 of adjusted gross income and calculating the change in federal income tax using the Congressional Budget Office's federal income tax calculator. The estimates adjust for all of the significant and applicable components of tax law, including the statutory tax rates under the ordinary income tax and the alternative minimum tax, the phase-out of the earned income tax credit (but not the phase-in, which only applies to labor earnings), the phase-out of personal exemptions and itemized deductions, and the taxation of Social Security earnings. Thus, we do not include burdens created by federal corporate, estate, payroll or excise taxes, nor any taxes imposed at the state or local level. Nor do we consider any of the implicit taxes created by the income-related phase-outs of government transfer programs, such as welfare or food stamps.

The effective rates apply to adjusted gross income generally. But they would not apply, for example, to capital gains for taxpayers in the top tax brackets, because the tax rate on gains was capped at 28 percent in 1995. Nor do they account for tax-preferred uses or sources of income, or for the direct effect of tax credits because they apply to specific forms of income or expense. Thus, it may be most appropriate to conceive of our effective tax rate estimates as applying to the direct marginal federal income tax consequences of an additional dollar in labor earnings (except for the phase-in portion of the earned income credit) or taxable interest receipts.

For comparison purposes, we also report the distribution and level of statutory marginal tax rates (i.e., the tax bracket) in the SOI sample in 1995. For simplicity, statutory tax rate calculations assume that all taxpayers on the alternative minimum tax face the higher marginal tax rate of 28 percent. That is, we ignore the 26-percent tax bracket under the alternative minimum tax, which applies to relatively few taxpayers.

Our second data set is a panel based on a random sample of returns collected by the IRS every year. Tax

returns are selected based on the last four digits of the primary taxpayer's Social Security number. The same four-digit sequence is used in 1980 and in 1995. Taxpayers are matched across years according to the primary taxpayer's Social Security number in each year. Age is not reported by the taxpayer, but was attached to the file based on a match with Social Security records. Matched returns include returns with changes in filing status between 1980 and 1995.

There is substantial attrition in the panel: of the approximately 8,400 returns in the 1980 sample, we could match 5,500 to a return in the 1995 sample. Returns leave the panel for several reasons, including: the taxpayer's income falls below the filing threshold in 1995; the taxpayer dies between 1980 and 1995; the taxpayer reports an inaccurate Social Security number in either 1980 or 1995; the taxpayer files a late return in 1995; a processing error occurs; for couples that remain married, the taxpayer who is listed first in the 1980 return is listed second in the 1995 return; and a taxpayer's marital status changes so that he or she is no longer the primary taxpayer.

For most of the analysis using the panel, we simply exclude from the sample taxpayers whose returns are missing in 1995; that is, we use the 5,500 matched returns. We conjecture that this exclusion will tend to understate the extent to which tax rates fell for households in the sample over the period, since some of the excluded taxpayers would have had income below the filing threshold in 1995, and therefore would have faced a marginal tax rate of zero. However, that exclusion may overstate the extent to which tax rates fell for all taxpayers, since households with temporarily low income in 1980 would be less likely to have filed in 1980, and therefore less likely to have appeared in the sample to begin with.[8]

Our analysis using the panel focuses on how statutory tax rates changed from 1980 to 1995 for households in the panel.

Evidence

We begin with recent (1995) data on the distribution of statutory federal income tax rates across filing

units. The vast majority of households are taxed at the lowest rate (15 percent) or not subject to federal income tax at all. About 30 percent of tax units faced a statutory marginal tax rate of zero or did not file a return (see Table 1). Over 77 percent faced a marginal rate of 15 percent or less. More than 96 percent faced a marginal rate of 28 percent or less. Thus, very few taxpayers are subject to the higher brackets introduced in 1990 and 1993. About 3 percent faced marginal rates of 31 or 36 percent, and only one-half of 1 percent were in the highest statutory marginal tax bracket of 39.6 percent.

Those rates reflect the life cycle pattern of income. Households in their peak earning years, ages 40 through 59, were more likely to be in higher tax brackets than either younger or older households. However, even for households with primary taxpayers between the ages of 45 and 54, nearly two-thirds were in the zero or 15 percent bracket. About 90 percent of tax units headed by someone younger than 30 or older than 69 were in the zero or 15 percent bracket. In every age group, less than 3 percent of taxpayers faced statutory marginal tax rates above 31 percent.

Table 2 shows how statutory marginal tax rates vary across the income distribution by age. Overall, the average marginal tax rate in 1995 is 13.7 percent. Marginal tax rates rise significantly with income. The bottom 20 percent of households is untaxed under the income tax; three-quarters do not file returns. The marginal rates increase to 14.6 percent in the middle quintile, to 25.2 percent for taxpayers in the 81st to 94th percentiles, and up to 36.2 percent for the top percentile.

Tax rates vary significantly with age. The average marginal tax rate ranges from 10.3 percent or less for units with primary taxpayers age 65 and older to 17.1 percent when the primary taxpayer is between the ages of 45 and 54. The tax rate faced by the middle quintile ranges from about 18 percent for ages 45 to 49, and above 16 percent for ages 35 to 59, to below five percent for taxpayers above age 75.

Table 3 examines the effective marginal tax rates that those households face, including the effect of implicit taxes as explained in the previous section. Those results follow patterns similar to those in Table 2. The overall effective marginal tax rate is 15.9 percent, compared to an average statutory rate of 13.7

percent. The largest overall differences between effective and statutory tax rates occur in the second and third income quintiles, primarily because of the large implicit tax created by the phase-out of the earned income credit.[9] The average effective tax rate is more than four percentage points above the average statutory rate in both quintiles. For example, in the middle quintile, the effective marginal rate is 18.9 percent compared with an average statutory rate of 14.6 percent.

The average effective tax rate rises significantly with income and varies with age in similar ways as the average statutory rate in Table 2. One interesting difference concerns the effective tax rate facing high-income elderly filing units, which is increased above the statutory rate primarily because of the partial taxation of Social Security benefits. That effectively places an additional tax on the income of taxpayers receiving Social Security who have moderate to moderately high income from other sources.

The information available in the SOI can provide a useful snapshot of the distribution of tax burdens at a specific point in time. It is difficult, however, to use the cross-sectional effects to glean information about the dynamics of tax burdens over time or over the life cycle. To examine those dynamics, we turn to the panel data described above to analyze the change in statutory tax rates between 1980 and 1995.

Figure 2 compares the distribution of tax rates for all tax units in the panel in either 1980 or 1995, and illustrates that statutory tax rates have fallen dramatically over the 15-year span.[10] Whereas in 1980, more than three-quarters of taxpayers faced statutory tax rates above 15 percent, by 1995, less than one-quarter of taxpayers faced such high rates.[11] The proportion of taxpayers facing rates of 28 percent or less rose from 77 percent in 1980 to 96 percent in 1995. The highest tax rates effected by the controversial tax increase–36 percent or more–applied to less than one percent of taxpayers in 1995; in contrast, 14 percent of taxpayers faced such high marginal rates in 1980.

Figure 3 shows how both the statutory changes and life-cycle factors combined to change average marginal tax rates for three cohorts of taxpayers. The figure is based on the matched sample of about 5,500 taxpayers with returns in both 1980 and 1995. The figure illustrates the overall decline in tax rates between

1980 and 1995. Comparing the top and bottom panels of the figure, it is apparent that the modal tax rate fell between 1980 and 1995. Proportionately fewer taxpayers are in the 28-percent and higher tax brackets in 1995, and many more are in the 15-percent and zero brackets.

The life-cycle factors are evident in the distribution of tax rates among cohorts changed. In 1980, taxpayers age 45 to 59–those in their peak earning years–faced the highest marginal tax rates, and the oldest cohort was most likely to be in lower tax brackets. By 1995, the youngest cohort, now age 45 to 59, faces the highest tax rates. They are about twice as likely as the other two cohorts to be in the 28-percent or higher tax brackets. The middle cohort, now in or near retirement age, is taxed at rates only slightly higher than the oldest cohort, which is 75 to 89 years old in 1995. Thus, life cycle factors are also important to the evolution of tax rates for taxpayers in the panel.

Table 4 shows transition matrices for marginal tax rates for the three cohorts. Entries below the diagonal correspond to taxpayers whose marginal tax rate fell over the period. Entries above the diagonal and some proportion of those on the diagonal correspond to taxpayers with increases in marginal tax rates. The table shows that the majority of taxpayers in the panel experienced drops in marginal tax rates between 1980 and 1995. More than 85 percent of taxpayers age 45 to 59 in 1980 (the first panel) faced lower marginal rates in 1995 than in 1980. By comparison, 68 percent of taxpayers age 30 to 44 in 1980 (second panel) faced lower rates, as did about 82 percent of taxpayers in the oldest cohort (third panel).

Older taxpayers in 1980 were less likely to experience substantial tax rate increases than the youngest cohort. Only four percent of the middle-age taxpayers and 3.8 percent of the oldest cohort experienced rate increases (are above the diagonal), compared with 7.4 percent of the young taxpayers.[12] Many of the taxpayers on the diagonals also experienced smaller tax increases, but the pattern is the same: 10.5 percent among the taxpayers age 45 to 59, 14.5 percent among the oldest cohort, and 24.4 percent among 30- to 44-year olds.[13]

Table 5 shows the distribution of changes in tax rates controlling for initial filing status. Marginal tax

rates of single taxpayers fell by more than 8 percentage points between 1980 and 1995. [14] The vast majority experienced significant rate reductions between 1980 and 1995. Middle-age and older taxpayers were more likely to experience the larger declines. Slightly less than one-third of single taxpayers age 30 to 44 in 1980 had rate decreases of 11 or more percentage points, compared with 54 percent of taxpayers between 45 and 59 in 1980, and 45 percent of the older taxpayers. Similarly, young taxpayers were much more likely to experience tax increases. About 21 percent of taxpayers under 45 in 1980 had rate increases of more than one percentage point, compared with 12 percent of middle-age taxpayers, and ten percent of the oldest cohort.

Among married taxpayers filing jointly, marginal tax rates fell by an average of over 8 percentage points. About 56 percent of middle-age married taxpayers in 1980 experienced marginal tax rate reductions of 11 or more percentage points, and only eight percent experienced a tax increase of more than one percentage point. The comparisons with other age groups are similar to those for single taxpayers.

The results so far indicate declines in marginal tax rates that are broad-based by age and income. A natural and important question is determining the extent to which such declines were due to changes in tax law as opposed to changes in earnings or other income over the life-cycle. To some extent, the answer is already clear. Because of the 1981 and 1986 legislation, which reduced marginal tax rates significantly, there is a strong presumption that much of the effect has to do with changes in tax law. Moreover, the fact that all age groups saw a decline in tax rates, even though some were moving into their peak earning years and some were moving out, suggests that a major share of the change is due to tax law rather than life-cycle considerations.

Approaching the question formally would require estimates of tax rates that taxpayers would have faced in 1980 given their 1980 income and 1995 tax law, or estimates of the tax rates that taxpayers would have faced in 1995 given their 1995 income and 1980 tax law. We hope to pursue that approach in future work. In the meantime, a rough estimate of the importance of tax law changes versus life-cycle changes can be

gleaned from Tables 6 and 7. Consider the cohort age 45 to 59 in 1980. By 1995, that cohort is age 60 to 74 and faces a new set of marginal tax rates. Table 6 decomposes that tax change into two components: one due to changes in tax law and the other due to changes in life-cycle income. We estimate the effects of the changes in tax law by comparing the marginal tax rates the cohort faced in 1980 (shown in column (1)) to the marginal tax rates that the cohort aged 45 to 59 in 1995 faced in 1995 (shown in column (2)). That provides an estimate of the effect of the tax law change because it compares the marginal tax rates for different cohorts of 45- to 59-year olds in different years.

We estimate the effects of life-cycle related changes in income by comparing the tax rates faced by the cohort age 45 to 59 in 1995 (in column (2)) to the tax rates faced by the cohort age 60 to 74 in 1995 (in column (3)). This gives a sense of how marginal tax rates vary over the life cycle for a given tax law, provided there are not substantial changes in the level or composition of income across cohorts.

The main result of the table is that most of the tax rate changes between 1980 and 1995 facing the cohort age 45 to 59 in 1980 were due to changes in tax law rather than changes in income over the life cycle. Comparing columns (1) and (2), the proportion of 45- to 59-year olds that paid a tax rate of 15 (28) percent or less was 54 (90) percent in 1995 compared to only 8 (57) percent in 1980. The proportion that paid a tax rate of 36 percent or more was 2 percent in 1995 compared with 24 percent in 1980. The changes from column (2) to (3) are significant but nowhere near as large. The proportion paying a marginal rate of 15 percent or less rises by 20 percentage points, the proportion paying 28 percent or less rises by 5 percentage points, and the proportion paying 36 percent or more declines by 1.3 percentage points. Put differently, more than two-thirds of the shift into the lowest tax bracket is due to changes in tax law (under our assumptions); less than one-third is due to life-cycle factors. Nearly 95 percent of the shift out of the highest tax brackets is due to the tax law changes.

Table 7 provides a similar decomposition for the oldest cohort (age 60 to 74 in 1980). The proportion of this cohort paying a tax rate of 15 percent or less rose from 13.0 percent in 1980 to 77.8 percent in

1995–comparing columns (1) and (3). Comparing columns (1) and (2), the change in the tax law can account for nearly all (97 percent) of the shift to lower rate brackets. Similarly, the change in the proportion paying a marginal rate of 28 percent or less rose from 63 percent in 1980 to 95 percent in 1995, and the proportion paying 36 percent or more fell from 16 percent to 0.5 percent. In both cases, virtually all of the change can be attributed to changes in tax law rather than to changes in income.

Finally, as noted above, one reason the evolution of tax rates over time is of interest relates to dynamic saving choices and policy issues. In particular, a number of issues concerning front-loaded and back-loaded IRAs hinge on how tax rates change over time. Table 8 provides some very preliminary evidence on how tax rates changed for people age 45 to 59 who contributed to IRAs in 1980 compared with all taxpayers in that age group. The table suggests that IRA contributors did not experience larger rate reductions than non-IRA contributors and were more likely to face a rate increase. This finding is particularly noteworthy because IRA contributors tended to have higher than average income, and tax rates fell the most–in arithmetic terms–at the top of the income spectrum. These results are consistent with other data that show that IRA contributors save more than non-IRA contributors (Venti and Wise 1990; Gale and Scholz 1994). Because IRA contributors tend to have higher saving, their incomes are higher in retirement, which explains why they are less likely to experience rate reductions and more likely to experience rate increases than other people in the same cohort.

However, the results for IRAs are based on a very small sample. Universal eligibility for tax-deductible IRA contributions was not established until 1982. In 1980, only eight percent of taxpayers in that age bracket contributed. A fuller investigation of IRAs will focus on tax rates during the 1982 to 1986 period, when contributions were tax-deductible for all workers.

Conclusions

We present several findings on the distribution of statutory and effective marginal income tax rates in

1995 using an SOI sample supplemented to include nonfilers, and on the change in the distribution of statutory marginal tax rates over the 1980-1995 period using a panel of tax returns.

In 1995, over three-quarters of filing units were in the zero or 15 percent tax bracket, and more than 96 percent faced a statutory marginal tax rate of 28 percent or less. The average statutory marginal rate was 13.7 percent. Effective marginal tax rates were higher. The average effective marginal rate was almost 16 percent, and was four percentage points higher for the middle quintile than was the average statutory rate.

Between 1980 and 1995, we find that statutory marginal income tax rates have fallen markedly for most households in the tax panel. The evolution of tax rates for individual households is a function of both tax law and the change in households' income and other circumstances over time. Our results suggest that changes in tax law should be credited with the vast majority of the reduction in marginal tax rates. That is perhaps not a surprising finding, given the reductions in marginal tax rates enacted in 1981 and 1986, and the indexation of taxes established in 1981 and effective a few years later. Although much has been made of the tax rate increases effected by the 1990 and 1993 budget acts, which introduced the 31, 36, and 39.6 percent tax brackets, those changes appear to have raised the marginal tax rates of very few taxpayers and have come nowhere near offsetting the effects of the 1981 and 1986 acts.

Our research also provides support for the conventional wisdom that tax rates fall in retirement, but the implication of that finding for decisions about retirement saving accounts is less strong. Preliminary evidence is that IRA contributors are less likely to experience rate reductions than other taxpayers. Those households tend to save more than other households, even outside of IRAs, and their higher overall level of saving translates into higher retirement income.

All of those results come with several caveats. First, the distribution of effective tax rates will in general be different from the distribution of statutory tax rates, and the relation between the two probably changed between 1980 and 1995. Second, the true effective marginal tax rate is a weighted average of the taxes on all sources and uses of income, at all levels of government, and includes the phase-outs in means-tested

government spending programs. Marginal tax rates measured in such a comprehensive manner have almost certainly fallen much less than the estimates we provide. For example, our estimates omit the effect of payroll taxes, which rose from a combined employer-employee rate of 12.26 percent in 1980 to 15.3 percent in 1995. Third, our results do not include analysis of the Taxpayer Relief Act of 1997, which–when fully phased in–will raise effective marginal tax rates for many households due to the phase outs of child and education credits.

ENDNOTES

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1. In addition, the payroll tax increased significantly as part of the Social Security reforms enacted in 1983.

2. In practice, some of the tax cuts were accompanied by base broadening measures. As a result, the average marginal tax rate on all sources of income probably fell by less than the marginal tax rate on adjusted gross income–that is, the part of income that is subject to tax. In this sense, the decline in tax rates might overstate the decline in tax burden. However, another source of inefficiency from the income tax arises from differences in tax rates on different forms of income and expense. Thus, even if the average tax rates on total income were unchanged, reducing the variation in tax rates among different kinds of income would make the income tax more efficient.

3. In contrast, there are numerous estimates of how average tax rates have evolved by income class. See, e.g., U. S. Congressional Budget Office(1987), Bradford(1995), and Slemrod (1994).

4. A related example involves decisions about making withdrawals from pensions. Most individuals with pensions are offered the option of cashing out when they leave an employer. If they are under 55 years of age and elect to cash out, they have to pay income tax and a penalty. Cashing out is less expensive if tax rates are expected to be higher in retirement than when the withdrawal is made (Burman and Coe 1998).

5. Details of the tax reform acts may be found in Pechman (1987), Steuerle (1991), and U. S. Congressional Budget Office (1994).

6. This sample is described in Internal Revenue Service (1997).

7. The full 1995 SOI sample includes about 117,000 records (unweighted).

8. An alternative approach to handling attrition would be to assume that all of the missing returns are due to taxpayers having 1995 incomes that were below the filing threshold. This procedure would assign a marginal tax rate of zero in 1995 to the missing returns, and would overstate the decline in the marginal tax rates.

9. See Barthold, Koerner, and Navratil (1998) for a comprehensive discussion of the way phase-outs and other provisions of the tax code create implicit tax surcharges. They also discuss new implicit taxes created under the 1997 act.

10. Note that numbers in Figure 2 are not directly comparable to estimates in later tables and figures, because Figure 2 applies to <u>all</u> taxpayers whereas the subsequent estimates are based on taxpayers in the panel in both years.

11. The 1995 percentages underlying the figure are slightly different from those presented in Table 1 for two reasons. First, the figure applies only to taxpayers–not to nonfilers. Second, the figure is based on the smaller panel sample, whereas Table 1 was based on the much larger SOI sample.

12. Totals may differ from the sum of cell percentages in the table because of rounding.

13. Tables delineating the transition matrices for every statutory tax bracket in 1980 are available upon request from the authors.

14. Many taxpayers changed marital status between 1980 and 1995. A similar tabulation of taxpayers whose marital status remained unchanged would have found fewer and smaller rate increases for single taxpayers and fewer and smaller rate decreases for married taxpayers.

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