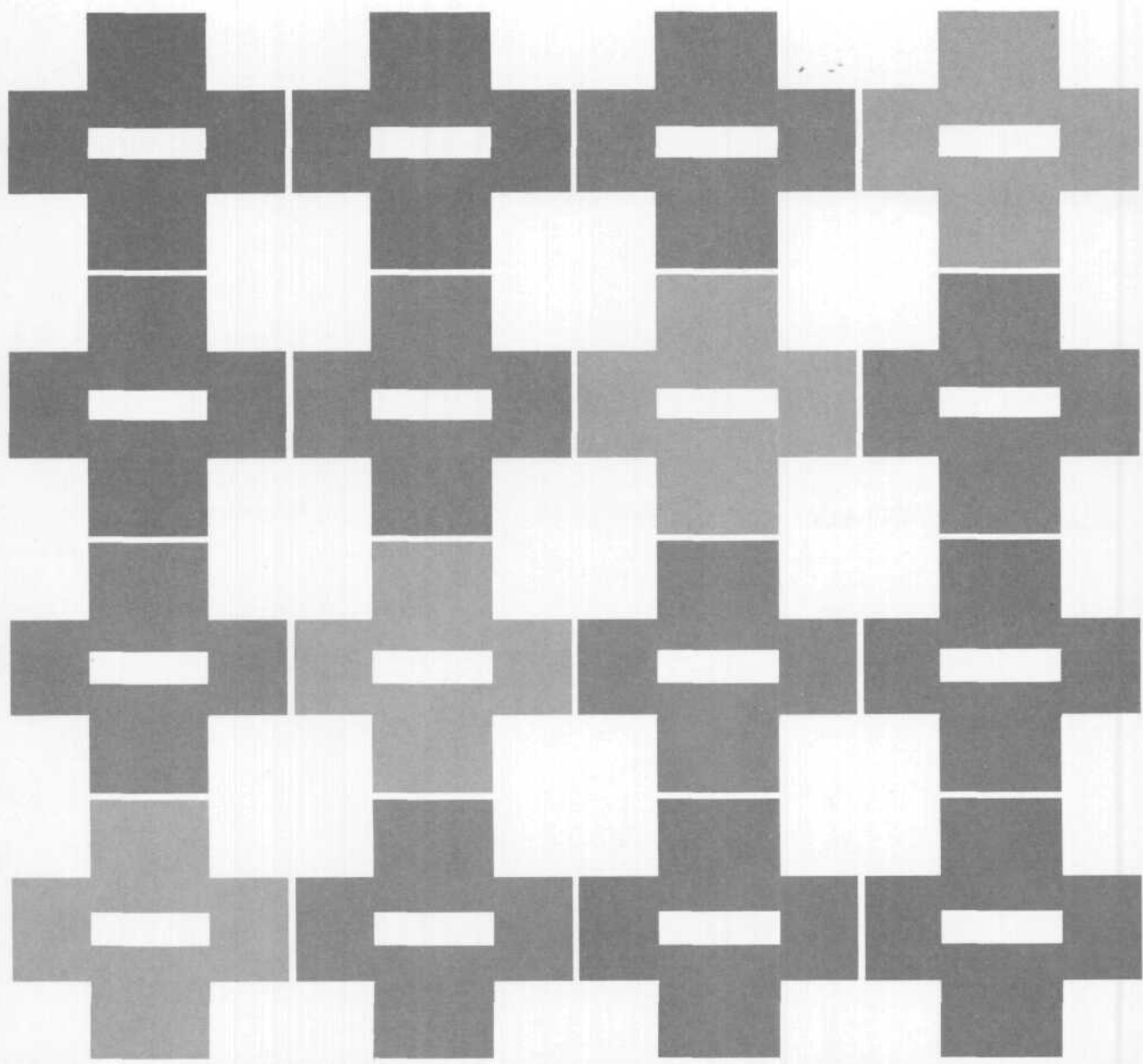




# *Indexing Capital Gains*



A CBO STUDY

August 1990

## CBO STUDY ON INDEXING CAPITAL GAINS

Since the Tax Reform Act of 1986 repealed the partial exclusion for long-term capital gains, many proposals have been made to restore a tax preference for capital gains. Most of these proposals have been to exclude part of capital gains from tax, but some have called for indexing capital gains so that the part of gains attributable to inflation would not be subject to tax.

The CBO study, *Indexing Capital Gains*, compares two options: indexing capital gains, and excluding 30 percent of capital gains from tax as proposed in the President's 1990 budget. The study examines how inflation affects capital gains and other forms of capital income. It compares indexing and exclusion in terms of how they would affect different kinds of investments, how the tax benefits would be distributed, and their relative revenue costs over the long run. It also compares their effects on risk-taking and entrepreneurship and on the distortions created by the double taxation of corporate equity. Finally, it explores the issues involved in indexing capital gains when other forms of capital income and expense are unindexed.

Taxing inflationary as well as real gains raises the effective tax rate on investments that pay capital gains. However, because capital gains are taxed only when realized, and not at all when assets are held until death, inflation affects the tax burden on capital gains assets less than on other forms of capital income. Either indexing or an exclusion would magnify the relative advantage for capital gains. Both indexing and an exclusion would increase the concentration of tax benefits among high-income taxpayers, but the concentration would be greater under an exclusion than under indexing. Indexing would be likely to provide a greater average tax reduction than a 30 percent exclusion, and would cost the government more revenue in the long run. Either indexing or an exclusion would increase incentives for risk-taking, and both would lessen the distortions caused by the double taxation of corporate equity. However, providing a tax benefit for capital gains when other capital income and expenses were unindexed might exacerbate other distortions. The advantages of indexing would depend crucially on the way losses were treated.

Questions regarding the analysis should be directed to Leonard Burman or Larry Ozanne of CBO's Tax Analysis Division at (202) 226-2680. The Office of Intergovernmental Relations is CBO's Congressional liaison office and can be reached at 226-2600. For additional copies of the report, please call the CBO Publications Office at 226-2809.



CONGRESSIONAL  
BUDGET OFFICE

Second and D Streets, S.W.

Washington, D.C. 20515

# **INDEXING CAPITAL GAINS**

**The Congress of the United States  
Congressional Budget Office**



## **PREFACE**

---

---

---

---

---

Since the Tax Reform Act of 1986 repealed the partial exclusion for long-term capital gains, there has been much discussion about whether a capital gains tax preference should be restored. This study considers the advantages and disadvantages of one option for reducing the tax burden on capital gains--indexing gains for inflation--as compared with the options of excluding some part of capital gains from taxation or continuing the treatment of capital gains under present law. The study was prepared at the request of the Chairman of the House Budget Committee. In keeping with the mandate of the Congressional Budget Office to provide objective analysis, the study contains no recommendations.

The paper was prepared by Leonard Burman and Larry Ozanne of the Tax Analysis Division, under the direction of Rosemary Marcuss and Joseph Cordes. Many people provided valuable comments on earlier drafts, including Gerald Auten, Albert Davis, Jane Gravelle, Maureen Griffin, Jon Hakken, Robert Hartman, Richard Kasten, Donald Kiefer, Kim Kowalewski, Rosemarie Nielsen, Kathleen O'Connell, Linda Radey, Frank Sammartino, and Eric Toder.

Francis Pierce edited the manuscript, assisted by Nancy H. Brooks. Denise Thomas typed the many drafts, and Robert Whitney prepared the paper for publication.

Robert D. Reischauer  
Director

August 1990



# CONTENTS

---

---

---

---

---

	<b>SUMMARY AND INTRODUCTION</b>	<b>xi</b>
<b>I</b>	<b>THE TAX TREATMENT OF CAPITAL GAINS</b>	<b>1</b>
	Interaction of Inflation and the Tax on Capital Gains	1
	Dealing with Inflation Through Indexing or an Exclusion	6
<b>II</b>	<b>HOW INDEXING AND EXCLUSION AFFECT DIFFERENT KINDS OF CAPITAL GAINS ASSETS</b>	<b>13</b>
	Dividend-Paying Assets	13
	Depreciable Assets	14
	Summary of Effects of Indexing and Exclusions on Different Kinds of Assets	18
<b>III</b>	<b>DISTRIBUTIONAL EFFECTS OF INDEXING AND AN EXCLUSION</b>	<b>23</b>
<b>IV</b>	<b>FACTORS AFFECTING REVENUE UNDER INDEXING AS COMPARED WITH A 30 PERCENT EXCLUSION</b>	<b>26</b>
	Static Comparison of Indexing with a 30 Percent Exclusion	28
	Comparative Dynamic Effects	30
	Ways to Limit Revenue Losses Under Indexing	33

---

V	THE TAX TREATMENT OF RISKY INVESTMENTS UNDER INDEXING AND AN EXCLUSION	39
	Capital Gains Taxes and Risk-Sharing	39
	Effect of Loss Limitations	41
VI	INDEXING VERSUS EXCLUSION AS AN OFFSET TO THE DOUBLE TAXATION OF CORPORATE EQUITY	43
VII	INDEXING CAPITAL GAINS AND LEAVING OTHER FORMS OF CAPITAL INCOME INDEXED	45
	Economic Efficiency	45
	Administrative Issues	47
	Distributional Issues	48



---

**TABLES**

1.	<b>Effective Tax Rates Under Three Capital Gains Tax Options</b>	2
2.	<b>An Exclusion Rate Equivalent to Capital Gains</b>	7
3.	<b>Before- and After-Tax Returns for Various Types of Assets</b>	19
4.	<b>Real Effective Tax Rates for Various Types of Assets</b>	20
5.	<b>Real and Nominal Capital Gains by Income Class for Corporate Stocks Sold in 1981</b>	24

**FIGURES**

1.	<b>Effective Tax Rates and Inflation, by Asset Type</b>	3
	<b>Effective Tax Rates and Holding Periods Under Alternative Capital Gains Tax Regimes</b>	4
3.	<b>Percentage of Capital Gains Excluded Under Indexing of Inflation</b>	9
4.	<b>Real and Inflationary Components of Nominal Capital Gain on a \$1,000 Investment</b>	10
5.	<b>The Inflation Component in the Value of a "Typical" Stock Sold in 1989</b>	11
6.	<b>Marginal Tax Rates by Asset Value Under an Indexing Loss Limitation</b>	35



## SUMMARY AND INTRODUCTION

---

---

---

---

---

A capital gain or loss is the difference between the sale price of an asset and its basis. The basis, in the simplest case, is the purchase price of the asset, including any brokerage fee. For example, if corporate stock is purchased for \$1,000 and later sold for \$1,500 (net of broker commissions), the capital gain is the difference between the \$1,000 purchase price and the \$1,500 received from the sale, or \$500. If the asset purchased is a physical asset, and the owner made improvements on it, then the tax basis is the purchase price plus the cost of the improvements. If the asset depreciates over time, the basis is the original sale price reduced by the decline in value from depreciation.

## CAPITAL GAINS UNDER PRESENT LAW

---

Under present law, capital gains net of capital losses are fully included in taxable income. Net losses are included up to a maximum of \$3,000. Net capital losses in excess of \$3,000 are carried over to following taxable years. This constraint limits the ability of investors to time the realization of gains and losses so as to fully minimize taxes.

Although the statutory tax rate on capital gains is the same as on other income, current law includes several advantages for capital gains. Chief among these are that the tax due on a year's capital gain is deferred until the asset is sold, and that if the asset is held until death, the tax on the gain is forgiven. By deferring the tax, the full gain in a year becomes part of the amount on which additional gains are earned in later years. This raises the net after-tax return and reduces the effective tax rate on capital gains.<sup>1</sup> The longer the asset is held, the greater the advantage of the deferral. Another advantage under present law is that taxes on certain capital gains, most notably

---

1. The effective tax rate is a measure of the total tax paid over the life of an investment in terms of an annual tax rate that can be compared to tax rates on other income. It reflects the percentage reduction in the average annual rate of return caused by taxation.

on a home, can be deferred through successive sales and purchases. Also, a taxpayer over 55 can exclude from tax up to \$125,000 of capital gain on the sale of a home.

## EXCLUSIONS

---

Before the Tax Reform Act of 1986, a portion of capital gains on assets held longer than some minimum period was excluded from taxable income. The minimum holding period and the percentage of gain excluded were changed several times by the Congress. The effect of these capital gains exclusions was that long-term capital gains and losses were taxed at lower rates than short-term capital gains and ordinary income. The exclusion was defended as contributing to a variety of distinct policy goals, including taxing real rather than inflationary gains, encouraging risk-taking and entrepreneurship, and offsetting the double taxation of corporate equity.

Several proposals have been made to restore a capital gains exclusion in some form. Some would enact a fixed percentage exclusion that would not vary as long as the asset was held some minimum length of time. Other proposals would provide an exclusion that increased with the holding period. For example, the President's 1991 budget proposed exclusions of 10 percent for assets held between one and two years, 20 percent for assets held two to three years, and 30 percent for assets held over three years. The purpose of a variable exclusion would be to encourage investors to hold assets longer and thus to discourage short-term trading and speculation. A variable exclusion would not be unprecedented. An exclusion that varied between 20 percent and 70 percent for long-term capital gains was in effect between 1934 and 1937.

## INDEXING

---

Several proposals, however, have taken the different tack of indexing capital gains for inflation by including capital gains in taxable income only to the extent they represent real increases in purchasing power. Indexing capital gains would do this by adjusting the basis of an asset

for increases in the general price level over the period the asset was held. For example, if an asset was purchased five years ago for \$1,000, and prices have increased by 25 percent since then, the purchasing power of the original \$1,000 is equivalent to \$1,250 in current dollars. Indexing would adjust the basis upward by 25 percent to \$1,250, and any gain or loss would be reckoned relative to the inflated basis.

Indexing would effectively exclude a portion of capital gain from tax, just as under an exclusion. The difference is that the portion excluded would be the share of the total capital gain representing inflation.

In principle, indexing would apply to capital losses as well as to capital gains. Except as noted, the following analysis assumes that both gains and losses would be indexed. However, many indexing proposals put forward in the Congress have included a special loss limitation that would allow deduction of only nominal losses. Real (inflation-adjusted) losses would not be deductible if the asset had accrued a nominal gain.

What would be the main advantages and disadvantages of indexing capital gains? The answer will depend on whether indexing is compared with the status quo (not lowering taxes on capital gains) or with other alternatives for lowering taxes on capital gains. How would indexing compare with other options for cutting capital gains taxes in its budgetary cost, distributional effects, and ability to achieve the various goals associated with lower taxes on capital gains? Moreover, is indexing of capital gains preferable to leaving taxes on capital gains at their current levels?

Again, the answer will depend on how indexing and the other options for lowering taxes on capital gains would be carried out. For example, the effects of indexing as compared with an exclusion would depend on how depreciable assets were treated under indexing and on whether an exclusion would be fixed or would vary according to how long an asset had been held. The effects of indexing as compared both with other options and with current law would depend on whether indexing applied only to capital gains or to losses as well.

### Indexation Compared With an Exclusion

By its very nature, indexing capital gains and capital losses would provide more exact adjustments for inflation than other options for lowering taxes on capital gains, such as an exclusion. Indexing would also compare favorably with an exclusion in its ability to achieve some of the other objectives associated with lowering taxes on capital gains. Compared with an exclusion, complete indexation of capital gains and losses would:

- o Provide more exact adjustments for the effects of inflation;
- o Provide similar incentive for entrepreneurship and risk-taking (in part by sheltering investors from the risk of inflation);
- o Simplify tax compliance for depreciable assets by obviating complex recapture rules;
- o Give smaller tax reductions to high-income investors; and
- o Reduce the double tax on corporate equity, encourage dividend distributions, and discourage leveraged buyouts.

In this paper, indexing is generally compared with a 30 percent exclusion. Full indexing of gains and losses would result in larger long-run revenue losses than those under a 30 percent capital gains exclusion at likely rates of inflation.

### Indexation Compared With Current Law

Whether it would be better to leave taxes on capital gains at current levels or to index capital gains is uncertain. Indexing capital gains, but not other forms of capital income, would widen the relative tax advantage enjoyed by capital gains, just as an exclusion or a rate cap would. Doing so would have mixed effects. Compared with current law, complete indexation of capital gains would:

- o Encourage risk taking;
- o Partially offset the double taxation of corporate capital;
- o Encourage borrowing to finance investment in assets whose return is in capital gains, and thus stimulate investment in tax shelters; and
- o Reduce the tax burden on taxpayers who receive relatively more income from capital gains.

### Indexation Subject to a Loss Limitation

Finally, the advantages and disadvantages of indexing, compared not only with current law but also with an exclusion and with rate caps, depend on how the indexing would be done. Partly because of concern about revenue losses, most indexing proposals--both here and abroad--call for a special limitation on losses created by indexing. The limitation would allow nominal losses (unadjusted for inflation) to be deducted from net capital gains, as they are under present law, but would not allow the deduction of losses caused solely by inflation.

As a result of the limitation, indexing could never convert a nominal gain into a tax loss, regardless of how much inflation had eroded the purchasing power of the original investment. Assets with nominal losses would receive no benefit from indexing as compared with present law. Such a loss limitation would reduce the government's revenue losses, but it would also remove many of the advantages of indexing relative to an exclusion or rate cap. Compared with complete indexation, indexing subject to such a loss limitation would:

- o Only partially protect capital gains from inflation;
- o Discourage the sale of assets with losses;
- o Discourage entrepreneurship and risk-taking;
- o Discourage corporate distributions of dividends; and

- o Penalize middle-income investors relatively more than high-income investors.

The concern about revenue losses could be met in other ways that would have less distorting effects on economic behavior. For example, gains could be partially indexed for inflation, retaining the same advantages and disadvantages as full indexing, but scaled back.



## **CHAPTER I**

---

### **INFLATION AND CAPITAL GAINS**

---

---

---

While capital gains income receives some advantages under current law, it also suffers from one notable disadvantage. Because the tax basis is stated in dollars of the year purchased, while the sale price is stated in the inflated dollars of more recent years, inflation causes capital gains to be overstated. This effect can raise the effective tax on real gains above the statutory rate.

#### **INTERACTION OF INFLATION AND THE TAX ON CAPITAL GAINS**

---

An example will demonstrate how, under current law, inflation overstates capital gains and the effective tax rate on those gains. Suppose a growing corporation reinvests its profits instead of paying dividends and, as a result, the value of the company's stock appreciates at a rate of 4 percent a year in the absence of inflation. If inflation is also 4 percent a year, the company's stock appreciates at a rate of just over 8 percent a year. An investor who purchases \$1,000 of stock and sells it after 10 years receives \$2,191 from the sale. The gain, assuming no selling costs were incurred, is \$1,191. However, because of the 4 percent inflation rate, the \$1,000 originally paid for the asset is equivalent to a basis of \$1,480 at the time the asset is sold. Thus, \$480 of the total gain is attributable to inflation and only the remainder, \$711, represents a real gain in purchasing power.

Under current law, inflation raises the effective tax rate because the whole gain, including the inflationary part, is subject to tax. If the investor is in the 28 percent tax bracket, the total gain of \$1,191 is included in income and the tax due on the gain is \$334. After paying the tax, the investor retains \$1,858 dollars. Compared with an inflation-corrected purchase price of \$1,480, the investor earns \$378 after tax, which over 10 years amounts to an annual rate of return of 2.3

percent. Compared with a before-tax return of 4 percent, an after-tax return of 2.3 percent reflects an effective tax rate of 43 percent (4 minus 2.3, divided by 4), which is much higher than the statutory rate of 28 percent. These computations are summarized in Table 1 in the column labeled "present law."

Even at low rates of inflation, the effective tax rate on capital gains can exceed the statutory rate. At higher inflation rates, the effective tax rate on capital gains increases. In the above example, even if the inflation rate had been just 2 percent, the effective tax rate would have been 34 percent. If the inflation rate had been 12 percent, the effective tax rate would have been 64 percent. The relationship between inflation and the effective tax rate is illustrated in Figure 1. The line labeled "growth asset" corresponds to the type of asset in Table 1. A growth asset is one that pays all of its return through appreciation in value.

TABLE 1. EFFECTIVE TAX RATES UNDER THREE CAPITAL GAINS TAX OPTIONS (In dollars)

	Present Law	Indexing	Exclusion
Sale Price	2,191	2,191	2,191
Basis	1,000	1,480	1,000
Taxable Capital Gain	1,191	711	834
Tax on Gain	334	199	233
After-Tax Gain	1,858	1,992	1,958
Purchase Price Adjusted for Inflation	1,480	1,480	1,480
Real Return After Tax (Percent)	2.30	3.01	2.83
Effective Tax Rate (Percent)	43	25	29

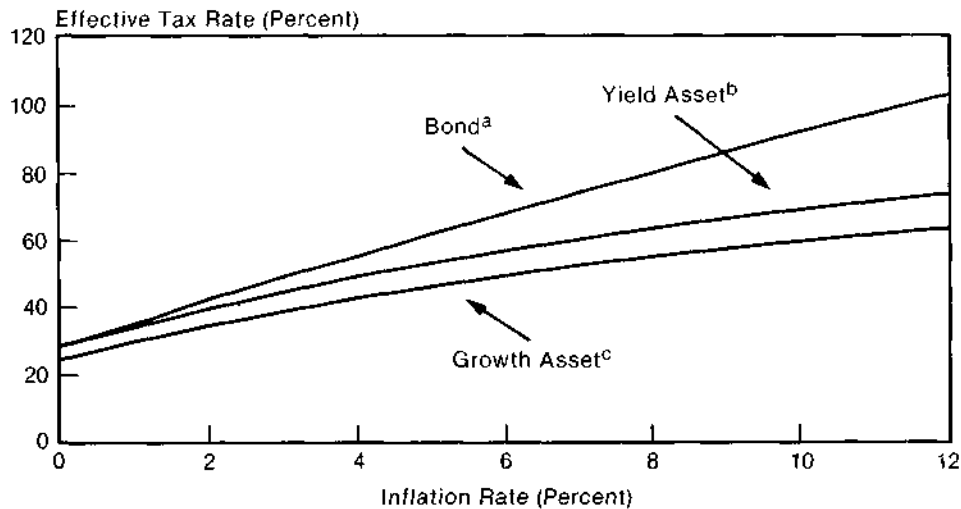
SOURCE: Congressional Budget Office.

NOTE: The calculations assume a holding period of 10 years, a 4 percent real rate of return, a 4 percent inflation rate, a tax on ordinary income of 28 percent, and an exclusion of 30 percent.

### The Effects of Deferral

Because taxes are not paid on capital gains until an asset is sold, the owner of the asset is able to defer tax liability, which allows gains to accumulate tax-free until sale. In the example above, the tendency of inflation to raise the effective tax rate above the statutory rate is offset, though not completely, by deferral of the tax. Had the stock in the original example been held just one year, so that no taxes were deferred, the effective tax rate would have been 55 percent rather than 43 percent.

Figure 1.  
Effective Tax Rates and Inflation, by Asset Type

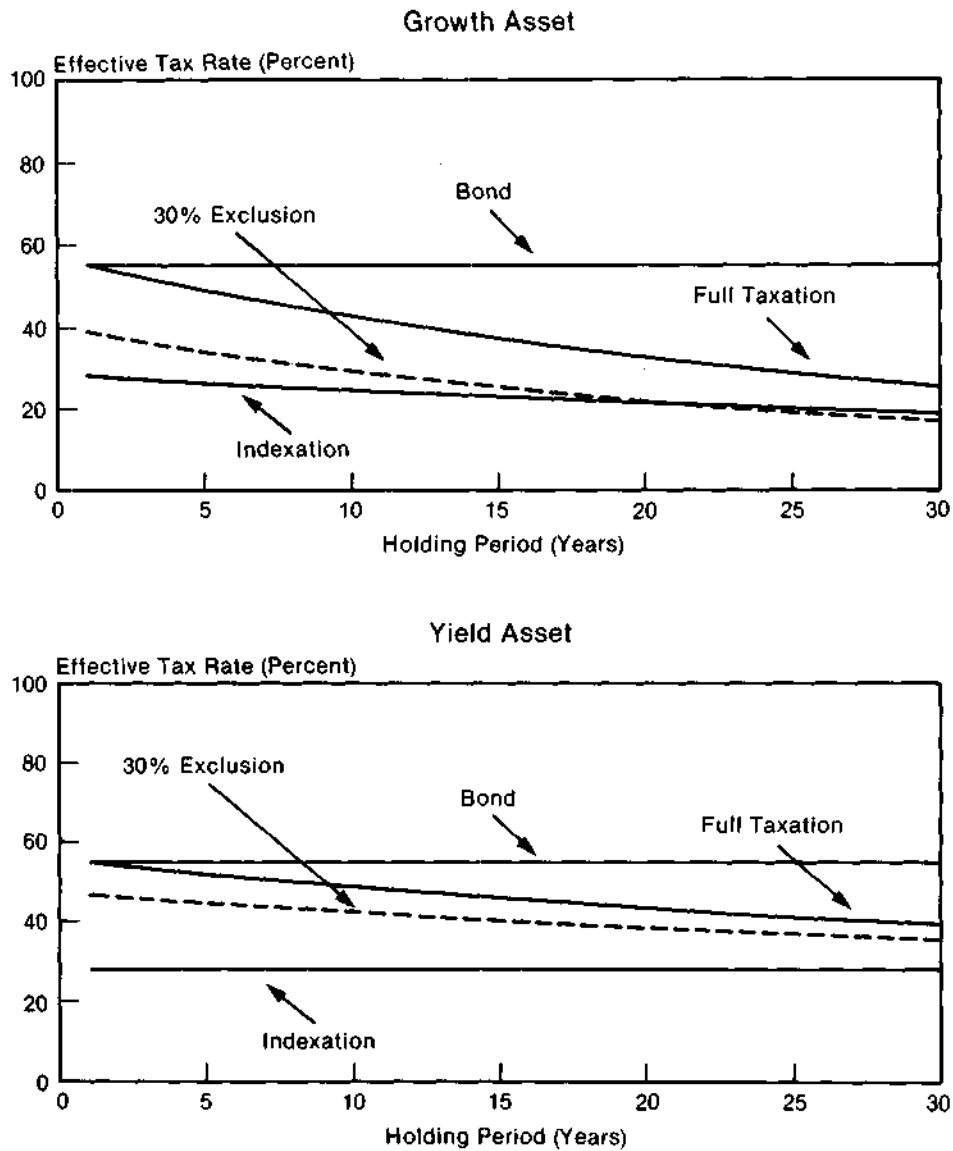


SOURCE: Congressional Budget Office.

NOTE: All assets pay a real return of 4 percent and are held for 10 years. The marginal tax rate on capital gains is 28 percent.

- a. A bond is assumed to pay out all of its return as interest.
- b. A yield asset is assumed to pay an annual dividend equal to its real return.
- c. A growth asset is assumed to defer all of its return until sold.

Figure 2.  
Effective Tax Rates and Holding Periods Under Alternative  
Capital Gains Tax Regimes



SOURCE: Congressional Budget Office.

NOTE: All assets pay a real return of 4 percent and inflation is 4 percent. The marginal tax rate on ordinary income is 28 percent.

Even when deferral of tax does not fully offset the inflation tax on gains, assets that pay their return in the form of capital gains still fare better than assets that pay returns in other forms. Figure 1 shows how inflation affects the effective tax rate of two such assets. One is a yield asset that is assumed to pay the same total return as the growth asset, but to pay an annual dividend equal to the real return. The other is a bond that is assumed to pay out its total return (real and inflationary) in interest. The effective tax rate on the yield asset is lower than that on the bond, which defers none of the return, but higher than that of the growth asset, which defers all of the return.

Deferral also offsets more of the inflation tax the longer an asset with capital gains is held. Figure 2 shows how the effective tax rate on the growth asset declines with the length of the holding period for a taxpayer in the 28 percent tax bracket, assuming inflation of 4 percent and a real pre-tax return of 4 percent. If the growth asset is held for one year, the effective tax rate is 55 percent under present law. If the asset is held for 10 years, the effective tax rate declines to 43 percent. If the asset is held for 30 years, the effective tax rate falls below the statutory rate to 25 percent.

Figure 2 also shows that, compared with a growth asset, the effective tax rate on a yield asset does not decline with the holding period as fast as that on a growth asset because only part of the income is received in the form of a capital gain that benefits from tax deferral. Under present law, the effective tax rate on the yield asset would be 39 percent after 30 years. The effective tax rate on the bond, which pays out its total nominal return in the form of interest, does not vary with the holding period. It is the same 55 percent no matter how long the bond is held.<sup>1</sup>

---

1. The bond has no nominal capital gain or loss because nominal interest rates are assumed to be constant. A real capital loss occurs upon redemption of the bond, but it is assumed that bonds would not be eligible for indexation.

---

## DEALING WITH INFLATION THROUGH INDEXING OR AN EXCLUSION

---

Under indexation, the basis would be adjusted to reflect inflation before calculating the gain subject to tax. In this way, only the real gain would be subject to tax. If gains were taxed as they accrued rather than when realized, indexing would maintain the effective tax rate at the statutory rate. The effect of deferral, though, would be to reduce the effective tax rate below the statutory rate by an increasing amount the longer the asset was held.

### Indexing the Basis

When indexation is applied to the investment represented in Table 1, the \$1,000 purchase price is increased for the intervening inflation to \$1,480--representing the basis before calculating the gain. The resulting gain is \$711, on which \$199 in taxes is due. The investor retains \$1,992 after tax, which, in comparison to an expenditure of \$1,480 ten years earlier (using current dollars), represents a real after-tax return of 3.01 percent. Since the stock earned 4 percent before tax, the investor pays an effective tax rate under indexation of 25 percent. The difference between this rate and the statutory rate of 28 percent represents the advantage of deferring taxes on real gains.

Because the basis is adjusted for inflation before the taxable gain is calculated, the effective tax rate under indexing remains constant at all inflation rates. However, because of the deferral of tax, the effective tax rate falls increasingly below the statutory rate the longer the asset is held. Both of these effects are shown in Figure 2. When the holding period is just one year, the effective tax rate equals the statutory rate, regardless of the rate of the inflation. The effective rate for the growth asset falls with the length of the holding period. For the yield asset that pays all of its real return in dividends, the effective tax rate is always equal to the statutory rate under indexing because the real income is taxed as it accrues and there is no tax on the purely inflationary gain.

The relative advantage of deferral is much reduced under indexation compared with current law. For example, as the holding period for the growth asset in Figure 2 increases from 1 to 30 years, the effective tax rate under indexation drops by about one-third compared with a drop under current law of more than half.

### Excluding a Fixed Percentage of Nominal Gains

Unlike indexation, an exclusion removes a fixed percentage of all gains from taxation. For example, under a 30 percent exclusion, a taxpayer

TABLE 2. AN EXCLUSION RATE EQUIVALENT TO CAPITAL GAINS INDEXING (In dollars)

Holding Period (Years)	Current Price of Asset	Purchase Price of Asset	Nominal Capital Gain	Inflation-Adjusted Basis	Indexed Capital Gain	Excluded Portion of Capital Gain	
						Amount	Percent
1	1,080	1,000	80	1,040	40	40	50.0
2	1,166	1,000	166	1,082	85	82	49.0
3	1,260	1,000	260	1,125	135	125	48.1
4	1,360	1,000	360	1,170	191	170	47.1
5	1,469	1,000	469	1,217	253	217	46.2
6	1,587	1,000	587	1,265	322	265	45.2
7	1,714	1,000	714	1,316	398	316	44.3
8	1,851	1,000	851	1,369	482	369	43.3
9	1,999	1,000	999	1,423	576	423	42.4
10	2,159	1,000	1,159	1,480	679	480	41.4
11	2,332	1,000	1,332	1,539	792	539	40.5
12	2,518	1,000	1,518	1,601	917	601	39.6
13	2,720	1,000	1,720	1,665	1,055	665	38.7
14	2,937	1,000	1,937	1,732	1,206	732	37.8
15	3,172	1,000	2,172	1,801	1,371	801	36.9
16	3,426	1,000	2,426	1,873	1,553	873	36.0
17	3,700	1,000	2,700	1,948	1,752	948	35.1
18	3,996	1,000	2,996	2,026	1,970	1,026	34.2
19	4,316	1,000	3,316	2,107	2,209	1,107	33.4
20	4,661	1,000	3,661	2,191	2,470	1,191	32.5

SOURCE: Congressional Budget Office.

NOTE: The table assumes that the value of the asset grows by 8 percent per year, of which 4 percent represents inflation.

in the 28 percent tax bracket would pay a tax rate on realized gains of 19.6 percent.

The calculations in Table 1 show that the exclusion would lower the effective tax rate on the growth asset used in the example, which was held for 10 years, to 29 percent compared with 43 percent under present law, or about equal to the present statutory rate of 28 percent.

If the percentage of a realized capital gain representing inflation happened to be exactly the same as the exclusion rate, then the gain subject to tax under an exclusion would be the same as under indexation, and the two would have the same effective tax rate. However, investments in which inflation's share of the gain was less than the exclusion rate would have some of the real gain removed from taxation as well as all of the inflationary gain, and these investments would have a lower effective tax rate than under indexation. The reverse would hold for investments in which the inflationary share of the gain was larger than the exclusion rate. Thus, a fixed exclusion rate cannot provide accurate inflation adjustment for all investments, as can indexation. An exclusion would provide too large an adjustment for some investments and too small an adjustment for others.

#### Excluding a Variable Percentage of Nominal Gains

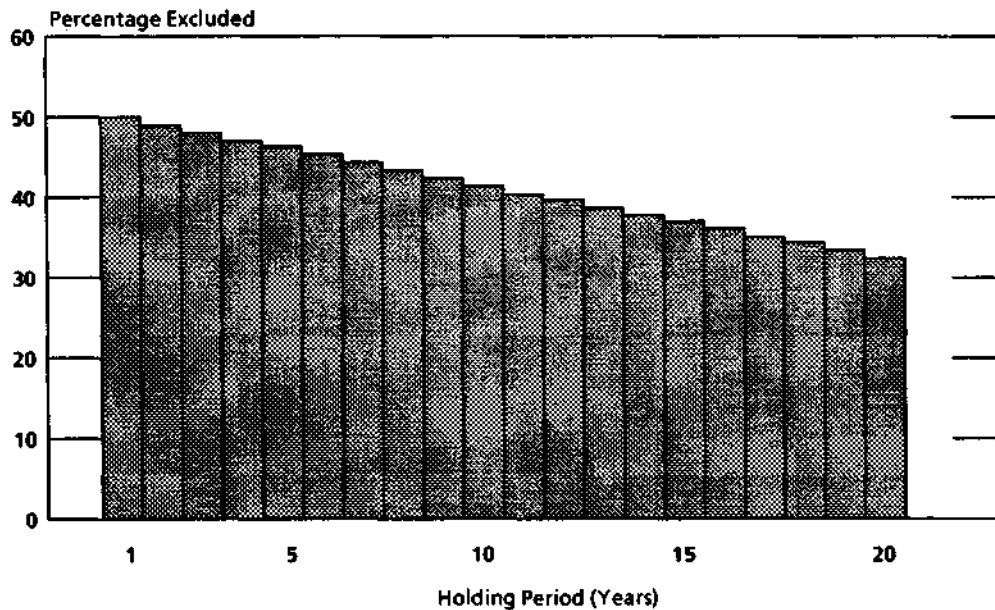
If the inflation rate and an asset's real return were both relatively constant, an exclusion that varied with the length of time the asset was held before sale could provide an accurate inflation adjustment. For this to be true, however, the percentage of the total capital gain excluded from taxable income would need to fall with the length of the holding period.

This point is illustrated in Table 2 (see page 7) for the case in which the value of the asset is assumed to grow by 8 percent a year, of which 4 percent is inflationary growth in the price of the asset and 4 percent is real growth. The initial purchase price of the asset is assumed to be \$1,000. After the asset has been held for one year, its nominal value is \$1,080. If it is sold after one year, the nominal capital gain is \$80 (\$1,080-\$1,000), of which \$40 is attributable to inflation and \$40 is real gain.



Excluding the part of the gain that results from inflation--\$40--would be equivalent to excluding 50 percent of the gain (\$40/\$80) from tax. The amount of inflationary gain declines as a percentage of the total gain with the length of time the asset is held before sale. For example, after the asset has been held for 10 years, its nominal value is \$2,159, so that the nominal capital gain is \$1,159. Of this amount, \$480 or 41.4 percent (\$480/\$1,159) of the total gain is attributable to inflation. Thus, under indexing, in the case considered in Table 2, the percentage of capital gains excluded from tax declines from 50 percent for an asset sold after one year to 41.4 percent for an asset sold after 10 years.

Figure 3.  
Percentage of Capital Gains Excluded Under Indexing for Inflation

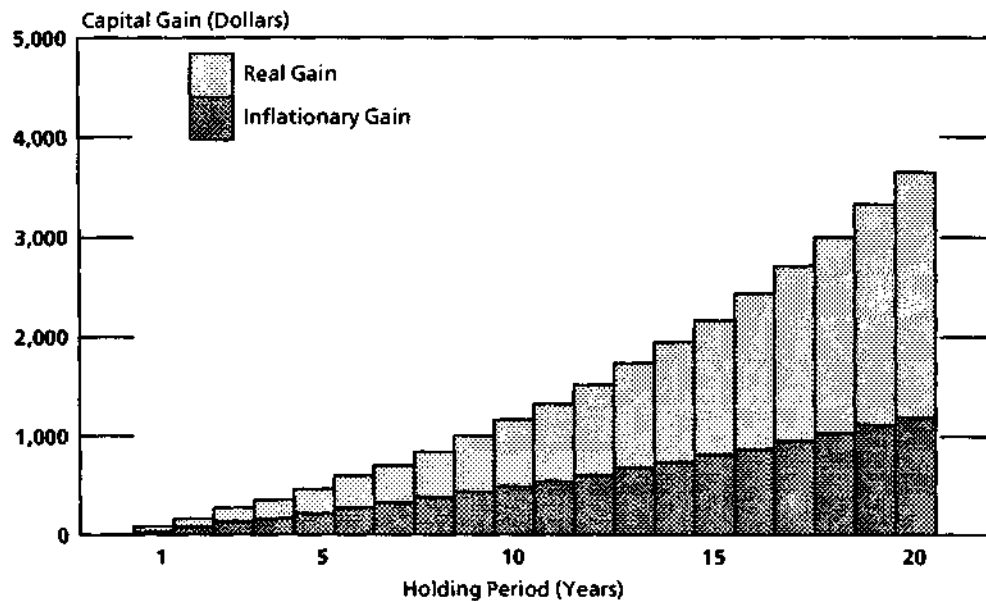


SOURCE: Congressional Budget Office.

NOTE: The value of the asset is assumed to grow by 8 percent per year, of which 4 percent represents inflation.

This declining relationship between holding periods and the percentage of capital gains that would be excluded under indexing is shown in Figures 3 and 4. Figure 3 shows the portion of the nominal capital gain that would be excluded from tax under indexing. Figure 4 breaks down the total nominal gain into its real and inflationary components. Over time, the real component grows as a fraction of the total. If the exclusion is to provide an accurate inflation adjustment, a declining fraction of the gain must be excluded the longer an asset is held before sale. The portion of the total gain attributable to inflation declines over time because the asset earns real returns on both the real and the inflationary components of asset value.

Figure 4.  
Real and Inflationary Components of Nominal  
Capital Gain on a \$1,000 Investment

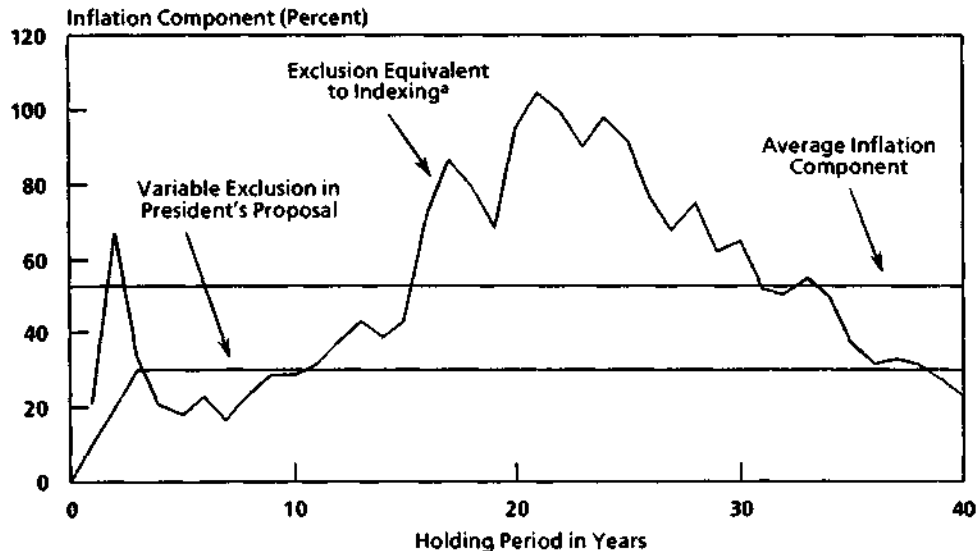


SOURCE: Congressional Budget Office.

NOTE: The value of the asset is assumed to grow by 8 percent per year, of which 4 percent represents inflation.

In practice, it would be impossible to devise an exclusion that varied with the holding period and also provided accurate inflation adjustments. As Figure 5 shows, the inflationary component of the return to a "typical" stock traded on the New York Stock Exchange (that is, one whose value tracks the overall market index) does not have a direct relationship to the length of time the stock is held. In the past, the relationship has usually had much more to do with business or economic factors than with how long assets had been held. For example, stocks purchased in the 1960s were strongly affected by the stagflation of the late 1960s and 1970s. The average exclusion necessary to correct for the inflation component of their returns would have had to be about 86 percent. In contrast, stocks purchased in the 1950s did much better because of the stock market boom and the relatively low inflation of

Figure 5.  
The Inflation Component in the Value of a  
"Typical" Stock Sold in 1989



SOURCE: Congressional Budget Office.

- a. Shows how the inflationary component in the value of "typical" stock sold in 1989 would vary depending on the length of time it had been held (the value of the "typical" stock is assumed to correspond to the New York Stock Exchange Index).

the 1950s and early 1960s. The average exclusion needed to correct for inflation on these stocks would have been 43 percent. Overall, inflation averaged 52 percent of nominal gains for stocks purchased between 1949 and 1988 and held until 1989.

## **CHAPTER II**

---

# **HOW INDEXING AND EXCLUSION WOULD AFFECT DIFFERENT KINDS OF CAPITAL GAINS ASSETS**

---

The effects of indexing and an exclusion on the various types of assets that pay returns in the form of capital gains would differ. For an investor, tax benefits of an exclusion would decline with the share of the total return paid out in dividends while the benefits of indexing would not. As compared with an exclusion, indexing would favor assets that pay out a large share of the total return in dividends. Among depreciable assets that pay capital gains, indexing of structures would be more favorable than an exclusion, and indexing of equipment would be at least as favorable as an exclusion.

## **DIVIDEND-PAYING ASSETS**

---

Ideally the tax code would not discriminate between earnings that are retained or paid out, so as not to influence investors in choosing between dividend and growth corporations, or corporations in deciding whether to channel resources into internal investment or pay them out as dividends. Indexation would come closer to this standard than an exclusion. Retention of earnings would be favored over dividend payouts under either indexing or an exclusion, because retained earnings benefit from deferral whereas dividends are taxed in the year paid. However, an exclusion would penalize dividend payouts more than indexation. An exclusion would tilt the balance in favor of retention because the exclusion would apply only to capital gains, not to income paid out as dividends. On the other hand, the tax relief offered under indexing would depend solely on purchase price and thus would be unaffected by dividends.<sup>1</sup>

---

1. This conclusion may be affected by a limitation on net capital loss deductions if high dividend payouts result in real capital losses.

To illustrate the difference, suppose an investor is considering the purchase of stock in one of two companies. The first is like the company in Table 1 that retains all its income so that its stock price rises both with inflation and with reinvested earnings. The second company pays all of its real earnings in dividends, and its stock price rises only with inflation.

As shown in Table 1, the effective tax rate on the stock from the first company is 25 percent under indexation and 29 percent under a 30 percent exclusion. For the second company's stock, the effective tax rate under indexation is the same as the statutory rate, 28 percent. This occurs because all the earnings are paid out as dividends and taxed at the statutory rate, while none of the capital gain is taxed since it represents inflation. Under indexation, therefore, the investor faces a slightly higher effective tax rate for the dividend-paying stock--28 percent--than for the growth stock--25 percent. This difference reflects the value of deferral for the growth stock.

The dividend-paying stock fares much worse under an exclusion because the dividends are taxed at the full statutory rate of 28 percent while the included portion of the purely inflationary gain is also taxed at the statutory rate. In this case, the effective tax rate for the dividend-paying stock under an exclusion is 42 percent, compared with 29 percent for the growth stock. The gap in effective tax rates between an exclusion and indexation remains substantial at longer holding periods, as shown in Figure 2.

## DEPRECIABLE ASSETS

---

The effects of indexing or an exclusion on depreciable assets would be complex. Both indexing and exclusion would reduce the tax paid on capital gains realized from the sale of some depreciable assets such as buildings, whose nominal value may increase over time, even though their inflation-adjusted value may be unchanged or actually decline. Like dividend-paying stock, buildings pay out a portion of the total return as current income, in the form of rent. Thus, structures would be likely to receive more favorable tax treatment from indexing than from an exclusion.

In the case of equipment, the comparative effects would depend on how depreciable assets were treated under indexing. This is part of the broader issue that arises when capital gains are taxed at lower rates than ordinary income and when the cost of most depreciable assets is allowed to be deducted faster than the assets actually wear out or become obsolete.

### Conversion of Income Into Capital Gains

Accelerated depreciation can become a means of converting ordinary income into preferentially taxed capital gains. For an example of the effects of accelerated depreciation, suppose an apartment building is built for \$100,000 by a taxpayer in the 28 percent tax bracket, that the preferential tax rate on capital gains is 20 percent (which approximately corresponds to a 30 percent exclusion), and that \$50,000 in depreciation deductions are allowed before the building is sold for \$80,000. The taxpayer's adjusted basis--cost less depreciation deductions--is \$50,000. However, the actual depreciation was only \$20,000. The \$30,000 capital gain (sales price less adjusted basis) represents only accelerated depreciation deductions. Without recapture (discussed below), the capital gains tax would be \$6,000 (20 percent of \$30,000). This is really a tax on the previously earned rental income that was deferred because of accelerated depreciation.

Converting ordinary income into capital gains was an important impetus to the tax shelter boom in the early 1980s, a boom that was largely ended by the Tax Reform Act of 1986. Under an exclusion, opportunities for converting ordinary income to capital gains could be reduced by requiring depreciation deductions to be "recaptured" on the sale of an asset to prevent conversion of ordinary income into capital gains. Recapture means that the portion of a gain that corresponds to past depreciation deductions is taxed at ordinary income tax rates. In the example just given, none of the measured capital gain would be taxed preferentially because the depreciation deductions of \$50,000 exceed the measured capital gain of \$30,000. Only an increase in value over the original purchase price (adjusted for out-of-pocket costs) would qualify for the preferential tax rate on capital gains. For example, if the asset was sold for \$110,000, the initial measured gain would be

\$60,000, of which \$50,000 would be recaptured and taxed at ordinary rates and \$10,000 would be taxed at the lower capital gains rate.

In the case of equipment, the difference between the sale price and the adjusted basis is apt to be smaller than past depreciation because the sale price is likely to be less than the purchase price. Thus, the practical effect of recapture would be to tax capital gains on equipment at ordinary income tax rates. A capital gains exclusion combined with full recapture would thus tax equipment at current law rates.

In the case of structures, the effect would be different. Because structures may be sold for more than the purchase price, full recapture would reduce, though not wipe out, the portion of the measured capital gain that would be taxed preferentially under an exclusion. Compared with current law, an exclusion plus full recapture would lower the effective tax rate on structures.

Recapture is not a simple matter, however, and regulations governing recapture are among the more complex elements of tax law. A possible argument for indexing is that it would enable full taxation of real capital gains without a need to resort to recapture.

### Indexed Depreciation

Whether indexing would actually result in the desired tax treatment of capital gains on depreciable assets would depend on how it was done. An important factor is whether the indexing of capital gains would be accompanied by indexing of depreciation.<sup>2</sup> If it was, capital gains on depreciable assets would be measured relative to the inflation-adjusted basis used to compute indexed depreciation deductions. For example, if an asset was purchased for \$100 and depreciated on a straight-line basis over 10 years, depreciation would be \$10 per year without indexing. Under depreciation indexing, these deductions would instead be computed by first increasing the undepreciated basis to reflect price

---

2. A report by the Department of the Treasury, *Tax Reform for Fairness, Simplicity, and Economic Growth* (1984), called for indexing of depreciation deductions. However, this option was not included in the final tax reform bill. The main objection was apparently that depreciation indexing was thought to be too complex.



increases and then dividing this amount by the number of years remaining. If inflation was 5 percent, the undepreciated basis at the end of year 1 would be \$90 (\$100-\$10). This amount would be multiplied by 1.05 to yield the inflation-adjusted basis of \$94.50. Dividing \$94.50 by 9--the number of years remaining--would result in a year 2 (indexed) depreciation deduction of \$10.50. Subtracting this amount from \$94.50 would yield an undepreciated basis at the end of year 2 of \$84. This amount multiplied by 1.05 would yield the inflation-adjusted basis for year 3 of \$88.20, and so on.

The real capital gain in any year would simply equal the difference between the sale price and the inflation-adjusted basis used to compute indexed depreciation deductions. This amount would be fully included in taxable income. If depreciation was more rapid than economic depreciation, the effect would be to defer income, but not to convert it to a preferentially taxed capital gain.

### Indexing Capital Gains When Depreciation Is Not Indexed

If depreciation was not indexed, indexing capital gains could magnify the effects of accelerated depreciation, depending on how the basis of a depreciable asset was indexed for purposes of measuring capital gains. Some proposed legislation would index the original cost of the depreciable asset before subtracting depreciation to compute the adjusted basis. This approach raises the adjusted basis and lowers the taxable capital gains. Such an option would be more generous than an exclusion combined with full recapture, because it would cause a smaller amount of gain to be subject to tax either at ordinary or at preferential rates. Indexing in this fashion would make it easier to convert ordinary income to capital gains than under an exclusion with full recapture. This potential problem could be avoided by indexing the adjusted basis rather than the original basis. Such an adjustment would result in the same measured capital gain as under a combination of indexing depreciation and indexing capital gains. If an asset had been fully depreciated, any capital gain would be fully taxed, as it would under an exclusion with recapture.

---

**SUMMARY OF EFFECTS OF INDEXING AND  
EXCLUSION ON DIFFERENT KINDS OF ASSETS**

---

The comparative effects of indexing and exclusion on different assets are summarized in Tables 3 and 4, which show the effect of a 30 percent capital gains exclusion and indexing on the returns to different capital gains assets, when inflation and the real return are each assumed to be 4 percent a year. The asset categories are: a growth asset, which retains all of its earnings (pays no dividends); a bond, which distributes its full nominal return as interest; corporate stock, which pays out three-quarters of real income as dividends and retains the rest; a yield asset, which distributes all of its real income and thus grows at the rate of inflation; and three classes of depreciable asset: residential and nonresidential structures, which depreciate slowly, and equipment, which depreciates quickly. All assets except structures are assumed to be held for 7 years; structures are held for 15 years. Rates of return are calibrated so that, under present law, corporate stock earns a real return of 4 percent before tax, and after-tax real returns are equal.

The tables are meant to illustrate the comparative effects of the three capital gains tax options--present law, a 30 percent exclusion, and indexing--on different kinds of assets. Because the example ignores such important factors as the corporate income tax, the advantage of borrowing (leverage) and tax arbitrage, and limitations on interest and passive loss deductions, the computed effective tax rates should not be interpreted as measures of tax burden facing different sectors or kinds of investments.

Both exclusion and indexing would cut the effective tax rate on most capital gains assets. Given the assumptions about inflation and the real return underlying Tables 3 and 4, indexing would lower effective tax rates more than would a 30 percent exclusion. This effect simply reflects the fact that, over the assumed holding periods, a 30 percent exclusion would remove a smaller share of nominal capital gains from taxable income than would indexing.

For the reasons explained above, exclusion and indexing would have very different effects on the different assets. An exclusion would

TABLE 3. BEFORE- AND AFTER-TAX RETURNS FOR VARIOUS TYPES OF ASSETS (In percent)

Asset Type	Real Before-Tax Return	After-Tax Return			
		Present Law	Exclusion	Indexing	
				Unadjusted <sup>a</sup>	Adjusted <sup>b</sup>
<b>Nondepreciable Assets</b>					
Corporate stock	4.00	2.02	2.37	2.90	2.90
Yield assets (Land)	4.06	2.02	2.29	2.92	2.92
Growth assets	3.84	2.02	2.58	2.85	2.85
Bonds	4.30	2.02	n.a.	n.a.	n.a.
<b>Depreciable Assets</b>					
Residential structures	3.72	2.02	2.11	2.84	2.50
Nonresidential structures	3.77	2.02	2.11	2.84	2.54
Equipment	3.42	2.02	2.02	3.40	2.02

SOURCE: Congressional Budget Office.

NOTES: All assets are assumed to be held by individuals; the effects of the corporate income tax are ignored. All assets except structures are assumed to be held for seven years; structures are held for 15 years. Income and taxes are paid at the end of each year. Before-tax returns are calibrated so that present law after-tax returns equal the return on corporate stock. Corporate stock pays out three-quarters of its real return in the form of dividends. Yield assets pay out all of their real return as dividends. Growth assets retain all of their income (no dividends). Economic depreciation on structures is 3 percent annually (geometric); depreciation on equipment is 15 percent annually. Tax depreciation on residential structures is 27.5-year straight-line; on nonresidential structures, 31.5-year straight-line; on equipment, 7-year 200 percent declining-balance switching to straight-line. All investments are purchased with cash (no debt). Structure investment is 80 percent structure, 20 percent land; the price of land increases with the inflation rate; rent is proportional to asset value; operating cost is proportional to structure value. The present law tax rate is 28 percent; the exclusion percentage is 30 percent; the inflation rate is 4 percent. Bonds are assumed to have no nominal gain or loss and to be ineligible for indexing on their real loss upon redemption.

n.a. = not applicable.

- a. Unadjusted indexing indexes the original basis for inflation before subtracting any depreciation deductions claimed by the taxpayer.
- b. Adjusted indexing indexes the adjusted basis (purchase price less depreciation deductions) for a larger taxable gain than unadjusted indexing.

**TABLE 4. REAL EFFECTIVE TAX RATES FOR VARIOUS TYPES OF ASSETS (In percent)**

Asset Type	Present Law	Exclusion	Indexing	
			Unadjusted <sup>a</sup>	Adjusted <sup>b</sup>
<b>Nondepreciable Assets</b>				
Corporate stock	49.57	40.85	27.44	27.44
Yield assets (Land)	50.28	43.46	28.00	28.00
Growth assets	47.46	32.68	25.81	25.81
Bonds	53.06	n.a.	n.a.	n.a.
<b>Depreciable Assets</b>				
Residential structures	45.79	43.28	23.58	32.92
Nonresidential structures	46.44	43.97	24.59	32.59
Equipment	41.07	41.07	0.79	41.07

SOURCE: Congressional Budget Office.

NOTES: All assets are assumed to be held by individuals; the effects of the corporate income tax are ignored. All assets are assumed to be held for several years, with income and taxes paid at the end of each year. Before-tax returns are calibrated so that present law after-tax returns equal the return on corporate stock. Corporate stock pays out 3/4 of its real return in the form of dividends. Yield assets pay out all of their real return as dividends. Growth assets retain all of their income (no dividends). Economic depreciation on structures is 3 percent annually (geometric); depreciation on equipment is 15 percent annually. Tax depreciation on residential structures is 27.4-year straight-line; on nonresidential structures, 31.5-year straight-line; on equipment, 7-year 200 percent declining-balance switching to straight-line. All investments are purchased with cash (no debt). Structure investment is 80 percent structure, 20 percent land; price of land increases with the inflation rate; rent is proportional to asset value; operating cost is proportional to structure value. The present law tax rate is 28 percent; the exclusion percentage is 30 percent; the inflation rate is 4 percent. The bond is assumed to have no nominal gain or loss and is assumed to be ineligible for indexing on its real loss upon redemption.

n.a. = not applicable.

- a. Unadjusted indexing indexes the original basis for inflation before subtracting any depreciation deductions claimed by the taxpayer.
- b. Adjusted indexing indexes the adjusted basis (purchase price less depreciation deductions) for a larger taxable gain from unadjusted indexing.

cut the effective tax rate on the growth asset by almost a third, but on the other assets by less. Because equipment is fully depreciated, its gain is taxed at ordinary rates under depreciation recapture rules; thus, the effective tax rate on equipment would be unchanged. The after-tax return on structures would increase by about 4 percent, so that the effective tax rate under the exclusion would be comparable to that of the yield asset and much higher than that of the growth asset.

Under indexing, the growth asset would also benefit more than other assets, but its advantage over the yield asset would be much smaller than under an exclusion. For depreciable assets, the benefit of indexing depends on whether the basis is indexed before or after depreciation deductions are subtracted. In Table 3, the former is labeled "unadjusted indexing," and the latter "adjusted indexing." Under unadjusted indexing, the effective tax rate on depreciable assets would fall below the statutory rate or the rate on nondepreciable assets. In the case of equipment, unadjusted indexing would reduce the effective tax rate nearly to zero.

Under adjusted indexing, depreciable assets would be treated much differently. Equipment would be unaffected by adjusted indexing because it is fully depreciated, just as under the exclusion. Structures would have a substantial cut in their effective tax rate compared with the rate under an exclusion, but they would face higher effective tax rates than the nondepreciable assets.



## **CHAPTER III**

---

# **DISTRIBUTIONAL EFFECTS OF INDEXING AND AN EXCLUSION**

---

---

Both indexing and an exclusion would reduce the tax on capital gains. Because capital gains are received primarily by higher-income taxpayers, any tax reduction on capital gains could be expected to benefit higher-income taxpayers disproportionately. The tax reductions from an exclusion, however, would be concentrated to a greater degree among higher-income taxpayers than would the reductions from indexation. The reason is that, as shown by three different empirical studies, inflationary gains tend to be a larger component of total gains among lower- and middle-income taxpayers than among high-income taxpayers.

The tax reductions arising from an exclusion would primarily follow the distribution of realized capital gains under present law because the exclusion would be proportional to realized gains. The distribution of all realized gains is highly skewed toward higher-income taxpayers. In 1981, for example, 32 percent of reported capital gains were claimed by taxpayers with adjusted gross income (AGI) over \$200,000. By comparison, only about one-tenth of 1 percent of all taxpayers in that year reported AGI over \$200,000.

Inflationary gains in 1981, however, were less concentrated among higher-income taxpayers than were all realized gains. Since these are the gains that would be excluded from taxation under indexation, the tax reduction from indexation in that year would have been less concentrated among higher-income taxpayers than would the tax reduction coming from an exclusion. In fact, in 1981, the average tax return reporting capital gains on the sale of corporate stock and having an AGI of less than \$100,000 had inflationary gains larger than the reported nominal gains. Thus, average real gains on sales of stock, which would be taxed under indexing, were negative for taxpayers with AGI of less than \$100,000.

In contrast, the average real gain for taxpayers with AGI over \$100,000 was positive and accounted for 53 percent of their total nominal gains. For the tiny fraction of taxpayers with AGI over \$1,000,000, who accounted for 18 percent of realized nominal gains on stock in 1981, real gains amounted to 82 percent of their total gains. Thus, among those reporting gains on stock in 1981, indexation would have provided the least tax reduction per dollar of reported gain to the highest-AGI taxpayers and the most to those middle- and lower-income taxpayers with gains. The average taxpayer receiving gains and with AGI below \$100,000 would have owed no tax because no real gain had been earned. Table 5 shows the distribution of real and nominal gains by AGI class for sales of corporate stock in 1981.

The distribution of nominal and real gains in 1981 appears to have been repeated in the few other years for which data are available, and therefore is likely to hold for future tax changes. Distributions of

TABLE 5. REAL AND NOMINAL CAPITAL GAINS BY INCOME CLASS FOR CORPORATE STOCKS SOLD IN 1981  
(In dollars)

Adjusted Gross Income Class <sup>a</sup>	Nominal Gains	Real Gains
Less than 0	595	159
0-19,999	599	-3,659
20,000-49,999	1,685	-5,615
50,000-99,999	2,886	-2,166
100,000-199,999	3,521	725
200,000-499,999	3,384	1,697
500,000-999,999	1,810	1,259
1,000,000 and Over	<u>3,182</u>	<u>2,613</u>
Total, All Classes	17,661	-4,988

SOURCE: Internal Revenue Service, *Statistics on Income: Sales of Capital Assets*, 1981.

a. Note that capital gains are a component of adjusted gross income, so that individuals with more capital gains are likely to be in higher income classes. If taxpayers were classified by AGI net of capital gains, the pattern of real gains and losses would be the same. This table includes only transactions with complete acquisition and sale dates in the calculations.



nominal and real gains have been tabulated for corporate stock sales in 1977, and for the period 1971-1975.<sup>1</sup> In 1981 and 1971-1975, real gains on corporate stock were negative for taxpayers with AGI below \$100,000, and became positive for higher-AGI taxpayers. In 1977, the average gains appear to have been positive for most AGI classes, but the real return made up a rising portion of the total return among higher-AGI taxpayers. The effects of indexing on assets other than corporate stock are harder to estimate because a large percentage of transactions did not report valid holding periods. However, the data that were reported in 1981 showed the same pattern of real returns concentrated among high-income taxpayers. In all the distributional data available to CBO, the tax reductions from indexation would have been less concentrated among higher-income taxpayers than those from an exclusion.

---

1. See Department of the Treasury, *Report to Congress on the Capital Gains Tax Reductions of 1978* (1985); and Gerald Auten, "Estimation of the Effects of Capital Gains Taxes on Realization of Capital Gains" (final report to the U.S. Treasury Department, 1982, processed).



## CHAPTER IV

---

### FACTORS AFFECTING REVENUE UNDER

---

### INDEXING AS COMPARED WITH

---

### A 30 PERCENT EXCLUSION

---

A major concern about full indexing is that it might result in much larger revenue losses in the long run than most of the exclusions that have been proposed. This concern is based on two facts. The first is that inflation typically makes up a larger percentage of capital gains than the percentage that would be excluded under a fixed exclusion. The second fact is that, by converting many nominal gains into losses, indexing would make it possible for tax-conscious investors to shelter most of their capital gains income from tax.

This chapter discusses the factors that would determine the cost of full indexing relative to a 30 percent exclusion. Because of data limitations and uncertainty about the magnitude of behavioral responses, the analysis is purely qualitative. The analysis proceeds as follows. First, the static revenue losses are examined. In the case where there are no loss limitations, the static revenue cost of indexing would be proportional to the percentage of gains representing inflation. Put simply, if inflation is more than 30 percent of capital gains, indexing would lose revenues relative to an exclusion. A limitation on the deductibility of net capital losses against ordinary income (as exists under present law) would, however, complicate this static comparison.

Next, the chapter addresses the difficult question of the dynamic response of taxpayers to indexing. This question is difficult because the United States has no historical experience with indexing and because the incentives to sell assets under indexing would be different from those under an exclusion. The analysis begins by looking at what kinds of assets might be sold under indexing as compared with those that would be sold under an exclusion. It also considers the issue of strategies to avoid tax.

Finally, the discussion turns to two alternative means of limiting revenue losses under indexing. The first alternative is to index capital gains only partially for inflation. The second alternative is to disallow deductions for losses created by indexing. While this latter alternative would probably be effective in limiting revenue loss and tax avoidance, it would also create some undesirable incentives that do not exist under full or partial indexing.

### STATIC COMPARISON OF INDEXING WITH A 30 PERCENT EXCLUSION

---

Indexing would be likely to provide a greater tax benefit on average than would a 30 percent exclusion. As shown in Figure 5 (p. 11) the average exclusion on stocks sold on the New York Stock Exchange would have been about 52 percent over the past 40 years. This percentage has fallen in recent years as real returns have increased relative to the rate of inflation. For stocks purchased during the 1980s, the equivalent exclusion would be about 43 percent.

The 1981 tax return data reported in Table 5 (p. 24) also suggest that a large portion of gains could be excluded from tax under indexing. The average nominal gain of \$17,661 on corporate stock corresponded to an average real loss (after indexing for inflation) of \$4,988. Thus, full indexing would have excluded from tax an average of 128 percent of nominal capital gains in 1981. The high percentage reflected the stagflation of the 1970s. Data from 1985 tax returns suggest that the average exclusion on corporate stock would have been about 45 percent in that year under indexing.<sup>1</sup>

The more recent data provide a reasonable gauge of the future effect of indexing. The exclusion that would be equivalent to indexing can be inferred from long-term projections of rates of return on capital

---

1. Estimate based on Dan Holik, Susan Hostetter, and John Labate, "1985 Sales of Capital Assets" (paper prepared for delivery at the 1989 annual meeting of the American Statistical Association; processed). They report aggregate sales price and cost basis by holding period up to 10 years plus an over-10-year category. Assuming that the typical "over-10-year" asset was held for 15 years, the portion of gain excluded under indexing would have been 43 percent. The portion excluded would be larger if the average holding period was longer than 15 years, smaller if the average holding period was shorter.

and inflation, that underlie Figure 4. At a 4 percent inflation rate and an 8 percent nominal rate of return, the exclusion corresponding to capital gains indexing would be 50 percent for assets held one year, 41 percent for assets held 10 years, and 33 percent for assets held 20 years. These projections would be consistent with an average exclusion rate of between 40 percent and 45 percent; because most realized capital gains are on assets held for less than 10 years.

### Effect of Loss Limitations

The other element in estimating the static revenue loss is the effect of limitations on loss. A \$3,000 limitation on the deductibility of net capital losses against other income would reduce static revenue losses more under indexing than under an exclusion. This would occur for two reasons. The first is that there would be many more tax losses under indexing than under an exclusion: indexing converts many nominal gains into nominal losses. The second reason is that indexing, without a loss limitation, would provide a much larger tax reduction for assets with losses than would an exclusion.

A simple example will illustrate this second point. Suppose that a taxpayer sells only one asset. The asset was purchased for \$100,000 and later sold for \$90,000. Suppose that prices increased by 10 percent between purchase and sale, so the indexed basis is \$110,000. The nominal capital loss is \$10,000 (the \$100,000 purchase price minus the \$90,000 sale price). Under a 30 percent exclusion, the taxpayer could deduct \$7,000 (\$10,000 less the 30 percent exclusion) against taxable income if there were no loss limitation. With a \$3,000 loss limitation, the tax deduction would be \$3,000. Thus, the limitation on losses costs the taxpayer \$4,000 (\$7,000 minus \$3,000) in tax deductions.<sup>2</sup> Under indexing, the capital loss is \$20,000 (the indexed basis of \$110,000 minus the sales price of \$90,000). Without a loss limitation, the taxpayer could deduct \$20,000 from taxable income. With the loss limitation, the deduction would be capped at \$3,000. Under indexing, the

---

2. This amount overstates the cost to the taxpayer because the losses that cannot be taken in the current year may be carried over to future years. However, the ability to carry over losses does not affect the qualitative conclusion that the limitation on losses is more constraining under indexing than under an exclusion.

loss limitation costs the taxpayer \$17,000 (\$20,000 minus \$3,000) in tax deductions. Thus, the loss limitation costs the taxpayer more than four times as much (in terms of lost deductions) under indexing as under the exclusion in this example.

The estimates of the inflationary portion of total capital gains suggest that, without a loss limitation, indexing would be equivalent to about a 45 percent exclusion, which would increase static revenue losses by half compared with an unlimited 30 percent exclusion. With a net loss limitation of \$3,000, the static revenue loss under indexing would be reduced by more than under a 30 percent exclusion.<sup>3</sup> This means that the revenue loss under indexing would be less than 50 percent greater than the loss under a 30 percent exclusion. However, since the effect of the limitation would probably be relatively small, indexing would be likely to lose revenue in static terms as compared with an exclusion. The special indexing loss limitation, discussed below, is much more constraining and would substantially reduce static revenue losses relative to an exclusion. Such a limitation might even make indexing less expensive than a 30 percent exclusion.

### COMPARATIVE DYNAMIC EFFECTS

---

Static analysis assumes that taxpayers would not change their behavior in response to a capital gains tax cut. There is ample evidence to show that they would. Most econometric evidence on the effects of past tax changes suggests that taxpayers significantly increase their realizations when the effective tax rate on capital gains falls (although there is vigorous debate about whether that response is enough to offset the static revenue loss).

Unfortunately, that evidence is not very helpful in comparing indexing with an exclusion. The United States has had no experience with indexed capital gains. Whether the revenue effects would be sim-

---

3. Precise estimates of the effect of loss limitations require detailed data on sales of capital assets. The Internal Revenue Service does not publish such data. The Sales of Capital Assets files compiled by the IRS contain detailed data from Schedule D (where most capital gains transactions are reported), which can be used to compute indexed capital gains and losses as well as the effects of limitations. However, this information is made available only to the Office of Tax Analysis at the Treasury Department and its agents and to the Congress's Joint Committee on Taxation.

ilar to those under an exclusion of the same average size must be inferred from other than historical data.

### Incentive to Sell Under Indexing and Under an Exclusion

More assets would be sold under indexing or an exclusion than would be sold under present law. In the case of an exclusion, the increase in realizations of capital gains would cause actual revenues to exceed the static estimate. Under an exclusion, all of the induced realizations would be taxed, although at a lower effective rate than under present law. Under indexing, however, the increase in realizations would not necessarily increase revenues compared with the static estimate. If the induced realizations were overwhelmingly concentrated among assets with real losses, the additional realizations would reduce revenues in the absence of a special loss limitation.

Compared with an exclusion, indexing would provide a similar incentive to sell assets with large gains and a larger incentive to sell assets with small gains and real losses. Like an exclusion, fully-phased-in indexing (that is, full inflation-indexing for all asset sales) would encourage sales by lowering the tax cost of selling, known as the lock-in effect. Under an exclusion, this reduction would be a fixed percentage of the nominal gain. Under indexing, the cost reduction would depend on the purchase price of the asset and its holding period. This means that indexing would reduce lock-in the most for assets with small gains relative to past inflation, and least for assets with large gains.

These incentives raise the concern that, under indexing, taxpayers would sell many more assets with losses and small gains, and hold assets with large gains. If so, indexing would lose much more revenue than an exclusion of the same average size. However, indexing would provide an incentive to sell assets with large gains that does not exist under an exclusion. An asset with a large accumulated gain has a relatively low tax basis and is, thus, relatively uninsulated against future inflation. For example, suppose that a taxpayer in the 28 percent tax bracket holds an asset with a current price of \$1,000 and a real gain of \$900; its basis is thus \$100. If future inflation doubles the

price level, the taxpayer's basis would increase to \$200. If the taxpayer sells the asset and reinvests the proceeds, however, the basis would be \$748 (\$1,000 minus tax on the \$900 real gain). Future inflation would increase the basis in this case to \$1,496. In other words, indexing for future inflation would provide a \$100 tax deduction if the old asset was held as compared with a \$748 deduction if the old asset was sold and a new one purchased.

By comparison, under an exclusion, the taxpayer would have more money to reinvest because the tax on the old asset would be at a lower effective rate. Whether the benefit from indexing a higher basis would be enough to offset the higher tax on the accumulated gain would depend on a number of factors. Indexing clearly provides more of an incentive to sell assets with large gains than does full taxation of capital gains. Moreover, indexing may provide as much incentive to sell such assets as an exclusion of the same average magnitude, although this inference is highly uncertain.<sup>4</sup>

### Opportunities for Tax Avoidance Under Indexing

Because indexing would generate many more losses than under an exclusion or under present law, some analysts are concerned that taxpayers could shelter virtually all of their capital gains with real capital losses. This concern has led to the adoption of special indexing for limitations on losses created by indexing in some countries that have capital gains indexing, and to extensive anti-abuse regulations in the United Kingdom, which has full indexing.

The incentive and ability to shelter most gains with capital losses exist under present law for investors holding diversified portfolios. Strategies to avoid virtually all of the capital gains tax are well known. Nonetheless, revenue from the capital gains tax is substantial. Taxpayers do not seem to avail themselves of all the possibilities for sheltering gains with losses. For example, a simple strategy that would avoid most tax under indexing--realizing only assets with losses and

---

4. See Congressional Budget Office, "Transitional Effects of Capital Gains Tax Changes," forthcoming.



small gains--would also be an effective tax strategy under present law or under an exclusion. But investors seem at least as interested in other non-tax-motivated strategies, such as taking profits on stocks that outperform the market. Thus, the amount of tax avoidance under indexing might be less than some assume.

Moreover, as explained in the last section, indexing provides an incentive to sell assets with large gains as well as assets with losses. These gains would be taxed at a higher average rate under indexing than under an exclusion. How these various effects might balance out is hard to predict, but it may be unreasonable, without additional evidence, to presume that indexing would lose much more revenue than an exclusion that corrected for an average amount of inflation.

### WAYS TO LIMIT REVENUE LOSSES UNDER INDEXING

The potentially large revenue losses under indexing relative to an exclusion have resulted in proposals to limit the deductibility of real losses. One such limitation has been adopted by Australia, where indexation applies to gains but not to losses. While this approach has intuitive appeal, it suffers from some important flaws. Partial indexing would avoid these flaws, while still meeting revenue objectives.

#### Partial Indexing

A straightforward approach to limiting revenue losses under indexing would be to index the basis of capital gains assets only partially for inflation. For example, if inflation had increased the price level by 50 percent since an asset had been purchased, the asset's basis could be increased by 25 percent instead of the full 50 percent in computing the adjusted capital gain. This approach would be no more or less complicated than full indexing; it would simply require the Internal Revenue Service to publish tables of indexing factors that were proportionately smaller than they would be under full indexing.

Under this approach, losses could be reckoned relative to the modified adjusted basis, subject to limitations on the current deductibility of

net capital losses as under present law. Unused loss deductions would be carried forward against future capital gains.

### Indexing Loss Limitation

The more common approach to limiting revenue losses under indexing is the indexing loss limitation, which would directly limit the ability of individuals to use tax losses on capital assets to shelter other capital gains from tax. It would also narrow the scope of indexing so as to effectively exclude income-producing assets, such as bonds, from capital gains treatment, without explicitly disqualifying them.

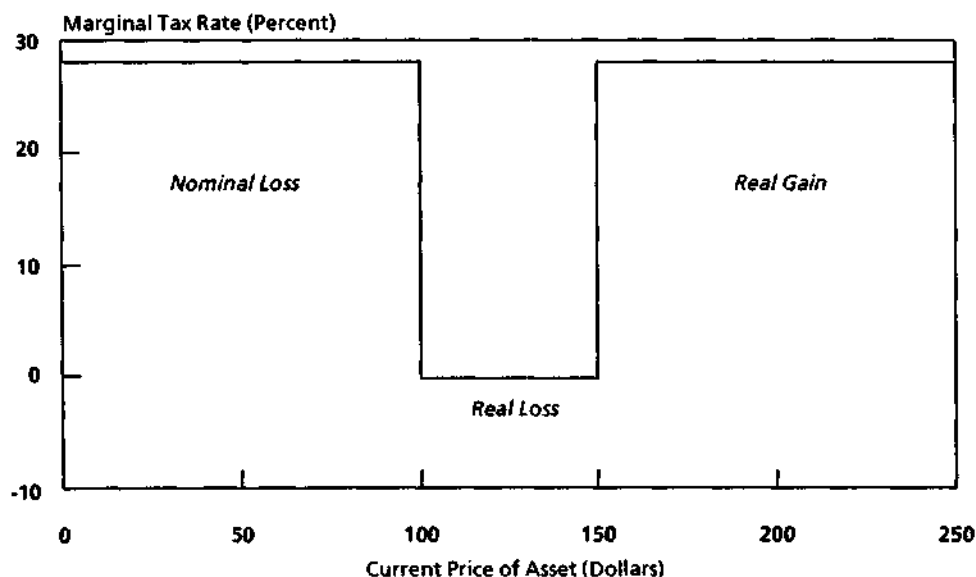
The indexing loss limitation would result in a marginal tax rate schedule for capital gains that had three discontinuous segments (see Figure 6). For portfolio assets with accrued real capital gains, the marginal tax rate would be the statutory rate (28 percent in Figure 6). For assets with accrued nominal losses, the same marginal tax rate would prevail. However, for assets with nominal gains and real losses (that is, whose value had risen less rapidly than inflation), the marginal tax rate would be zero. For an asset held for many years, the range of asset prices corresponding to a real loss but a nominal gain could be quite large.

In the example in Figure 6, the asset was purchased for \$100; inflation has been 50 percent since the asset was purchased. If the asset is currently worth \$200, it has a real gain of \$50 (\$200 minus the inflation-adjusted basis of \$150). If the asset was sold now, \$14 of tax would be due (28 percent of \$50). If the asset was held and appreciated by an additional dollar, the tax liability would increase by 28 cents. The marginal tax rate is 28 percent. If, instead, the asset is worth \$50--that is, it has suffered a nominal loss--the nominal loss would be deductible against other capital gains or, within limits, other income. If the asset was sold, the \$50 deduction would reduce tax liabilities by \$14. If the asset was held and appreciated by an additional dollar, the nominal loss would be reduced to \$49. Thus, tax liability would increase by 28 cents, as in the case of the nominal gain. The discontinuity occurs when there is a real loss but a nominal gain. Suppose that the asset's value is \$130. It has a nominal gain of \$30, but a real loss of

\$20. Under the indexing loss limitation, the real loss would not be deductible if the asset was sold. If the asset is instead held and earns an additional dollar, it would have a real loss of \$19. Tax liability would be unchanged since the loss would still not be deductible. In this case, the marginal tax rate on the additional gain is 0.

These discontinuities could create serious distortions in individuals' decisions to sell or hold assets. Individuals would have strong incentives to avoid assets that might produce real losses but nominal gains, since these losses would not be deductible. However, once an individual had such an asset, he or she would have a strong incentive to hold it. Because marginal returns are untaxed, the asset would become just like a tax-exempt bond. An investor in the 28 percent mar-

Figure 6.  
Marginal Tax Rates by Asset Value Under an  
Indexing Loss Limitation



SOURCE: Congressional Budget Office.

NOTE: The asset is assumed to have been purchased for \$100; inflation since purchase has been 50 percent, so the indexed basis is \$150.

ginal tax bracket might hold an asset with accumulated real losses even if it was expected to underperform an alternative investment's real rate of return by as much as 28 percent. This very powerful lock-in effect would occur because marginal gains would be taxed at a zero rate as long as the asset had a cumulative real loss. This lock-in may be inefficient.

More importantly, the indexing loss limitation might discourage risk-taking, as discussed in the next chapter. A risky investment would be more likely to yield a disqualified real loss than would a safer investment. Thus, the indexing loss limitation would reduce the mean after-tax return on risky investments more than on safe assets. Moreover, by reducing marginal tax rates to zero over a range, the loss limitation would increase the variability of after-tax returns for risky assets. Both of these aspects would discourage investment in risky ventures.

The indexing loss limitation would also limit the benefits of indexing for investments that pay out income, such as dividend-paying stocks, which are more likely to experience real capital losses upon sale. Many or all of these losses would be disqualified under the indexing loss limitation. While dividend-paying investments would still be treated better on average under this modified version of indexing than under an exclusion, the difference would not be as dramatic.

The indexing loss limitation would lead to a higher concentration of capital gains tax reductions in the top income brackets than would unrestricted indexing. Tax return data from 1977 and 1981 show that middle-income taxpayers are much more likely to incur real losses on asset sales than are higher-income taxpayers. In fact, the majority of nominal capital gains on sales of corporate stock reported by taxpayers with adjusted gross income under \$100,000 in 1981 corresponded to real losses (see Table 4). All of these losses would be subject to the limitation and thus nondeductible.

Finally, it should be noted that indexing with an indexing loss limitation would not make the capital gains tax neutral with respect to inflation. During the high inflation of the 1970s and early 1980s, the average portfolio of stocks on the New York Stock Exchange paid

negative real rates of return. The loss limitation would have its biggest effect during periods of stagflation.



## CHAPTER V

---

### THE TAX TREATMENT OF RISKY

---

### INVESTMENTS UNDER INDEXING AND

---

### AN EXCLUSION

---

One rationale for capital gains tax relief is that lower tax rates may encourage risk-taking and entrepreneurship. This chapter examines how, in comparison with present law, indexing and an exclusion would affect investment in risky assets. Although it is frequently claimed that taxing capital gains reduces the incentive to make risky investments, this may not be so since a capital gains tax reduces the variability of after-tax returns. An explicit capital gains tax preference might further encourage investing in risky assets if those investments were more likely to pay returns in the form of capital gains. However, an exclusion and indexing would have very different effects on risk.

#### CAPITAL GAINS TAXES AND RISK-SHARING

---

A tax on capital gains lowers the after-tax return from investing in risky assets. By itself this would discourage risk-taking. So long as capital losses are also deductible, however, a capital gains tax also lowers the variability of returns, which makes risky assets relatively more attractive.<sup>1</sup>

Under current law, capital losses are fully deductible against capital gains, and up to \$3,000 of capital losses in excess of capital gains may be deducted against ordinary income. For investors with both gains and losses, or only small net capital losses, current law amounts to taxation of capital gains with full loss offsets. Thus, the net effect on risk-taking of current law is ambiguous, and the presumption that current law deters risk-taking may be unwarranted. Furthermore, as was shown earlier, current law favors assets that pay returns in the form of capital gains over income-producing assets because of

---

1. On an investment that pays an uncertain return, which has before-tax variance  $s^2$ , the variance of after-tax return is  $(1-t)^2s^2$ , where  $t$  is the marginal tax rate on capital gains. For a risky investment ( $s^2 > 0$ ), the variance is lower when the tax rate is higher.

the ability to defer taxes. Since risky assets are more likely to pay their returns in the form of capital gains, current law taxes the gain to risky investments relatively favorably, although less so than before the 1986 tax reform.

A capital gains tax preference such as indexing or an exclusion is sometimes rationalized as a subsidy to encourage risk-taking by raising expected after-tax returns on risky investments. However, the two forms of tax preference would have much different incentive effects. As compared with present law, an exclusion would reduce risk less than an otherwise equivalent indexing scheme because it would reduce the effective marginal tax rate on capital gains, whereas indexing does not affect the marginal rate.<sup>2</sup> For example, for assets held for the same length of time, a 30 percent exclusion at a 28 percent statutory tax rate on capital gains would increase the variance of return by 25 percent as compared with indexing or present law.<sup>3</sup> An exclusion that fully offset inflation (on average) would be larger and it would increase variance even more. Thus, in the absence of loss limitations, indexing would encourage risk-taking more than an equivalent (on average) exclusion.

In addition, a major source of risk in investment is inflation. The effective tax rate under an exclusion increases with inflation whereas under indexing the effective tax rate is invariant with respect to inflation (for a given holding period). Thus, the variance in after-tax returns resulting from unexpected inflation is much smaller under indexing than under an exclusion.

One qualification must be made. Since indexing would treat yield assets much more favorably than would an exclusion, indexing might shift investment away from growth assets into yield assets. If yield assets are inherently less risky than growth assets, indexing might result in less aggregate risk-taking than a similar exclusion. However, it is important to note that this would occur because yield assets would be penalized less, not because risky assets would be penalized more.

---

2. Indexing essentially rebates the portion of tax liability as a result of inflation in lump-sum fashion, thus leaving rates unaffected at the margin.

3. See footnote 1.



---

## EFFECT OF LOSS LIMITATIONS

---

As noted above, current law limits deductions for realized capital losses in excess of realized capital gains. Under a capital gains tax based on realization, a limitation on the deductibility of losses is needed. Otherwise, taxpayers with diversified portfolios could achieve negative effective tax rates on capital gains by realizing capital losses and deferring capital gains whenever possible. However, a loss limitation, when it was binding, would affect riskier investments much more than less risky investments since the former would be more likely to produce losses.

If the loss limitation was binding, indexing might become less attractive than an exclusion for two reasons. The first is that capital losses are more likely under indexing because losses are measured in real, rather than nominal terms. The second is that, even in the absence of inflation, losses would be fully deductible under indexing while an exclusion would typically limit deductions to a portion of the loss. This point was explained in Chapter IV. A loss limitation would thus be more costly to the taxpayer under indexing.

Diversified investors can often avoid current loss limitations by using capital losses to offset other capital gains. The loss limitation would be a serious constraint primarily on undiversified investors—for example, on those who invest heavily in their own businesses. However, the special indexing loss limitation discussed earlier would affect any risky investment that faced a possibility of real losses. Such a limitation would discourage risk-taking even more than full taxation of capital gains and losses.

To see this, consider two investments: one is safe and always yields a gain of \$100; the other is risky and yields no gain or a gain of \$200 with equal likelihood. Both have the same expected (average) return of \$100. Under present law, both would also face the same average tax of \$28 at a 28 percent rate. An investor who was not concerned about risk (risk-neutral) would be indifferent between the two investments. Now suppose that inflation erodes the initial investment by \$50, so the real return is \$50 for the certain investment. Because of inflation, the risky asset produces a real loss of \$50 and a real gain of

\$150 with equal probability. The tax on the safe investment under indexing would be \$14 (28 percent of the real gain of \$50). The loss limitation would disallow the real loss on the risky investment, if it occurred, so the tax would be \$0 or \$42 with equal probability. The average tax for the risky asset would thus be \$21, or 50 percent higher than the tax for the riskless investment. The risky asset would be relatively penalized by the indexing loss limitation, even though its average tax liability would fall relative to full taxation. The penalty would arise because the tax on the riskless investment would fall by more than the tax on the risky investment.

Notice that the disincentive effect of the indexing loss limitation occurs because of the asymmetric treatment of gains and losses. Since partial indexing--for example, allowing only \$25 of inflation indexing in the preceding example--treats gains and losses symmetrically, it would not produce this bias against risk-taking.

## **CHAPTER VI**

---

# **INDEXING VERSUS EXCLUSION AS AN OFFSET TO THE DOUBLE TAXATION OF CORPORATE EQUITY**

---

Some people have advocated a preference for capital gains as an offset to the double taxation of corporate income. The corporate income tax, which only applies to dividends and retained earnings or equity, is thought to distort the allocation of capital and cause efficiency losses. Moreover, the double taxation of corporate equity encourages higher levels of debt than may be desirable.

The ideal solution to the double taxation of corporate equity would be to integrate the corporate income tax. An integrated income tax would treat corporate income, whether or not it is distributed as dividends, as income earned by shareholders and then tax that income only at the individual level. This system would have the combined virtues of removing the bias against corporate equity in general and against corporate distributions in particular since shareholders' tax liabilities would be unaffected by corporate dividend policies. To the extent that this ideal tax encouraged dividend payouts, it would remove a possible source of inefficient investment at the corporate level that has also been cited as a possible motive for hostile acquisitions and leveraged buyouts.

If corporate tax integration is infeasible, a targeted tax preference for capital gains on corporate stock may be an appropriate second-best measure.

A fixed exclusion would be an obvious ad hoc adjustment for corporate income taxes assuming that corporate taxes were a roughly fixed proportion of capital gains and there was no inflation. For this adjustment to be exact, however, a number of implausible assumptions would have to be satisfied. For example, the fraction of profits distributed as dividends and the effective tax rates on profits would have to be constant among corporations. In addition, individuals would have to face equal tax rates on gains and hold all stocks for the same

length of time. Clearly, a fixed exclusion could only represent, at best, an average correction for corporate taxes.

Surprisingly, indexing might be a better proxy for integration when there was inflation and corporations distributed different percentages of their after-tax profits. As explained earlier, indexing would create less of a disincentive for corporate distributions. For example, based on the assumptions in Table 4, for an asset held seven years, the marginal effective tax rate on the dividend-paying (yield) asset would be one-third higher than the tax rate on the growth asset under a 30 percent exclusion. Under indexing, the effective tax rate would be less than 10 percent higher.

Indexing might also do less to promote leveraged buyouts in the short run than an exclusion. A tax preference for capital gains that applied to old as well as new investments would be likely to encourage leveraged buyouts because it would make it less expensive for acquiring investors to purchase stock in an acquired company.<sup>1</sup> However, an exclusion would exacerbate this problem because it would reduce the tax rate on any increases in value that occurred after a company was "put in play." Since the tax reduction under indexing would be solely a function of purchase price and past inflation rather than sale price, real price increases stemming from the buyout would be taxed at full statutory rates. Therefore, a potential acquirer would have to pay more for outstanding shares if capital gains were indexed than if there was an exclusion.

---

1. This problem would not occur if the tax preference applied to only assets purchased after the new tax law's effective date.

## **CHAPTER VII**

---

### **INDEXING CAPITAL GAINS AND**

---

### **LEAVING OTHER FORMS OF**

---

### **CAPITAL INCOME**

---

### **UNINDEXED**

---

An ideal income tax would tax real economic income. Some writers infer from this that taxing real capital gains when other forms of capital income and expenses were unindexed would be an improvement over current law. However, the case for indexing capital gains is less clear-cut when other forms of capital income and expense are unindexed. On the one hand, indexing capital gains might improve efficiency by encouraging risk-taking, corporate investment, and entrepreneurship. On the other hand, the relatively advantageous treatment of one form of income (capital gains) might stimulate unproductive tax arbitrage. This section explains why, even if indexing satisfies the basic objectives of a capital gains tax preference, as discussed above, the case for indexing is still ambiguous.

### **ECONOMIC EFFICIENCY**

---

Appreciating assets are tax-favored under present law relative to income-producing assets because of deferral and the nontaxation of capital gains at death. Indexing capital gains would magnify that preference and thus distort investment choices toward assets paying returns in the form of capital gains. While a capital gains preference might mitigate the distorting effects of double taxation of corporate equity, it would also shift capital into other kinds of assets and away from income-producing assets. This effect represents an unambiguous efficiency cost of indexing capital gains and leaving other forms of capital income unindexed.

Indexing capital gains would increase the relative tax advantage of assets for which income can be deferred, as shown in Tables 3 and 4. Deferral is a key element of tax shelters, which were severely curtailed as a result of several provisions of the 1986 tax reform law, including the full taxation of capital gains. A further problem arises when

interest expense is unindexed. As was emphasized in the 1984 Treasury Department study of tax reform, deductibility of interest expense can magnify the tax effects of deferral. The more assets that qualify for indexing, the greater the possibility for interest-related tax arbitrage (borrowing with fully deductible interest to purchase an asset that is only partially taxed). Indexing capital gains, but not indexing interest, would create incentives for tax arbitrage because borrowers would be able to deduct the full amount of nominal interest expense, while including only the real gain in taxable income.<sup>1</sup>

In addition, indexing capital gains but not depreciation deductions would create incentives for investors to churn depreciable property in order to get a higher basis for depreciation deductions. The process would work as follows. Suppose an investor purchased an asset for \$1,000 that depreciated at a rate of 20 percent per year. Suppose further that inflation was 5 percent a year. In that case, at the end of one year, the investor would have an asset with a market value of \$840 ( $\$1,000 \times .8 \times 1.05$ ). If depreciation deductions were not indexed for inflation, however, the depreciable base to the investor would be only \$800. There would thus be an incentive to arrange sales or trades of such assets if "nominal gains" from such sales--the difference between the sale price and the basis adjusted for unindexed depreciation ( $\$840 - \$800$ )--could be indexed. If this was the case, the investor could sell the depreciable property for \$840, pay no capital gains tax, and buy an identical asset back for \$840, thereby establishing a higher depreciable base. The incentive to churn would be even stronger if the original basis was indexed before subtracting depreciation deductions--the "unadjusted indexing" discussed earlier. In this case, the taxpayer could actually claim a loss on sale.

Finally, it is worth noting that the kinds of distortions caused by indexing capital gains alone would be exacerbated by inflation. The reason is that, under present law, inflation penalizes all kinds of capital income (although capital gains less than other forms of income). If capital gains were indexed while other forms of capital income were not, the tax wedge between the two classes of income would increase

---

1. These possibilities exist to a lesser extent under present law because capital gains benefit from deferral whereas interest expense is deductible on an accrual basis. Some limitations on interest deductibility enacted under the 1986 reform reduced the possibility for arbitrage.

with inflation. While distortion among capital gains assets would be reduced by indexation, the tax system as a whole might be less neutral with respect to inflation if only capital gains were indexed.

## ADMINISTRATIVE ISSUES

---

Indexing capital gains, but not other forms of capital income, would also raise administrative issues. As in the case of an exclusion, indexing would create strong incentives for individuals to characterize unindexed capital income as capital gains. For example, regulations might be needed to prevent sham sales of depreciable property designed to step up the basis for future depreciation deductions. If indexing was not available to certain classes of assets, such as depreciable assets or collectibles, new regulations would be needed to deal with such cases. Another problem would be how to treat intermediaries such as mutual funds and partnerships.

Shareholders of intermediaries that held a mix of assets, only some of which qualified for capital gains treatment, would have to allocate their basis between the qualifying and nonqualifying components. If the intermediary bought and sold constantly, this allocation process could be very complex. Moreover, it might be extremely difficult (both for taxpayers and for the IRS) to trace qualifying and nonqualifying indexed bases through multiple layers of partnerships (partnership 1 owning partnership 2, which owns partnership 3, and so forth). The IRS would probably have to write extremely complex regulations to prevent deliberate abuse by taxpayers, but these regulations would also make compliance more difficult for many taxpayers holding shares in limited partnerships.

The problems with the allocation of basis would be less onerous in the case of mutual funds. Most mutual funds specialize in either equity or debt investments. One option that was considered by the Congress would allow these funds a *de minimis* exception to the allocation rules. Any fund that held no more than 10 percent of its assets in the form of bonds would be deemed to be all equity (and thus to qualify for indexing on all of its basis). Any fund holding 90 percent or more of its assets in the form of bonds would be deemed all debt (nonqualifying).

Only funds that held a mix of assets between these two limits would have to allocate basis.<sup>2</sup>

### DISTRIBUTIONAL ISSUES

Indexing a single kind of capital income might also have much different distributional implications from the indexing of all capital income. Among individuals with capital gains income, indexing capital gains would have a more progressive effect than an exclusion. This may be because lower-income individuals are more likely to earn capital income in the form of dividends so that their real capital gains are lower than those of higher-income investors. However, lower-income people are also more likely to earn income in the form of interest, which would receive no tax benefit from indexing capital gains or an exclusion. Looking at capital income as a whole, indexing might well tilt effective tax rates in favor of high-income investors (although less than would an exclusion).

---

2. A recent study argued that the problem of avoidance and tax arbitrage can only be addressed through extremely complex laws and regulations. The paper recommended against indexing because the authors believed that the burdens of administration and compliance would far surpass any benefits from indexing. New York State Bar Association Tax Section Ad Hoc Committee on Indexation of Basis, "Report on Inflation Adjustments to the Basis of Capital Assets," *Tax Notes*, August 6, 1990, pp. 759-775.