Federal Income Tax Reform in 1985: Indexation

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"I thought it was the most significant reform I've voted for in the 20 years I've been in Congress."
— The Honorable Barber Conable[1]

AMID the current debate over taxes — whether to reform the tax system, raise taxes, or both — it is easy to lose sight of the revolutionary change in personal income taxation that began this year. As provided in the 1981 tax act, 1985 marks the first year of indexation of income tax brackets and personal exemptions.

The survival of indexation has not come easily. Many analysts and policymakers advocated its repeal from 1981 to 1984, prompting a spirited defense by its proponents.[2] So far, however, indexation has survived, and its continued existence is part of most recent proposals for tax reform.[3]

There is considerable confusion about the effects of indexation. For example, some analysts assert that indexation will reduce taxes. This is clearly not the case. Indexation, however, will *reduce the increase* in taxes that otherwise would occur; it will not lower taxes from year to year or reduce household tax burdens. Under indexation, inflation-induced increases in income will generate tax payments that rise in line with income (and inflation); it will simply prevent taxes from rising *faster* than these inflation-induced income gains, as they had in the past. The purpose of this article is to explain how the indexing provision of the 1981 tax act will work. It is also intended to clarify indexation's effects on taxes and tax burdens.

THE INDEXATION PROVISION OF THE 1981 TAX ACT

The 1981 tax act provided for the indexing of bracket incomes and personal exemptions used in computing federal taxes beginning in 1985, based upon inflation over the previous year. The specific formula used to compute this inflation adjustment factor is the rise in the average consumer price index for all urban workers from the year ending in September two years earlier to the previous year ending in September.

For example, since prices, as measured by the average consumer price index (CPI), were 4.1 percent higher during October 1983 to September 1984 than during October 1982 to September 1983, the bracket incomes and personal exemptions for 1985 income

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[1]Hamilton (1984).

[2]For example, Feldstein (1983) responds to such attacks on indexing. He indicates that "indexing of personal income taxation is the most fundamental and far reaching aspect of Ronald Reagan's tax program."

[3]The major exception is the Bradley-Gephardt proposal, which would abolish indexation. For a discussion of recent proposals, including Bradley-Gephardt, see *Wall Street Journal* (1984) and Miller (1984). In the recent "Treasury proposal" (U.S. Department of Treasury, 1984), the indexation principle is *extended* to restructure the taxation of capital gains and the taxation of capital that otherwise arises under the corporate income tax treatment of depreciation and the tax treatment of interest receipts.

Table 1

Federal Income Tax Schedules, Married Filing a Joint Return (1984–85)

1984		1985[1]	
Taxable Income	Tax[2]	Taxable Income	Tax[2]
$ 0 – $ 3,400	$ 0	$ 0 – $ 3,540	$ 0
$ 3,400 – $ 5,500	$ 0 + 11%	$ 3,540 – $ 5,730	$ 0 + 11%
$ 5,500 – $ 7,600	$ 231 + 12	$ 5,730 – $ 7,910	$ 241 + 12
$ 7,600 – $ 11,900	$ 483 + 14	$ 7,910 – $ 12,390	$ 503 + 14
$ 11,900 – $ 16,000	$ 1,085 + 16	$ 12,390 – $ 16,660	$ 1,130 + 16
$ 16,000 – $ 20,200	$ 1,741 + 18	$ 16,660 – $ 21,030	$ 1,813 + 18
$ 20,200 – $ 24,600	$ 2,497 + 22	$ 21,030 – $ 25,610	$ 2,600 + 22
$ 24,600 – $ 29,900	$ 3,465 + 25	$ 25,610 – $ 31,130	$ 3,607 + 25
$ 29,900 – $ 35,200	$ 4,790 + 28	$ 31,130 – $ 36,640	$ 4,987 + 28
$ 35,200 – $ 45,800	$ 6,274 + 33	$ 36,640 – $ 47,680	$ 6,530 + 33
$ 45,800 – $ 60,000	$ 9,772 + 38	$ 47,680 – $ 62,460	$10,173 + 38
$ 60,000 – $ 85,600	$15,168 + 42	$ 62,460 – $ 89,110	$15,790 + 42
$ 85,600 – $109,400	$25,920 + 45	$ 89,110 – $113,890	$26,983 + 45
$109,400 – $162,400	$36,630 + 49	$113,890 – $169,060	$38,134 + 49
$162,400 +	$62,600 + 50	$169,060 +	$65,167 + 50

[1]The official Internal Revenue Service table may differ slightly due to rounding.

[2]The percentage at the right in this column is the marginal tax rate applied to taxable income in the range indicated.

taxation will be about 4.1 percent larger than in 1984.[4] Thus, the personal exemption will rise from $1,000 to $1,040, and the maximum taxable income that is subject to a zero marginal income tax rate for joint returns will rise from $3,400 to $3,540.

Table 1 shows the 1984 and 1985 tax schedules for married taxpayers filing joint income tax returns. The difference shows the effects of the indexation provision in the first year. Although these changes may seem trivial, over a few years indexation will have substantial effects on taxes and tax burdens.

INDEXATION AND THE EFFECT OF INFLATION ON PERSONAL TAXES FROM 1980 TO 1984

Perhaps the simplest way to see how indexation will work in the future is to look at what would have occurred had it been adopted in the recent past. Suppose that, in 1981, Congress had adopted indexation to adjust for increases in prices beginning in 1980, instead of passing the 1981–84 personal income tax reductions and delaying indexing until 1985. What would the effect have been on taxes paid in 1984?

Consider three representative households based on the median family income of $21,023 in 1980.[5] The top panel in table 2 shows the personal income tax in 1980 for this income, one-half this income and twice this income, assuming that a joint return is filed, there are four people (exemptions) in each household, all income is adjusted gross income and there are no other deductions, credits or income adjustments.

In the middle panel of table 2, the same tax calculation is shown using the 1980 tax tables for nominal income levels that would have prevailed in 1984 if there had been no real before-tax income gain from 1980 to 1984. These incomes merely reflect the 26 percent increase in the CPI from 1980 to 1984. Taxes would have risen sharply, given the 1980 tax law and the 26 percent inflation-induced increases in nominal incomes.

[4]It is "about" 4.1 percent in 1985 or the similarly calculated inflation in the future, because the act calls for rounding the bracket incomes and personal exemptions to the nearest $10.

[5]The median measure indicates the level at which one-half of all families receive more income and one-half receive less. The average-size family in 1980 contained 3.27 members and the average number of wage earners was 1.63. See Bureau of the Census (1982).

Table 2

An Illustration of the Effect of Indexation on Taxes from 1980 to 1984

	One-half 1980 median income	1980 median income	Twice 1980 median income
1980 Tax			
Income	$10,512	$21,023	$42,046
Personal Exemptions (4)	4,000	4,000	4,000
Taxable Income	$ 6,512	$17,023	$38,046
Personal Income Tax	$ 456	$ 2,511	$ 9,386
Marginal (Bracket) Rate	16%	24%	43%
Average Tax Rate	4.3%	11.9%	22.3%
1984 Tax (no real income gain, using 1980 tax law)			
Income	$13,245	$26,489	$52,978
Personal Exemptions (4)	4,000	4,000	4,000
Taxable Income	$ 9,245	$22,489	$48,978
Personal Income Tax	$ 926	$ 3,914	$14,277
Marginal (Bracket) Rate	18%	28%	49%
Average Tax Rate	7.0%	14.8%	26.9%
1984 Tax (with indexation, using 1980 tax law)			
Income	$13,245	$26,489	$52,978
Personal Exemptions (4)	5,040	5,040	5,040
Taxable Income	$ 8,205	$21,449	$47,938
Personal Income Tax	$ 574	$ 3,163	$11,826
Marginal (Bracket) Rate	16%	24%	43%
Average Tax Rate	4.3%	11.9%	22.3%

The increases in the tax burden from 1980 to 1984 shown in the top two panels of table 2 arise solely from bracket creep. Such increases fall disproportionately on low-income families.[6] Without indexation or the other provisions of the 1981 tax act, average tax rates rise by 1984 to those shown in the middle panel. Average tax rates rise from 4.3, 11.9 and 22.3 percent to 7.0, 14.8 and 26.9 percent, respectively, for the three families shown, despite no change in real income. These rates, which represent increases in the average tax rate of 62.8, 24.4 and 20.6 percent, respectively, are due to bracket creep, that is, the taxation of purely inflation-induced income increases at marginal tax rates (bracket rates), instead of average tax rates.

Of course, since the tax burden of lower-income households is so slight relative to that at higher incomes, relative changes in real after-tax income due to bracket creep do not match the relative changes in tax burdens. The after-tax income in the top panel of table 2 of $10,056, $18,512 and $32,660, respectively, declines due to bracket creep to $9,777, $17,917 and $30,715 in 1980 prices in the middle panel. These reductions are 2.8 percent, 3.2 percent and 6.0 percent, respectively. Despite the larger relative increases in the federal income tax burden at lower incomes, the reductions in real after-tax income are largest at higher incomes because the average tax rate is typically much larger there. A given percentage increase in the tax burden, as measured by the average tax rate, reduces after-tax incomes more, the higher the initial tax rate.

[6]That inflation-induced tax increases fell most heavily on low-income groups was widely understood when the 1981 tax act was passed. The first calls for inclusion of indexation in the act came from the Black Caucus in the House of Representatives. See Bureau of National Affairs (1981). Bracket creep is explained more fully in Tatom (1984). This disproportionate effect on lower-income households occurs because at such incomes marginal tax rates exceed average tax rates by a relatively larger percentage than at higher incomes.

Table 3

The 1984 Federal Personal Income Tax Burden With Lagged Indexation from 1979–83: No Real Income or Tax Rate Changes

	One-half 1980 median income	1980 median income	Twice 1980 median income
1984 Income	$13,245	$26,489	$52,978
Personal Exemptions (4)	($5,608)	($5,608)	($5,608)
Personal Income Tax	$401	$2,849	$10,711
Marginal Tax Rate	14.0%	21.0%	37.0%
Average Tax Rate	3.0%	10.8%	20.2%

At the bottom of table 2, the effect of indexation is shown. With indexation tied to *current* prices, the tax code would have raised the taxes shown in the top panel of table 2 by 26 percent from 1980 to 1984, simply matching the rise in prices and leaving the three groups of taxpayers shown at the top of table 2 with unchanged marginal tax rates or average tax rates (the ratio of personal income taxes to income). Such indexation would have raised the personal exemption to $1,260 from $1,000 and increased the bracket incomes (which were the same in 1980 as those shown on the left in table 1) by 26 percent.

Note that indexation does not lower tax burdens. Instead, it leaves 1984 tax burdens unchanged from 1980, since real income is unchanged. Since both the average tax rate and real income are unchanged, after-tax real incomes are the same in the bottom panel of table 2 as in 1980. Indexing ensures that the inflation-induced increase in nominal income in each case is taxed at an unchanged average tax rate, instead of being taxed at the higher marginal tax rate.

THE 1981 INDEXATION PROVISIONS ADJUST FOR PAST CHANGES IN PRICES

Because the indexing formula under the 1981 tax act is lagged, the results shown in table 2 are only illustrative. Under lagged adjustment, tax schedules would have been adjusted to reflect the 40.2 percent price increases from 1979 to 1983 (8.8 percent annual rate of inflation) instead of the 26 percent increase from 1980 to 1984 (6 percent per year) used in table 2. The difference largely reflects the fact that, from the period October 1978 to September 1979 to the period October 1979 to September 1980, the average price level rose 13.5 percent, while from calendar year 1983 to 1984, it rose only 4.2 percent. This discrepancy would have led to indexing of 1980 income tax tables that exceeds the inflation-induced rise in incomes from 1980 to 1984.

Table 3 shows what the personal income tax burdens in 1984 would have been if the 1981 tax act indexation provision had been implemented for 1981. A comparison of these tax burdens with the 1980 tax burden on the same real income shown in table 2 indicates that the lag can have a large effect when inflation in the base-year period (1980 in this case) exceeds that in the most recent year of the calculation (1984).

Under such lagged indexation, tax burdens would have fallen from those shown at the top of table 2 for 1980 incomes. In effect, the 1984 indexation calculation in table 3 compensates for 1980 inflation, but not for 1984 inflation. Thus, tax burdens move down toward their 1979 levels on unchanged real incomes. In table 3, the lag in indexing results in average tax rates that fall from 4.3, 11.9 and 22.3 percent, respectively, to 3.0, 10.8 and 20.2 percent, respectively. The 30.2 percent decline in the average tax rate of the low-income family exceeds the 9.2 percent decline for the 1980 median-income household and the 9.4 percent decline for the high-income household, because the bracket creep from 1979 to 1980 that is being offset is largest for low-income households.

The 1979 average tax burden for the unchanged real incomes shown in the top panels of tables 2 and 3 was 1.8 percent for the low-income household, 10.6 percent for the median-income household and 19.9 percent for the high-income household. Thus, the lag in indexation does not allow the 1979 tax burdens for

these households to be restored. The marginal tax rates shown in table 3, however, are the same as in 1979 for unchanged real incomes, with one exception. At the same real income in 1979, the low-income household would have faced the same (14 percent) marginal tax rate in the tax tables, but would have qualified for an earned income credit in 1979. This credit would have reduced its average tax rate from 2.8 to 1.8 percent but boosted its marginal tax rate by 12.5 percentage points, making it 26.5 percent.

Indexation that adjusts bracket incomes and personal exemptions to current prices tends to ensure that average and marginal tax rates are unaffected by inflation. Thus, taxes rise in line with income unless real income changes. Such contemporaneous adjustment is costly to administer, however, so indexation schemes are usually tied to past price increases. Under the 1981 tax act provisions, tax tables and personal exemptions are adjusted to inflation over the year ending in the previous September. In the examples in this section, lagged indexation of 1980 tax tables nearly maintained average and marginal tax rates at their 1979 levels in 1984, because 1979–80 price increases were included in the adjustment, while 1983–84 price increases were not.

FUTURE TAXES UNDER INDEXING

The central features of tax changes under indexation should be clear from this analysis. First, indexation ensures that purely nominal income gains are taxed at existing average tax rates rather than higher marginal tax rates. Thus, bracket creep is largely eliminated and tax burdens do not change significantly unless real income changes. Of course, federal income taxes will continue to grow faster than incomes because the tax system remains "progressive" for real income gains. As the tables throughout this article show, the tax paid per dollar of income (the average tax rate) rises as income rises in any year.

Second, due to the lag in inflation adjustment, some bracket creep can occur. If the inflation rate from 1984 to 1989, for example, raises incomes at the same percentage rate as the bracket and personal income adjustments based on 1983 to 1988 inflation, then families with unchanged real incomes from 1984 to 1989 will be subject to the same personal tax burdens (on average and at the margin) as in 1984. If the 1988–89 inflation rate exceeds the 1983–84 inflation rate, then tax burdens will rise on unchanged real incomes, even with indexing. On the other hand, if inflation from 1984 to 1989 is less than the increase in prices from 1983 to 1988, then real tax burdens will be somewhat smaller in 1989 than in 1984 for unchanged real incomes.

Before examining the impact of indexing in 1985, actual 1984 taxes must be calculated, taking the tax rate reductions in the 1981 tax act into account. At the top of table 4, the tax on the 1984 incomes incorporates these tax rate reductions based on the tax schedule on the left in table 1. Note that the 1984 taxes shown in table 4 are less than those shown in the middle panel of table 2 or (except for the low-income family) those shown in the top panel of table 2. These differences arise from the tax rate reductions of the 1981 tax act. The detrimental effect of bracket creep on low-income families is most noticeable in the top panel of table 4 because the tax burden on this group rose (compared with the top panel in table 2) despite no change in real income and about a 22 percent decline in tax bracket rates. The declines in the average tax rate from 1980 to 1984 shown for the two higher-income groups are fortuitous. Had inflation averaged about a 10 percent rate, as some analysts had predicted back in 1981, all three families would have faced larger income tax burdens in 1984 than in 1980.[7]

In the lower two panels, the 1984 incomes are increased by an assumed rise in prices from 1984 to 1985 of 4.7 percent.[8] In the middle panel of table 4, taxes are computed for 1985 income without indexation, using the 1984 tax schedule shown on the left in table 1 and the $1,000 per person personal exemption. At the bottom of table 4, the 1985 taxes use the rate schedule on the right in table 1 and the increased personal exemption level of $1,040.

The relatively small impact of indexing in 1985 *alone* is shown in table 4. Without indexation, the three families would face tax increases in 1985 of $88, $273 and $946, respectively. With indexation, taxes increase from 1984 to 1985 by $42, $159 and $572, respectively. The differences in the tax increases may not seem large in magnitude, but indexation keeps the average tax rate on the unchanged real incomes from rising.

[7]When Social Security tax increases from 1980 to 1984 and average real income gains are taken into account, all three families in tables 2 and 3 had higher 1984 taxes than in 1980 despite the personal tax rate reductions. See Tatom (1984). The inflation rate from 1980 to 1984 expected in 1981 is that of the Congressional Budget Office (1981).

[8]The latter was found assuming a steady 5 percent annual rate of increase of the CPI from October 1984 to December 1985. The 5 percent inflation rate was chosen arbitrarily; the changes in average tax rates with or without indexation shown in table 4 are not very sensitive to the inflation assumption for 1985.

Table 4

The Effect of Indexation in 1985 on Three Unchanged Real Incomes

	One-half 1980 median income	1980 median income	Twice 1980 median income
1984 Taxes			
1984 Income	$13,245	$26,489	$52,978
Personal Exemptions (4)	4,000	4,000	4,000
Tax	$ 713	$ 3,001	$10,980
Bracket Rate	14%	22%	38%
Average Tax Rate	5.4%	11.3%	20.7%
1985 Tax (4.7 percent inflation and no indexation)			
1985 Income	$13,868	$27,734	$55,468
Personal Exemptions (4)	4,000	4,000	4,000
Tax	$ 801	$ 3,274	$11,926
Bracket Rate	14%	22%	38%
Average Tax Rate	5.8%	11.8%	21.5%
1985 Tax (4.7 percent inflation and the 1981 indexing provision)			
1985 Income	$13,868	$27,734	$55,468
Personal Exemptions (4)	4,160	4,160	4,160
Tax	$ 755	$ 3,160	$11,552
Bracket Rate	14%	22%	38%
Average Tax Rate	5.4%	11.4%	20.8%

Without indexation, the tax per dollar of income would have risen 7.4 percent at the low income, 4.4 percent at the middle income and 3.9 percent at the high income. The low-income family will face the same personal income tax burden in 1985 as in 1984, according to the calculation in table 4. The middle- and upper-income examples show trivial rises in the average tax rate due to slight bracket creep because of the lag in indexation.

Over a few years, however, the insulation of federal tax burdens from inflation has a substantial effect on taxes. Even the relatively low 3.9 percent per year rise in the average tax rate for the high-income family in table 4 that would have occurred without indexation in 1985 would cause taxes per dollar of income to double in about 18 years; for the 7.4 percent rate of increase shown for the low-income family in table 4, the average tax rate would double in less than 10 years. Of course, higher rates of inflation would lead to even faster growth of tax burdens than these.

Martin Feldstein, in a recent defense of indexation, showed both its importance and its expected effects by noting that the repeal of indexing would add "$17 billion in taxes in 1986, $30 billion in 1987, $44 billion in 1988 and even larger amounts in later years."[9] The 1988 tax increase is about $200 per person alive today. This is in addition to the nearly 17 percent projected increase in nominal taxes that will occur under indexation because of inflation and the larger increases in federal taxes arising from expected real income gains. Moreover, Feldstein's projections were based on an assumed inflation rate of only 4 percent. Within 10 years, even with this inflation rate, he argues that overall taxes would be 25 percent larger if indexation were repealed and the remainder of the tax law were unchanged. Such estimates are very sensitive to the inflation rate; the estimated 1988 tax increase above due to bracket creep would be nearly twice as much ($80 billion) if inflation from 1983 to 1988 ran at 6.5 percent, the rate that prevailed from 1980 to 1983. Over the period 1981 to 1983, the U.S. Commerce Department has shown that purely inflation-induced income gains raised federal tax receipts by over $120 billion.[10] Thus,

[9]Feldstein (1983).

[10]See Bureau of Economic Analysis (1984).

indexation may seem like a small technical detail when looked at from the short perspective shown in tables 1 and 4. Over a few years time, however, inflation at the recent pace, without indexation, makes a large difference in tax burdens.

THE INCOME TAX IS NOT FULLY INDEXED

It is important to bear in mind, also, that the personal income tax was not fully indexed by the 1981 tax act. Credits, adjustments and deductions that have fixed-dollar-amount ceilings, such as the deduction for a married couple when both work, and other credits, such as that for child care, are not indexed.[11] Thus, inflation can still raise federal income tax burdens on unchanged real incomes, although to a lesser extent than in the past.[12]

For example, the federal tax credit for child and dependent care expenses is a percentage (20 to 30 percent depending on income) of such expenses up to $2,400 ($4,800 for the care of two or more persons). Although inflation will drive up incomes and child care expenses, the nominal limits on creditable child care expenses are scheduled to remain fixed. As a result, once inflation pushes such expenses to the nominal limit, the value of the credit in reducing average tax rates becomes inversely related to future inflation.

Another popular adjustment that reduces average tax burdens and that is not indexed is the individual retirement account (IRA) contribution, under which individuals can deduct up to $2,000 from taxable income. On a joint return, the maximum reduction in taxes for such a contribution is the marginal tax rate (MTR) times $4,000. Relative to income (Y), the maximum reduction in the average tax rate is MTR × ($4,000/Y). Inflation reduces the share of income that is sheltered from taxes because it boosts income (Y), without boosting the nominal ceiling. The maximum reduction in the average tax rate due to contributions to an IRA is eroded; the average tax rate for such a household with an unchanged real income will continue to rise after 1984 to reflect this reduced real benefit.

SUMMARY AND CONCLUSION

One of the most far-reaching and revolutionary changes ever to occur in the U.S. tax system begins this year. Indexation of the personal income tax, to a great extent, will reduce bracket creep in the personal income tax. From now on, inflation-induced changes in income will not lead to the substantially faster growth in personal income taxes relative to income that took place in the past. The incidence of bracket creep on tax burdens falls disproportionately on low-income taxpayers, so they are afforded the greatest protection from this reform.

The importance of indexation is easily obscured by focusing on the relatively small changes in income and taxes that occur on a year-to-year basis. In a few years, the effect of bracket creep compounds and tax burdens rise sharply.

Contrary to widespread opinion, indexation will not reduce taxes. Instead, it preserves the characteristic of the progressive personal income tax system whereby taxes rise faster than income when real income rises. Indexation will eliminate the disproportionate growth of taxes that arises solely from nominal income gains associated with inflation. In this instance, the rise in taxes is limited to the inflation rate; thus, inflation-induced income gains are taxed at existing average tax rates, not at the higher marginal rates.

[11]Another example of a rise in the average tax rate due to fixed nominal adjustments to income or taxes is the loss in the earned income credit for the low-income family discussed above for table 3. In 1979, on the same real income as those used in tables 2 and 3, such a household faced an average tax burden that was 1 percentage point lower due to the availability of the earned income credit (1.8 percent instead of 2.8 percent). Inflation-induced bracket creep removed the availability of this credit by pushing nominal income above the $10,000 ceiling where the credit becomes unavailable. From 1979 to 1984, this accounts for most of the rise in the household's average tax rate from 1.8 percent to 3.0 percent, despite the indexation shown in table 3.

[12]In addition, interest income is overstated during periods of inflation, and the indexation of tax brackets and personal exemptions does not address this problem. Interest rates contain an inflation premium that compensates for lost purchasing power, primarily of the initial amounts loaned. These payments maintain the value of capital and hence are not income, though they are taxed as such under the federal income tax. The higher is inflation, the larger is this component of interest income and the larger are taxes on unchanged real incomes. For a discussion of this problem, see Tatom and Turley (1978).

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