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Did the Tax Cut Really Cut Taxes?

looking at tax policy

The Merits of Efficient Taxation

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EDITOR'S NOTE: LOOKING AT TAX POLICY

The national debate over tax policy reached a seeming climax earlier this year with the passage of a new tax package for individuals and businesses. The aim of the law was to increase incentives to work, save, and invest—to get the economy off its back and growing again. Far from ending the tax debate, however, this legislation appears rather to have spurred it on.

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The present issue of the *BUSINESS REVIEW* contains two contributions to the ongoing discussion. Stephen Meyer and Robert Rossana focus on the tax legislation and ask whether it will have its desired effect on individuals. Their answer is that it won't—that since most people will not be paying a smaller tax in years to come despite reductions in rates, the hoped-for incentive gains will not materialize. Only a much larger reduction in tax rates, they suggest, would alter the incentives to any effect. Ira Kaminow points out that beyond the issue of tax reduction lies the question of tax efficiency: how can the tax burden be distributed so as to induce the smallest distortions in economic behavior? He suggests that the social costs of our inefficient tax system are enormous, and he discusses several proposals that could yield large efficiency gains.—J.J.M.

Did the Tax Cut Really Cut Taxes?

By Stephen A. Meyer and Robert J. Rossana*

In response to slowing productivity growth and a public outcry in favor of tax cuts, President Reagan proposed and Congress adopted a package of tax cuts for individuals and businesses. For individuals the major element of the tax package is a twenty-five percent cut in personal income tax rates, spread over three years.¹

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¹Even though the President and Congress refer to a "twenty-five percent cut" in personal income tax rates, the new law actually provides a twenty-three percent cut. On October 1, 1981 tax rates were cut 5%. On July 1, 1982 tax rates will fall by a further 10% from their levels on June 30, 1982. Then on July 1, 1983 tax rates will be cut by 10% more, from their levels on June 30, 1983. Overall this is equivalent to a 23% cut in tax rates from their levels in mid-1981.

The President's tax proposals were subjected to a lively debate, both in the legislature and in the press. Much of the argument focused on the question of how people would respond to so large a cut in income taxes. Would they save the extra take-home pay or would they spend it? Would people respond to higher after-tax wages by working harder and longer? Would owners of small businesses seek to expand and undertake more investment as their personal tax rates were cut?

Our analysis suggests that the three-year cut in personal income tax rates will have little effect on people's behavior, because few taxpayers will face lower tax rates in 1983 than they did in 1980. We construct estimates of the new tax rates that households in the U.S. will face over the next few years. Our estimates indicate that the tax rate on any given *real* income will not fall from 1980 to 1983. Inflation will continue to push people into higher tax brackets (higher dollar

income) as fast as the tax rate on any given dollar income falls. When social security taxes are added to personal income taxes, we find that most families will actually wind up facing higher Federal tax rates in 1983 than they did in 1980, if their dollar incomes keep pace with inflation.

The twenty-five percent cut in personal income tax rates over three years, as proposed by President Reagan and enacted by Congress, is more properly described as an attempt to offset built-in tax increases caused by inflation than as a real cut in tax rates. Unless inflation from 1981 through 1983 turns out to be much lower than the Administration has projected, Federal income tax rates will be slightly higher (for the same real income) in 1983 than now. Of course Federal income tax rates will be substantially lower in 1983 than they would have been without the tax package adopted earlier this year. Because people with the same real income will face roughly the same tax rates as last year, however, it is unlikely that the personal income tax package adopted in 1981 will induce people to change their real economic behavior from what it is now.

TAXPAYERS FEEL THE PINCH

Many Americans know that their incomes have risen in the past few years, but after paying taxes they feel unable to purchase as much as they could previously. This observation is generally correct. The interaction of inflation with our progressive income tax code, and rising social security taxes, have combined to reduce after-tax real incomes.

Bracket Creep Raises Taxes . . . By social consensus the U.S. constructed an income tax code which requires those with greater ability to pay to shoulder a larger burden in financing the activities of government. As taxable income rises so too does the marginal income tax rate—the extra tax incurred on each extra dollar of taxable income. However, the tax system does not recognize the difference between nominal and real (inflation-adjusted) income. This blind spot then

leads to *bracket creep*; as incomes rise just enough to offset the effects of inflation, taxes due on those incomes rise still faster. For example, husbands and wives who filed joint returns in 1980 and who earned a \$30,000 taxable income paid \$6,238 in Federal income taxes for that year. Now suppose that all prices rise 10 percent. If taxable income also rises by 10 percent (enough to preserve its purchasing power), these households would pay \$7,348 in Federal income taxes—an increase in tax payments of nearly 18 percent. Bracket creep means that real tax payments rise when inflation occurs. This raises the real receipts of the government just as if Congress had passed legislation to raise taxes. These unlegislated tax increases are a major factor accounting for recent declines in real after-tax incomes.

. . . As The Social Security Wage Base Rises. The decline in after-tax incomes has been reinforced by changes in the social security program. This system, designed to provide a part of the retirement income of older Americans, is financed by contributions (taxes) levied upon both firms and workers. Workers who participate in financing this program are then entitled to its benefits during their retirement years. With the program heading for apparent insolvency, Congress has been forced to raise both the tax rate and the wage base upon which taxes are levied (see Table 1). The wage base is the maximum amount of each worker's wage and salary income that is subject to social security tax.

These changes have the effect of raising the tax burden not only because the tax rate has risen, but also because the wage base has risen so sharply between 1978 and 1981. Many people had wage income higher than the old wage base, so they paid no social security tax on part of the income they earned during the year. With the increase in the wage base, many of these individuals now find themselves paying social security tax on their entire wages; as a result they now pay a larger fraction of their total

TABLE 1
SOCIAL SECURITY TAX RATES AND EARNINGS LIMITS

Year	Tax Rate (%)	Wage Earnings Maximum
1978	6.05	17,700
1979	6.13	22,900
1980	6.13	25,900
1981	6.65	29,700
1982	6.70	32,700
1983	6.70	35,700

N.B. This data reflects increases in tax rates and wage income limits scheduled under current law.

TABLE 2
FEDERAL INCOME AND SOCIAL SECURITY TAXES
AS A PERCENTAGE OF ADJUSTED GROSS INCOME (AGI)

AGI (1978\$)	1978	1979	(%)	1980	1981
13,000	13.8	13.9		14.8	17.4
15,000	15.2	15.3		16.4	18.9
17,000	16.7	16.7		20.5	20.4
19,000	17.6	17.9		19.0	21.6
22,500	18.8	19.4		20.9	22.9
27,500	20.7	21.2		22.7	24.6
40,000	25.7	26.3		28.2	30.1

N.B. These Figures illustrate the rise in taxes paid by presenting average tax rates for a family of four with one wage earner. We assume that almost all income is wage income, up to the level of the social security earnings base. For simplicity we present tax rates for families who take the standard deduction. Average tax rates for other families have moved similarly.

1981 average tax rates are shown *before* the tax cut. 1981 income taxes will be cut only 1¼%, (more at very high income levels), so 1981 average tax rates will be only slightly lower than shown here.

earnings in social security taxes. If we combine the effects of bracket creep and higher social security taxes, most of us have indeed experienced an increase in our *real* tax payments during the past few years.

Table 2 shows why taxpayers are now up in arms. The fraction of income taken by the Federal government has risen substantially since 1978. A family of four earning a constant real income of \$13,000 in 1978 dollars found that the Federal government's tax bite rose by 26 percent, in real terms, during the past four years. For a \$40,000 real income the tax bite rose 17 percent. The results are similar for other income levels.

Such is the stuff of which tax rebellions are made.

TAXES AND LABOR SUPPLY: MARGINAL TAX RATES

While most of the public outcry over taxes has focused on the share of income paid in taxes, economists have looked at *marginal* tax rates. (The marginal tax rate is the fraction of one *additional* dollar of income that would be taxed away.) Economists have focused on the marginal tax rate because it is the *marginal* tax rate that affects incentives to work, to save, and to invest (See: Tax Rates And Incentives).

TAX RATES AND INCENTIVES

The debate about the economic effects of this year's tax cuts involved, among other issues, the likely impact of such policies upon incentives to work. Proponents of "supply-side economics" argue that cutting *marginal* tax rates will increase incentives to work, thus raising the labor supply available to firms. How does a tax cut do this?

One incentive that strongly affects people's willingness to work is hourly take-home pay. Cutting *marginal* tax rates increases the take-home pay which one can earn by working *additional* hours. So cutting marginal tax rates increases the real quantity of goods and services that an extra hour of work will buy. That is, giving up an hour of leisure time (and working instead) allows a worker to obtain more goods and services, compared to the amount that she would obtain by sacrificing an hour of leisure when there is a higher marginal tax rate. When *marginal* tax rates are cut, some workers respond to the opportunity to get more consumption than before by working (or becoming willing to work) extra hours. And other people, who were not working, choose to enter the labor force to try to take advantage of the increased after-tax wages.

But a tax cut can increase hourly take-home pay in two ways, which have very different effects on the incentive to work extra hours. If *only* the *marginal* tax rate is cut (leaving unchanged the amount of taxes a worker pays on his *initial* income), then the incentive to work extra hours is strong. One can take advantage of a cut in the marginal tax rate only by working extra hours; working the same hours as before leaves one's after-tax income unchanged. So no one has an incentive to work less. Some workers would be willing to put in more hours, and some the same number of hours, but the total labor supply would *rise*.

However, if *average* tax rates are cut (so that taxes due on a worker's initial income fall), but marginal tax rates are left unchanged, then total labor supply would *fall*. Cutting the average tax rate means that a worker's spendable income rises if she works the same number of hours as initially. She can actually work slightly fewer hours (have more leisure time) and still end up with a somewhat higher after-tax income than before taxes were cut. Not surprisingly, some people choose to work less, and enjoy more leisure activities, when only the *average* tax rate is cut. So the total labor supply would *decline*.

These two offsetting influences on labor supply suggest that Congress should be careful about how it cuts taxes, if the objective of a tax cut is to induce people to work more. Giving each taxpayer a tax cut by allowing him to calculate his income tax on today's forms, and then subtract \$500 from the taxes due, would lower the average tax rate without affecting the marginal tax rate. This would

reduce labor supply. On the other hand, cutting tax rates applicable to each income bracket and at the same time abolishing the personal exemption (now equal to \$1,000) could lower marginal tax rates without substantially affecting the average tax rate on a worker's initial income. Doing this would provide a strong incentive to work additional hours, so labor supply would rise.

The tax cut adopted in 1981 actually provides for an across-the-board cut in personal income tax rates. If rates had been cut enough to offset the effects of bracket creep and higher social security taxes, then both marginal and average tax rates would fall. How would this have affected labor supply? The evidence suggests that an across-the-board cut in income tax rates would generate a small increase in people's willingness to work.* If this extra labor supply were put to use by employers, then real GNP would rise.

Should the marginal tax rates that are relevant for workers' labor supply decisions include the employee's share of social security taxes? It could be argued that higher social security taxes won't reduce incentives to work, because those taxes buy higher benefits when a worker eventually retires. In reality, however, the social security benefits that any individual stands to receive in the future are not closely related to the social security taxes that she pays today. Rather, future benefits are determined by what Congress chooses to enact at that time. Today's social security taxes pay for today's benefits. Because there is no direct link between social security taxes paid today and the future level of benefits, today's social security taxes affect labor supply decisions in the same ways as today's income taxes. Thus the wage rate which is relevant for the decision about whether or not to work an additional hour is the after-tax wage, net of both income and social security taxes.

The impact of taxes on potential GNP is more properly measured by looking at effective marginal tax rates rather than statutory rates. Effective tax rates measure the extra taxes paid, given the tax preferred status of many types of spending or saving, associated with an extra dollar of income from whatever source. These numbers are generally unavailable, but some estimates have recently been constructed which are close to this concept.** These effective rates are generally lower than those which we report, reflecting the fact that additional income is often put into tax shelters which lower effective tax rates. Nonetheless, inspection of these rates over time suggests that there is little reason to expect effective rates to behave differently from our estimates of statutory rates.

*See Footnote 2 to main text.

**See John J. Seater, "Marginal Federal Personal and Corporate Income Tax Rates in the U.S., 1909-1975," *Journal of Monetary Economics* (forthcoming).

Cutting marginal tax rates raises the after-tax wage earned by working additional hours. Proponents of "supply-side" policies argue that workers will respond to higher after-tax wages by working more hours, which will result in greater output of goods and services in the U.S. economy. Although economists do not know just how large this increase in labor supply would be, available studies do indicate some response to changes in tax rates.²

²See A. Protopapadakis, "Supply-Side Economics: What Chance for Success?" *Business Review*, Federal Reserve Bank of Philadelphia (July/August, 1981) for a discussion of empirical estimates of labor supply responses to changes in tax rates.

On the other hand, raising marginal tax rates reduces the incentive to work additional hours. Marginal tax rates have risen even faster than average tax rates over the past four years. The columns for 1978 through 1981 in Table 3 tell the story. A striking example is given by the case of a family of four earning a constant real income of \$19,000 per year (in 1978 \$). When that family earned \$19,000 in 1978 it faced a marginal Federal income tax rate of 25 percent applied to every extra dollar of taxable income. Their total marginal rate (including social security taxes) was the same, as their wage income was likely to be well above the social security maximum for that year. Now let's see how they fare in 1981. With the same family size

TABLE 3
MARGINAL TAX RATES
WITHOUT TAX CUT

AGI (1978\$)	1978		1979		1980		1981		1982		1983	
	Fed.	Total										
13000	.22	.28	.21	.27	.21	.27	.24	.31	.24	.31	.24	.31
15000	.22	.28	.24	.30	.24	.30	.24	.31	.28	.35	.28	.35
17000	.25	.31	.24	.30	.28	.34	.28	.35	.28	.35	.32	.39
19000	.25	.25	.28	.34	.28	.34	.32	.39	.32	.39	.32	.39
22500	.28	.28	.28	.28	.32	.32	.32	.39	.37	.44	.37	.44
27500	.36	.36	.37	.37	.37	.37	.43	.43	.43	.43	.43	.43
40000	.45	.45	.43	.43	.49	.49	.49	.49	.49	.49	.54	.54

N.B. Fed. = Marginal rate from Federal tax code.
Total = Sum of Federal marginal rate and social security rate.
Data apply to joint return of four person household using standard deduction. Tax rates are rounded to the nearest percent.

and constant real income, that family faces a marginal income tax rate of 32 percent. If an extra dollar of income comes from wages (rather than interest or dividends), the government taxes away almost 39 percent—an increase of 14 percentage points above their 1978 total marginal tax rate!³ Marginal tax rates rose from 1978 to 1981 for other income classes, but by less. Economists worry that increases in marginal tax rates have reduced work effort and investment in new capital equipment, thereby contributing

to lagging productivity growth in the United States.

If the new tax package is intended to increase the number of hours people wish to work, it must actually reduce marginal tax rates on wage income. Does President Reagan's tax package really reduce marginal tax rates? We know enough about the details of the tax package adopted this year to construct some good estimates of the marginal tax rates that workers will face in the next few years.

We constructed estimates of marginal tax rates that households would have faced had there been no tax cuts, as well as estimates of tax rates that will result from the tax package adopted in 1981. (See the APPENDIX for complete details on the method of calculation.) While it is obvious that marginal rates will indeed be lower than they would

³Keep in mind that the social security rates are based on wage income which is typically below AGI, so that exactly which income classes are below the social security wage base is not known with precision. Also, Table 1 embodies tax rate and wage base limits which are currently scheduled, but which may change in future legislation.

otherwise have been, the vast majority of U.S. households will still face higher marginal tax rates than they faced in 1980 or in 1978, which is the last year for which detailed tax and income data are available.

Marginal Tax Rates Were Scheduled to Rise . . . Bracket creep and increases in social security taxes will continue between 1981 and 1983. So if no personal income tax cuts had been enacted by the Congress, marginal tax rates would have risen substantially. This is shown in the columns for 1980 through 1983 in Table 3. Families at all income levels would have found themselves facing higher marginal tax rates.

A family with adjusted gross income (AGI) in 1980 equal to \$22,500 in 1978 dollars (\$26,990 nominal income in 1980) would have faced both higher income tax rates and higher social security tax rates in 1983 if its dollar income grew at the inflation rate. Though no better off in real terms, that family's marginal income tax rate would have risen from 32 percent in 1980 to 37 percent in 1983. The social security tax on an extra dollar of wage income would have risen from zero to 6.7 percent, as both the social security tax rate and the wage base rose. So the total marginal tax rate on an extra dollar of wage income would have risen from 32 percent in 1980 to 43.7 percent in 1983, if the Congress had not passed a tax cut.

Of course Congress did enact a cut in personal income taxes. What will happen to marginal tax rates under the tax program proposed by the President and adopted by Congress?

. . . And Will Rise Even With the 25-Percent Cut. The Treasury Department has issued tax tables which embody the tax cuts proposed by the Reagan Administration and adopted by Congress. Using these we can construct a set of (new) marginal rates and compare these to previous results. Our analysis suggests that when these new rates are compared to those in 1980, most people will find that they really haven't received

complete relief from bracket creep, let alone the effects of rising social security taxes.

Two sets of estimates are provided—one for a household using the standard deduction and one for a family which itemizes deductions (see Table 4).

Our results show that for families of four using the standard deduction, no family with an Adjusted Gross Income in the range from \$13,000 to \$40,000 (in 1978 \$) will face a lower personal income tax rate or combined marginal tax rate in 1983 than in 1980. This is true even after taxes are cut in the way suggested by the Reagan administration. For those in the lowest income class (\$13,000 1978 dollars), the Reagan program will offset bracket creep and the total marginal rate will be nearly unchanged as well. As incomes rise, the gap between 1980 and 1983 rates will widen, with those in \$22,500 class facing a total marginal rate that will be roughly one-quarter higher in 1983 than it was in 1980. Even ignoring social security taxes the Reagan program will not quite offset bracket creep; all but two income groups will face marginal Federal income tax rates in 1983 which exceed 1980 rates.

The comparison is even more dramatic when we look at 1978 and 1983 marginal tax rates for households which claim the standard deduction. The total marginal tax rate will rise substantially for all but the lowest income level, and even for that group the marginal tax rate will rise somewhat. (Compare the 1978 column in Table 3 with the 1983 column in Table 4.)

For those who itemize, the result is much the same. Comparing 1980 with 1983 marginal tax rates, the lowest income group will see a slight decline in its marginal personal income tax rate. All other groups will experience flat or rising marginal tax rates. The same is true when we add in social security taxes. Indeed, those with 1980 incomes of \$22,500 (in 1978 \$) will find themselves facing a total marginal tax rate which is more than one-third higher in 1983 than it was in 1980.

TABLE 4
MARGINAL TAX RATES AFTER REAGAN TAX CUT

Household Of Four Filing Jointly
(Using Standard Deduction)

AGI (1978\$)	1980		1981		1982		1983	
	Fed.	Total	Fed.	Total	Fed.	Total	Fed.	Total
13000	.21	.27	.22	.29	.22	.29	.22	.29
15000	.24	.30	.22	.29	.25	.32	.25	.32
17000	.28	.34	.25	.32	.25	.32	.28	.35
19000	.28	.34	.28	.35	.28	.34	.28	.35
22500	.32	.32	.28	.35	.33	.40	.33	.40
27500	.37	.37	.39	.39	.39	.39	.39	.39
40000	.39	.39	.44	.44	.44	.44	.49	.49

Household of Four Filing Jointly
(Itemizing Deductions)

AGI (1978\$)	1980		1981		1982		1983	
	Fed.	Total	Fed.	Total	Fed.	Total	Fed.	Total
13000	.18	.24	.16	.23	.16	.23	.16	.23
15000	.18	.24	.19	.26	.19	.26	.19	.26
17000	.21	.27	.19	.26	.22	.29	.22	.29
19000	.21	.27	.22	.29	.22	.29	.25	.32
22500	.24	.24	.25	.32	.25	.32	.28	.35
27500	.32	.32	.28	.28	.33	.33	.33	.33
40000	.43	.43	.39	.39	.39	.39	.44	.44

N.B. Tax rates are rounded to the nearest percent.

We see the same results when we compare 1983 tax rates with 1978 rates.⁴ Marginal tax

⁴In 1978, for those itemizing deductions, marginal tax rates with totals in parentheses are: \$13000-.19 (.25), \$15000-.19 (.25), \$17000-.22 (.28), \$19000-.22 (.22), \$22500-.25 (.25), \$27500-.28 (.28), \$40000-.39 (.39).

rates will rise for all families who itemize deductions, except those in the lowest income class.

Our conclusions about marginal tax rates from 1981 through 1983 depend upon projections of inflation, as explained in the APPENDIX. If inflation turns out to be less

than we have projected, then people will not be pushed into higher tax brackets as rapidly as we have calculated, so marginal tax rates for families with constant real income (before tax) actually might fall from 1981 to 1983. On the other hand, if inflation were to continue at its current rate, then marginal tax rates would rise more than shown here. Our calculations are based on virtually the same total inflation during 1981 through 1983 as that projected by the Reagan administration in its fiscal 1982 budget proposals.

We have not estimated marginal tax rates for those families with really high incomes, because the tax code provisions which apply to those families are so complicated. Various tax shelters tend to reduce the true tax rates faced by high income families. On the other hand, interest and dividend income earned by these same people has been taxed at higher rates than wage income, which tends to raise their marginal tax rates. The new tax legislation adopted in 1981 affects very high income families in two ways. First, the top tax rate on interest and dividend income is reduced from 70 percent to 50 percent. Second, the top tax rate on wage and salary income is *not* cut; it remains at 50 percent. So those who have very high incomes will definitely face a lower marginal tax rate on their interest and dividend income in 1983 than they did in 1980. As with the rest of us, however, high income families will find no cut in the marginal tax rate on their wage income.

THE BOTTOM LINE

A program of cutting marginal tax rates could have a substantial impact upon productivity growth and potential output, if it succeeded in stimulating labor supply in response to higher after-tax real wages. To do this, and thus achieve some of the objectives set out by its advocates, the Reagan program would have to cut tax rates to offset bracket creep and social security tax hikes, and then some. This year's tax cuts are not big enough to do so.

The 1981 tax cuts certainly do cut rates from levels that would otherwise be achieved, but not by enough to lower marginal tax rates from current levels. Most taxpayers will find that the trend of rising taxes will continue. Except for one income group, every other household studied here is going to face a higher total marginal tax rate in 1983 than it did in 1978 and 1980.⁵ Insofar as rising taxes are reducing productivity growth, they still will be, although to a lesser extent. We find that the Reagan tax cuts can only be viewed as an imperfect attempt to offset bracket creep.

Perhaps the most important aspect of the tax package adopted in 1981 is the decision to *index* the tax code beginning in 1985.⁶ If done properly, indexing can prevent bracket creep and thus automatically prevent declines in labor supply and potential GNP caused by rising marginal tax rates. Although Congress adopted the indexing provision with little debate, it is clearly one of the most significant changes in the personal tax code in recent memory.

Did this year's tax cut really cut taxes? Tax rates will be lower than they would otherwise have been. Tax rates on a constant *real* income will be higher in 1983 than they were in 1980, however. Bracket creep and higher social security taxes will more than offset the 25-percent reduction in income tax rates. Most families will find themselves facing higher marginal tax rates in 1983 than they did in 1980.

⁵The share of personal income going to Federal taxes will also rise slightly through 1983. The share of GNP going to Federal taxes will decline slightly, however, because corporate taxes are cut by the 1981 tax law.

⁶Each year from 1985 on, income tax brackets are to be adjusted by the percentage increase in prices that occurred during the year ending the previous September 30.

APPENDIX . . .

... CONSTRUCTING MARGINAL INCOME TAX RATES

For the purpose of constructing marginal personal income tax rates, we require detailed information on taxes paid, deductions, and adjusted gross income (AGI) for U.S. households. The last year for which such data are available is 1978. This information is provided by the Internal Revenue Service in a publication entitled "Individual Income Tax Returns, 1978 Statistics of Income," Publication 79 (3-81).

Choosing seven AGI classes where husbands and wives filed joint returns, we define the AGI of the typical households in each group to be the mid-point of the AGI range for that class. For example, AGI is assumed to be \$13000 in 1978 for households in the \$12000-\$14000 AGI class found in the "Statistics of Income."

Exemptions claimed per return averaged 3.7, so for simplicity we assumed that each household claims four exemptions.

For a household of four that does not itemize deductions, Taxable Income (TI) is computed using the formula

$$(1) \quad \text{AGI} - 4 \cdot (\$/\text{EXEMPTION}) = \text{TI}$$

Given TI, we can refer to the tax table to obtain the relevant marginal, statutory tax rate. Dollars per exemption were \$750 in 1978 and \$1000 in 1979 and beyond.

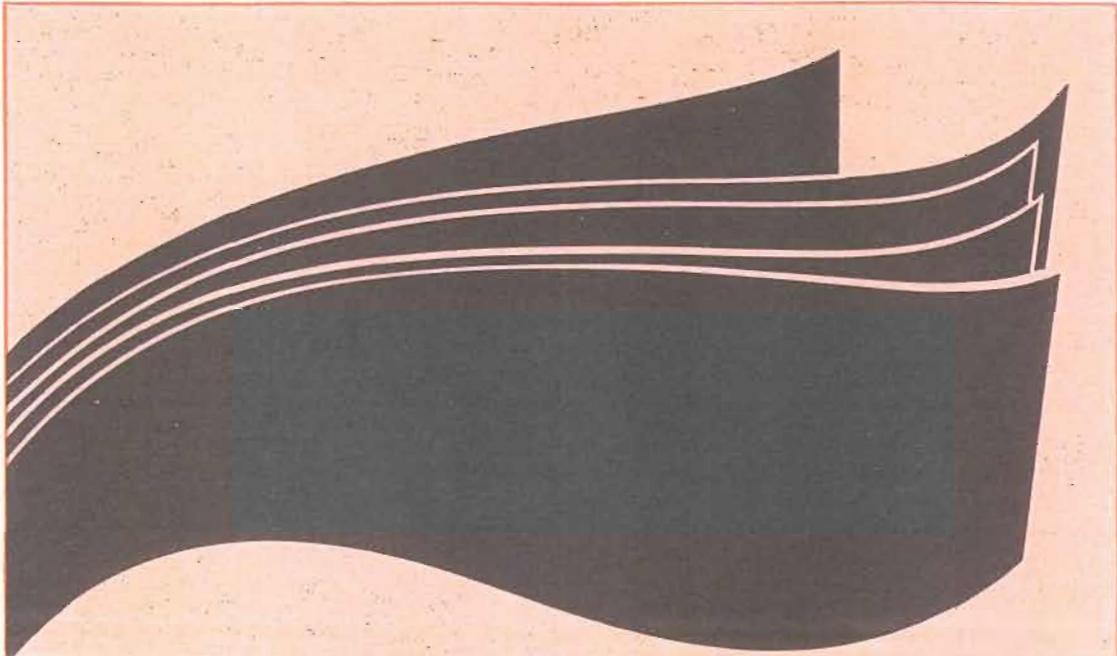
For those who itemize, we can use the "Statistics of Income" to find deductions per itemized return (D) in 1978. We arrive at TI using the formula

$$(2) \quad \text{AGI} - (\text{D} - \text{ZB}) - 4 \cdot (\$/\text{EXEMPTION}) = \text{TI}$$

where ZB is the zero bracket amount (the amount of taxable income at the zero percent rate). For joint returns, zero bracket amounts are \$3200 in 1978 and \$3400 for 1979 onward.

Finally, to compute the marginal tax rates for years subsequent to 1978, we raised 1978 AGI and D at the inflation rate (actual or forecasted), applied formula (1) or (2) and then took the resulting TI figures into the tax tables to find the reported marginal tax rates. Tax rates under the Reagan program were obtained from tax tables provided by the Treasury Department. To measure inflation we used the actual or projected rate of growth of the implicit deflator of personal consumption expenditures (a good measure of inflation). Inflation projections for 1981 to 1983 were obtained from recent economic forecasts made by Data Resources, Inc. Projected inflation rates are 8.8 percent in 1981, 8.7 percent in 1982, and 7.8 percent in 1983. In any given year these rates differ from the Administration's forecast, but over the whole 3 years our assumptions about inflation are virtually identical with those the Reagan Administration used in its fiscal 1982 budget proposals.

We have ignored state and local income taxes in making these estimates. The reported tax rates are those for Federal taxes alone. Including state and local taxes would raise the total marginal tax rates faced by workers. Unless state and local income tax rates were to fall between 1980 and 1983, however, our conclusions about the changes in marginal tax rates would be unaffected by including state and local income taxes.



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