The Sometimes-Taxation of the Returns to Risk-Bearing Under a Progressive Income Tax

Lawrence Zelenak

In a classic paper published in 1944, Evsey D. Domar and Richard A. Musgrave demonstrated that an income tax does not reduce the returns to risk-bearing, as long as the tax system features full loss offsets and taxpayers make appropriate portfolio adjustments in response to the tax. The full loss offset condition requires that the tax system be symmetrical with respect to gains and losses. If, for example, the government takes 30% of gains, then the government must bear 30% of losses. An income tax will satisfy the condition if it taxes all income at a single (flat) rate, and if negative income results in a payment from the government to the taxpayer equal to the amount of the loss multiplied by the single tax rate. The second condition requires that taxpayers increase the percentage of their portfolios devoted to risky assets, in response to the income tax.

If an income tax of the sort assumed by Domar and Musgrave is normative, and if that ideal income tax does not really tax the returns to risk-bearing, the policy implications may be significant. David Weisbach has suggested that those who view a Haig-Simons accretion income tax as the ideal should view any taxation of returns to risk-bearing under the actual income tax as "a flaw in current law"—that is, as inconsistent with the Haig-Simons ideal as illuminated by Domar and Musgrave. Deborah Schenk does not insist that income tax proponents denounce taxation of the returns to risk-bearing as fundamentally wrong-headed, but she does believe that an income tax can burden the returns to risk-

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* Pamela B. Gann Professor of Law, Duke Law School.
2. Id.
3. This paper will describe a tax system satisfying this condition as having a gain/loss ratio of one, and a tax system in which the rate applicable to gains exceeds the rate applicable to losses—or in which some or all losses are not deductible at all—as having a gain/loss ratio greater than one. This terminology follows David M. Schizer, Balance in the Taxation of Derivative Securities: An Agenda for Reform, 104 Colum. L. Rev. 1886, 1897 (2004).
4. Haig-Simons income is "the algebraic sum of (1) the market value of rights exercised in consumption and (2) the change in the value of the store of property rights between the beginning and the end of the period in question." Henry C. Simons, Personal Income Taxation 50 (1938).
bearing only in arbitrary and unfair ways. Accordingly, she would abandon all attempts to tax risky returns, and replace the current income tax with the combination of a consumption tax and a low-rate wealth tax (designed to approximate the effect of an income tax on the riskless rate of return).

The question of whether it is desirable—or even possible—to tax the returns to risk-bearing is important, because historically the return to risk-bearing has far exceeded the riskless rate of return. Based on historical data, at least, the question of whether the tax system should reach the return to risk-bearing does not differ greatly from the question of whether the tax system should tax any investment returns. The usual approach to determining the magnitude of the risk premium is to calculate the excess of the historic return on equity investments over the historic return on government securities, with the excess being interpreted as the risk premium. From 1926 to 2004, large company stocks produced an inflation-adjusted annual growth rate of 7.2%, while the comparable figure for Treasury bills is only 0.7%. The 6.5% historic equity risk premium dwarfs the 0.7% riskless rate of return.

This paper examines the theoretical and practical arguments against the taxation of risk premium. It considers whether risk premium should be taxed in an ideal world, whether it can be taxed in a non-arbitrary manner by an administrable income tax, and whether it could and should be taxed by some regime separate from the income tax. The paper reaches no definitive policy conclusions; its goal is not so much to dispel confusion as to engender confusion on a higher level and about more important issues.

With these disclaimers, however, two main points will emerge. First, the most promising route to a principled income tax burden on risk premium may be via progressive marginal rates. A Haig-Simons income tax imposed at progressive marginal rates, rather than at the single rate assumed in the Domar-Musgrave analysis, will sometimes result in a real burden on risk premium. It will do so whenever it results in a gain/loss ratio greater than one—in other words, when it results in the potential gain from a risky investment being taxed at a higher marginal rate than the rate against which potential losses from the investment would be de-

7. Id. at 474-75.
8. This point was first made in the tax law literature by Joseph Bankman and Thomas Griffith. Joseph Bankman & Thomas Griffith, Is the Debate Between an Income Tax and a Consumption Tax a Debate About Risk? Does it Matter?, 47 TAX L. REV. 377 (1992). There is evidence, however, that (1) the risk premium has fallen significantly in recent years and (2) the current risk-free rate of return is nontrivial. See discussion infra Part II.A.2.
9. IBBOTSON ASSOC., Stocks, Bonds, Bills and Inflation: 2005 Yearbook 83 (stocks), 91 (Treasury bills) (2005). Both figures are based on annual compounding. Id. at 83, 91. The large company stock figure is for the Standard and Poor's 500 index, total returns. Id. at 83, 342.
ducted. Although this might be a common enough result under a progressive income tax, it would also not be unusual for an investor under a progressive income tax to face a gain/loss ratio of one. In general, a ratio of one would be likely when tax brackets were relatively wide and investments were relatively small. Thus, even a progressive income tax would not reach the returns to risk-bearing in some—perhaps many—cases.

The sometimes-taxation of risk premium under a progressive income tax is recognized in the literature, but there has been very little discussion of its normative significance, perhaps in part because the sometimes nature of the tax seems inherently non-normative. This paper argues that progressivity can supply an attractive justification for taxing the returns to risk, in precisely the situations in which progressivity happens to tax those returns. The argument is not for the taxation of risk premium per se, but rather that a progressive income tax may be normatively attractive, and that taxation of risk premium is derivatively normative to the extent it results from progressive income taxation. This argument is, of course, only as good as the normative argument for a progressive income tax. In addition, it leaves open the question of whether the argument is sufficient to justify the pattern of taxation of risk premium under the current income tax, when many instances of gain/loss ratios greater than one are attributable to features of the tax system lacking the normative appeal of progressivity.

The second point which emerges from the paper is that it may be worth considering—as a response to the difficulty of taxing risk premium under an income tax—the possibility of taxing risk premium outside the confines of the income tax. Such a tax might be justified if risk premium is largely attributable to irrational “myopic loss aversion,”10 with the consequence that risk premium can be viewed as windfall to investors in risky assets. The paper describes two approaches of this type: (1) a rule disallowing all losses with respect to risky investments, and (2) an ex ante tax on the making of a risky investment, with the base of the tax equal to the excess of the expected return on the investment over the fair market value of the investment at the time the taxpayer acquires it. Neither of these taxes is consistent with basic income tax principles; the loss disallowance in the former results in the taxation of more than net income, as does the latter’s inclusion in the tax base of an item not included in the fair market value of the investment. Unlike the nominal taxation of risky returns under a flat rate Haig-Simons income tax, the burden of these taxes could not be avoided by portfolio adjustments (other than the portfolio adjustment of making no investments in risky assets). Although the possibility of taxing risk premium outside of the income tax merits further consideration, the preliminary inquiry here suggests that such taxation is subject to serious objections, both theoretical and practical.

The paper proceeds as follows. Section I explains the Domar-Musgrave analysis, under which a flat rate income tax with full loss offsets does not reach the returns to risk-bearing. Section II provides some non-tax background on risk premium, including a possible explanation of the magnitude of the historic equity risk premium based on "myopic loss aversion,"11 a review of recent literature suggesting that the current risk premium is significantly below the levels indicated by the historic data, and information on the distribution of risky assets (and thus risk premium) among investors at different levels of wealth. Section III describes and evaluates taxation of risk premium under current law caused by "basketting" rules enacted in response to the realization-based nature of the current income tax, by the nonrefundability of losses, and by the failure of taxpayers to make the portfolio adjustments necessary to avoid the tax. It concludes that the pattern of risk premium taxation attributable to these three causes is not normatively attractive. Section IV describes and evaluates taxation of risk premium under current law caused by progressive marginal rates, and concludes that the resulting burden on risky investments has considerable normative appeal. Section V presents some considerations that might justify taxation of all risk premium (by non-income tax means), describes two methods of doing so, and evaluates briefly the two methods. Section VI provides a conclusion.

I. THE INABILITY OF A FLAT RATE INCOME TAX WITH FULL LOSS OFFSETS TO REACH THE RETURNS TO RISK-BEARING

The Domar-Musgrave analysis can be illustrated by assuming a person has $200 to invest and is free to allocate that amount in any way between two assets. An investment of $100 in the first (safe) asset would definitely grow to $102 at the end of the investment period, and an investment of $100 in the second (risky) asset would be worth either $112 or $98 at the end of the investment period, with the two outcomes being equally probable. The riskless rate of return on the safe asset is 2%. The risky asset, by contrast, offers an expected return of 5%.12 The 3% greater expected return is a "risk premium," which is required to induce investors to take on risk. Suppose that, in the absence of an income tax, the investor would allocate $100 to the safe asset and $100 to the risky asset. At the end of the investment period, his portfolio would be worth either $214 (with a probability of 50%) or $200 (with the same probability).

Now suppose an income tax with a rate of 20% is imposed. If the taxpayer does not change his portfolio allocation in response to the tax, his entire investment return (if any) will be burdened by the tax. In the case of the good outcome on the risky investment, he will owe a tax of $2.80

11. Id.
12. $112 \times \tfrac{1}{2} + $98 \times \tfrac{1}{2} = $105. Thus, the expected return on the $100 investment is 5%.
on his $14 investment return, and he will be left with $211.20 after tax. (In the case of the bad outcome, the taxpayer has no net gain or loss, and will have $200 both before and after tax.) Following Domar and Musgrave, however, the proper response to the tax is to increase the percentage of one’s portfolio allocated to the risky asset by $1/(1 - t)$, where $t$ equals the applicable tax rate. In this case, the taxpayer should increase his investment in the risky asset by a factor of $1/8$, or $1.25$. The resulting portfolio allocation is $125 to the risky asset, and $75 to the safe asset. If there is a good outcome on the risky asset, the risky asset will be worth $140 (that is, 112\% of $125), and the safe asset will be worth $76.50 (that is, 102\% of $75), for a pre-tax total of $216.50. After paying a tax of $3.30 (20\% of his gain of $16.50), the taxpayer will be left with $213.20. Compare this result with the $214 he would be left with in the no-tax world. The difference, which is only $0.80, can be understood as a 20\% tax imposed on the riskless rate of return on the entire portfolio (not just on the riskless asset).\textsuperscript{13} Also compare the $213.20 result with the $211.20 result with the tax and no portfolio adjustment. The $2 difference can be understood as the avoidance, in the case of the portfolio adjustment, of the 20\% tax on the $10 of risky return.\textsuperscript{14} Turning to the case of a bad outcome, the taxpayer would have $199 before tax.\textsuperscript{15} The tax savings (or transfer payment) from the $1 loss deduction would be $0.20, leaving the taxpayer with $199.20 after tax. The $0.80 difference between this result and the $200 bad outcome result in the no-tax world again represents a 20\% tax on the $4 riskless return on $200. Thus, the combined effect of the income tax and the portfolio adjustment is always to impose a tax on the riskless rate of return, without regard to the outcome of the risky investment.\textsuperscript{16} It follows that an income tax with an allocation ratio of one functions indistinguishably from an ex ante tax, assuming taxpayers make proper portfolio adjustments. The results described here could be replicated by an ex ante wealth tax, imposed at the rate of 0.4\% on the taxpayer’s $200 wealth at the beginning of the investment period.\textsuperscript{17}

Although the Domar-Musgrave results may be surprising, there is an intuitive explanation. The taxpayer’s initial allocation to the risky asset, in the no-tax world, reflected the tradeoff between the taxpayer’s higher expected return on the risky asset and the taxpayer’s aversion to the asset’s risk. When the income tax is introduced, it reduces the taxpayer’s

\textsuperscript{13} The riskless return on the entire $200 portfolio is $4, and 20\% of $4 is $0.80.

\textsuperscript{14} The $14 total return in the no-tax world consisted of $4 representing the riskless rate of return (2\% of $200) and $10 of risky return.

\textsuperscript{15} (98) $125 + (1.02) $75 = $199.

\textsuperscript{16} Domar and Musgrave assumed a riskless rate of return of zero, so their analysis did not demonstrate the tax on the riskless rate of return on the taxpayer’s entire portfolio. Domar & Musgrave, supra note 1, at 396. However, the tax on the riskless rate of return has been widely noted by later commentators. See, e.g., Bankman & Griffith, supra note 8, at 397; Alvin C. Warren, Jr., How Much Capital Income Taxed Under an Income Tax Is Exempt Under a Cash Flow Tax?, 52 Tax L. Rev. 1, 8-9 (1996); Weisbach, supra note 5, at 12-19.

\textsuperscript{17} Based on this equivalency, Deborah Schenk has proposed replacing the income tax with the combination of a consumption tax and a wealth tax. Schenk, supra note 6.
expected return per dollar invested in the risky asset, but it correspondingly reduces the risk per dollar invested (because of the cushioning effect of full loss offsets). When the taxpayer increases his investment in the risky asset by a factor of $1/(1 - r)$, he reproduces the level of risk he was willing to accept in the no-tax world, and he also reproduces the expected return to risk-bearing he enjoyed in the no-tax world. To put the point another way, a 20% tax makes the government a 20% partner in the risky investment (with respect to both gains and losses), and the taxpayer can return to his preferred tradeoff between risk and reward by increasing the partnership’s investment in the risky asset so that his share of the partnership’s investment equals the amount he would have invested in the risky asset in the no-tax world.\textsuperscript{18}

In understanding these results, it is important to distinguish between risk premia and inframarginal returns—that is, above-market rates of return which are available to an investor from a special investment opportunity. As explained above, a taxpayer can avoid the tax on risk premium if he responds to the tax by purchasing more of the risky asset. In the case of an asset featuring inframarginal returns, however, this is generally not possible. If the taxpayer would have purchased the entire available quantity of the asset in the absence of the tax, he cannot increase his investment in the asset in response to the tax. Because of this inability to gross up with respect to assets bearing inframarginal returns, an income tax does impose an unavoidable burden on those returns.\textsuperscript{19} The point is significant, because great fortunes are produced by inframarginal returns or by labor—both of which are reached by an income tax—rather than by risk premia.\textsuperscript{20}

II. THE RISK PREMIUM: CAUSES AND DISTRIBUTION AMONG INVESTORS

A. WHY IS THE RISK PREMIUM SO LARGE (OR IS IT)?

The traditional explanation of risk premium—still commonly featured in investment textbooks—is that it is a product of risk aversion, which is in turn a product of the diminishing marginal utility of wealth.\textsuperscript{21} Each person has his or her own utility of wealth function, which indicates how much utility the person would derive from any given level of wealth. Al-

\textsuperscript{18} For the Domar-Musgrave analysis to hold in equilibrium, the government must make its own portfolio adjustments—selling or shorting risky assets—to offset the risk it has taken on by becoming a partner in the taxpayer’s investment, and to make it possible for the taxpayer to make the required increased investment in the risky asset. See Louis Kaplow, Taxation and Risk Taking: A General Equilibrium Perspective, 47 NAT’L TAX J. 789 (1994); Weisbach, supra note 5, at 52-56.

\textsuperscript{19} For fuller discussions of this point, see Weisbach, supra note 5, at 19-21; see also Reed Shuldiner, Taxation of Risky Investments 11-12 (unpublished manuscript, available at http://www.law.nyu.edu/colloquia/taxpolicy/012705.pdf).

\textsuperscript{20} Weisbach, supra note 5, at 21.

though there may be as many different such functions as there are people, economists routinely assume that all such functions feature diminishing marginal utility of wealth. On the assumption that people spend their money rationally—making the purchases that produce the greatest utility-per-dollar first—diminishing marginal utility of wealth necessarily follows.

Suppose a person with initial wealth of $1 million is offered the opportunity to make a fair bet—that is, a bet with an expected return of zero. For example, he could put $100,000 of his wealth at the risk of a coin toss, as a result of which he would either lose $100,000 (with a probability of 50%) or win $100,000 (also a 50% chance). His post-bet wealth would thus be either $900,000 or $1,100,000. Given the diminishing marginal utility of wealth, the potential gambler would lose more utility if his wealth decreased from $1 million to $900,000, than he would gain if his wealth increased from $1 million to $1.1 million. Although the bet does not have a negative expected return in terms of dollars, it does have a negative expected return in terms of utility, and he will decline to make the bet. Because he would reject a fair bet (that is, a bet with a zero expected return in terms of dollars), he is described as risk averse. For him to accept a bet, the bet would have to feature a non-negative expected return in terms of utility, meaning it would have to feature a positive expected return in terms of dollars (with exactly how positive depending on the details of his utility of wealth function over the relevant range). The required positive expected return (in dollars, as opposed to utility) is the risk premium needed to induce him to take a gamble. Moving from a simple bet to risky investments, the same framework can be invoked to explain why investors require a higher expected return (in dollars) to make a risky investment than they require to make riskless investments.

As plausible as this story sounds, it turns out to be inadequate to explain the magnitude of the historic risk premium. Although diminishing marginal utility of wealth readily explains why there should be some risk premium, the magnitude of the historical risk premium simply cannot be explained by any remotely plausible utility function. Risk aversion resulting from the diminishing marginal utility of wealth could explain the historical equity premium data only if investors had a coefficient of relative risk aversion of over thirty.22 The implausibility of so high a coefficient is suggested by the fact that a person with a coefficient of thirty would be indifferent between (1) a gamble with a 50% chance of paying $100,000 and a 50% chance of paying $50,000, and (2) a guaranteed payment of

$51,209.\textsuperscript{23}

If the declining marginal utility of wealth cannot explain the magnitude of the actual risk premium, what does explain the puzzle? Two very different explanations, which have been offered in recent years, are described below.\textsuperscript{24} The first explanation, based on cognitive psychology, suggests that the puzzle may be explained by the phenomenon of "myopic loss aversion."\textsuperscript{25} The second explanation suggests that there is less of a puzzle than meets the eye—that the use of ex post methods overstates the true risk premium, and that in any event the risk premium has declined substantially in recent years.

I. Myopic Loss Aversion

Shlomo Benartzi and Richard H. Thaler have proposed that the size of the equity risk premium can be explained by a combination of loss aversion and frequent portfolio evaluation.\textsuperscript{26} Loss aversion refers to the phenomenon, observed by cognitive psychologists and behavioral economists, that "people are significantly more risk averse to losses relative to the status quo than they are attracted by gains, and more generally that people's utilities are determined by changes in wealth rather than absolute levels."\textsuperscript{27} The experimental evidence suggests the measure of loss aversion, for most people, is in the general vicinity of two.\textsuperscript{28} That is, losing a particular amount (relative to any given status quo) is about twice as painful as gaining the same amount is pleasurable.\textsuperscript{29} To see how loss aversion differs from risk aversion derived from the diminishing marginal utility of wealth, consider two individuals with identical wealth and identical preferences. A has always had $1 million of wealth, but B's wealth has just declined from $1.1 million to $1 million as the result of an investment loss. Using a classic utility function, based simply on the diminishing marginal utility of wealth, it would follow from their identical current wealth and their identical preferences that A and B would experience the same level of utility. Taking loss aversion into account, however, B's utility is lower than A's. It is worse to have had and lost, than never to have had at all.


\textsuperscript{24} Other explanations have also been offered. See, e.g., Gregory Mankiw, The Equity Premium and the Concentration of Aggregate Shocks, 17 J. OF FIN. ECON. 211 (1986) (proposing an explanation of the equity risk premium based on the fact that consumption shocks tend to be experienced by a small number of random victims, rather than being spread evenly throughout the population); Robert J. Barro, Rare Events and the Equity Premium, (Nat'l Bureau of Econ. Research, Working Paper No. 11310, 2005) (suggesting that the observed equity risk premium may be explained as compensation for bearing the low probability risk of stock market disasters).

\textsuperscript{25} Benartzi & Thaler, supra note 10, at 75.

\textsuperscript{26} Id.

\textsuperscript{27} Rabin, supra note 22, at 1288.


\textsuperscript{29} Id.
Benartzi and Thaler demonstrate that the size of the historic equity risk premium can be explained by loss aversion—that is, by assuming that utility depends on gains or losses relative to the status quo. Using a coefficient of loss ratio of 2.25 (based on experimental evidence), they find the magnitude of the equity risk premium is consistent with investors evaluating their portfolios—mentally taking stock of their investment gains and losses—on roughly an annual basis. Benartzi and Thaler refer to such frequent mental accounting, on the part of investors who are saving to finance consumption decades hence, as “myopic loss aversion.” The frequency of portfolio evaluation is crucial to their analysis. If loss averse investors, saving to finance consumption in twenty years, could resist the urge to perform mental accountings during the two-decade investment period, the predicted equity premium under the Benartzi-Thaler model would be only 1.4%, compared with the 6.5% premium in their actual data (produced, they assume, by annual mental accounting in combination with loss aversion). Benartzi and Thaler describe the difference between 6.5% and 1.4% as “potential rents payable to those who are able to resist the temptation to count their money often,” and as “the price of excessive vigilance.”

2. A Revisionist View

As explained above, the standard approach to determining the size of the equity risk premium is ex post: the historical return on stocks is compared with the historical return on government debt, and the excess of the former over the latter is identified as the risk premium. Several recent studies, however, have used an ex ante approach, which identifies the risk premium at any given moment of time as the difference between the anticipated return on equity investments and the return on risk-free debt. Although differences in methodology produce different results even among the ex ante studies, all those studies have found significantly lower risk premia than those produced by the ex post method. Eugene F. Fama and Kenneth R. French, for example, use two different ex ante approaches to determining the risk premium for 1951 to 2000. One ex ante approach (the “dividend growth model”) produced an equity risk premium of 2.55% per annum, while the other ex ante approach (the

30. Benartzi & Thaler, supra note 10, at 81-84.
31. Id. at 83.
32. Id. at 75.
33. Id. at 81-85.
34. Id. at 86.
35. Id. at 86-87.
37. Fama & French, supra note 36, at 639.
"earnings growth model") produced a premium of 4.32%.\textsuperscript{38} Both figures are significantly below the 7.43% risk premium for the same period, derived from the \textit{ex post} approach.\textsuperscript{39} Similarly, Sushil B. Wadhwani's \textit{ex ante} method, applied to the period from 1926 to 1997, resulted in an equity risk premium of 4.3% per annum, compared with a risk premium of 7.0% based on \textit{ex post} analysis.\textsuperscript{40} Jeremy J. Siegel has suggested that the difference between the \textit{ex post} and \textit{ex ante} results should be resolved in favor of the \textit{ex ante} results, on the grounds that \textit{ex post} data generally "underestimate the real return on fixed-income assets and overestimate the expected return on equities."\textsuperscript{41} The \textit{ex post} data underestimate the expected real return on fixed income assets because the data do not reflect the fact that two major inflationary episodes (following World War II and in the 1970s) were unanticipated.\textsuperscript{42} The overestimate of the expected return on equities results from not taking into account the high transaction costs and inadequate diversification which characterized most of the period studied, and which produced realized returns to equity-holders below the returns on equity indices.\textsuperscript{43}

In addition to indicating that the \textit{ex ante} risk premium was never as high as the risk premium derived from \textit{ex post} calculations, recent studies strongly suggest that the risk premium has declined significantly over the past three decades. Using an \textit{ex ante} approach throughout, Ravi Jagannathan, Ellen R. McGrattan, and Anna Scherbina found that the risk premium (based on a comparison of Standard & Poor's composite stock index with long-term government bonds) fell from 6.8% per annum for 1926 to 1970, to a mere 0.7% since then.\textsuperscript{44} They note that a risk premium this modest can be explained by plausible levels of risk aversion.\textsuperscript{45}

Several explanations have been offered for the apparent decline in the equity risk premium. Jagannathan, McGrattan, and Scherbina have speculated that the high risk premium of past decades was due to various market imperfections, such as high transaction costs for investors and investors' incomplete knowledge of investment opportunities, and that the risk premium has declined as the imperfections have been reduced.\textsuperscript{46}

\footnotesize{38. \textit{Id.}}  
\footnotesize{39. \textit{Id.}}  
\footnotesize{40. Wadhwani, supra note 36, at 88.}  
\footnotesize{41. Jeremy J. Siegel, \textit{The Shrinking Equity Premium}, 26 J. of Portfolio Mgmt. 10, 10 (1999).}  
\footnotesize{42. \textit{Id.} at 12.}  
\footnotesize{43. \textit{Id.} at 13.}  
\footnotesize{44. Jagannathan, McGrattan, & Scherbina, supra note 36, at 8; see also Wadhwani, supra note 36, at 99-101 (concluding that the equity risk premium appears to have fallen substantially in the post World War II era, and offering a "best guess" estimate that the risk premium as of 1999—determined, of course, on an \textit{ex ante} basis—was 1.7%).}  
\footnotesize{45. Jagannathan, McGrattan, & Scherbina, supra note 36, at 4.}  
\footnotesize{46. \textit{Id.} at 3; see also John H. Cochrane, \textit{Where is the Market Going?}, 21 Econ. Persp. (Issue 6) 3, 27 (1997) (hypothesizing that, historically, market frictions have discouraged many people from buying risky assets, with a large risk premium as the result, and further hypothesizing that the risk premium may decrease in the future as market frictions are reduced by the growth of pension plans and mutual funds). The point made in the text is closely related to Siegel's observation (discussed supra, text accompanying notes 41-43),}
Siegel has claimed that, until recently, "stocks have been chronically undervalued throughout history . . . because most investors have been deterred by the high short-term risk in the stock market and have ignored their long-term record of steady gains." He suggests that the bull market of the late 1990s may indicate that stocks' long-term record has finally registered with investors, so that investors are now willing to accept a lower equity risk premium. His suggestion is consistent with the conclusion of Fama and French, that between 1951 and 2000 there was a significant and unanticipated decline in the expected stock return—that is, in the discount rate applied by investors to stocks. If this story is correct, it affects equity risk premium analysis in two ways. Suppose investors initially apply a discount rate of 10% to stock, so that stock expected to produce a dividend stream of $10 per year (and no capital gain) is valued at $100. If the discount rate then drops to 8%, the value of the stock will rise to $125 (because $10 is 8% of $125). Of course, the decrease in the discount rate from 10% to 8% directly reduces the equity risk premium, assuming the risk-free rate of return remains unchanged. In addition, however, the ex post (historic) equity premium for the transition period will also reflect the unanticipated $25 one-time capital gain, which was not part of the ex ante premium for the transition period, and which is certainly not part of the ex ante premium after the transition period. Fama and French conclude that much of the high ex post equity premium for 1951 to 2000 is attributable to this phenomenon. Thus, the reduction in the discount rate provides two reasons why the current ex ante risk premium should be lower than the ex post risk premium from 1951 to 2000.

At the same time that the risk premium appears to have fallen, the current risk-free rate of return is clearly higher than the near-zero level indicated by much of the historical data. Actually, until the Treasury began issuing Treasury Inflation-Protection Securities (TIPS) in 1997, no investment came very close to offering a true risk-free real return, as the owners of even the safest debt instruments were at the mercy of unanticipated inflation. With the advent of TIPS, there is now a debt instrument which offers close to a true risk-free return. Since the introduction of TIPS, the yield on 10-year inflation-protected securities has ranged from

that high transaction costs and inadequate diversification historically have driven a wedge between the equity indices and investors' realized returns. As alleviation of these market imperfections has reduced the size of the wedge, investors can accept a lower pre-wedge risk premium without suffering a decrease in their post-wedge return.

47. JEREMY J. SIEGEL, STOCKS FOR THE LONG RUN xvii (2d ed. 1998).
48. Id.
49. Fama & French, supra note 36, at 640, 651-653.
50. Id.
51. See supra text accompanying note 9 (noting that the inflation-adjusted annual return on Treasury bills, from 1926 to 2004, was 0.7%).
52. Inflation adjustments are taxable as interest income to holders of TIPS, so inflation risk remains with respect to tax liability on inflationary gain. Treas. Reg. § 1.1275-7 (1997). See also I.R.S. Notice 96-51, 1996-2 C.B. 216.
a low of 1.725% to a high of 4.338%.\textsuperscript{53}

Combining the evidence from TIPS of a non-trivial risk-free rate of return and the evidence discussed above of a significant decrease in the risk premium (even to near-trivial status according to some studies) produces a picture of the relative significance of the risk-free rate of return and the risk premium which is diametrically opposed to the prevailing view in the taxation and risk literature that the risk-free return is trivial and the risk premium is substantial.\textsuperscript{54} Perhaps the best that can be said is that the state of our knowledge concerning the relative significance of the two types of investment returns leaves much to be desired, both because of difficulties of measurement and because there is no theoretical reason to expect the relative significance of the two types of returns to remain stable over time.\textsuperscript{55}

B. WHO ARE THE INVESTORS IN RISKY ASSETS?

How are risky assets, and the associated risk premium, distributed among investors of different levels of wealth? There appears to be a strong positive correlation between wealth and the percentage of an investor's portfolio allocated to risky assets. Using data from the Federal Reserve Board's triennial Surveys of Consumer Finances, Christopher D. Carroll finds that "the most important way in which the portfolios of the rich differ from those of the rest [of investors] is that the rich hold a much higher proportion of their portfolios in risky investments, with a particularly large concentration of net worth in their own entrepreneurial ventures."\textsuperscript{56} Other researchers using other strategies have also found that the riskiness of investors' portfolios tends to increase with wealth.\textsuperscript{57}


\textsuperscript{54} See, e.g., Bankman & Griffith, supra note 8, at 387-89 (estimating the riskless rate of return at 0.5%, based on historical data); Weisbach, supra note 5, at 24 (stating that "the risk-free return historically has been close to zero."). On the assumptions that (1) the risk-free rate of return is close to zero, and (2) an income tax cannot tax risk premium (at least not in any nonarbitrary manner), it is sensible to conclude that the income tax is not meaningfully different from a consumption tax in substance (and is inferior for administrative reasons). See, e.g., id. at 2-3, 24-25. The analysis is that neither tax burdens the return to risk-bearing, that both taxes burden inframarginal returns, and that the difference in the taxes' treatment of the risk-free return is not important if the risk-free return is near zero. Id. The nontrivial yields on TIPS, however, strongly suggest that there is a significant difference between an income tax and a consumption tax with respect to the taxation of the risk-free rate of return.

\textsuperscript{55} "[H]istorically, the risk premium has been subject to large swings over time, i.e., the markets can alternate between tending to the view that no equity risk premium is necessary to one where there is extreme aversion to risk and a flight to liquidity." Wadhwani, supra note 36, at 101.

\textsuperscript{56} Christopher D. Carroll, Portfolios of the Rich, in Household Portfolios, 389, 389 (Luigi Guiso, Michael Halliassos, & Tullio Japelli eds., 2002).

\textsuperscript{57} See, e.g., Don Bellante & Richard P. Saba, Human Capital and Life-Cycle Effects in Risk Aversion, J. of Fin. Res. 41 (1986); Nancy Ammon Jianakoplos & Alexandra Bernasek, Are Women More Risk Averse? Attitude Toward Financial Risk, 36 Econ. In-
roll offers a "capitalist spirit" model to explain the increase in risk tolerance as wealth increases. The key to the explanation, Carroll believes, is that bequest savings is a luxury good. This means that the marginal utility one derives from bequest savings does not decline as rapidly as the marginal utility one derives from one's own consumption. If this is correct, it would follow that, as wealth increases, a household would devote a greater percentage of its wealth to bequest savings and a smaller percentage of its wealth to savings to finance its own later consumption. Carroll demonstrates that it also follows "that households are less risk averse with respect to gambles over bequests than with respect to gambles over consumption." In sum, increasing wealth means an increasing tendency to save for bequest motives rather than for own-consumption motives, and an increasing tendency to save for bequest motives means an increasing tolerance for risk.

III. THE ACTUAL INCOME TAX AND ARBITRARY TAXATION OF RISK PREMIUM

As noted earlier, the Domar-Musgrave result holds only if (1) the income tax features a gain/loss ratio of one (that is, losses are always fully deductible, and the same marginal tax rate applies to gains and to losses), and (2) taxpayers make the portfolio adjustments necessary to eliminate the tax on risk premium. The first condition clearly is not satisfied by the actual income tax, and the extent to which the second condition is satisfied is uncertain. To the extent the two conditions are not satisfied, the actual income tax imposes burdens on risk premium. The question is whether the resulting pattern of burdens is normatively defensible. This section considers the various sources of taxation of risk premium under current law, with the exception of taxation of risk premium caused by progressive marginal rates. The conclusion is that it is difficult or impossible to defend the pattern of taxation of risk premium produced by these sources. Because the analysis of taxation of risk premium caused by progressive marginal rates is fundamentally different, it is taken up separately in section IV.

58. Carroll, supra note 56, at 418.
59. Id. at 417-18, 426-27.
60. Id. at 418.
61. Carroll notes that his "capitalist spirit" model, standing alone, does not explain the failure of rich households to diversify away the unsystematic risk associated with holding much of their wealth in their own entrepreneurial ventures. Id. at 427. To explain that failure, he simply adds the existence of capital market imperfections to his model. Id.
62. See Domar & Musgrove, supra note 1, at 388-89.
A. Gain/Loss Ratios Greater than One Caused by Baskettng Rules and by Nonrefundability

The various "baskettng" rules enacted to limit the ability of taxpayers to take advantage of the realization-based nature of the income tax are a major source of gain/loss ratios greater than one. These rules permit the deductibility of certain types of losses only against certain types of income, and sometimes have the effect of denying deductions for real economic losses. Important examples include the limitations on the deductibility of capital losses, passive activity losses, and investment interest expense.\footnote{See I.R.C. §§ 1211, 469, 163(d) (West 2002).} In a pure Haig-Simons income tax, based on accretions rather than on realizations, rules such as these would be unnecessary and inappropriate. Thus, a proponent of an accretion income tax would not consider gain/loss ratios greater than one caused by baskettng rules to result in appropriate or principled taxation of risk premium.

A second source of ratios greater than one, in the current income tax, is the nonrefundability of losses. There is no negative income tax as such; a taxpayer with negative income resulting from investment losses does not receive a payment from the government equal to the amount of negative income multiplied by the taxpayer's marginal tax rate. The practical effect of nonrefundability is greatly mitigated by the net operating loss carryover provision,\footnote{Id. § 172.} but that provision will not help a taxpayer with no income within the carryover period (which extends two years before and twenty years after the year of the loss). To the extent nonrefundability results in a taxpayer's being ultimately unable to receive a tax benefit from a loss (even after the application of the loss carryover provision), the gain/loss ratio is greater than one and the income tax imposes a burden on risky investments. Again, the question for a proponent of an accretion income tax is whether the resulting burden can be viewed as appropriate or principled.

At first glance, the answer might seem to be yes. After all, the purpose of an income tax is to raise government revenue, not to make the government a full investment partner—with respect to losses as well as gains—with every taxpayer. Imagine, for example, a taxpayer who at majority inherits a fortune of $100 million and proceeds to lose it all over the next few decades in a series of disastrous investments. Does it follow, just because the government would have taken a 30% (for example) share of the taxpayer's investment gain, that the government must absorb 30% of the taxpayer's investment loss by transferring $30 million to the taxpayer? One might argue that it does not—that the revenue-raising purpose of the income tax makes it appropriate for the government to be an unlimited partner of the taxpayer with respect to gains but not with respect to losses. The government may have a responsibility to the taxpayer once he becomes destitute, but it is no greater than the
responsibility the government owes to any other destitute citizen, and can be satisfied by much less than $30 million.

The above argument ultimately fails, however, because it ignores the tax system's prior relationship to the taxpayer's original fortune. In a properly constructed income tax—whether realization-based or accretion-based—tax losses can exist only with respect to amounts previously subject to tax. In the realization context, this means the amount of a loss is limited to the taxpayer's basis; no deduction is allowed with respect to unrealized appreciation. Thus, for our hypothetical taxpayer to incur tax losses totaling $100 million (whether usable or not), he must have had a basis of $100 million in his original fortune, and in a properly designed tax system he would have had such a basis only if he (or the person from whom he had received the fortune as a gratuitous transfer) had previously paid tax on $100 million of income. Because losses are always (again, in a properly designed system) losses of amounts previously taxed to the taxpayer (or to a transferor into whose tax shoes the taxpayer has stepped), losses must always be deductible with tax benefit, in order to produce the correct total tax liability for the taxpayer (and his transferor) over time. Losses in excess of amounts previously taxed are not possible, all losses are losses of amounts previously taxed, and all losses should therefore be deductible or refundable. The bottom line for nonrefundability is the same as for basketing rules. Nonrefundability would not be a part of an ideal income tax (either realization-based or accretion-based), and so gain/loss ratios greater than one caused by nonrefundability do not produce appropriate or principled taxation of risk premium.

B. The Schenk Critique of the Taxation of Risk Premium Under the Current Income Tax

Deborah Schenk analyzes the burdens imposed on risky investments by the actual income tax, and concludes that "an administratively and politically realistic income tax can capture the return to risk only in arbitrary and inappropriate ways." Although she would favor taxing risk premium "if we could find an acceptable way to achieve the imposition," she concludes that the project is hopeless. Accordingly, she proposes abandoning the attempt to tax risk premium. She would replace the income tax with a consumption tax and a low-rate wealth tax, with the wealth tax designed to replicate the income tax's burden on the riskless rate of

65. Treas. Reg. § 1.165-1(c)(1) (as amended in 1964). The deduction allowed for unrealized appreciation in certain assets donated to charity (see I.R.C. § 170) is an important (albeit clearly illogical) exception. Loss deductions in excess of amounts previously taxed can also exist, under current law, in any situation in which the law allows basis in the absence of an income inclusion. The tax-free basis for appreciated assets transferred at death (I.R.C. § 1014) is perhaps the most significant example, but there are many others.
66. Schenk, supra note 6, at 431.
67. Id. at 475 n.55.
68. Id. at 475.
return.\textsuperscript{69} Schenk argues that, among taxpayers with income from capital, the current income tax is most likely to tax the risk premium of the least wealthy.\textsuperscript{70} Loss disallowance under the various basketting rules and the nonrefundability rule can generally be avoided by individual taxpayers with large diversified investment portfolios and access to sophisticated tax advice, and by established firms. By contrast, "investors who do not have well-diversified portfolios may suffer capital losses without offsetting gains, and start-up businesses who cannot deduct or carryback NOLs are unable to shift as much risk ... to the government."\textsuperscript{71}

In addition to loss limitation rules having a greater impact on less wealthy investors, Schenk also suggests that less wealthy investors are less likely to make the portfolio reallocation (increasing the allocation to risky investments) required to eliminate the tax burden on risk premium.\textsuperscript{72} In part, this is because less wealthy investors are likely to have less financial sophistication,\textsuperscript{73} but there is another problem as well. In some cases, the necessary portfolio reallocation requires a taxpayer to borrow, and to use the borrowed funds to increase his investment in risky assets.\textsuperscript{74} As Noel Cunningham has demonstrated, in that case the effective tax burden is imposed not on the riskless rate of return, but on the taxpayer's borrowing rate.\textsuperscript{75} Since the least wealthy investors are likely to have the highest borrowing rates, the result is regressive, among taxpayers with investment income.\textsuperscript{76} A very wealthy taxpayer who can borrow at, say, 2% (close to the riskless rate of return) is taxed more lightly

\textsuperscript{69} Schenk assumes that the risk-free rate of return is high enough to justify the trouble of taxing it indirectly through a wealth tax. \textit{Id.} at 446. By contrast, David Weisbach assumes that the risk-free rate of return is near zero, and so suggests the income tax might be replaced by a stand-alone consumption tax. Weisbach, \textit{supra} note 5, at 24-25.

\textsuperscript{70} Schenk, \textit{supra} note 6, at 434-35. One might disagree with Schenk's limiting her focus to comparisons between investors of great wealth and investors of modest wealth. If the treatment of risk premium under the actual income tax is regressive as between taxpayers of great and modest wealth, it is nevertheless progressive as between taxpayers of modest wealth and the bulk of taxpayers with no significant wealth.

\textsuperscript{71} \textit{Id.} at 430. Leandra Lederman has also concluded that the current income tax imposes a heavier burden on the risky investments of taxpayers of modest wealth than it imposes on the risky investments of taxpayers of great wealth. Leandra Lederman, The Entrepreneurship Effect: An Accidental Externality in the Federal Income Tax, 65 Ohio St. L.J. 1401 (2004). The first step in her analysis is that the income tax imposes a heavier burden on risky passive investments than it imposes on risky entrepreneurial investments, because the loss limitations applicable to passive investors are much stricter than the loss limitations applicable to entrepreneurs. \textit{Id.} at 1406-08. She then offers evidence that entrepreneurs are generally wealthier than passive investors. \textit{Id.} at 1455-60. On this latter point, see Carroll, \textit{supra} note 56, at 389.

\textsuperscript{72} Schenk, \textit{supra} note 6, at 431-32.

\textsuperscript{73} \textit{Id.} at 431-32.

\textsuperscript{74} \textit{Id.} at 434-35.

\textsuperscript{75} Noel B. Cunningham, The Taxation of Capital Income and the Choice of Tax Base, 52 Tax L. Rev. 17, 43-44 (1996). But see Weisbach, \textit{supra} note 5, at 16 n.23 (if a taxpayer can increase his bet through a derivative or by investing in riskier assets, rather than by borrowing, Cunningham's analysis does not apply).

\textsuperscript{76} Schenk, \textit{supra} note 6, at 432-33.
than an investor of modest wealth who must pay an interest rate of, say, 5%.

Schenk concludes that the effect of the actual income tax on risk premium is arbitrary (at best) or regressive (at worst), and that there is no practical way to remedy the situation. Accordingly, she urges abandoning the attempt to do so.\textsuperscript{77} Her analysis is persuasive as far as it goes, but it does not consider taxation of risk premium under current law as a result of progressive marginal rates.

C. Expected Utility Theory, Portfolio Adjustments, and the Persistence of Some Tax Burden on Risk Premium

The standard assumption in the legal literature on the taxation of risk premium has been that sophisticated taxpayers, faced with an income tax, would always make the portfolio adjustments necessary to eliminate the entire tax burden on risk premium. As Ethan Yale has recently pointed out, however, the economics literature is to the contrary.\textsuperscript{78} On the plausible assumptions that (1) investors are risk averse, and (2) they adjust their portfolios in response to tax in a utility-maximizing manner, they will increase their investments in risky assets sufficiently to avoid the entire burden of the nominal tax on risky returns (that is, by \(1/(1 - t)\)) only if the riskless rate of return is zero. If the riskless rate of return is above zero, a utility-maximizing investor will respond to the tax by increasing his investment in risky assets to some extent, but not sufficiently to avoid the entire burden of the tax.\textsuperscript{79}

It does not appear, however, that the resulting tax burden on risk premium is of great significance. Using a logarithmic utility function (for the sake of computational convenience), and assuming a riskless rate of return of 10%, Yale finds that a taxpayer subject to a nominal tax rate of 40% is left with an effective tax rate of 3.6% on risk premium after a utility-maximizing portfolio adjustment.\textsuperscript{80} The effective tax rate on risk premium decreases as the riskless rate of return moves closer to zero.\textsuperscript{81} At a more historically reasonable riskless rate of return—say, 2%—the residual burden on risk premium would be small indeed (still using Yale’s chosen utility function). The effective rate of tax on risk premium is sensitive to the utility function of the particular taxpayer, as well as to the riskless rate of return. Yale notes that the effective rate would be higher than in his example under “a utility function consistent with increasing relative risk aversion, that is, consistent with a propensity to avert risk

\textsuperscript{77} Id. at 475.
\textsuperscript{79} Id. at 50-64; ANTHONY B. ATKINSON & JOSEPH E. STIGLITZ, LECTURES ON PUBLIC ECONOMICS 106 (1980); Agnar Sandmo, The Effects of Taxation on Savings and Risk Taking, in 1 HANDBOOK OF PUBLIC ECONOMICS 295-97 (Alan J. Auerbach & Martin Feldstein eds., 2002).
\textsuperscript{80} Yale, supra note 78, at 60.
\textsuperscript{81} Id. at 61.
more as wealth increases."\textsuperscript{82} There is evidence, however, that utility functions with decreasing relative risk aversion are typical,\textsuperscript{83} suggesting that the effective tax rate on risk premium (at any given riskless rate of return) would be lower than the rate produced by Yale's illustrative utility function.

In sum, although the residual tax on risk premium under an income tax when the riskless rate of return is greater than zero is an important theoretical point, under plausible riskless rates of return and plausible utility functions, the tax may be too small to be of any practical interest. Even if the residual tax is large enough to matter in some cases, it seems to share the arbitrary character of the other income tax burdens on risk premium discussed above. As Yale notes, "If A's utility function leads her to scale up her risky bets by 1/(1 - i) and B's leads her to make no change in her portfolio whatsoever, A will avoid the burden on the risky return and B will not. Taxing people depending on the shape of their utility function is peculiar."\textsuperscript{84}

IV. PROGRESSIVE MARGINAL RATES AND THE TAXATION OF RISK PREMIUM

A. THE EFFECT OF PROGRESSIVE MARGINAL RATES ON RISKY INVESTMENTS

Progressive marginal tax rates are a source of gain/loss ratios greater than one, and of taxation of risk premium. If a taxpayer with income near the breakpoint between the (hypothetical) 30% and 40% rate brackets makes a risky investment, a gain from the investment will be taxed at a higher rate than a loss will be deducted, resulting in a ratio greater than one and a tax burden on risk premium. Unlike basketting rules and nonrefundability, marginal rate progression arguably has a place in a normative tax system. Nothing in the normal understanding of the Haig-Simons accretion ideal forecloses the possibility of taxing income at progressive rates, and for some an accretion tax with graduated rates will hold great normative appeal. In an ideal world, graduated rates would probably be applied with respect to a taxpayer's lifetime income, rather than annual income, but that qualification does not change the basic point.\textsuperscript{85} Even with progressive rates applying with respect to lifetime income, risky investments would sometimes be taxed asymmetrically, with higher marginal rates applying to wins than to losses. With progressivity there seems, finally, to be a feature of the actual income tax which is also

\textsuperscript{82} Id. (citing Jan Mossin, Taxation and Risk-Taking: An Expected Utility Approach, 35 Economica 74, 78 (1968)).

\textsuperscript{83} See discussion supra Part II.B.

\textsuperscript{84} Yale, supra note 78, at 71.

\textsuperscript{85} For a normative defense of applying progressive rates to lifetime income, and for a proposed system designed to approximate that result, see William Vickrey, Tax Simplification Through Cumulative Averaging, 34 Law & Contemp. Probs. 736 (1969).
arguably a feature of an ideal income tax, and which results in the taxation of risk premium.

The following example illustrates the effect of progressive marginal tax rates on risky returns. A taxpayer has $100 to invest, which he can allocate between two investments: a riskless investment with a return of zero (that is, an investment of $100 would still be worth $100 at the end of the investment period), and a risky investment with a 50% chance of tripling in value and a 50% chance of becoming worthless. In the absence of an income tax, this particular taxpayer would choose to invest $50 in the riskless asset, and $50 in the risky asset. After the fate of the risky asset was resolved, the taxpayer would be left with either $50 (if he lost the bet on the risky asset) or $200 (if he won the bet). In fact, however, the taxpayer faces a marginal tax rate of 40% with respect to income, and a marginal tax rate of 10% with respect to losses. Recall that, when a taxpayer faces a single tax rate, $t$, he can eliminate the effect of the tax on risky returns by increasing the amount invested in the risky asset, so that the amount invested equals the amount he would have invested in the risky asset in the absence of tax, multiplied by $1/(1 - t)$. This strategy does not work when the taxpayer faces a different rate for losses than for gains.

The taxpayer might respond to the asymmetrical tax environment in any number of ways. He could adjust the amount invested in each asset so that he would be left with $50 in the event of a bad outcome—the same position as in the event of a bad outcome in the no-tax world. To reach that result, the taxpayer would use his marginal tax rate with respect to losses as the relevant rate, and so would multiply $50 by $1/(1 - .1)$ to determine the amount to invest in the risky asset. He would thus invest $55.55 in the risky asset and $44.44 in the riskless asset. If the risky asset became worthless, he would be left with $50: $44.44 from the riskless asset, and $5.56 from the tax savings from a deduction of $55.55 in the 10% bracket. If, instead, the risky asset tripled in value, he would be left with $166.67 after tax: $44.44 from the riskless asset, plus $166.67 from the tripling of the risky investment, minus $44.44 tax (40% of the $111.11 gain on the risky investment).

Alternatively, the taxpayer might reallocate his investments with the goal of preserving the potential for having $200, after tax, in the event of a good outcome. For this purpose, the relevant marginal tax rate is the 40% rate applicable to gains, so he determines the amount to invest in the risky asset by multiplying $50 by $1/(1 - .4)$. The resulting allocation would be $83.33 to the risky asset and $16.67 to the riskless asset. In the case of a good outcome, the taxpayer would be left with $200 after tax: $16.67 from the riskless asset, plus $250.00 from the tripling of the risky investment, minus $66.67 tax (40% of the $166.67 gain on the risky investment). In the case of a bad outcome, however, the taxpayer would be left with only $25 after tax: $16.67 from the riskless asset, and $8.33 from a deduction of $83.33 in the 10% bracket.
In between these two possibilities, if the taxpayer increases his investment in the risky asset to more than $55.55 but less than $83.33, he will in effect assign part of the burden of the tax to his potential future winning self, and part of the burden to his potential future losing self. The closer he comes to investing $55.55 in the risky asset, the more of the tax burden he assigns to his future winning self; the closer he comes to investing $83.33, the more of the tax burden he assigns to his future losing self. The two described possibilities are not, however, the polar cases. It is quite possible—perhaps even probable—that the decreased return on the risky asset as a result of the tax burden will lead the taxpayer to decrease the percentage of his portfolio devoted to risky assets, with the interesting result that in the case of a bad outcome he will be better off as a result of the tax.\footnote{For an example of such a result, in the case of a taxpayer with a logarithmic utility function, see Bankman & Griffith, supra note 8, at 401-02.} For example, if his response to the introduction of the tax is to invest $60 in the riskless asset and $40 in the risky asset, he will be left with $64 in the case of a bad outcome,\footnote{This is the sum of the $60 value of the riskless asset and the $4 tax savings from the deduction (in the 10\% rate bracket) of the $40 loss on the risky asset.} compared with only $50 in the no-tax world. In the case of a good outcome, however, he would be left with only $148,\footnote{This is the sum of the $60 value of the riskless asset and the $120 value of the risky asset after the good outcome, reduced by the $32 tax on the gain on the risky asset (40\% of $80).} compared with $200 in the no-tax world.

In form, the tax burden imposed by progressivity on risky returns is \textit{ex post}: after the outcomes of the risky investments are known, winners are taxed on their gains, and losers are allowed to deduct their losses (albeit at lower rates than winners are taxed on their gains). In substance, however, whether the burden of the tax falls entirely on winners, falls entirely on losers, is distributed between winners and losers, or falls more-than-entirely on winners and benefits losers, depends on how taxpayers reallocate their investments in response to the asymmetrical tax treatment of risky outcomes. The tax is a pure tax on winners, in substance as well as in form, if investors respond to the tax by protecting their loss positions. In the example above, such a response results in no tax burden on losers (who end up with $50, tax or no tax), and a substantial burden on winners (who end up with $166.67, instead of $200, as a result of the tax). If taxpayers instead responded to the tax by protecting their gain positions, the tax would be in substance a tax on losers (who end up with $25 instead of $50), not winners (who end up with $200, tax or no tax). In the final example, winners bear \textit{more than} the entire tax burden and losers benefit.\footnote{Joseph Bankman and David A. Weisbach have also considered various possible taxpayer responses to the application of progressive marginal rates to risky returns. Joseph Bankman & David A. Weisbach, \textit{The Superiority of an Ideal Consumption Tax over an Ideal Income Tax}, 58 STAN. L. REV. 1413, 1435-36 (2006). They did not, however, consider a situation comparable to the final example considered here.} To some analysts, whether the tax burden imposed on risky investments by progressive marginal rates is a good thing or bad thing may
depend on the empirical question of how taxpayers reallocate their investments in response to the tax. The tax may be more attractive if the typical taxpayer response results in the tax burden falling entirely, or more than entirely, on winners. Fortunately for proponents of the burden imposed by progressivity on risky investments, that may be the case.

**B. Reframing the Question**

A Haig-Simons income tax base coupled with progressive marginal tax rates, perhaps based on cumulative lifetime income, will be normatively attractive to many. There is strong intuitive appeal to the ideas that tax burdens should be determined on the basis of incomes, and that those with higher incomes should pay tax at higher rates than those with lower incomes. As it happens, such a tax system sometimes will and sometimes will not impose a burden on risk premium. It will impose a burden when it causes gains to be taxed at higher rates than losses are deducted. It will not, however, impose a burden on the risk premium received by a taxpayer who is firmly ensconced in the middle of a wide rate bracket, and whose risky investments are not large enough—win or lose—to move him out of that bracket.

To the very limited extent that there has been normative discussion of taxing risk premium, the tendency has been to assume that either all risk premium should be taxed, or no risk premium should be taxed. In this respect the discussion resembles the much more developed discussion of the taxation of the riskless rate of return, in the context of the long-running debate between income tax and consumption tax proponents. A recent turn in this debate seems relevant, by analogy, to an evaluation of the sometimes-taxation of risk premium under a progressive income tax. Hence, a brief detour to the income tax-consumption tax debate, and the recent turn.

It is common to note that an income tax taxes the riskless rate of return, that a flat rate cash flow tax does not, and to argue for one tax system or the other based on one’s views of the desirability of taxing the riskless rate of return. In contrast with a flat rate cash flow tax, a progressive cash flow tax does not always provide the equivalent of tax ex-

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90. See Bankman & Griffith, *supra* note 8, at 402-03 (suggesting that taxation of risk premium may be less troubling than the taxation of the riskless rate of return, from a fairness perspective; the analysis is explicitly based on the assumption that the risk premium is attributable to the declining marginal utility of income); Barbara H. Fried, *Compared to What? Taxing Brute Luck and Other Second-Best Problems*, 53 Tax L. Rev. 377, 393-94 (2000) (briefly considering whether returns to risk-bearing should be taxed if the goal is the taxation of “brute luck”); Schenk, *supra* note 6, at 436, n.55 (stating that risk premium should be taxed under an ideal income tax, “if we could find an acceptable way to achieve the imposition.”)

emption for the riskless rate of return. A progressive cash flow tax will (1) impose a burden on the riskless rate of return if the taxpayer's marginal tax rate in the year of consumption is higher than the marginal tax rate in the year of saving, (2) impose no burden on the riskless rate of return if the taxpayer's marginal tax rates are the same in both years, or (3) subsidize the riskless rate of return if the taxpayer's marginal tax rate in the year of consumption is lower than the marginal tax rate in the year of saving. Because of the varying treatment of the riskless rate of return under a progressive consumption tax, commentators concerned about the effect of taxation on the riskless rate of return have generally rejected a progressive consumption tax in favor of either always (income tax) or never (flat cash flow tax) taxing the riskless rate of return.

Edward McCaffery, however, has taken a different approach. In a recent book, he argues at length for the normative superiority of a progressive cash flow tax over all other contenders, for reasons not directly related to the taxation or nontaxation of the riskless rate of return. In a follow-up article, McCaffery describes and applauds the effect of progressive cash flow taxation on the returns to saving. He explains that a progressive cash flow tax will not burden the returns to saving when a taxpayer with an uneven pattern of labor earnings over his lifetime saves to facilitate the smoothing of his consumption over his lifetime, but will burden the returns to saving when a taxpayer saves to finance enhanced consumption in later years. As a normative matter, he argues that these results "comport[ ] with compelling ordinary moral intuitions about the taxation of capital and its yield." In short, he claims that there is a principled pattern to the sometimes-taxation of investment return under a progressive cash flow tax.

By analogy to McCaffery's approach to investment returns under a progressive cash flow tax, perhaps the treatment of risk premium under an income tax is best approached indirectly. If the taxation or nontaxation of risk premium is not itself a matter of first principles, then one might select a tax system (base and rate structure) according to first principles, with the expectation that the resulting treatment of risk premium—whatever it happens to be—is likely to be appropriate.

This article does not attempt to make a first-principles case for a progressive Haig-Simons tax. Suppose, however, that one has chosen a progressive Haig-Simons income tax as a matter of first principles (with taxing or not taxing risk premium not being among those principles). Having made that choice, one might then—and only then—consider how that system treats the return to risk-bearing. In the best of all possible

93. Id. at 112-16 (summarizing his argument).
95. Id. at 814-15.
96. Id. at 938.
97. Id.
worlds, one might think the sometimes-taxation of risk premium under a progressive Haig-Simons tax is exactly right (just as McCaffery views the sometimes-taxation of investment returns under a progressive cash flow tax). Even short of that happy outcome, an understanding of the treatment of risk premium under a progressive Haig-Simons tax would not necessarily change the mind of anyone who previously favored such a tax. If a progressive accretion-based tax is one’s choice before considering its effect on risk premium, it might well remain one’s choice after understanding its effect on risk premium. The beliefs that income is the most appropriate tax base, and that rates should be progressive, may go deeper than any beliefs about whether risk premium should or should not be taxed. If implementing the core beliefs means sometimes taxing and sometimes not taxing risk premium, so be it.

This argument does not fit particularly well, however, with the actual marginal rate structure of the federal income tax. Under current law, the 35% top marginal rate applies to all taxable income in excess of $336,550. With the top marginal rate being introduced at so modest an income level, taxpayers with significant wealth will very seldom face gain/loss ratios of greater than one; their losses will be deductible at the same 35% rate at which their gains will be taxed (or, in the case of capital assets, their losses will be deductible at the same 15% rate at which their gains will be taxed). Thus, the only taxpayers facing allocation ratios greater than one will be those merely affluent taxpayers whose income would be above the bottom of the 35% bracket if their risky investments prosper, but below the bottom of the 35% bracket if their investments do poorly. Given this rate structure, David Weisbach reasonably suggests that “very little capital income is taxed at graduated rates in the relevant sense under current law.” Moreover, the risk premium of the truly wealthy escapes being burdened by the current rate structure, while the risk premium of the upper-middle class may not. For the sometimes-taxation of risk premium under a graduated rate income tax to be attractive it would have to affect the wealthy as well as the merely affluent, and it would do so only if rate graduation extended throughout the income distribution. Nine-figure incomes would have to be subject to higher marginal rates than eight-figure incomes, and eight-figure incomes to higher marginal rates than seven-figure incomes. Although such a rate structure

99. There is also the potential, in some cases, for gain/loss ratios of less than one, resulting in subsidies for risk premium instead of taxation. For example, taxpayers may be able to structure risky investments so that gains will be taxed as long-term capital gains, but losses will be deductible at ordinary income rates. Similarly, taxpayers may plan to use the tax-free basis step-up at death (I.R.C. § 1014) to avoid tax on gains from risky investments, while planning to realize losses from risky investments before death. And even if a taxpayer faces the same nominal tax rate with respect to gains and losses, the taxpayer may be able to engineer a lower effective tax rate for gains if the taxpayer can control the timing of realization and recognition—by deferring gains but immediately realizing and recognizing losses.
100. Weisbach, supra note 5, at 40.
is unlikely to be adopted by Congress anytime soon, rate structures of this sort were the norm throughout much of the history of the federal income tax,\textsuperscript{101} and continue to have able proponents today.\textsuperscript{102}

A Haig-Simons income tax with rate graduation extending throughout the entire income distribution would impose a burden on much—but not all—risk premium, and would do so for taxpayers at all levels of wealth. If such a tax were one's ideal before understanding the effect of such a tax on risk premium, it seems highly unlikely that understanding its effect on risk premium would result in abandonment of that norm. In short, the combination of the Haig-Simons base and a thoroughly graduated rate structure can provide a principled basis for taxation of a great deal of risk premium.

Three caveats are in order. First, as noted above, this defense of income taxation of risk premium depends crucially on the belief that rates should be graduated across the entire income distribution. The defense will not be persuasive to one who believes that rate graduation should stop at around (say) $300,000. Nor will the defense be persuasive to one who believes that fairness in the distribution of tax burdens is a matter of average rates rather than marginal rates,\textsuperscript{103} and who also believes—as much of the optimal income tax literature suggests\textsuperscript{104}—that progressivity in average tax rates is better achieved with a combination of demogrannts and a flat rate tax than with the use of progressive marginal rates. Despite its progressive average rates, such a tax-and-transfer system has a single marginal rate and a gain/loss ratio of one, and so imposes no burden on risk premium. On the other hand, some arguably desirable distributions of average rates can be produced only with the use of graduated rates,\textsuperscript{105} and for a person who favors one of those distributions, graduated rates will be normative.

The second caveat is that, even if there is a return to the glory days of graduated rates, those rates will be applied to a realization-based income tax with numerous loss limitations, not to a pure Haig-Simons tax. If one

\textsuperscript{101} For a detailed description of how this sort of rate structure survived through the 1950s, in the absence of world war and in a Republican-dominated political landscape, see Marc Linder, \textit{Eisenhower-Era Marxist Confiscatory Taxation: Requiem for the Rhetoric of Rate Reduction for the Rich}, 70 Tul. L. Rev. 905 (1996). In its original form, the 1954 Code featured a top marginal rate of 91\%, applicable to only a handful of taxpayers. Internal Revenue Code of 1954, ch. 736, § 1(a), 68A Stat. 1, 5.

\textsuperscript{102} Martin J. McMahon, Jr. has recently argued that marginal rates should be increased at every $500,000 increment of taxable income, and that marginal rates should exceed 50\% above $10,000,000. Martin J. McMahon, Jr., \textit{The Matthew Effect and Federal Taxation}, 45 B.C. L. Rev. 993, 1126-27 (2004). Mark Linder has advocated a similar rate structure. Marc Linder, \textit{I Like Ike: Bringing Back Eisenhower-Era Progressive Taxation}, 67 Tax Notes 833 (1995).


\textsuperscript{105} Zelenak & Moreland, supra note 103, at 58-60.
liked the taxation of risk premium caused by a thoroughly graduated rate structure, but also agreed with Deborah Schenk's critique of the taxation of risk premium caused by other aspects of realization-based taxation, the policy implications would be uncertain. Whether the attractive effects of graduated rates outweigh the unattractive effects identified by Schenk is partly an empirical question of the relative strengths of the two sorts of effects, and partly a normative question of how to evaluate the final distribution of burdens caused by the interaction of all the effects.106

Third, a graduated rate cash flow consumption tax imposes a sometimes-burden on risk premium in basically the same way as does an income tax. As Joel Slemrod and Jon Bakija have noted, a progressive marginal rate consumption tax “would indeed tax some of the returns to risk.”107 Thus, sometimes-taxation of risk premium is the result of progressive marginal rates rather than the result of the choice of an income tax base rather than a consumption tax base. It follows that someone who is opposed to taxation of risk premium under all circumstances should oppose rate progression under either an income tax or a consumption tax. On the other hand, someone who starts with a commitment to rate progression can decide between a progressive income tax and a progressive consumption tax on grounds other than the effect of progressive rates on risk premium. In particular, the differing treatments of the riskless rate of return under the two tax bases—always taxed under the income tax, but only sometimes taxed under the progressive consumption tax—might then come to the fore, with the choice between the two bases depending on which treatment of the riskless rate of return is preferred. It would also be relevant, in making the tax base decision, that the consumption tax avoids—for better or worse—the sometimes-taxation of risk premium caused by the loss limitations of a realization-based income tax.

C. DAVID WEISBACH ON PROGRESSIVITY AND THE TAXATION OF RISK PREMIUM UNDER AN INCOME TAX

David Weisbach has provocatively suggested that an understanding of the Domar-Musgrave result should lead the “many tax scholars and tax policymakers [who] view a Haig-Simons tax as the best possible income tax” to look on the actual income tax with disfavor to the extent it taxes risky returns.108 “Income tax advocates,” Weisbach writes, “have a stated preference for a Haig-Simons tax and in that system, returns to risk-bearing are not taxed. Given this stated preference, any tax on returns to

106. In evaluating the final distribution, it is worth keeping in mind that whatever the burden imposed by the actual tax on risk premium, that burden is certainly progressive as between taxpayers with wealth and taxpayers with no wealth.


108. Weisbach, supra note 5, at 35.
risk-bearing under current law should be viewed as a flaw in current law.”

There are three significant problems with this suggestion. The first is that it disregards the economics literature which indicates that utility-maximizing portfolio adjustments will not eliminate the entire burden of the tax on risk premium when the riskless rate of return is greater than zero. Even if, as seems likely, the practical effect of the residual tax on risk premium is minor, it is sufficient to refute the claim that an ideal income tax imposes no burden on risk premium. The second problem, acknowledged by Weisbach, is that Haig-Simons advocates might react to their enlightenment in a different way. If they supported a Haig-Simons tax in part because they believed it reached the return to risk-bearing, news of the Domar-Musgrave result might cause them to abandon the Haig-Simons ideal in favor of some tax system which does burden the return to risk-bearing. If Haig-Simons was only a means to an end, and if it turns out that Haig-Simons cannot reach that end, the logical response would be not to abandon the end, but to seek a new means.

The final—and perhaps most serious—problem with Weisbach’s suggestion is that it applies only to those tax scholars and policymakers whose ideal is a flat rate Haig-Simons income tax. Charles Galvin has ably presented the case for a flat rate Haig-Simons tax, but that combination of policy preferences is quite unusual. Weisbach himself identifies no proponents of flat rate Haig-Simons taxation. Without attempting a survey, I would venture that an overwhelming majority of those who take the Haig-Simons tax base as an ideal also subscribe to graduated rates as an ideal. For that group of Haig-Simons proponents, the Domar-Musgrave result provides no reason to view the taxation of returns to risk-bearing as a flaw in current law, to the extent that taxation is produced by graduated rates.

Weisbach’s analysis extends to income taxation the tyranny of flat rate modeling, which is familiar in the consumption tax context. In consumption tax modeling, this takes the form of first demonstrating that a flat rate consumption tax imposes no burden on investment returns (effec-

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109. Id. at 36.
110. See discussion supra Part III.C.
111. Weisbach, supra note 5, at 36.
112. Id. Weisbach notes that “income tax advocates who wish to abandon the Haig-Simons ideal in favor of a system that taxes returns to risk bearing would have to lay out the alternative system that they desire.” Id. Part V of this paper offers a preliminary sketch and evaluation of two tax systems which would systematically tax returns to risk bearing.
114. See generally Weisbach, supra note 5.
tively exempting both the riskless rate of return and risk premium), and then arguing that a progressive consumption tax is not a real or proper consumption tax because it sometimes burdens investment returns. As extended to the income tax by Weisbach, the tyranny of flat tax modeling takes the form of first demonstrating that a flat rate income tax imposes no burden on risk premium, and then stating that any feature of an income tax system which produces a different result—including rate graduation—is a "flaw" in the system. Consider how the analysis would change if one modeled a Haig-Simons tax with graduated rates—which is, after all, a much more commonly held ideal than a flat rate Haig-Simons tax. In this model the ideal tax would sometimes tax risk premium, and the failure of a flat rate Haig-Simons tax to burden any risk premium would be a flaw.

While the privileging of flat rate consumption tax modeling is objectionable—as Edward McCaffery has recently demonstrated at considerable length—there are some extenuating circumstances in that context. Many consumption tax proponents are also proponents of flat rates, either (1) because they generally oppose progressivity and they see both the shift from an income base to a consumption base, and the shift from graduated rates to a flat rate, as moves away from progressivity, or (2) precisely because they want a tax system which exempts investment returns and they realize a consumption tax will satisfy that desire only if it is flat. To model a flat rate consumption tax, then, is to model a tax many people actually favor. To model a flat rate income tax, by contrast, is to model a tax few favor. It may be easier to model a flat rate tax than a graduated rate tax, but that is hardly a justification for treating a flat rate tax as the normative income tax.

Later in his article, Weisbach acknowledges that advocates of a progressive Haig-Simons tax may not need to retreat in the face of the Domar-Musgrave assault: "To the extent risky returns should be taxed at graduated rates . . . [Domar-Musgrave does] not tell us about the ideal income tax." His discussion of graduated rates, however, is in the nature of a mopping-up operation. The analysis of the flat rate income tax

115. See Warren, supra note 91, at 944-45 (explaining that only a flat rate consumption tax effectively exempts all investment returns, but not advocating such a tax).
116. "[A] progressive consumption tax is not really a pure consumption tax . . . ." Edward J. McCaffery, The Uneasy Case for Wealth Transfer Taxation, 104 YALE L.J. 283, 350 (1994). (McCaffery himself, however, is not a stickler for conceptual purity, and in the same article argues for a progressive consumption tax. Id.). For the classic argument in favor of a consumption tax on the grounds that it does not tax the return to savings, see John Stuart Mill, Principles of Political Economy 806-08 (J. M. Robson ed., Univ. of Toronto Press 1965) (1848).
117. Weisbach, supra note 5, at 36.
118. McCaffery, supra note 94.
119. It is probably fair to put Robert E. Hall and Alvin Rabushka, and most of their followers, in this camp. See Robert E. Hall & Alvin Rabushka, The Flat Tax (2d ed. 1995).
120. These are the intellectual descendants of John Stuart Mill. See Mill, supra note 116.
121. Weisbach, supra note 5, at 38.
has created a presumption against any income tax which burdens risky returns, and with that presumption in place Weisbach not surprisingly concludes that the burden imposed on risky returns by a graduated income tax cannot be justified.\textsuperscript{122} In Weisbach's analysis, taxation of risky returns under a graduated tax must be independently justified;\textsuperscript{123} it is not enough that the result follows from the choice of tax base and rate structure. By contrast, his analysis requires no such independent justification for the non-taxation of risky returns under the flat rate tax. If the privileged model had instead been a graduated rate income tax—a more plausible choice, if models are to be based on ideals actually espoused—the presumption would have been reversed, with the non-taxation of risky returns under a flat rate tax the suspect result.

Weisbach offers two arguments in support of his conclusion that graduated rates cannot furnish a principled basis for the taxation of some risk premium under an income tax.\textsuperscript{124} First, he observes that graduated rates will burden risky returns only when they result in a gain/loss ratio greater than one with respect to a particular investment, and he surmises that such a result is rare under the rate structure of current law.\textsuperscript{125} This point has been addressed earlier in this article; it is well-taken with respect to current law, but irrelevant if the normative rate structure features graduated rates throughout the income distribution.\textsuperscript{126}

Second, Weisbach claims that “taxing risky returns at graduated rates . . . seems unattractive.”\textsuperscript{127} He notes that the extreme case of taxing risky returns at graduated rates is to tax gains but to disallow all deductions for losses, and he claims that the main effect of deduction denial would be “to hurt those who are worse off.”\textsuperscript{128} He remarks, “If our goal is to help those who lose their bets, it is hard to see why we would want graduated rates.”\textsuperscript{129} There are two responses to this argument. First, I am not aware of anyone who advocates a graduated rate income tax out of a specific desire to help investors in risky assets who lose their bets. Proponents of a graduated income tax are motivated by a belief that such a tax, imposed on “all income from whatever source derived,”\textsuperscript{130} produces the fairest distribution of the costs of government. They are interested in progressively taxing total income, regardless of source; they are

\begin{itemize}
\item \textsuperscript{122} Id. at 95. For a somewhat analogous critique of another policy analysis driven by an unexamined presumption in favor of flat rate taxation, see Bankman & Griffith, supra note 104, at 1910-15 (commenting on Walter J. Blum & Harry Kalven, Jr., The Uneasy Case for Progressive Taxation, 19 U. Chi. L. Rev. 417 (1952)). Bankman and Griffith explain that Blum's and Kalven's conclusion that the case for progressive taxation is “[u]neasy” depends on their unexamined “default assumption” in favor of proportional taxation. Id.
\item \textsuperscript{123} Weisbach, supra note 5, at 41.
\item \textsuperscript{124} Id. at 39.
\item \textsuperscript{125} Id.
\item \textsuperscript{126} See supra text accompanying notes 98-105.
\item \textsuperscript{127} Weisbach, supra note 5, at 39.
\item \textsuperscript{128} Id. at 40.
\item \textsuperscript{129} Id. at 41.
\item \textsuperscript{130} I.R.C. § 61(a) (West 2002).
\end{itemize}
unlikely to have any special solicitude for investors who lose their bets. Second, the assumption that losing investors would fare poorly under a graduated income tax is questionable. As explained earlier, it is quite possible that losers of risky bets will fare better under a graduated income tax than under a system which imposes no burden on risky returns, after taking into account how they reallocate their investments between risky and riskless assets in response to the tax rate structure.

Having decided that the taxation of risk premium caused by a graduated income tax cannot overcome the presumption against such taxation created by the flat rate income tax model, Weisbach concludes, "A truly ideal Haig-Simons tax, even a progressive one, would not have such a tax on risky returns." This conclusion depends on the normative weight he attaches to the results under the flat tax model—the flat tax does not burden risky returns, so no income tax should burden risky returns. But he does not explain why the flat income tax (which is the apple of almost no one's eye) should have such normative significance, while the graduated income tax (the actual preference of many) should have none. Had he started instead with a graduated rate model, he would have reached the opposite conclusion—that a truly ideal Haig-Simons tax reaches risky returns, and that a flat rate tax is therefore not ideal. In either direction, of course, it is a bootstrap argument; if you assume a particular tax structure is normative, then its effects will be normative and any tax structure with different effects will not be normative. It is not possible to prove that the effects of a graduated income tax on risky returns are inappropriate by assuming (without explanation or discussion) that the ideal income tax has only one rate.

V. GENERAL TAXATION OF RISK PREMIUM: UNIVERSAL LOSS DISALLOWANCE AND EX ANTE TAXATION OF RISK PREMIUM

A proponent of graduated rate income taxation might become dissatisfied with such a tax system, once he realized that it does not impose a burden on risk premium in every case. (This is not, of course, an inevitable reaction. A more likely response, perhaps, would be that income should be taxed at graduated rates, and if that means some risk premium

131. See discussion supra Part IV.A.
132. After making the two arguments against applying graduated rates to risky investments, Weisbach acknowledges the difficulty of distinguishing between labor income and investment income in the case of many high-income taxpayers (he offers Bill Gates and Warren Buffett as examples), and concedes that it may be necessary to impose progressive rates on risky returns in order to protect our ability to impose progressive rates on labor income. Weisbach, supra note 5, at 41. If so, an otherwise inappropriate tax burden on risk premium may be a tolerable side effect of the progressive taxation of labor income. As a practical matter, this may be enough to justify real-world taxation of risk premium, but it is a decidedly second-best sort of justification. The claim of this article is that a plausible justification for taxing risk premium in an income tax can be found at a higher level.
133. Id. at 41.
is subject to tax and some is not, so be it.) Our hypothetical dissatisfied proponent would be faced with two challenges: (1) to construct a rationale for taxation of all risk premium, and (2) to design a workable system to accomplish that goal. What follows is a very preliminary sketch of how the necessary rationale might be constructed, and of two possible ways of implementing such a tax. To be clear at the outset, I am not advocating such a tax, and in fact this brief exploration suggests such a tax may be ill-advised for both conceptual and practical reasons. On the conceptual level, the assumptions required to make an equity-based argument for taxing all risk premium suggest such a tax may be disastrous from an efficiency standpoint. On the practical level, one method of implementing such a tax seems administratively unworkable, and both methods seem politically unthinkable.

A. An Equity-Based Argument for Taxing All Risk Premium

Suppose one is persuaded that (1) the magnitude of the historical equity risk premium is explained by “myopic loss aversion,” and (2) the higher expected returns associated with risky assets inure disproportionately to the wealthiest investors. These two points might serve as the foundations of an equity-based argument that the tax system should attempt to reach the returns to risk-bearing systematically (rather than only sometimes, as a side effect of graduated rates).

Matthew Rabin has suggested that loss aversion, and the equity risk premium produced by it, may be irrational in an important sense. His suggestion depends on the distinction between “decision utility” and “experienced utility.” People make decisions based on predictions about what their utility levels would be in various possible future states (decision utility), but those decisions will not promote actual future utility (experienced utility) to the extent people mispredict what levels of actual utility will be associated with those future states. Rabin notes that there is evidence that people systematically mispredict in one important respect: we become habituated to new circumstances more quickly than we anticipated, and so we overestimate the experienced utility effects of both positive and negative changes from the status quo. As Rabin ex-

134. Weisbach makes this point. Id. at 37.
135. See discussion supra Part II.A.1; see also Benartzi & Thaler, supra note 10, at 75.
136. See supra Part II.B.
137. The following discussion is premised on the debatable assumption that the bulk of the risk premium is attributable to “myopic loss aversion,” rather than to simple risk aversion. Benartzi & Thaler, supra note 10, at 75. The analysis offered below would not justify taxing the returns to risk-bearing systematically if (as some recent studies discussed in Part II.A.2 of this paper suggest) the current magnitude of the risk premium can be explained solely by risk aversion. If the risk premium is small enough to be explained entirely by risk aversion, the tax game would probably not be worth the candle in any event.
139. Id.
140. Id.
141. Id.
plains, “This suggests that the ‘decision-utility’ aversion people have to losses is not consonant with ‘experienced utility.’” 142 He describes the short-term loss aversion of long-term investors, which Benartzi and Thaler use to explain the equity risk premium puzzle, as a more-or-less “irrational rule of thumb.” 143 In short, “In decisions with significant long-run consequences, people should put less weight than they do on their initial experience of losses.” 144

On the question of whether the tax system should reach risky returns, Rabin’s analysis of the irrationality of the magnitude of the risk premium—as explained by “myopic loss aversion” 145—cuts both ways. On fairness grounds, his analysis makes taxing risk premium attractive. If the utility cost of bearing risk dissipates in the move from decision utility to experienced utility, then investors in risky assets are left with high returns to risk-bearing with no offsetting loss in experienced utility. If risk-bearing investors are systematically overcompensated in terms of the effect of risk-bearing on experienced utility, fairness may be promoted by taxing their windfall, so that some of it can be distributed to more conservative investors and to non-investors. This fairness argument for taxing risk premium would be enhanced by the evidence that the richest investors hold the riskiest portfolios, and thus benefit disproportionately from the risk premium. If one were already favorably inclined toward the fairness argument for taxing risky returns, this evidence might strengthen that inclination by making taxation of the risk premium more compelling as a vertical equity concern.

The same features that make a tax on risk-bearing attractive from a fairness perspective, however, may make it unattractive—perhaps even disastrous—in efficiency terms. Rabin’s analysis suggests that the gap between decision utility and experienced utility leads to an inefficiently low level of risky investment, when judged by the metric of experienced utility. 146 If the level of risky investment is already inefficiently low, imposing a tax burden on risky investments would only make matters worse. In the extreme case, taxing gains with no loss offsets could drop the expected return from risky assets below the expected return from riskless assets, with the result that no one (except the rare risk-prefering investor) would invest in risky assets. 147 Perhaps a subsidy for risky investments, rather than a tax, is called for if efficiency is the main concern. The policy implications are muddled because the gap between the two types of utility has two significant effects. The gap enriches—arguably unfairly—risk tolerant investors at the expense of less risk-tolerant investors, and it depresses the overall level of investment in risky assets. The

142. Id. at 34.
143. Id.
144. Id.
145. Benartzi & Thaler, supra note 10, at 75.
146. Rabin, supra note 138, at 34.
147. Bankman & Griffith, supra note 8, at 401.
first effect suggests taxing the return to risk-bearing, while the second suggests refraining from taxing that return.

B. Two Approaches to the Systematic Taxation of Risk Premium

One who was persuaded by the fairness argument for imposing an effective and systematic tax burden on all risk premium might want to consider two possible mechanisms for imposing such a tax: (1) the denial of all loss deductions with respect to risky investments, and (2) an ex ante tax, imposed on the making of a risky investment, with the tax base equal to the excess of the expected return on the investment over the fair market value of the investment.

1. Denying All Loss Deductions with Respect to Risky Investments

As Deborah Schenk has observed, "One could design a tax that permitted no loss deductions, that is, a tax in which provisions such as § 469 would be normative, but it would not be an income tax."148 It would not be an income tax because it would be inconsistent with the Haig-Simons definition of income, which includes positive and negative "change in the value of the store of property rights between the beginning and end of the period in question."149 This non-income tax would systematically reach risky returns. The effect of denying all loss deductions with respect to risky investments closely resembles the previously described effects of graduated rates. The differences are (1) that the marginal tax rate with respect to losses is zero under the deduction denial approach (rather than a low positive rate), and (2) the approach applies to all risky investments (rather than only to risky investments made by taxpayers facing different marginal tax rates for losses than for gains). Modifying the example used above in the progressivity discussion, suppose that in the no-tax world a taxpayer would invest $50 in a riskless asset (sure to be worth $50 at the end of the investment period) and $50 in a risky asset (to be worth either $150 or nothing at the end of the investment period, with the two outcomes equally likely), and that now the taxpayer must decide how to respond to a 40% tax rate applicable to gains and a rule denying deductions for investment losses.

The possibilities are basically the same as those described in the

148. Schenk, supra note 6, at 430 n.37. As Schenk's comment suggests, a proponent of this method of taxing risk premium cannot piggyback on the several generations of scholarship developing the normative case for an income tax. Id.

149. Simons, supra note 4, at 50. The tax would, however, bear some resemblance to the current regime for the taxation of United States-source passive investment income of nonresident alien individuals and foreign corporations. See I.R.C. §§ 871(a)(1), 873(a) (West 2002) (imposing tax on the passive investment income of nonresident alien individuals at a flat rate of 30%, while disallowing almost all deductions with respect to such income), and I.R.C. §§ 881(a), 882(c)(1)(A) (providing similar rules for the passive investment income of foreign corporations). As a political matter, it is no doubt easier to tax foreigners on their gross (rather than net) income, than to do the same to voters.
progressivity discussion, except for the differences caused by the change in the tax rate applicable to losses from 10% to zero. As in the progressivity situation, the lack of symmetry in the tax treatment of gains and losses means the taxpayer cannot avoid the burden of the tax by portfolio reallocation. The taxpayer can protect his position in the case of a bad outcome ($50) by increasing his investment in the risky asset by a factor of 1/(1 - t), where t equals the tax rate applicable to losses. Since t equals zero, this means the taxpayer does not adjust his portfolio at all. In the case of a loss, then, he will be left with $50 (as in the no-tax world), and in the case of a gain he will be left with $160\footnote{151} (compared with $200 in the no-tax world). The taxpayer might, instead, protect his position in the case of a good outcome ($200) by increasing his investment in the risky asset by a factor of 1/(1 - t), where t equals the 40% tax rate applicable to gains. The new portfolio allocation would be $83.33 to the risky asset and $16.67 to the riskless asset. In the case of a loss he will be left with only $16.67 (compared with $50 in the no-tax world), and in the case of a gain he will be left with $200\footnote{152} (as in the no-tax world).

Rather than making either of these responses, however, he may reduce the share of his portfolio invested in risky assets in response to the new tax burden on the return to risk. If, for example, he invested $40 in the risky asset and $60 in the riskless asset, in the case of a loss he would be left with $60 (compared with $50 in the no-tax world) and in the case of a gain he would be left with $148\footnote{153} (compared with $200 in the no-tax world). If typical portfolio allocations are such that the entire burden—or more than the entire burden—of the tax falls on winners, the results of the tax will be distributionally appealing to many. Any unfairness to losers from the denial of loss deductions will be cosmetic only, if losers fare as well or better under this system than they would in a no-tax world.

Thus, to the objection that it is unfair to deny deductions to investment losers, the responses would be: (1) strangely enough, it is necessary to deny loss deductions to losers in order to impose an effective tax on winners, and (2) under plausible assumptions about portfolio reallocations in response to the tax, losers will fare as well or better under this approach than in a no-tax world. One would not want, however, to be the person responsible for explaining to the public why removing all investment loss allowances from the Internal Revenue Code is actually a fairness-enhancing measure. It is almost inconceivable that a proposal along these lines could achieve political success.

\footnote{150} See discussion supra Part IV.A.
\footnote{151} This is the sum of the $50 from the riskless investment and the $150 from the risky investment (after tripling in value), reduced by the $40 tax on the gain on the risky investment (40% of $100 gain).
\footnote{152} This is the sum of the $16.67 from the riskless investment and the $250 from the risky investment (after tripling in value), reduced by the $66.67 tax on the gain on the risky investment (40% of $166.67 gain).
\footnote{153} This is the sum of the $60 from the riskless investment and the $120 from the risky investment (after tripling in value), reduced by the $32 tax on the gain on the risky investment (40% of $80 gain).
2. An Ex Ante Tax on Risky Investments

Suppose an investor pays $50 (which is fair market value) for a risky asset, which will be worth either nothing or $150 when the risk is resolved, with the two outcomes being equally likely. The expected return on the bet is $75,\textsuperscript{154} and if we assume the riskless rate of return is zero (for simplicity’s sake) it could be said that the present value of the expected return (referred to hereinafter as the expected value) is also $75. Despite the $75 expected value, a risk-averse market has priced the asset at only $50. If one believes that the $25 excess of the expected value over the fair market value is mostly or entirely attributable to irrational forces and is not consistent with experienced utility, one might consider that excess to be an appropriate subject for ex ante taxation—that is, taxation of the $25 at the time the investment is made.\textsuperscript{155}

How such a tax might operate is described below. Before turning to that question, however, three points are worth noting. First, such a tax would clearly not be an income tax, Haig-Simons or otherwise. The base of an income tax is a matter of fair market values, not of expected values.\textsuperscript{156} No current income results from paying $50 for an asset which the market values at $50, regardless of the extent to which the expected value of the asset exceeds $50. Second, the discussion here of such a tax is in the nature of a thought experiment; there is no danger that a tax of this sort will be politically viable in the United States during the current millennium. Finally, the discussion here will not attempt the very difficult—perhaps impossible—task of devising administrable rules for determining the expected values of particular risky investments.\textsuperscript{157}

\textsuperscript{154} \( \frac{1}{2} (0) + \frac{1}{2} ($150) = $75. \)

\textsuperscript{155} The $25 excess might be attributable partly to arguably irrational loss aversion and partly to rational risk aversion (arising from the diminishing marginal utility of wealth), in which case the tax might apply only to the portion of the excess attributable to loss aversion. However, Matthew Rabin’s analysis suggests that virtually the entire $25 will have been caused by loss aversion rather than by risk aversion. See Rabin, supra note 22.

\textsuperscript{156} I am aware of only one discussion in the tax policy literature of the possibility of taxing risk premium by a method resembling that described in the text. That lonely discussion is in a rather specialized context, and ends by rejecting the idea. Reed Shuldiner proposed a general approach to the taxation of financial instruments, under which “each component of a financial instrument would accrue income for tax purposes based on its expected future value.” Reed Shuldiner, A General Approach to the Taxation of Financial Instruments, 71 Tex. L. Rev. 243, 246 (1992). In discussing the taxation of cash-settlement forward contracts, Shuldiner notes that in a market where prices are affected by risk aversion, the expected value of the future price of a forward contract will exceed the market forward price. Id. He concludes that the accrual under his proposed system should be based on the market forward price. Id. In rejecting accrual based on expected values of future prices, he mentions both the administrative impracticality of that approach and the poor fit of that approach with the Haig-Simons norm. Id. at 305-08. He explicitly states, however, that his analysis “assumes that the appropriate tax base is income.” Id. at 247. Thus, the merits of taxing risk premium outside of the income tax are beyond the scope of his analysis.

\textsuperscript{157} See id. at 305 (concluding that taxing cash-settlement forward contracts on the basis of expected values rather than market prices would be “administratively impractical.”). Historic equity risk premium information might be used for investments in publicly traded stocks, but that approach would not work for investments in other risky assets.
Suppose that in a no-tax world an investor would invest $50 in the risky asset described above. Now suppose an *ex ante* tax on the making of risky investments is introduced. Assume the *ex ante* tax is the only tax imposed on risky investments; there is no *ex post* tax imposed once the investment outcome is known. (The legislature has taken the Domar-Musgrave analysis to heart, and so believes that any attempt to impose an *ex post* tax would be futile, at least in the context of a flat rate income tax with full loss offsets.) The base of the *ex ante* tax is the excess of the expected value over the amount invested, and the tax rate is a flat 50%. Assuming our investor has only $50 available for the investment plus the tax on the making of the investment, he will now be able to invest only $40.\textsuperscript{158} The investment will have an expected value of $60,\textsuperscript{159} the tax base will be $20 (the excess of the $60 expected value over the $40 investment), and the tax will be $10. If the taxpayer is lucky, the story will end with the investment tripling in value, and the taxpayer pocketing $120 ($40 tripled, and not reduced by any *ex post* tax). If the taxpayer is unlucky, the story will end with the investment becoming worthless, and the taxpayer left with nothing (the worthless investment, with no *ex post* deduction to cushion the loss).

There seems to be a contradiction at the core of the appeal of the *ex ante* tax. On the one hand, the tax is most likely to be of interest to people whose instinctive preference is for an income tax, but who are troubled by the difficulty of taxing risk premium (in a non-arbitrary way) under an income tax. They might see the *ex ante* tax as a principled way of taxing risk premium, which could be used to close an unfortunate gap in the coverage of the income tax. On the other hand, income tax proponents are generally proponents of *ex post* taxation (of outcomes), and opponents of *ex ante* taxation (of opportunities).\textsuperscript{160} They might be troubled, then, by the formally *ex ante* nature of the gap-closing tax. In particular, they might think that the *ex ante* tax base is unduly generous to those who end up winning their investment bets—because the *ex ante* tax base is reduced to reflect the possibility that the taxpayer will lose the bet, and the benefit of that tax base reduction is enjoyed even by taxpayers who turn out to be winners. They may also be troubled by the mirror image of that concern—that taxpayers who eventually lose their bets will have been subject to a tax which reflected the possibility that they might win. This concern might be assuaged, however, by an analysis similar to those performed above with respect to progressive rates and deduction denial. Again suppose that, in the absence of taxation, an investor would

\textsuperscript{158} In contrast with the Domar-Musgrave results under an income tax, he will not be able to avoid the tax by increasing the percentage of his portfolio allocated to risky investments. In fact, the only way to avoid the tax would be to acquire no risky assets.

\textsuperscript{159} \( \frac{1}{2} (0) + \frac{1}{2} (\$120) = \$60. \)

\textsuperscript{160} See, e.g., Alvin C. Warren, Jr., *Would a Consumption Tax Be Fairer Than an Income Tax?*, 89 *Yale L.J.* 1081, 1104 (1980) ("[T]he income tax taxes winners more heavily than losers. The differences between winners and losers are, after all, gains and losses, which is precisely what the Haig-Simons definition is designed to identify.").
invest $50 in a riskless asset (sure to be worth $50 at the end of the investment period) and $50 in a risky asset (equally likely to be worth $150 or nothing at the end of the investment period). When the *ex ante* tax is introduced (at the rate of 50%), the investor might respond in various ways. If he acted to protect his position in the case of a bad outcome, he would continue to invest $50 in the riskless asset, and continue to make a tax-inclusive investment of $50 in the risky asset ($40 for the asset, and $10 for the tax). He would be left with $50 in the case of a bad outcome (just as in the no-tax world), and with $170 in the case of a good outcome° (compared with $200 in the no-tax world). If he acted to protect his position in the case of a good outcome, he would invest $28.56 in the riskless asset, and he would make a tax-inclusive investment of $71.44 in the risky asset ($57.15 for the asset, and $14.29 for the tax). He would be left with $28.56 in the case of a bad outcome (compared with $50 in the no-tax world), and with $200 in the case of a good outcome (just as in the no-tax world). A likely scenario, however, is that the taxpayer would decrease the tax-inclusive amount he devotes to the risky investment, in response to the new tax burden. For example, he might invest $60 in the riskless asset and a tax-inclusive $40 in the risky asset ($32 for the asset, $8 for the tax). In the case of a bad outcome he would be left with $60 (compared with only $50 in the no-tax world), and in the case of a good outcome he would be left with $156° (compared with $200 in the no-tax world).

If the last scenario is, in fact, typical, proponents of taxing risk premium need not be overly concerned with the formal imposition of the *ex ante* tax on losing investors. The bottom-line differences between the deduction denial and *ex ante* taxes are considerably less than their formally different *ex post*° and *ex ante* natures might suggest.° As a result, the normative arguments for and against the *ex ante* tax should largely track the normative arguments for and against the deduction denial approach. The underlying similarity of the two approaches also suggests that the choice between them (in the parallel universe where either would be seriously considered) could be made largely on practical rather than philosophical grounds. On practical grounds, the loss denial approach seems

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161. This is the sum of the $50 value of the riskless asset and the $120 value of the risky asset (after tripling in value).

162. This is the rounded sum of the $28.56 value of the riskless asset and the $171.45 value of the risky asset (after tripling in value).

163. This is the sum of the $60 value of the riskless asset and the $96 value of the risky asset (after tripling in value).

164. Despite the lack of loss deductions, the deduction denial approach makes an *ex post* distinction between winners and losers, because only winners are taxed.

165. The base of the *ex ante* tax is inherently smaller than the base of the deduction denial approach. The definition of the *ex ante* base implicitly allows a deduction for losses, by taxing only the net expected return. The deduction denial approach, by contrast, allows neither an explicit nor an implicit deduction for losses. This difference in bases can be offset, however, by imposing the *ex ante* tax at a higher rate than the tax applied to gains under the deduction denial approach.
far superior, as it avoids the tremendous difficulty of determining the expected values of investments in innumerable risky assets.

VI. CONCLUSION

As the reader was warned at the outset, this paper has reached no firm conclusions with respect to the taxation of risk premium, either under the income tax or under a separate tax system. The paper does suggest, however, that the reports of the death of principled taxation of risk premium under the income tax have been greatly exaggerated, because those reports have been far too focused on flat rate taxation. A flat rate tax simplifies the construction of tax system models, and happens to lead to striking results in the case of the Domar-Musgrave analysis, but the simplicity of the models and the remarkable nature of the results have no bearing on the normativity of flat rate taxation. Under the plausible and widely-held belief that an ideal income tax features progressive marginal rates, the Domar-Musgrave results do not obtain, and some risk premium is effectively taxed. The sometimes-taxation of risk premium under a graduated rate income tax “may not satisfy an academic desire for tidiness, symmetry, and precision,” but it may be principled nevertheless. To the extent the actual income tax burdens risk premium because of graduated rates, the burden is not arbitrary. By contrast, the other causes of taxation of risk premium under the actual income tax lack the normative appeal of progressivity, and the pattern of risk premium taxation due to those other sources is difficult to defend.

One who firmly believes that risk premium should be taxed, and who realizes that risk premium cannot be fully taxed under an income tax (not even a progressive income tax), will naturally be interested in non-income tax approaches to taxing risk premium. Instead of being based on the well-developed arguments for income taxation, the normative case for such non-income taxation would have to be built from the ground up. There appears to be foundational material available for such a case—with the possibility that the risk premium is windfall attributable to “myopic loss aversion” seeming particularly helpful—but the case has not yet been made. Even if the case is made, the political prospects for either the deduction denial approach or the ex ante approach are nil. In the real world, the battle will be over the partial taxation of risk premium under the progressive income taxation, and there is more to be said in favor of that partial taxation than has been previously acknowledged.

167. Benartzi & Thaler, supra note 10, at 75.
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