SPECIAL REPORT

TAX ANALYSTS

THE UNDERTAXATION OF HOLDING GAINS

by Calvin H. Johnson

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This article is the first of a trilogy of articles on the structural issues in the taxation of capital gains, that is, on those concerns that are independent of the burden or distribution of the tax. Professor Johnson argues in this article that an investor's gains from the appreciation of property are undertaxed relative to the tax rate imposed on investment income generally. Gains are not taxed until the investor sells the property and the tax is forgiven in full if the investor holds the property until her death. The structure gives the investor an incentive to extend her holding of property. As her holding continues, the effective rate of tax is lowered because deferral and mortality risks reduce the burden of the tax. The incentives induce investors to choose inferior investments over better ones, Professor Johnson says.

The incentive to hold on to property cannot be cured, even in theory, Professor Johnson argues, by reducing the tax on realized gain; the tax burden on holding gains must instead be brought up toward the tax burden on investment income generally. Professor Johnson argues that inflation makes the problem worse by increasing the incentives to hold on to property and that relief from the taxation of inflationary "fool's profits" needs to be directed first toward realized investment income and not toward already undertaxed holding gains.

Professor Johnson also argues that the Bush administration proposals make the problem worse. By increasing the incentives to hold onto the property, Johnson also proves that if the tax cuts raise revenue, as administration projections suggest, that will necessarily increase the effective rate of tax on capital gain investments.

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The Bush administration has again proposed to reduce the tax rate on capital gains.[1] The cuts in this proposal are deeper than in the proposals of the last two years and apparently should be taken more seriously. Under the administration proposals, capital gain that individuals realize on sale of property held for over three years would benefit from a maximum tax rate of 15.4 percent, that is a rate under half of the maximum tax rate typically applied to investment income.[2] Property held for less than three years, but more than a year, would also be eligible for preferential rates, albeit not as low as the 15.4-percent rate.[3] The previous two administration proposals would have cut the maximum rate on capital gain to only 19.6 percent.[3a] In the

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[1]President Bush, 1992 State of the Union address, 92 *Tax Notes Today* Electronic Edition *92 TNT 20-5* (Jan. 29, 1992); Department of the Treasury, General Explanation of the President's Budget Proposals for Fiscal Year 1993 Affecting Receipts, at 3 (Jan. 1992).

[2]The maximum tax rate for property held for three years is arrived at by excluding 45 percent of the capital gain and then applying 28 percent on the unexcluded 55 percent portion for a tax of 28 percent times 55 percent, or 15.4 percent. *Supra* note 1, at 7. A 15.4-percent tax rate is 45 percent of the typical 34-percent bracket that upper-middle-class taxpayers face (*see infra* note 8).

Exclusions are not just a pro rata reduction of tax, moreover, but make top-bracket income disappear first. If the excluded 45 percent would have fallen in the 28-percent bracket and the included 55 percent falls in a 15-percent bracket, for instance, the capital gains tax of 8.3 percent (i.e., 15-percent tax on 55 percent of gain) is only 40 percent of the 21-percent tax that would apply if there were no exclusion.

[3]Capital gain on assets held for less than three years but more than two years would benefit from an exclusion of 30 percent of the gain (Department of the Treasury, *supra* note 1, at 7), which when combined with a maximum 28-percent tax rate on the remainder, yields a 19.6-percent ceiling rate. The 19.6-percent tax rate is 58 percent of the 34-percent rate typically applied to investment income (*see infra* note 8). Gain on property held for more than a year, but less than two years would benefit from an exclusion of 15 percent of the gain, which yields a ceiling rate of 23.8 percent (i.e., 70 percent of the typical 34-percent rate on normal investment income). Property held for less than a year would bear the regular tax rate.

[3a]Prior proposals asking for only a maximum tax of 19.6 percent are found, for instance, in Bush, 1991 State of the Union Address, 91 *Tax Notes Today* Electronic Edition *91 TNT 23-18* (Jan. 29, 1991); Department of the Treasury, General Explanation of the President's Budget Proposals for Fiscal Year 1992 Affecting Receipts, at 1 (Feb. 1991), and Budget of the U.S., Fiscal Year 1991, at A-51 (1990).

recently vetoed Tax Fairness and Economic Growth Act, Congress passed new benefits for capital gains, but refused to reduce the maximum tax rate on capital gains below its current 28 percent.[4] Tax cuts for capital gains, including the original administration proposals, remain on the political agenda.

The proposals invite a review of the very real structural problems involved in the taxation of capital gains. By structural, I mean concerns that are independent of the level or rate of tax on income or investments in general. A structural change implies that any increase in tax to improve the structure of the tax system should be met by decreases in tax elsewhere so that the level of revenue remains unchanged. Structural improvements are analytically separate from the question of the level and distribution of tax and should not be held hostage to the political questions of who should bear tax and at what level. Since change in the level of distribution of tax is not a good reason to worsen the tax structure, structural issues need to be addressed even in a tax change intended to raise or lower revenue. This article is the first of a trilogy of articles reviewing the structural problems implicated by the proposed cuts in capital gain rates. All of the articles in the trilogy argue that the proposed cuts in the capital gains tax would have detrimental effects on the amount and allocation of capital.

Under current law, the effective rate of tax on unsold gains declines as the property is held and reaches a level where holding gains are undertaxed. The structure distorts the use of capital because it induces investors to avoid sales and realized income and to put their capital into inferior investments that have the potential of generating holding gains. This article argues that the tax burden on holding gains needs to be brought up toward the level of tax on investment income generally, by various means. The proposals to cut rates on realized gains do not address the real problems of the undertaxation of holding gains and, at least for the first three years of holding, the proposals make matters worse.

The second article of the trilogy, entitled "The Consumption of Capital Gains" (to be published in *Tax Notes*, May 18, 1992), argues that the most influential arguments in favor of a capital gains tax cut rest on an assumption that the proceeds of a capital gain sale will be reinvested. Without a statutory requirement that the proceeds be reinvested, however, significant amounts, perhaps half, of the capital benefiting from the tax cut, will be consumed and disappear. Current law, locking

in capital, would then be better because it preserves the capital. The proposals, at minimum, need to condition the lower rates on a requirement that proceeds of the sale be reinvested.

Finally, the third article of the trilogy, "The Private Advantage of Money-Losing Investments Under Cut-Rate Capital Gains" (to be published in *Tax Notes*, May 25, 1992), shows that the proposed cut in capital gains rates would make economically irrational investments rational after tax. Corporations will put their earnings in investments that are unprofitable, so as to give capital gain to their shareholders. Investors will buy real estate with no after-inflation profits. If capital gains cuts are enacted, they should be withheld from corporate stock and depreciable real estate.

I. TAX RATES DECLINE AS PROPERTY IS HELD

A. Current Law

Under the current tax structure, the real or effective rate of tax on gain declines as the investor holds on to the property that produces the gain. Tax on gain is not imposed until sale of property. Deferring the sale, therefore, defers the tax and reduces the burden of the tax in real, time-value terms. Tax on the gain is forgiven in full, moreover, upon the death of the owner of the property.[5] As time goes on and an individual's mortality risks mount up, so rise the chances of avoiding the tax on gain entirely. As investors hold on to gain property, time and mortality inevitably erode the tax.

Chart 1 graphs the effective rate of tax on gain, qualifying as "capital gain,"[6] as the taxpayer's years of holding the property increase. The effective rate of tax measures how much taxes reduce the investor's annual

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[4]The Tax Fairness and Economic Growth Bill would not have cut the maximum 28-percent tax rate for capital gains, but it would have created preferential tax brackets for capital gains (with rates of 0, 7, 14, 21 and 28 percent) for the benefit of lower bracket taxpayers. H.R. 4210, 102d Cong., 2d Sess. section 2101(a)(1992). The bill would have also excluded half of the gain on the stock of "small" [under $100,000,000 capitalization!], active-business, new corporations held for over five years. H.R. 4210, section 2110.

[5]Tax on appreciation of unsold property is forgiven at death of the owner because the heir receiving the property by reason of death gets to start with a new basis equal to the fair market value of the investment at death. IRC section 1014. *See* discussion *infra* note 36.

[6]The proposals generally adopt the definitions of "capital gain" and "capital assets" in current law, which in fact have some anomalies that ought to be fixed. *See, e.g.,* Johnson, "Seventeen Culls from Capital Gains," 48 *Tax Notes* 1285 (1990), reprinted in *The Capital Gain Controversy: A Tax Analysts Reader*, J. Andrew Hoerner, ed., 1992. The proposal would, however, exclude from the tax cut "collectibles," defined as "works of art, antiques, precious metals, gems, alcoholic beverages, and stamps and coins." Department of the Treasury, *supra* note 1, at 7.

Chart 1. Effective Tax Rate for Capital Gain
(50 year old taxpayer, 28% Nominal Rate After 1 Year)
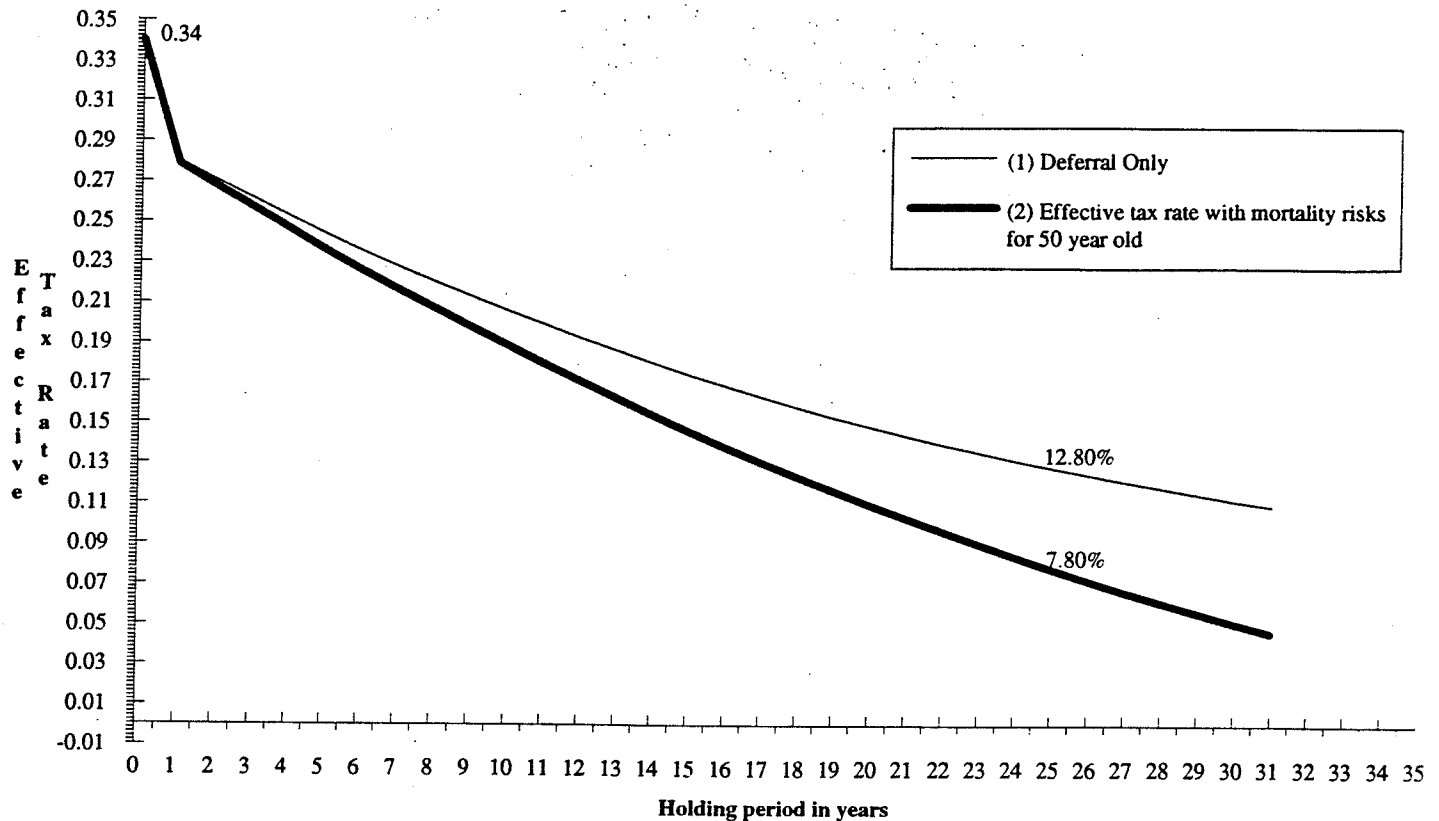
return from the investment.[7] Under current law, an individual taxpayer typically faces a maximum tax rate of 34 percent on ordinary investment income that is taxed as it is earned.[8] The maximum nominal tax rate

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[7]The effective tax rate is the difference between pretax compound return from the gain property and post-tax compound return from the property, divided by the pretax return; that is,
$(R_p-R_a)/R_p$,
where Rp is the pretax annual return from the investment and Ra is the after tax annual return from the investment. Bradford & Stuart, "Issues in the Measurement and Interpretation of Effective Tax Rates," 39 Nat'l Tax J. 307, 308 (1986); Fullerton, "Which Effective Tax Rate?" 37 Nat'l Tax J. 23, 27 (1986). Chart 1 assumes that the investor starts with a pretax rate of return of 10 percent, so that a drop to an after-tax annual return of, say, eight percent, is a 20-percent effective rate of tax.

Effective tax rate as measured here assumes that tax is financed by reduction of the very investment being taxed. The internal rate of return from the investment measures the time value of deferral of tax. An alternative measure of the time value of deferral would be to look to the generally available "external" discount rates (i.e, looking to discounted present value). The internal rate is used in part because of the plausibility of the assumption that taxes are paid out of the taxed investment and in part to avoid getting entangled in the tax effects of the taxation of the best external investment that sets the discount rate.

on capital gain, however, is reduced to 28 percent if property qualifying as capital asset is held for more

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[8]IRC section 1(a)-(e), as amended by Omnibus Budget Reconciliation Act of 1990, P.L. 101-508, section 11101 (1990), provides for a maximum tax of 31 percent, but two other sections create surtaxes that raise the maximum above 31 percent.

IRC section 68(a), as amended by P.L. 101-508, section 11103, reduces the amount allowed of itemized deductions (except not medical expenses, losses, and investment interest) by three cents for every dollar of income in excess of $100,000. (Eighty percent of itemized deductions can be lost, but not the last 20 percent.) The three-cents-per-dollar reduction is so slow that a taxpayer with, say, $30,000 of home mortgage interest would have to have $1,100,000 of income before the phaseout ends. IRC section 68(a) leads to a surtax of 31 percent times three percent or a 0.93-percent surtax per dollar of taxable income in excess of $100,000.

IRC section 151(d)(3), as amended by P.L. 101-508, section 11104, phases out the $2,150 personal exemptions at the rate of two percent ($40) per $2,500 of taxable income, once income exceeds $150,000. IRC section 151(d)(3) increases taxable income by 1.6 percent of each dollar over $150,000, although it does so in steps rather than a smooth 1.6 percent. The extra taxable income leads to a surtax of 31 percent times 1.6 percent, or half a percent (.0496) per exemption.

For an individual with four exemptions, the maximum rate, including surtaxes, taxable income over $150,000, and is 31 percent + 0.93 percent + 1.984 percent, which equals 33.81 percent.

than a year.[9] Deferral and mortality then reduce the effective tax rate further. The upper Curve (1) in Chart 1 shows the drop in effective rate arising solely from the deferral in tax, ignoring the forgiveness of tax on gain by death.[10] The lower Curve (2) incorporates the forgiveness of tax on death, assuming the mortality risks that a 50-year-old individual taxpayer faces.[11]

For long holding periods, the effective rate of tax can be quite low. Assuming, for instance, a 25-year holding period, which is marked on Curves (1) and (2) in Chart 1, the investor has an effective tax rate on her gain of 7.8 percent. A reduction from the nominal 28-percent rate to an effective tax rate of 12.8 percent is caused by deferral of the sale alone. The mortality risks over the 25 years from age 50 to 75 then drop the effective rate from 12.8 percent to 7.8 percent. In assuming a 28-percent tax due on sales, Chart 1 misses much of the tax planning that goes on under which

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[9]IRC sections 1221, 1222 (defining "capital gain" and "capital asset." Omnibus Budget Reconciliation Act of 1990, P.L. 101-508, section 11101(c), adding IRC section 1(j) (fixing a maximum rate of 28 percent).

[10]A curve of effective rates ignoring death would show the appropriate tax rate for a corporation, which does not avoid tax on gain by dying. IRC sections 311 and 336, as amended by the Tax Reform Act of 1986, Pub. L. No. 99-514, section 631(a) and (c), now require a corporation to recognize gain upon distribution of property in liquidation.

[11]Tax on sale reduces the annual return from the investment as follows:

(1) $(1+R_p)^n - t[(1+R_p)^n-1] = (1+R_a)^n$,

where R_p is the pretax compounding rate of return, n is the number of periods from the start of the investment until sale, so that $(1+R_p)^n$ is the sales proceeds and R_a is the after-tax annual compounded return rate at nominal tax rate "t." The effective rate of tax ("T_R") (see supra note 7) is

(2) $T_R = (R_p - R_a)/R_p$.

Solving for R_a in (1) and substituting for R_a in (2) yields equation (3):

(3) $T_R = \{R_p - \{[(1+R_p)^n - t((1+R_p)^n - 1)]^{1/n} - 1\}\}/R_p$

Curve 1 of Chart 1 graphs equation (3) as n increases, with R_p equal to 10 percent.

Curve 2 of Chart 2 incorporates the mortality risks faced by a 50-year-old taxpayer. Given IRC section 1014, the taxpayer has only a $(1-m_j)$ chance of paying tax at rate t, where m_j is the cumulative risks of dying up to the end of period n. Rate t in Expression (3) is thus discounted by $(1-m_j)$ to yield the formula for Curve (2), which incorporates mortality risk:

(4) $T_R = \{R_p - [(1+R_p)^n - (1-m_j)^i((1+R_p)^n - 1)]^{1/n} - 1\}/R_p$

Curve (2) of Chart 1 graphs Expression (4) as n increases.

Mortality risks are computed as the cumulations of annual mortality rates given by Bureau of Vital Statistics, *Expectation of Life and Expected Deaths, by Race, Sex and Age: 1986*, Table No. 106, Statistical Abstract of the United States, 1990 at 74. To cumulate mortality risks, the annual mortality rate was applied to the survivors from prior years. For the start at age 50, all holders were survivors. Mortality risks for ages 66-69, 72-74, and 76-79 were estimated by extrapolation from risks given for ages 65, 70, 75, and 80.

Risk is evaluated throughout according to percentage chances without regard to the possibility of different subjective evaluations.

taxable gain is realized only when rates are atypically low or gains are shelterable by capital losses.[12]

Mortality risks vary dramatically with age, so the specific mortality risks included in Curve (2) in Chart 1 represent expectations only for the 50-year-old holder shown in Chart 1. Individuals older than 50 would face a curve of effective rates that is further below the upper, death-defying curve for any holding period and closer to zero. For all taxpayers, the effective tax rate approaches zero, and, for mortals it will eventually reach zero if the investor holds on to the property long enough. Death in this respect is more certain than taxes.

The specific figures for effective rate also depend upon the assumed 10-percent pretax return rate. If we assume a higher pretax return on the investment, deferral of tax would be a bit more valuable and the effective rate would drop a bit more quickly.[13] The curves follow the same declining pattern, however, no matter what the pretax return rate.

The declining effective rates for unrealized income are mirrored in the decline in the "implicit tax") on municipal bonds interest, as the term of the bond is increased. Municipal bonds are exempt from explicit tax, but they pay lower interest (by the amount of the "implicit tax") because investors buy the bonds to avoid the tax. The implicit tax measures the rate that investors are willing to bear to avoid tax imposed on other investments. The implicit tax has always been lower for long-term bonds, which must compete with long-term unrealized appreciation, than it has been for short-term bonds, which compete with shorter-term holding gains.[14]

The pattern of dropping effective tax rates under current law gives investors a tax incentive to hold on to property. The incentive tends to lock capital into existing investments. The structure generates both a carrot for

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[12]Assuming a taxable sale, Chart 1 misses the opportunities for deferred tax "installment method" and for nontaxable dispositions that are available.

[13]The following table gives the effective rate of tax under the formula derived in *supra* note 11, with a 25-year holding period, given differing pretax return rates (R_p) on the investment (t=28 percent, n=25 years, m_j for ages 50 to 75):

Pretax return	2%	4%	6%	8%	10%	12%	14%
Effective rate	14.7%	12.3%	10.4%	8.9%	7.8%	6.9%	6.1%

The 7.8-percent effective rate for a 10-percent pretax return is marked on Chart 1.

[14]See, e.g., C. Steuerle, *Taxes, Loans and Inflation: How the Nation's Wealth Becomes Misallocated* 22 (1985) (implicit tax was 19 percent for 30-year bonds for the years 1954-1982, but 43 percent for one-year bonds). The drop in implicit tax on bonds is not as sharp as the drop in effective rates on unrealized appreciation under current law when mortality risks are included. (The ratio of effective rates for 30-year to one-year investments in Chart 1 is 4.6 percent/28 percent, or 16 percent, whereas the ratio of implicit tax for 30-year to one-year municipal bonds is 19 percent/43 percent, or 43 percent.) But immortal taxpayers (corporations) held bonds during the period and municipal bonds did not occupy very much of the portfolio of high-income investors (*id.* at 23), apparently because they were not the best investment available to high-income taxpayers in the period.

investors who hold property and a stick for those who sell. The carrot is the prospect of declining effective tax rates. Any investor can see in advance that holding property will lower the tax rate. In deciding whether to hold or sell, the prospect of a dropping tax rate beckons the investor to hold. The stick is the tax, computed from the statutory tax rates. The tax is a toll booth that investors can shun by avoiding a taxable sale.[15]

The low effective tax rates on unsold gains also induce investors to go into inferior, but more favorably taxed, investments — especially where the investor can tolerate long holding periods. Assume, for instance, two parcels of land that the investor will hold for 25 years: one is developed land and gives a yield of 10 percent annual rent, paid and taxable in full as ordinary income every year. The other is undeveloped land that will appreciate by 7-1/2 percent per year over the next 25 years. In absence of tax, a 10-percent investment is better than a 7-1/2-percent investment. Assume here, not unreasonably, that earlier use of the land makes the land contribute more to the public welfare, so that the more profitable use pretax is also the socially desirable one.

Any investor can see in advance that holding property will lower the tax rate.

But, a current tax of 34 percent on ordinary income leaves the investor in the developed land with less per dollar at the end of the investment. The developed (10-percent pretax) land gives only $4.94 at the end of 25 years per dollar invested,[16] whereas the undeveloped land (7-1/2-percent pretax) would yield $5.18 at the end of the same period per dollar invested.[17] An investor facing the different tax regimes

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[15]See the discussion in R. Goode, *The Individual Income Tax* 200 (rev. ed. 1976) and Cong. Budget Off., Capital Gains Taxes in the Short Run (1991), of how much higher a return a new investment must give to convince an investor to sell an old investment, for various tax rates and gains.

[16]A dollar in the 10-percent return investment, reduced by tax of 34 percent to a 6.6-percent annual return, grows over 25 years to $(1.066)^{25}$, or $4.94.

[17]A dollar in the 7-1/2-percent return investment grows for 25 years unreduced by tax to $(1.075)^{25}$, or $6.10. At a 28-percent rate on the $5.10 gain (i.e., $6.10 amount realized minus $1 basis), the tax is $1.43, but given the forgiveness of the tax at death, there is only a 64-percent chance of the tax being imposed (mortality risks between ages 50 and 75 total 36 percent). A 64-percent chance of $1.43 tax is worth $.91, so that the pretax growth to $6.10 can be expected to be worth $5.18 after tax.

The regime is equivalent to an annual tax of 9.3 percent. One dollar will grow to $5.18 over 25 years at a 6.8-percent rate. A tax that reduces return from 7.5 percent to 6.8 percent is a tax of 0.7 percent on 7.5 percent, which represents an effective tax rate of 0.7 percent/7.5 percent, or 9.3 percent, which is the rate generated by Equation (4) in *supra* note 11, for a pretax 7-1/2-percent return. The tax on the realized income, by contrast, was a real, 34-percent effective rate tax.

for the two investments would pay more for the speculative land, distorting the social value of his capital and giving the wrong signal as to which land is really more valuable. He would also fail to develop where development would improve the social value of the property, so as to avoid the normal tax on rents. Tax turned the inferior social investment into a better private profit.

There is a large variation in the estimates in the economic literature about what aggregate or average effective tax rate should be used to assess the overall economic impact of the capital gain tax. The 7.8-percent effective tax rate, marked on Chart 1, is within the range of estimates of average effective rates. The crucial parameter is what proportion of gain disappears at death under section 1014, and the variation in the estimates is surprisingly wide. At one end of the spectrum, Keifer has a model in which section 1014 forgives tax on only 31 percent of all gain. Under that and his other assumptions, the average effective tax rate on unsold capital gains becomes 18 percent.[18] Auerbach finds that 53 percent of all gain is forgiven by death. Under that and his other assumptions, the effective tax rate drops to 13 percent.[19] A number of studies have assumed that death absolves half of all taxable gain and that deferral reduces tax by half again. Under those assumptions, the aggregate effective tax rates are seven percent.[20] Gravelle and Lindsey cite studies that 76 percent of aggregate capital gains are excluded by death. That with other assumptions yields

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[18]Keifer, "Lock-In Effect Within a Simple Model of Corporate Stock Trading," 43 *Nat. Tax J.* 75, 81 (1990). The 18-percent effective rate is calculated from Equation (4), *supra* note 11, using $t = 28$ percent, $m_j = .31$, $n = 3.24$ years (id. at 80, line 1), and $i = 10$ percent.

[19]Auerbach, "Capital Gains Taxation and Tax Reform," 42 *Nat. Tax J.* 391, 394 (1989). Auerbach uses a tax rate of 25.4 percent, which is an estimate of the weighted average rate applied to capital gains, rather than the 28-percent statutory rate. To make his figures comparable with the other estimates here and to the maximum tax on ordinary income and to focus on the reduction from the nominal rates and wealthiest taxpayers, t is assumed to be 28 percent. Other assumptions used in applying Equation (4), *supra* note 11, are $n = 5.3$ years, $m_j = .53$, $i = 10$ percent. The 5.3-year figure for n was calculated from Auerbach's other figures, but it is also the average holding period for 1981 reported gains, according to Keifer, *supra* note 18, at 81.

[20]See, e.g., King and Fullerton, *The Taxation of Income From Capital: A Comparative Study of the United States, the United Kingdom, Sweden, and West Germany*, 222 (1984); Feldstein & Summers, "Inflation and the Taxation of Capital in the Corporate Sector," 32 *Nat. Tax J.* 445, 451 (1979). Within the assumptions of Curve (1) of Chart (1), halving tax rates by deferral alone would require a 22-year holding period. The half-of-gains-excluded studies cite Bailey, "Capital Gains and Income Taxation," in *The Taxation of Income from Capital* 11, 22, 26 (A. Harberger and M. Bailey eds. 1967), who, however, estimated effective tax rates of eight to nine percent, using exclusion of two-thirds of economic gain by reason of death.

an effective tax rate of 5.6 percent.[21] Kotlikoff and Summers argue, provoking some controversy, that only 20 percent of individual wealth is consumed by the household later in life and that 80 percent of wealth is transferred to the next generation.[22] Rational tax planners keep their gain property until death and use nongain property during life if they can, so that gain property should be richer in the portion of property transferred at death. If, say, 90 percent of taxable gain disappears at death, the effective tax rates would drop from 28 percent to 2.3 percent.[23]

Aggregate rates for unsold gain estimated between 13 and 2 percent, give some indication of the power of the structure to channel capital. By whatever calculation, effective tax rates on unsold gain can get extraordinarily low and very much below the 34-percent statutory rate on ordinary investment income. Everyone, however, has access to a zero tax rate and can control the effective rate applied to herself to the extent that she can extend the holding period.

The low effective tax rates on holding gains draw many investors into investments that are rich in unrealized gains and induce investors to suppress realized income. One Treasury study, tracing reported income to specific assets, found that the wealthiest taxpayers realized investment income at an annual rate of only two percent of the reported value of their investments, during a period of time when corporate

bonds were paying eight- to nine-percent interest.[24] The fair market value interest rate on investments readily available to investors was thus four to four and one-half times greater than the investment income that they were reporting.[25] The rate of realized income declined as wealth increased.[26] Within any given tier of wealth, the rate of realized income was extraordinarily variable.[27] Other studies have consistently found that only about 10-15 percent of accrued gains are reported every year.[28] Given the variability of realized income and how successfully it has been suppressed, it has been suggested that realized income is a poor measure of economic well-being.[29]

The declining and relatively low effective rates on unrealized gain are unfortunate even if, in a Garden of Eden, investment income would bear no tax. Advocates of a consumption tax, for instance, argue that investment income should be tax-exempt and that tax at any rate on investment income is too high.[30] But a major purpose for the exemption is to make tax neutral among investments,[31] and a tax system that induces an investor to shun realization and investments on which income is realized is not a neutral tax.

1. Fixing it. The incentive to defer sale created by the current tax structure can be effectively countered by imposing an interest charge when previously accrued gains are finally realized by sale. There have been a number of proposals in recent years that would take away the advantage of deferring sale by imposing an interest charge on tax for the period of time between the point when appreciation improved the economic

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[21]Gravelle and Lindsey, "Capital Gains," 38 *Tax Notes* 379, 400 (1988) ($t = .28$, $n = 5.3$ years, $m_j = .76$ and $i = .1$ in Equation (4)). *See also* Gravelle, "Can a Capital Gains Tax Cut Pay for Itself?" at 8 (Cong. Budget Off., March 23, 1990) (under some models, the only source of permanent changes in realizations is the selling of assets otherwise held until death).

[22]Kotlikoff, "Intergenerational Transfers and Savings," 2 *J. of Econ. Persp.* 41, 43 (Spring 1988); Kotlikoff and Summers, "The Role of Intergenerational Transfers in Aggregate Capital Accumulations," 89 *J. of Pol. Econ.* 706 (1981). The estimate is controversial, although possible. For a sample of the debate, see, e.g., Modigliani, "The Role of Intergenerational Transfers and Life Cycle Saving in Accumulation of Wealth," 2 *J. of Econ. Persp.* 15 (1988); Kessler & Masson, "Bequests and Wealth Accumulation: Are Some Pieces of the Puzzle Missing?," 3 *J. of Econ. Persp.* 141 (1989); Blinder, "Comments on Chapter 1 & Chapter 2," in *Modelling the Accumulation and Distribution of Wealth* 68 (Kessler & Masson ed. 1988); Hurd & Mundaca, "The Importance of Gifts and Inheritances Among the Affluent," and Kessler "Comment," in *The Measurement of Saving, Investment and Wealth* 736, 758 (NBER Studies in *Income and Wealth* vol. 52, Lipsey & Tice eds., 1989).

[23]$T_R = .023$, in Equation (4), *supra* note 11, where $n = 5.3$ years, $i = 10$ percent, $t = 28$ percent, and $m_j = .76$. The 90-percent estimate is just a guess. Kotlikoff, for instance, includes lifetime gifts, which get no basis step-up, in the category of intergenerational gifts. The figure that gain property is twice as prevalent in bequests is also just a guess. If taxpayers plan well for tax, that figure would be conservative.

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[24]Steuerle, *The Relationship Between Realized Income and Wealth*, Office of Tax Analysis Paper 50, at 8, *Tax Notes Microfiche Doc. 83-621* (1982) (1.88-percent average return; sample was from estate returns filed in 1971-1972 and income of those assets reported in 1970-1971). Corporate bond interest rates in 1970-1971 are from Board of Governors of Fed. Res. System, *Interest Rates in Money & Capital Markets*, Annual Statistical Report 1970-1979 at 163-164, line 32 (high of 8.85, low of 7.75 in 1970-1971).

[25]It is fair to say that real economic income is unlikely to decline with wealth, given the value of good investment advice, economies of scale and power and some past history of success.

[26]Steuerle, *supra* note 24, at 7.

[27]Steuerle, "Wealth, Realized Income and the Measurement of Well-Being," in *Horizontal Equity, Uncertainty, and Economic Well-Being* 91, 92 (David & Smeeding ed. 1985).

[28]Slawson, "Taxing as Ordinary Income the Appreciation of Publicly Held Stock," 76 *Yale L. J.* 623, 627 (1967) (15 percent of accrued gain reported annually); Bailey, *supra* note 20 (10 percent of accrued gain reported annually); Auerbach, *supra* note 19, at 394 (10.8 percent of accrued gain reported annually, that is, 23 percent of the 47 percent not forgiven by death).

[29]Steuerle, *supra* note 27, at 92.

[30]*See*, e.g., Durst, "The Depreciation Debate: Have Bulow and Summers Suggested a Viable Compromise?" 30 *Tax Notes* 259, 259 (1986).

[31]*See*, e.g., Hall & Jorgenson, "Application of the Theory of Optimal Capital Accumulation," in *Tax Incentives and Capital Spending* (G. Fromm, ed. 1971) (zero effective tax on investment return is neutral if pretax interest rates are fixed).

wealth of the taxpayer and could have been realized by sale and the point when the appreciation was in fact realized by sale.[32] Taxes would still be imposed only on sale, when the final outcome is known and the taxpayer has the liquidity to pay tax, but the interest charge would relate the tax back to the time the gain accrued and would offset the advantage of delaying the sale. The proposals could avoid the necessity of appraisals of value of unsold property to determine when the economic wealth accrued by reasonable assumptions about how growth normally occurs in a competitive economy.[33] For some investments, however, especially stocks and bonds traded on an established market, it would be easier just to "mark-to-market" and tax gains as they accrue, relying on quoted market prices.[34]

A holding-period neutral system would also have to end the forgiveness of tax upon death.[35] To compute gain in a comprehensive tax system, one must subtract from the amount realized on sale only a basis that represents cash invested or some other prior taxation of the asset. "Basis" in principle is a monetary account recording what has been taxed and not yet deducted, so as to appropriately identify what needs yet to be taxed. Basis for heirs equal to the fair market value of property at the investor's death is a vestige of a prior system of thinking when "capital" was thought to refer to some tangible thing, whatever its value, rather than to a monetary account keeping track of what has been

taxed.[36] The step-up to fair market value at death gives the successor a fictional cost that exempts all predeath gain from tax. Generally speaking, "cost" should be simpler to determine than fair market value at death, although, where records of prior cost are lost, it may sometimes be necessary to treat the gratuitous-transferee heir realistically as if the property had no cost.

A holding-period neutral system would allow the repeal of restrictions on deduction of capital losses. Under current law, capital losses are allowed to be used, with a small exception, only against realized capital gain.[37] The rules prevent a taxpayer from realizing losses while keeping economic gains hidden from the tax collector. Without the limitations, an investor could report a perpetual series of tax losses, while remaining economically even or gaining ground, by investing in volatile investments and selling only loss property.[38] The limitations on deduction of losses, however, while controlling abuses, also penalize taxpayers with real net economic losses and overtax risky investments vis-a-vis stable ones.[39] If gains were taxed so that holding gain property gave no tax advantage, losses could also be allowed without limitations, even though realization is under taxpayer control.[40] Even movement toward a system that merely reduces the lock-in incentives would allow some easing of the limitations on deductibility of losses.

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[32]Fellows, "A Comprehensive Attack on Tax Deferral," 88 Mich. L. Rev. 722 (1990); C. Club, "New Role for the Treasury: Charging Interest on Tax Deferred Loans," 25 Harv. J. on Legis. 1 (1988); Institute for Fiscal Studies, The Structure and Reform of Direct Taxation ("the Meade Report") 127-149 (1978); Gann, "Neutral Taxation of Capital Income: An Achievable Goal?" 49 Law and Contemp. Probs., 77, 145, (Autumn 1985); Wetzler, "Capital Gains and Losses," in Comprehensive Income Taxation 115, 117-122 (Pechman, J. ed. 1977).

[33]Auerbach, "Retrospective Capital Gains Taxation," 81 Am. Econ. Rev. 167 (1991), has a proposal to forego the concept of basis or cost entirely and assume that the sales proceeds arise entirely from some hypothetical investment growing at the prevailing risk-adjusted interest rate. The more common assumption is that total gain, computed using actual costs, accrued over the period of the taxpayer's holding at constant, compound return rates. See, e.g., Fellows, supra note 32, at 741-755. Auerbach criticizes the constant return assumption on the ground that taxpayers with extraordinary early growth would have an advantage in deferring sale because the average return system would then push the assumed growth into later years. Auerbach, at 168.

Auerbach's proposals would tax the extraordinary- and the sour-return investor as if they both made the same, normal return. Investors who had low returns or lost money would not get their basis back; investors with high returns would be given more basis than they in fact invested.

[34]Shakow, "Taxation Without Realization: A Proposal for Accrual Taxation," 134 U. Penn. L. Rev. 1111 (1986), and Slawson, supra note 28, examine some of the problems.

[35]IRC section 1014.

[36]The association of the concept of basis with fair market value of the property originated, not as a policy decision, but rather from an old-fashioned idea of what "capital" was. See, e.g., Kornhauser, "The Origins of Capital Gains Taxation: What's Law Got To Do With It?" 39 SW L. J. 869 (1985); L. Seltzer, The Nature and Tax Treatment of Capital Gains and Losses 26-35 (1951). Cf. Isaacs, "Principal—Quantum or Res?" 46 Harv. L. Rev. 776 (1933) (discussing the ambiguity of whether capital refers to property or cost invested in trust accounting). In Merchants' Loan & Trust Co. v. Smietanka, 255 U.S. 509 (1921), the Supreme Court held that capital, constitutionally immune from an "income" tax, was the prior investment, rather than the starting fair market value of the sold property. Nevertheless, a number of instances of starting "fair market value" basis remained after the decision. See Johnson, "The Legitimacy of Basis from a Corporation's Own Stock," 31 Am. J. of Tax Policy 1, 166-92 (1992). The fair market value basis at death was reaffirmed, however, in 1980 by the repeal of provisions that would have required the heir to carry over the decedent's basis. Crude Oil Windfall Profit Tax Act, Pub. Law 96-223, 96th Cong., 1st Sess., section 401(a), repealing IRC section 1023 (1980).

[37]IRC section 1211. Individual taxpayers may deduct capital losses against capital gains and then may deduct $3,000 per year of excess capital losses against ordinary income. Unused losses carry over to future years. IRC section 1212.

[38]See, e.g., Klein, Bankman, Bittker & Stone, Federal Income Taxation 851-852 (8th ed. 1990).

[39]See, e.g., Stiglitz, "The Effects of Income, Wealth, and Capital Gains Taxation on Risk-Taking," 83 Q. J. Econ. 263 (1969). Risky investments would, however, be undertaxed vis-a-vis stable investments if loss limitations were repealed because risky investments are not only more likely to generate real net economic losses, but also more likely to generate artificial losses if the taxpayer were allowed to show and deduct only the losing half of her hand.

[40]Pechman, Federal Tax Policy 109 (3d ed. 1977).

Proposals to bring effective tax rates on unsold holding gains up to the level of tax rates on investment income generally will improve economic efficiency and reduce the economic damage that the current structure causes. But, increasing the tax on unsold gain is a structural change that does not imply that general tax levels need to be raised.[41] The appropriate level of tax on investments generally is an independent issue. As the effective tax on unsold property is raised, accordingly, adjustments need to be made reducing taxes elsewhere so that aggregate taxes on investment reach or stay at the appropriate levels.

2. Inflation. The structural incentives to hold on to property and avoid realized income need to be fixed, even in an inflationary economy. The tax system generally taxes inflationary "fool's profits" that arise solely because taxable income is measured with dollars of decreasing value instead of with some kind of inflation-proof, standard-of-living units. When inflation is nontrivial, tax rates imposed on nominal income, unadjusted for inflation, are much higher when measured as a percentage of the real improvement. Assume, for instance, that inflation is five percent when an investor receives a nominal 10-percent per year interest from an investment in a bond. Half of the 10 percent is fool's profits — it just offsets the loss the investor has suffered because the dollars invested in the bond now buy fewer goods and services. A 34-percent tax imposed on income that is half fool's profits is a 68-percent tax on improvement. If inflation is severe enough, tax imposed at apparently reasonable rates can easily take away more than all of the investor's real improvement.[42] An investor with a return that fails to keep up with inflation can have both a taxable gain and a real loss, measured in the goods or services she can buy.

Inflation raises the taxes on investment income, but it does not ameliorate the structural problem of declining and relatively advantageous capital gains rates. Chart 2 charts the tax rate on unsold gain, compared to currently taxed, ordinary income, assuming a nominal return rate of 10 percent and inflation of five percent. Curve (3), at the top of Chart 2, shows a nominal 34-percent tax imposed on ordinary investment income, such as interest, that is realized currently. With the five-percent inflation, the 34-percent nominal tax doubles to a 68-percent tax rate, measured on a base of real income.[43]

Capital gain is taxed lightly by comparison. In a year, the gain qualifies for a 28-percent tax ceiling, which is doubled by the tax on inflation to 56 percent. Deferral and death then lessen the 56-percent tax rate. Curve (4) shows the effective tax rate, assuming only the deferral of the tax, and Curve (5) shows the effective tax rate, taking into account both deferral and the cumulative mortality risks for a 50-year-old taxpayer.[44] Curves (1) and (2) on Chart 2 are brought over from Chart 1 and show, for comparison, the effective tax rates with no inflation.

Given five-percent inflation, the effective rate on gain on property held for 25 years, marked on Chart 2, is 25.7 percent, considering deferral alone, and 15.6 percent, considering mortality risks as well. The rates on unsold gain are considerably below the 68-percent tax on currently realized investment income. Inflation, moreover, does not immunize an individual from mortality risks. Thus, Curve (5), which incorporates mortality risks, will eventually reach zero tax if the individual holds on to the property long enough.

Inflation worsens the problems of declining and then relatively low effective tax rates. Inflation improves the carrot offered to taxpayers to hold on to their property. Inflation makes deferral of tax more valuable because deferral means that the tax can be paid with ever cheaper dollars. Inflation also generally raises pretax return rates and, with higher pretax return rates, the decline in effective tax rates is steeper.[45] As shown in Curves (4) and (5) of Chart 2,

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[41]See Kotlikoff, "Taxation and Savings," 22 *J. Econ. Lit.* 1576, 1576 (1984) (structural changes compensate for tax increases with decreases elsewhere).

[42]If 10-percent return represents seven-percent inflation, for instance, a 34-percent effective tax rate on the return will take away more profit than the taxpayer had in terms of improvement in her command over goods and services.

[43]The formula for Curve (3) in Chart 2 is tax divided by inflation-adjusted pretax income (*see supra* note 7), or

$(R_p * t)/(R_p - inf)$

where R_p is the pretax return (10 percent here), t is the tax rate (34 percent here, *see supra* note 8), and *inf* is the rate of inflation (five percent here).

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[44]Without inflation, a tax, deferred until sale, has the following effective rate:

(1) $\{R_p - \{[(1+R_p)^n - t((1+R_p)^n - 1)]^{1/n} - 1\}\}/R_p$

where t is the nominal tax, R_p is the pretax rate of return, n is the periods from the start of the investment until sale and R_a is the after-tax return rate. *See* expression (3), *supra* note 11. Tax (the numerator of expression (1)) does not go down because some of the pretax income is offset by inflation, but the base (denominator) is reduced by the rate of inflation (*inf*) (*see supra* note 43):

(2) $\{R_p - \{[(1+R_p)^n - t((1+R_p)^n - 1)]^{1/n} - 1\}\}/(R_p - inf)$

Curve (4) of Chart 1 graphs expression (2) as n increases from 0 to 30 years. Curve (5) treats the nominal tax rate, t, as in fact a tax rate of $t(1-m_j)$, where m_j is the chances that t will not be imposed because of cumulative mortality risk (*see supra* note 11):

(3) $\{R_p - \{[(1+R_p)^n - t(1-m_j)((1+R_p)^n - 1)]^{1/n} - 1\}\}/(R_p - inf)$

Curve (5) graphs Expression (3) as n increases for the mortality risks a 50-year-old faces.

Inflation is sometimes called a tax. Inflation is not here a cost, because inflation makes the value and the income from the land go up; the inflation-caused increases should at least offset the inflation-caused loss. Tax on the inflation income or gain is, however, a real cost and real increase in the rate of tax.

[45]See table, *supra* note 13.

**Chart 2. Effective Tax Rate for Unsold Gain
With 5% Inflation and 10% Nominal Return**
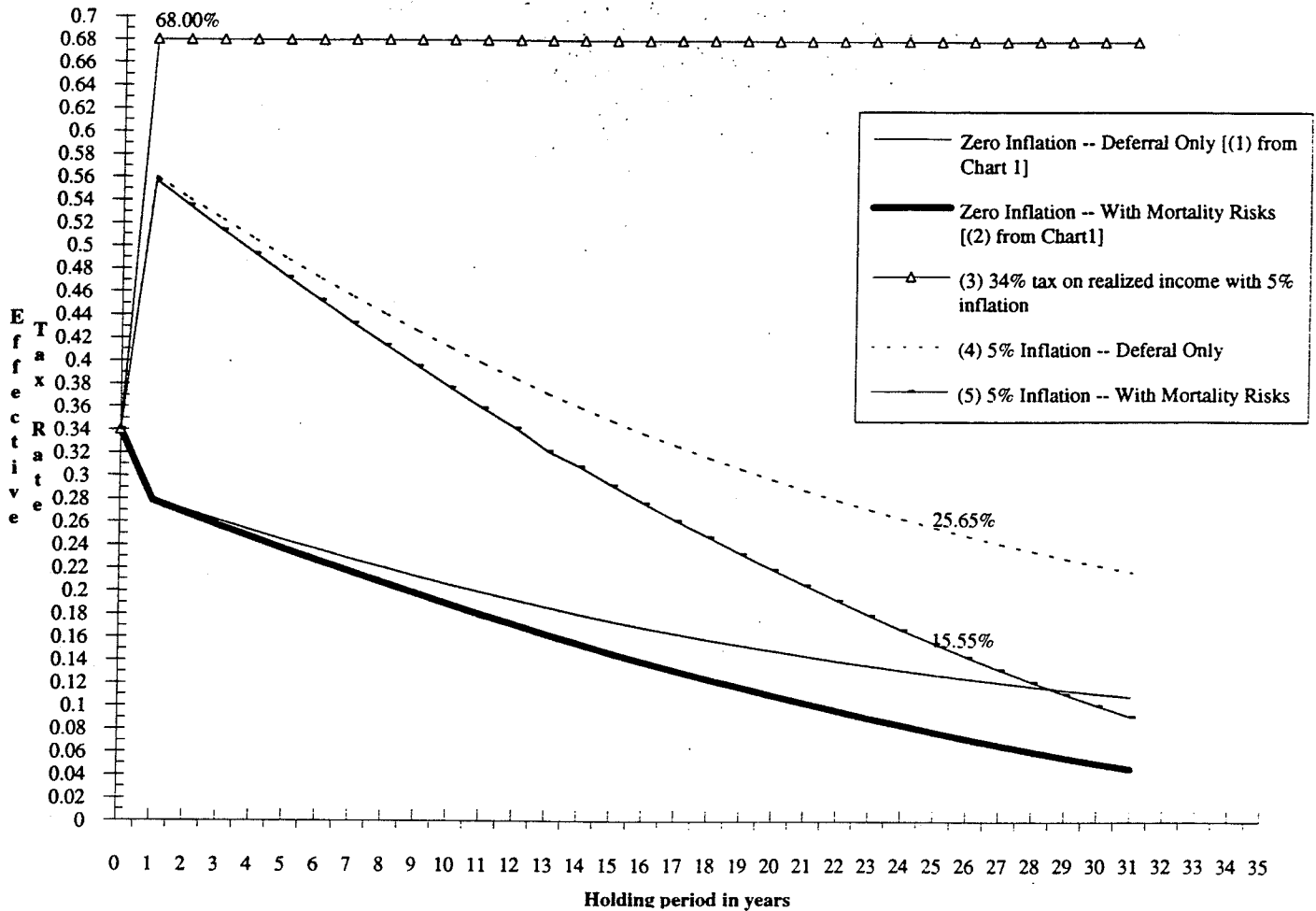
the investor under inflation faces a sharply declining effective tax rate schedule that gives an incentive to lock in capital.

Inflation also worsens the disparity between tax on realized and unrealized income that makes investors avoid the realized income. In our prior example, an investor, solely because of tax, would prefer a speculative investment in undeveloped land that gave a 7.5-percent unrealized pretax return, to an investment in developed land that gave a 10-percent pretax return. That result remains true here, although inflation hurts both investments.[46] With five-percent inflation, the developed land giving realized rent of 10 percent per

year generated an after-tax and after-inflation return of only 1.5 percent.[47] But, the unused 7.5-percent-return land still starts worse before tax and ends better after tax. The unused land would give the investor a 1.7-percent aftertax and afterinflation return.[48] The tax struc-

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[46]Under inflation, the landlord would in fact be able to raise rents and the land owner would find her land becoming more valuable, measured in nominal terms, so that it would be unrealistic to assume the same 10-percent and 7.5-percent returns under varying inflation conditions. The point here is not to compare pre- and post-inflation investments, but rather to compare realized and unrealized income when the proportion of real and fool's profit varies in the nominal return.

[47]The rental land would grow at a 10-percent pretax return, reduced by a 34-percent nominal tax to 6.6 percent after-tax nominal return a year. At 6.6 percent over 25 years, a dollar would grow to $4.94. See supra note 16. But, at five percent inflation per year, the $4.94 is worth only $1.46 in terms of the goods and services a dollar could buy when the dollar was invested ($4.94/1.05^{25}=$1.46). The $1.46 is a real return of only 1.5 percent per year because $1 will grow to $1.46 at 1.015 percent compounded for 25 years.

[48]A dollar in the 7.5-percent return investment grows unreduced by tax to $(1.075)^{25}$ or $6.10 per dollar at the end of 25 years. Given a 64-percent chance of a 28-percent tax on $6.10 gain (see supra note 17), the tax is worth $.91, reducing the aftertax gain to $5.18. At five-percent inflation, the $5.19 is like $1.53 in a starting-year dollar's worth of goods and services ($5.18/1.05^{25}=$1.53), and that is like a 1.7-percent return $(1.53/1.017^{25}=$1)$.

ture again makes the lesser investment appear the better. Generalizing beyond the example, the difference between effective tax rates on realized and unrealized income is always greater with greater inflation and the difference increases the worse inflation is.[49] Inflation, in sum, is not a reason for reducing tax on unsold holding gains because inflation worsens the structural problems of declining and relatively low tax on unsold gain.

Inflation . . . worsens the disparity between tax on realized and unrealized income that makes investors avoid the realized income.

The taxation of inflationary fool's profits should be corrected, but the first corrections should address currently realized income, where the overtaxation is most pronounced. In the investment shown in Curve (3) of Chart 2, for instance, realized income is taxed at 68 percent, far higher than unrealized gain is taxed. The worst of the overtaxation could be remedied, albeit not very elegantly, by giving an inflation exclusion equal to the current annual rate of inflation times the taxpayer's after-tax "hard money" invested in the project, usable only against currently realized investment income. An investor who had $100,000 cash invested in a 10-percent bond, for instance, could exclude $5,000 of current interest, when inflation was five percent, and the exclusion would bring the real tax rate on the real five-percent income back down to the intended 34 percent.[50] Investors who sell nonproductive land that appreciated over a period of time would be entitled to exclusion, but only to the extent of the cur-

rent year's inflation. The system would not remedy taxation of all fool's profits,[51] but it would be relatively simple and abuse-resistant and it would address the cases where overtaxation is most serious.

B. Administration Proposals

The administration proposals to cut tax rates on realized gain rates affect both the declining effective rates and relatively low effective tax rates on holding gains.

1. **Declining rates.** The administration proposals would cut the tax applied to capital gains but leave intact the declining effective rate structure of current law. For the first three years of ownership the proposals would exacerbate the problem of declining rates by adding an increasing statutory discount to the declines in tax due to deferral and mortality. Property held for a year or less would bear tax at the ordinary tax rate as under current law, assumed again to be typically a rate of 34 percent.[52] Investors would get increasing tax discounts, however, as they held across the first three anniversaries of their purchase. Capital gain held for more than one year, but less than two years, would qualify for a maximum tax rate of 23.8 percent, which is 70 percent of the 34-percent tax rate typically applied to investment income. Gain on assets held for less than three years but more than two years would benefit from a maximum tax rate of 19.6-percent ceiling rate, which is 58 percent of the 34-percent rate typically applied to investment income. [53]

Chart 3 shows the decline in effective tax rate on capital gains under the administration proposals as the taxpayer holds on to property. Chart 3 uses the same formulas and assumptions used in Chart 1 (50-year-old individual, 10 percent pretax return), but substitutes the maximum statutory rates available under the administration proposal in place of current law. Curve (6) considers the effects the decline in statutory rate and of deferral of tax until sale; Curve (7) incorporates mortality risks as well.

Chart 4 compares the Bush proposals with current law by putting Curves (1) and (2) from Chart 1 (current law) together with the curves from Chart 3 (proposals).

The Bush proposals, paradoxically, increase the reward for holding on to property in the early years of ownership. As shown by Chart 4, the proposals increase the slope of the decline of the effective tax rates that taxpayers face. Under current law, effective tax rates drop from 34 percent to 28 percent after one year and to 26 percent after three years. Under the proposals,

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[49]The difference between the tax rate on realized income and effective tax rate on unrealized income is

(1) $(R_p{}^*t)/(R_p)-f(R_p)/(R_p)$

where $f(R_p)$ is the function for effective tax rate on unrealized gain described in expression (3) of *supra* note 11. Where $(R_p{}^*t)$ >$f(R_p)$, because of deferral and mortality, $(R_p{}^*t)- f(R_p)$ will be positive. Therefore,

(2) $[(R_p{}^*t)-f(R_p)]/(R_p)$ will be less than $[(R_p{}^*t)- f(R_p)]/(R_p-inf)$ and

(3) $1/(R_p)$ will be less than $1/(R_p-inf)$,

because (R_p-inf) is less than R_p. *See supra* notes 43 and 44 for effective taxes with inflation. The difference between effective tax rates on realized and unrealized gain is larger with inflation (inf) than without. By a similar process, it can be shown that if inf^1 is greater than inf, the difference between the effective taxes will be greater under inf^1.

[50]The excluded percentage should not be based on the value of the land nor on amounts already deducted or depreciated with respect to the land nor on the section 1014 basis. The exclusion instead would be the inflation percentage times the $100,000 "hard-money," aftertax amount the taxpayer has invested and not yet deducted. Symmetrically, users of capital who pay rent or interest for the capital would reduce their tax recognized cost by the amount excluded by the capital provider as a mere fiction of the dollar system of computation of income. If basis is derived from borrowing, the two adjustments — exclusion of inflation from both income and cost — would balance out to zero.

[51]Under the Chart 2 assumptions (28-percent tax rate, five-percent inflation, 10-percent pretax return, and mortality risks of a 50-year-old), investors in property with no realized annual income would pay more than the presumably intended 34-percent effective tax rate for holdings of between two years and 11 years (considering mortality risks) and two and 16 years (considering deferral only).

[52]*See* discussion, *supra* note 8.

[53]Department of the Treasury, *supra* note 1, at 7. The statute, under the proposals, would express the maximum tax rate for the various holding periods as an exclusion times a maximum 28-percent tax on the unexcluded remainder. *See supra* notes 2 and 3.

Chart 3. Effective Tax Rate for Capital Gains
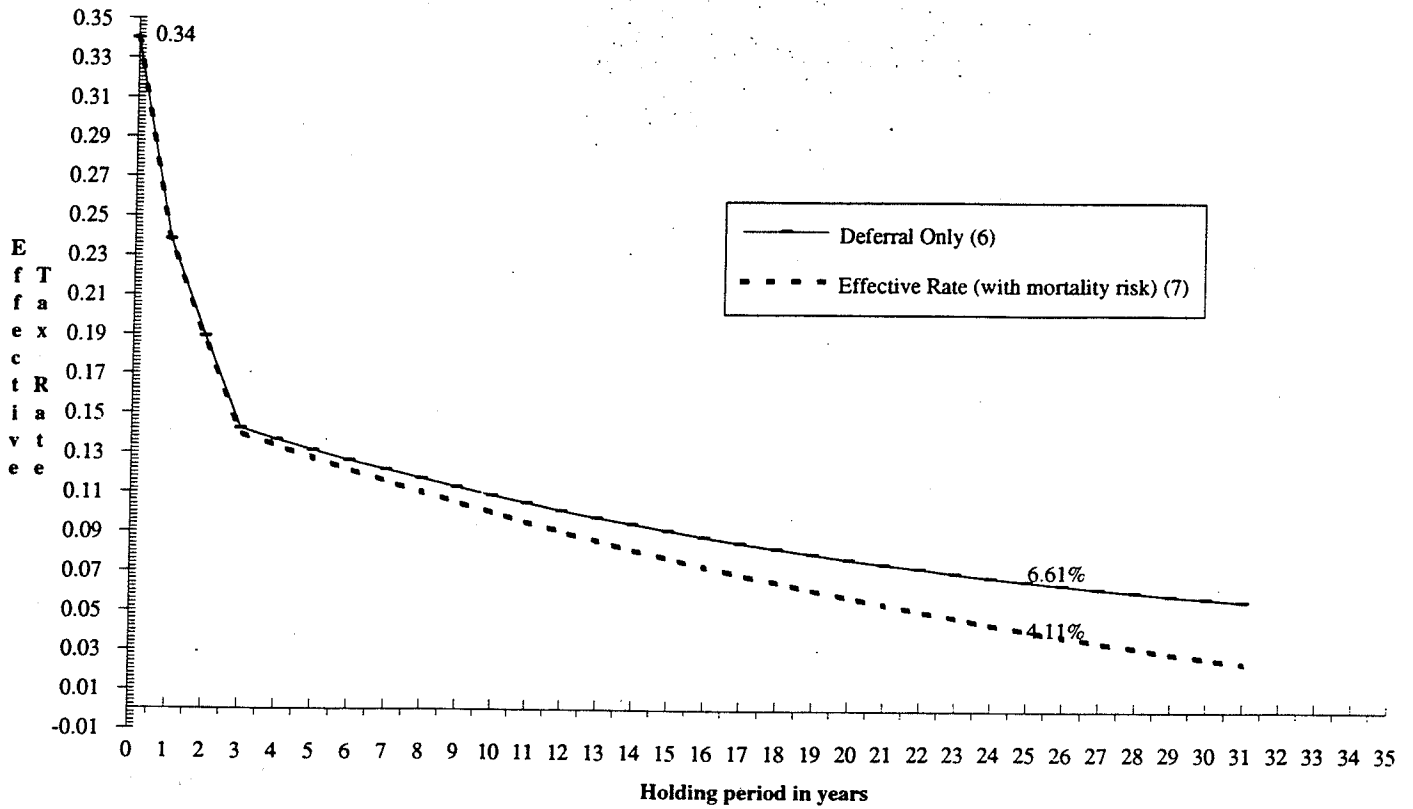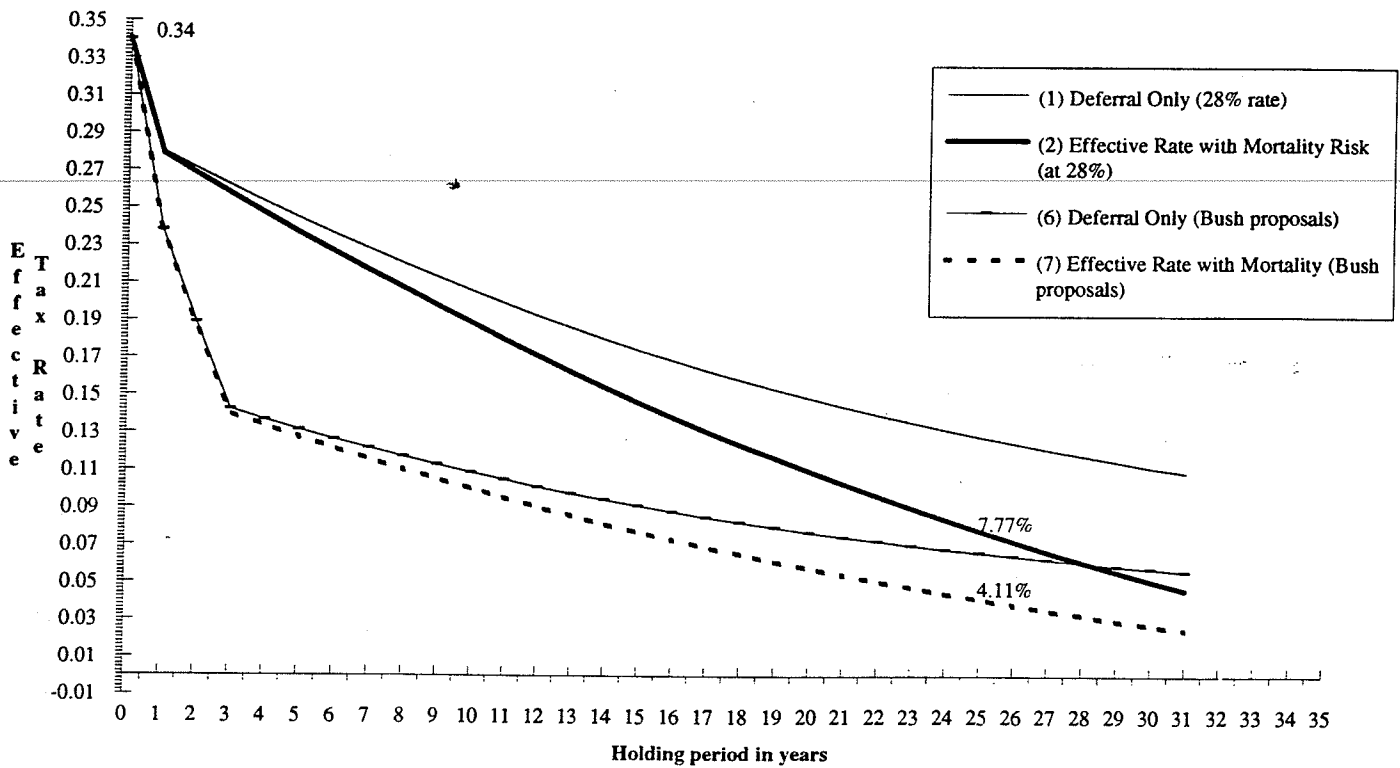**(Bush Proposals -- 50 year old taxpayer)**

Legend:
— Deferral Only (6)
- - - Effective Rate (with mortality risk) (7)

6.61%
4.11%

Holding period in years

Chart 4. Current Law and Bush Proposals
Effective Tax Rate

Legend:
— (1) Deferral Only (28% rate)
— (2) Effective Rate with Mortality Risk (at 28%)
— (6) Deferral Only (Bush proposals)
- - - (7) Effective Rate with Mortality (Bush proposals)

7.77%
4.11%

Holding period in years

effective rates drop from 34 percent to 24 percent after one year and to 14 percent after three years.

The steepening decline in effective rates is inconsistent with arguments that cuts are needed to unlock capital. The major reason to prefer capital gains cuts to some other form of reducing tax on investment income is to reduce the lock-in effect; that is, to reduce the tax incentives to hold on to property.[54] The structure of the Bush proposals increase lock-in at least for the first three years. Arguments might be made that extending investments is good policy, but they would be inconsistent with the anti-lock-in arguments that are the primary justification for lower capital gains rates. One cannot simultaneously freeze and boil water. From our experience in the past, investors can be expected to respond to the more steeply declining rates by significant delays in sales.[55] The effect of holding periods in delaying sales is a detriment of return to preferential tax rates for capital gain.[56]

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[54]See, e.g., Cong. Budget Off., *Capital Gains Taxes in the Short Run* (1991); Department of the Treasury, *supra* note 3a, at 3; Schmalbeck, "The Uneasy Case for a Lower Capital Gains Tax: Why Not the Second Best?" 48 *Tax Notes* 195, 200 (1990); Blum, "Rollover: An Alternative Treatment of Capital Gains," 41 *Tax L. Rev.* 383, 387-388 (1986); R. Goode, *The Individual Income Tax* 197-208 (rev. ed. 1976); Wetzler, *supra* note 33, at 135-138; Holt & Shelton, "The Lock-In Effect of the Capital Gains Tax," 15 *Nat. Tax J.* 337 (1962); Brown, "The Lock-in Problem," *Papers on Federal Tax Policy for Economic Growth and Stability*, Subcommittee on Tax Policy, Joint Comm. on the Economic Report, 83d Cong., 1st Sess. at 381 (1955). Even opponents of capital gains cuts have called the lock-in problem the most persuasive case for capital gains: Dodge, "Restoring Preferential Capital Gain Treatment Under a Flat Rate Income Tax: Panacea or Placebo?" 44 *Tax Notes* 1133, 1137 (1989). *See also*, Blum, "A Handy Summary of the Capital Gains Arguments," 35 *Taxes* 247, 257 (1957) (calling the lock-in argument a "formidable indictment").

[55]Fredland, Gray & Sunley, "The Six Month Period for Capital Gains: An Empirical Analysis of its Effect on the Timing of Gains," 21 *Nat. Tax J.* 467, 471 (1968) found, for instance, that investors sold property in the month after meeting the holding period requirements at a rate that was 12 times the rate of sales in the month before. The study, however, covered a time when the tax rate went from a 70-percent ordinary tax to a 25-percent capital gains tax when the holding period was met. Nothing in the proposals gives that sharp a decline in effective rate.

[56]Repetti, "The Use of Tax Law to Stabilize the Stock Market: The Efficacy of Holding Period Requirements," 8 *Va. Tax Rev.* 591, 631 (1989).

The proposals have transition rules, allowing taxpayers quicker access to the lower ceiling rates in the first years after the suggested enactment, that are structured to prevent owners from having an increased incentive to hold on to property for the first three years after enactment. For sales in 1992 (after Feb. 1, 1992), for instance, the 15.4-percent maximum rate would apply to assets held for only a year. For 1993, the assets would be required to be held for at least two years to be eligible for the 15.4-percent rate and at least one year to be eligible for the 19.6-percent rate. Sales in 1994 and thereafter would follow the nontransitional rules. Department of the Treasury, *supra* note 1, at 7. The transition rules in effect concede the point that the holding period lines will extend holding periods. The proposed 15.4-percent rate available for a one-year holding period during 1992 is inducing optimists now to defer sales.

After three years of holding, however, the proposed nominal rate of 15.4 percent is lower than the current 28-percent nominal rate such that the effective rate of tax would start lower and decline slower than under current law. The lower rate after three years means that the rewards for holding on to property are in fact ameliorated. Still, the lower rates do not end the tax advantage of holding on to property. Every taxpayer would still have an opportunity to lower his or her effective tax rate further by holding on to the property and every mortal would have access to a zero tax rate.

More generally, incentives to hold cannot be erased in full by lowering the tax imposed on sale if any positive tax remains on the sale. As long as there is any toll charge on sale, an investor can still improve the effective rate by holding on to the property to delay the toll and will still have the prospect of a zero tax rate. Equalizing the tax on sold and unsold gain requires increasing the tax on unsold gain, such as with an interest charge. Increasing the burden of the tax on unsold gain would have the added virtue of bringing the effective tax unrealized gain into line with the tax rates on investment income generally.

Equalizing the tax on sold and unsold gain requires increasing the tax on unsold gain, such as with an interest charge.

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2. Aggregate effective tax rates. Long-held investments with unrealized gain are undertaxed relative to investments with realized taxable income,[57] but the administration proposals would not necessarily worsen the disparity in aggregate. If investors sell property earlier enough, in reaction to a cut in capital gains rates, effective tax rates on gain property could go up. As marked on Charts 1 and 4, for instance, the effective rate for a 25-year holding period is 7.8 percent, considering mortality risks. Under the Bush proposals, the expected effective rate of tax is greater than that (i.e., 8.1 percent) at a holding period of 14 years. If the investor under the marked assumptions sells property 11 years or more earlier, in reaction to the cuts, the effective rate of tax would go up, even while the tax imposed on sale goes down. The greatest strides in effective rates would be achieved just by convincing the investor to sell property while alive, forfeiting the absolution of tax at death.

The steepened decline in effective tax rates under the Bush proposals[58] will, however, push investors to extend their holding periods during the first three years of ownership.[59] If the proposals are to shorten holding periods in aggregate, holdings after three years will have to overcome the lengthening effects in the first three years. To shorten holding periods, even

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[57]See discussion accompanying *supra* notes 16-30.

[58]See Chart 4 and accompanying discussion.

[59]See Fredland, Gray & Sunley, *supra* note 55; Repetti, *supra* note 56.

after three years, investors must be convinced to take the bait of a 15.4-percent rate, giving up the even lower tax rates and tax absolution at death that they could get by holding the property some more. If enough investors fall for the offer, however, the effective rates will rise.

The question of whether effective rates will rise is just the other side of the coin of the disputatious issue of whether government revenue will rise in reaction to the rate cut. By definition, a lower tax rate on capital gains reduces the tax revenue per dollar of gain reported, but if the amount reported in taxable gain increases by a greater percentage than the percentage by which tax rates fall, net government revenue will go up.[60] Treasury, which advocates capital gains tax cuts, estimates that revenue will increase at least in aggregate.[61] Skeptics project a loss of revenue. Sometimes the skeptics give materially the same estimates as proponents do, except for the small but telling detail that negative revenue is different from positive

revenue.[62] But, if pretax appreciation remains fixed[63] or if the response of sales to tax cuts is small or null,[64] the long-term revenue loss will be significant.

If government revenue, meaningfully measured, rises, the effective rate of tax must rise as well. The government, in fact, measures tax revenue in one-year segments, ignoring other years.[65] Under that inadequate measure, it is possible to have a measured revenue gain even when the government is very much poorer in wealth.[66] Increased government revenue, however, meaningfully measured as net present value of government revenue using aggregate pretax returns in the society as a discount rate, will necessarily entail an increase in effective rate of tax and a decrease in the

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[60]Total revenue is tR, where t is the tax rate and R the net gains realized. The total revenue after the cut ($t'R'$) will be greater than the revenue before the cut (tR) if the expansion of net realized gains ("b") is greater than the reduction in tax per \$1 of gain ("a"), that is $t'R' > tR$, if

(1) $(t/a)(Rb) > tR$,

that is if

(2) $b/a > 1$. [dividing (1) by tR],

that is if

(3) $b > a$

An increase in realizations ("b") that is greater than the decrease in tax rate as percent ("a") is an "elasticity" of realizations with respect to tax rate of greater than 1. Auten & Cordes, "Policy Watch: Cutting Capital Gains Taxes," 5 J. of Econ. Persp. 181, 183 (1991) present the idea graphically.

[61]Treasury projects a \$6.9 billion revenue gain for the range of years 1992-1997. Treasury projects a \$200 billion revenue loss in the last year of the range and presumably in every year thereafter. Department of the Treasury, supra note 1, at 10-11. In prior years, Treasury projected a revenue gain in all years. See, e.g., Department of the Treasury, supra note 3a, at 8-10. Supporters of the proposition that capital gains cuts in general will raise revenue include Office of Tax Analysis, United States Department of the Treasury, "Report to Congress on the Capital Gains Tax Reductions of 1978" (1985); Darby, Gillingham & Greenless, "The Direct Revenue Effects of Capital Gains Taxation," Treas. Bull. (June 1988); Feldstein, Slemrod & Yitzhaki, "The Effects of Taxation on the Selling of Corporate Stock and the Realization of Capital Gain," 94 Q. J. Econ. 777 (June 1980). Cf. President's 1963 Tax Message, Hearings Before the House Committee on Ways and Means, 88 Cong., 1st Sess. 63, 708 (1963) (Kennedy administration arguing that excluding a greater fraction of capital gains from tax would increase revenue).

[62]Gravelle, "Will Reducing Capital Gains Taxes Raise Revenue?" 36 Tax Notes 419 (1987); Cong. Budget Off., How Capital Gains Tax Rates Affect Revenues: The Historical Evidence (1988) selections reprinted as Toder & Ozanne, "CBO Works on Capital Gains," 39 Tax Notes 1441 (June 20, 1988); Minarik, "The Effects of Taxation on the Selling of Corporate Stock and the Realization of Capital Gains: Comment," 99 Q. J. Econ. 93 (Feb. 1984); Auerbach, supra note 18.

[63]See Gravelle, "Limits to Capital Gains Feedback Effects," 51 Tax Notes 363 (1991) arguing that if current pretax appreciation is set as a limit as to how much gain can be expected to be realized in the long run, then increase in realizations cannot come close to revenue neutrality.

[64]Henderson, "Capital Gains Tax Rates and Stock Market Volume," 43 Nat. Tax J. 411 (1990) (finding no reduction in stock market turnovers due to the 1986 increase in capital gains tax) implies significant government revenue losses from a reduction in rate imposed on the turnovers.

[65]See, e.g., Murray, "Crunched Numbers: Government's System of Accounting Comes Under Rising Criticism," Wall St. J., March 3, 1986 at A1, col. 6 (reporting that emphasis on yearly cash flows favors short-term ploys that lift eventual government costs and that "capital budget" measurement of government wealth would be superior); Sunley and Weiss, "The Revenue Estimating Process," 51 Tax Notes 1299, 1312 (1991) (contrasting one-time shifts in timing of tax with permanent tax increases or continual annual shifts to earlier tax). See also supra note 55.

[66]Suppose, for instance, that the government announced a tax cut in two years and that, by reason of the announcement, realization of millions of dollars of capital gain was delayed for two years and then realizations resumed at the same rate as before the announcement. Because the realization rate did not increase, the government is hurt by the tax change. The tax per sale is reduced and the sales are delayed for two years. But, if we measure revenue by comparing the tax revenue in the year after the cut to the tax revenue in the prior year, the (mis)measure would show a revenue gain: there would be zero tax in the base year for the sales that were deferred and the tax collected in the following year would show up as revenue gain.

posttax return for any given pretax return.[67] Revenue rises necessarily reduce aftertax returns with all other parameters held constant because there is no place else from which the revenue can come.

The Treasury Department has argued that a capital gains tax cut will increase revenue both because taxable sales will come earlier and because pretax economic growth will improve.[68] Proponents of the cuts are said to live in a "win-win" universe where capital incentives and revenue both rise.[69] Increased returns might contribute to economic growth, it is said, which would contribute to government revenue.[70]

But, increased revenue due to increased realizations, if meaningfully measured, increases effective tax rates and decreases aftertax returns, for any given pretax return rate. As a general rule, lower posttax returns are not associated with increased rewards for investing. Thus, the fact that increased realizations increase effective tax rates puts the two win-win arguments for capital gains into tension with each other.

Here, however, the increase in effective tax rate that comes from earlier sales is a voluntary tax increase, achieved only if the investor decides to sell earlier and pay taxes that the investor could have avoided by not selling. As a voluntary tax increase, the increase could in fact raise incentives. The extra effective rate of tax that an investor realizes by earlier sale is much like the penalty for early withdrawal on a high-interest certificate of deposit. Investors who want to withdraw money from their investment early for consumption or some other purpose can do so by forfeiting some of their return to tax. The availability of an option to take a loss in interest will increase the investor's flexibility and might improve the attractiveness of the investment even if it does mean a lowering of aftertax return.

If the rate cuts turn out in fact to lose revenue, however, as is quite plausible, the cuts will do harm not just in increasing the federal deficit, but also in increasing the disparity between the effective tax rates on realized and unrealized income. At best, the proposals are not projected to do very much to improve on the low effective rates on unsold gain nor to ameliorate the economic harm that occurs as taxpayers strive for the low rates currently available for unsold gain.

The major economic costs of a capital gains cut, moreover, are reflected in neither the government revenue nor effective rate figures. The cuts will encourage consumption of capital and distort investment, and neither harm is reflected in government revenue figures. Thus, it is time to turn to the increase in consumption that capital gains cuts will cause (Part II, to be published in *Tax Notes*, May 18, 1992) and then turn to the distortion in allocation of capital that the cuts will cause (Part III, to be published in *Tax Notes*, May 25, 1992).

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[67]The effect of tax on an investment of $1 for n years growing at compound pretax rate i is

(1) $(1+i)^n - f(i) = [1+i(1-t)]^n$,

where the function $f(i)$ is the tax computed under the Internal Revenue Code on income from the investment and t is the effective rate of tax on return rate i. The term $[1+i(1-t)]^n$ is the post-tax return from the investment. Rearranging the terms,

(2) $f(i) = (1+i)^n - [1+i(1-t)]^n$.

If the tax collected under a new regime, $f'(i)$ has a higher present value, using discount rate i, than the tax under the old regime $f(i)$, then

(3) $f'(i) / [1+i(1-t')]n' > f(i) / (1+i)^n$

where n' is the year the new tax(es) are collected. Substituting (2) into (3) yields

(4) $\{(1+i)^{n'}-[1+i(1-t')]^{n'}\}/(1+i)^{n'}>\{(1+i)^n-[1+i(1-t)]^n\} / (1+i)^n$

where t' is the effective tax rate under the new regime. Inequality (4) simplifies to

(5) $1-[1+i(1-t')]^{n'} /(1+i)^{n'} >1 - [1+i(1-t)]^n/(1+i)^n$

and to

(6) $-[1+i(1-t')]^{n'} /(1+i)^{n'} >- [1+i(1-t)]^n/ (1+i)^n$

It follows from (6) that

(7) $- (1+i)^n/ (1+i)^{n'} >-[1+i(1-t)]^n/[1+i(1-t')]^{n'}$,

dividing both sides of (6) by positive terms, and that

(8) $(1+i)^{n-n'} < [1+i(1-t)]^n/[1+i(1-t')]^{n'}$

dividing both sides of (7) by a negative 1.

Since n' will be smaller than n, under the assumption that a lower tax rate causes earlier realization, and i will be positive, n-n' will be positive and $(1+i)^{n-n'}$ will be greater than 1. Hence

(9) $1 < [1+i(1-t)]^n/[1+i(1-t')]^{n'}$ and

(10) $[1+i(1-t')]^{n'} >[1+i(1-t)]^n$,

that is, the posttax return from the investment under the new regime $f'(i)$ will be lower than the post-tax return under the old regime, $f(i)$.

[68]Department of the Treasury, *supra* note 1, at 4 (reducing capital gain tax will reduce cost of capital; lock-in reduces government revenue); Department of the Treasury, *supra* note 3a, at 3 (reducing capital gain will reduce cost of capital), at 5 (lock-in reduces government revenue). *See also* M. Graetz, *Federal Income Taxation: Principles and Policies* 678 (2d ed. 1988) (eliminating the capital preference might reduce revenue both because gains would not be realized and because investment and economic growth would decline).

[69]Isenbergh, "The Death of Income Tax," 45 *Tax L. Rev.* 283, 285 (1991).

[70]Gravelle, *supra* note 63, argues that if current pretax appreciation is set as a limit as to how much gain can be expected to be realized in the long run, then increase in realizations cannot come close to revenue neutrality. Treasury has projected revenue increases even without economic growth, but only on a short-term basis. Department of the Treasury, *supra* note 1, at 9, 10 (1992); Department of the Treasury, *supra* note 3a, at 10 (1991). Growth in the economy is not included in official revenue estimates, however, because that growth is incorporated in the general projections of economic conditions.