

Another Uneasy Compromise: The Treatment of Hedging in a Realization Income Tax

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Another Uneasy Compromise: The Treatment of Hedging in a Realization Income Tax

Deborah L. Paul**

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* Cf. Uneasy Compromise: Problems of a Hybrid Income-Consumption Tax (Henry J. Aaron et al eds., 1988).

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I. INTRODUCTION

Tax law distinguishes between holding an asset and disposing of it. Dispositions are "realization" events, occasions for taxing accrued appreciation, while holding is not. An owner of an asset who would like to dispose of it may instead hold the asset and hedge.¹ Hedging, like disposing, changes a taxpayer's exposure to risk, but is, in many cases, not a realization event. A taxpayer may hedge an asset by obtaining a derivative financial instrument whose value varies inversely with the value of the asset.² Derivative financial instruments thus enable taxpayers to simulate a disposition without current tax. Because hedging is often a close economic substitute for disposing, hedging should arguably be taxed like a disposition. If taxpayers are indifferent between two methods of accomplishing the same result, tax law

1. For example, a taxpayer owning a block of stock worth \$1 million could enter into an "equity swap" agreement with a financial institution requiring the taxpayer to pay the counterparty over the term of the agreement any dividends on the stock and, at the end of the term, any increase in value of the stock above \$1 million. In exchange, the financial institution would agree to pay the taxpayer an interest-like return (such as 6% of \$1 million each year) and, at the end of the term, any amount by which \$1 million exceeds the value of the stock. For the term of the swap, the taxpayer would be indifferent to changes in the stock's value and to whether the issuer of the stock paid dividends because, under the swap, any increases in the stock value and any dividends inure to the benefit of the financial institution and the financial institution compensates the taxpayer for any decreases in value of the stock.

The equity swap is a variation on traditional transactions that also enable a taxpayer to dispose of economic risk in an asset without selling the asset. In a "short sale against the box," a taxpayer owns securities (retained hypothetically in a "box") and sells for cash identical borrowed securities. After the transaction, the taxpayer's obligation to deliver securities to the securities lender offsets the taxpayer's ownership of the securities in the "box." If the value of the securities increases by \$1, the taxpayer's delivery obligation does also. See Edward D. Kleinbard & Erika W. Nijenhuis, *Short Sales and Short Sale Principles in Contemporary Applications*, 53 *Inst. on Fed. Tax'n* § 17.01[2][b] (1995) (providing a detailed description of short sales against the box).

In a "married put and call," a taxpayer owning stock purchases a put option granting the taxpayer the right to sell the stock for a fixed price, say, \$100, on a designated exercise date and sells a call option granting the option holder the right to purchase the stock for the same fixed price on the same exercise date. On that date, either the stock will be worth \$100 or, more likely, one of the options will be exercised, with the result that the taxpayer will then have \$100 worth of cash or stock.

2. The value of a derivative depends on, or derives from, the value of something else, such as the value of a share of stock or a stock index. See Nancy Huckins & Steve Krull, *Equity and the Traditional Equity Derivatives*, in *The Handbook of Equity Derivatives* 3, 3 (Jack C. Francis et al. eds., 1995) [hereinafter *Equity Derivatives*] (defining a derivative asset as a "conditional claim on another asset"); Henry T.C. Hu, *Hedging Expectations: "Derivative Reality" and the Law and Finance of the Corporate Objective*, 73 *Tex. L. Rev.* 985, 996 (1985) (defining a derivative as "a contract that either allows or obligates one of the parties to buy or sell an asset"). A classic example is a stock option.

can create social costs by taxing the two methods differently. Indeed, on January 12, 1996, the Treasury released a proposal that would treat an owner of an appreciated asset as having sold the asset if the person enters into a transaction that offsets exposure to risk in the appreciated asset.³ Several authors also favor treating hedging as a realization event,⁴ while others believe that this would not be a helpful reform.⁵

3. Under the proposal, a taxpayer would recognize gain (but not loss) upon entering into a "constructive sale" of a position in stock, debt, a partnership interest, or certain actively traded trust instruments. A constructive sale would occur if the taxpayer "substantially eliminate[s] both risk of loss and opportunity for gain" by entering into one or more positions with respect to "the same or substantially identical property." An appropriate adjustment would be made in the amount of subsequently realized gain or loss to reflect the constructive sale, and the appreciated position would begin a new holding period as if such position were acquired on the date of the constructive sale. Title IX, Revenue Reconciliation Act of 1996, From President Clinton's FY 1997 Budget Bill Submitted to Congress March 19, 1996 § 9512, reprinted in *Daily Tax Rep. (BNA) No. 55*, at S-67 (Supp. Mar. 21, 1996) [hereinafter *Budget Bill*]; see Dep't of Treasury, News Release, Treasury Comments on "Short Against the Box" Proposal (Jan. 12, 1996); Staff of Joint Comm. on Tax'n, Description of Tax Provisions Included in a Plan to Achieve a Balanced Budget Submitted to the Congress By the President on January 6, 1996 (JCX-1-96) 37-39 (Jan. 24, 1996). Senator Thomas Daschle (D.-S.D.) crafted the proposal. See Tom Herman, *White House Moves to Curb Techniques to Get Around Capital-Gains Taxes*, *Wall St. J.*, Jan. 15, 1996, at A2. The proposal was apparently prompted by a "short against the box" transaction undertaken by Estée Lauder and her family in conjunction with their initial public offering of stock. See Allan Sloan, *Lauder Family's Stock Maneuvers Could Make a Tax Accountant Blush*, *Wash. Post*, Nov. 28, 1995, at D3; see also Rob Marvin, *Relief Offered for Financial Instruments Subject to Some Administration Proposals*, *Daily Tax Rep. (BNA)*, Dec. 12, 1995, at G-3, G-4. See *supra* note 1 for a description of a "short against the box transaction." See N.Y. St. B. Ass'n Tax Sec. Comm. on "Short-Against-The-Box" Proposal (Mar. 1, 1996), 96 TNT 46-35 (Mar. 6, 1996) (supporting proposal but expressing concern about uncertainty in its scope) [hereinafter *N.Y. St. B. Ass'n Report*].

The Clinton Administration recently proposed sweeping legislative changes designed to conform the taxation of financial instruments to economic substance. For example, the proposals would disallow interest deductions on certain long-term debt instruments, defer original issue discount deductions on convertible debt, require taxpayers to use an average basis for substantially identical securities, and repeal the "extinguishment doctrine." *Budget Bill*, *supra*, §§ 9511, 9514-16; see Dep't of Treasury, *Explanation of Corporate Subsidies, Loophole Closers, and Other Measures in President Clinton's Seven-Year Balanced Budget Proposal*, reprinted in *Daily Tax Rep. (BNA) No. 236*, at L-28, L-33 to L-34 (Dec. 8, 1995).

4. Alan L. Feld, *When Fungible Portfolio Assets Meet: A Problem of Tax Recognition*, 44 *Tax Law* 409, 442 (1991) (stating that if a taxpayer owns a positive (negative) position, acquisition of a negative (positive) position should be a disposition); Deborah H. Schenk, *Taxation of Financial Instruments: A Partial Integration Proposal*, *Tax L. Rev.* (forthcoming) (proposing that acquisition of short position be treated as realization event to the extent that new position eliminates risk of loss in long position).

5. Daniel N. Shaviro, *Risk-Based Rules and the Taxation of Capital Income*, *Tax L. Rev.* (forthcoming) (arguing that bright line rule and vague test are manipulable).

This article explores the conceptual and practical foundations and limits of the economic substitute argument for taxing hedging like a disposition. Within the context of an income tax, reformations of the realization requirement to apply to hedges might well accomplish little improvement in the efficiency and equity of the tax system because the realization requirement itself is a departure from an ideal income tax. Although treating hedging as a realization event might reduce transaction costs associated with hedges, it would encourage taxpayers to engage in more complicated and expensive transactions to avoid the new realization rule and would increase the extent to which taxpayers are locked into investments that they would prefer to sell. As to equity, the current ability to hedge without tax undermines the tax on capital. But, so too does the ability to *hold* without tax, and this undermines the equity argument for taxing hedging. By exposing the inevitable formality of the realization requirement, this article supports examination of a broader reform that would apply accrual taxation to marketable securities.⁶

The concept of income used in this article is the Haig-Simons definition of income as the sum of consumption and changes in wealth.⁷ The

6. This article is part of a wider reappraisal of basic tax concepts prompted by derivatives. See David P. Hariton, *The Taxation of Complex Financial Instruments*, 43 *Tax L. Rev.* 731 (1988); Randall K.C. Kau, *Carving Up Assets and Liabilities—Integration or Bifurcation of Financial Products*, 68 *Taxes* 1003 (1990); Bruce Kayle, *Realization Without Taxation? The Not-So-Clear Reflection of Income From an Option to Acquire Property*, 48 *Tax L. Rev.* 233 (1993); Edward D. Kleinbard, *Risky and Riskless Positions in Securities*, 71 *Taxes* 783 (1993); Reed Shuldiner, *A General Approach to the Taxation of Financial Instruments*, 71 *Tex. L. Rev.* 243 (1992); Lewis R. Steinberg, *Selected Issues in the Taxation of Swaps, Structured Finance and other Financial Products*, 1 *Fla. Tax Rev.* 263 (1993); Jeff Strnad, *Taxing New Financial Products: A Conceptual Framework*, 46 *Stan. L. Rev.* 569 (1994); Alvin C. Warren, Jr., *Financial Contract Innovation and Income Tax Policy*, 107 *Harv. L. Rev.* 460 (1993).

Other commercial law areas are undergoing a similar reassessment. See, e.g., Hu, *supra* note 2, at 985 (finding that derivatives challenge legal conceptions of the corporation); Symposium: *Regulation of Financial Derivatives*, 1 *Stan. J.L., Bus. & Fin.* 191 (1995). Financial accounting experts are also reconsidering the treatment of derivatives. Steve Burkholder, *FASB To Proceed With Derivatives Proposal; Board's Aim Is Issuing Draft Rules by June*, *Daily Tax Rep. (BNA)* No. 66, at GG-1 (Apr. 5, 1996) (reporting that Financial Accounting Standards Board tentatively agreed to mark-to-market regime for derivatives).

7. Specifically, Henry Simons defined *personal* income as "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 end of the period in question." Henry C. Simons, *Personal Income Taxation: The Definition of Income as a Problem of Fiscal Policy* 50 (1938). Robert Haig described economic income as "the money value of the net accretion to one's economic power between two points of time." Robert M. Haig, *The Concept of Income—Economic and Legal Aspects*, in *Readings in the Economics of Taxation* 54 (1959) (lecture delivered at Columbia University in December 1920).

contours of that definition are sometimes a matter of debate.⁸ But, unrealized appreciation falls squarely in the category of an increase in wealth. Under Haig-Simons, unrealized and realized appreciation alike are economic income.⁹ As Henry Simons explained, "One may gain without realizing and realize without gaining."¹⁰ Commentators agree that unrealized appreciation would be taxed in an ideal income tax system.¹¹

Economic income is thus unrelated to the distinction between holding and disposing and unrelated to hedging. A taxpayer holding an asset with appreciation of \$90 has as much economic income as a taxpayer that sells or hedges the asset.

For valuation and liquidity reasons, the tax system postpones tax until realization. It would be difficult for taxpayers and administrators to value assets (and liabilities) every year in order to recognize unrealized appreciation, and some taxpayers would have difficulty paying tax in the absence of liquid proceeds of sale.¹² Those valuation and liquidity arguments are less persuasive in the context of publicly-traded assets for which valuation is generally straightforward and the market sufficiently liquid to accommodate sales needed to raise funds to pay tax. Some authors have therefore advocated

8. William D. Andrews, Personal Deductions in an Ideal Income Tax, 86 Harv. L. Rev. 309 (1972) (arguing that medical expense and charitable contribution deductions are refinements of, not departures from, ideal personal income tax); Marjorie E. Kornhauser, The Constitutional Meaning of Income and the Income Taxation of Gifts, 25 Conn. L. Rev. 1 (1992) (income includes gifts); Victor Thuronyi, The Concept of Income, 46 Tax L. Rev. 45 (1990) (income concept grounded on tax fairness).

9. Obvious as it may seem today, the inclusion of unrealized appreciation was a controversial feature of the Haig-Simons concept when it was developed. See Simons, *supra* note 7, at 80-88.

10. Simons, *supra* note 7, at 84.

11. E.g., *id.* at 100, 207 ("Strictly speaking, the calculation of income demands complete revaluation of all assets and obligations at the end of every period," but abandonment of realization requirement would be "utter folly" in view of administrative burden of annual valuations); Haig, *supra* note 7, at 73 (tax appreciation when "susceptible of a definite evaluation").

An accrual or mark-to-market regime imposes tax on accrued income, regardless of whether the income is realized, by periodically (generally annually) treating assets *as if* they were sold for their then fair market value, requiring the taxpayer to recognize gain or loss equal to the difference between fair market value and basis. The taxpayer's basis is then adjusted to equal fair market value. Liabilities can also be marked to market under an analogous approach.

12. 1 Boris I. Bittker & Lawrence Lokken, Federal Taxation of Income, Estates and Gifts ¶ 5.2, at 5-16 - 5-17 (2d ed. 1989) (taxing unrealized appreciation would require "cumbersome, abrasive, and unpredictable" annual valuations and forced sales); Simons, *supra* note 7, at 100 (realization requirement is "practical expedient" responding to valuation problem).

eliminating the realization requirement for such assets.¹³ Indeed, because the realization requirement causes inefficiencies, inequities, and complexities,¹⁴ proposals for more dramatic curtailment of the requirement are periodically discussed,¹⁵ and significant steps have already been taken to override the realization requirement.¹⁶

The realization doctrine is conflicted. Justified on grounds of administrative convenience, it creates categories—holding and disposing—with significance. Part II reviews the realization doctrine. Under the “benefits and burdens” test, the concept of *risk* is used to determine whether a disposition has occurred, but the benefits and burdens test appears not to apply to publicly-traded assets. For them, whether a disposition has occurred is largely a matter of form.

Indeed, as shown in Part III, notwithstanding the benefits and burdens test, the distinction between simple dispositions and holdings is ultimately formal. Changes in risk occur in the context of holding, and a disposition may or may not change the amount or nature of risk for the taxpayer. In a simple disposition, a taxpayer voluntarily disposes of risk in an asset. After the transaction, the taxpayer owns a different asset than the asset she owned

13. See David Slawson, *Taxing as Ordinary Income the Appreciation of Publicly Held Stock*, 76 *Yale L.J.* 623 (1967); Note, *Realizing Appreciation Without Sale: Accrual Taxation of Capital Gains on Marketable Securities*, 34 *Stan. L. Rev.* 857 (1982); see also Joseph Bankman, *A Market-Value Based Corporate Income Tax*, 68 *Tax Notes* 1347, 1347 (Sept. 11, 1995) (suggesting that a tax based on market value of publicly-traded entities should replace current corporate tax).

14. William Andrews has described the realization requirement as the “Achilles heel” of the income tax. Michael J. Graetz & Deborah H. Schenk, *Federal Income Taxation: Principles and Policies* 160 (3d ed. 1995) (citing William Andrews, *The Achilles Heel of Income Taxation*, in *Taxation for the 1980's* (Charles Walker ed., 1983)).

15. E.g., David J. Shakow, *Taxation Without Realization: A Proposal for Accrual Taxation*, 134 *U. Pa. L. Rev.* 1111, 1113-14 (1986) (arguing that comprehensive accrual taxation is feasible and simpler than current system); *A Proposal for Revision of Capital Gains Tax Provisions of the Federal Internal Revenue Code and Critique of Treasury Proposals in Related Areas: Hearings on the Subject of Tax Reform Before the House Committee on Ways and Means*, 91st Cong., 1st Sess. 4275, 4281-82 (1969) (statement of Martin David & Roger Miller) (proposing accrual taxation for publicly traded assets, shares in closely-held corporations, unincorporated business interests, and real property); see Mary Louise Fellows, *A Comprehensive Attack on Tax Deferral*, 88 *Mich. L. Rev.* 722, 729 (1990) (recommending that a realization-based system should adjust tax liability to take account of time delay for payments); Jeff Strnad, *Periodicity and Accretion Taxation: Norms and Implementation*, 99 *Yale L.J.* 1817, 1819-20 (1990) (noting that under mark-to-market system, changes in value need not be recognized annually).

16. E.g., IRC §§ 475, 1256 (requiring mark-to-market regime for securities dealers and certain exchange-traded contracts), § 1272 (requiring current inclusion of original issue discount on constant yield basis). See *infra* notes 40-46 and accompanying text for discussion of §§ 475 and 1256.

before. This change in the taxpayer's position is entirely independent of whether the taxpayer has accrued income in the Haig-Simons sense. Indeed, identifying a disposition depends on formal notions differentiating one asset from another and identifying the types of transactions that give rise to realization. Any reform of the realization requirement to apply to transactions that resemble dispositions will depend on formal distinctions because the distinction between holding and disposing is itself formal.

Part IV examines different kinds of hedging, showing the extent to which they resemble sales. Certain hedges that eliminate a taxpayer's exposure to risk in an asset are likely to be close substitutes for sales, while other hedges that reduce risk or introduce new types of risk are less likely to be. Part V examines the efficiency and equity arguments for taxing hedging, arguing that because realization is a second-best system, taxing hedges that resemble sales may not significantly improve efficiency and equity. Part VI considers briefly the possibility of placing more types of property on an accrual basis.

II. DOCTRINAL BACKGROUND OF THE REALIZATION REQUIREMENT

Accrued gain is generally not taxed until it is realized. The realization doctrine originated with *Eisner v. Macomber*, which required something to be "severed" from a taxpayer's original investment for the taxpayer's "separate use, benefit and disposal."¹⁷ Appreciation alone was not subject to tax. The severance concept eventually gave way in *Helvering v. Bruun* because it was inconsistent with taxing exchanges of property.¹⁸ The value of property received in an exchange reflects *unsevered*, yet realized, gain in the property disposed of. Realization under current law generally depends on

17. 252 U.S. 189, 207-208 (1920) (holding shareholders not taxable on receipt of stock dividends). The Court's struggle with stock dividends in *Eisner v. Macomber* reflected the lack of consensus at the time of the decision on the meaning of economic income. The theme in that opinion that income existed only upon separation from capital was a counterpoint, reflected in the economics literature, to the Haig-Simons concept of income. See Edwin R.A. Seligman, Are Stock Dividends Income? 9 Am. Econ. Rev. 517, 524 (Sept. 1919) (uncut trees in forest not income because not separated), quoted in Simons, *supra* note 7, at 87; see also Richard L. Bacon & Harold L. Adrion, Taxable Events: The Aftermath of Cottage Savings (Part I), 59 Tax Notes 1227, 1241 (May 31, 1993), and (Part II), 59 Tax Notes 1385 (June 7, 1993) (alleging that *Eisner v. Macomber* Court confused distinction between whether income exists and when income is realized).

18. 309 U.S. 461 (1940) (taxing landlord at expiration of lease upon receipt of building constructed by tenant); see Stanley S. Surrey, The Supreme Court and the Federal Income Tax: Some Implications of the Recent Decisions, 35 Ill. L. Rev. Nw. U. 779, 783-84 (1941) (noting that *Bruun* replaces the conceptual approach of *Eisner v. Macomber* with an administrative rule capable of "routine handling").

ownership, which in turn depends on benefits and burdens.¹⁹ A disposition of the benefits and burdens of ownership, including risk of profit and loss, is a realization event. The benefits and burdens test emphasizes risk of profit and loss, and reflects valuation concerns and formal legal concepts unrelated to risk.

A. *Benefits and Burdens of Ownership*

A disposition of ownership of an asset is generally a realization event. Ownership for this purpose is not simply a matter of having legal title.²⁰ Instead, ownership depends on having the benefits and burdens of ownership.²¹ In determining whether a sale occurred in *Grodt & McKay Realty, Inc. v. Commissioner*, the Tax Court catalogued the relevant benefits and burdens:

- (1) Whether legal title passes;
- (2) how the parties treat the transaction;
- (3) whether an equity was acquired in the property;
- (4) whether the contract creates a present obligation on the seller to execute and deliver a deed and a present obligation on the purchaser to make payments;
- (5) whether the right of possession is vested in the purchaser;
- (6) which party pays the property taxes;
- (7) which party bears the risk of loss or damage to the property; and
- (8) which party receives the profits from the operation and sale of the property.²²

19. There is virtually no statutory guidance and little regulatory guidance on the issue of what constitutes a realization event. See IRC §§ 61(a)(3), 1001. Regulations § 1.1001-1(a) states that an exchange of property for cash or other property "differing materially either in kind or in extent" is a realization event. Regulations have been proposed that would treat "a significant modification of a debt instrument" as satisfying the material difference standard. Prop. Regs. § 1.1001-3. Significant modifications include certain changes in the yield, term, or obligor of a debt instrument, but not a "ministerial change." Prop. Regs. § 1.1001-3(e). Most guidance on realization is found in case law.

20. *Helvering v. F. & R. Lazarus & Co.*, 308 U.S. 252 (1939) (holding no sale notwithstanding transfer of title).

21. See, e.g., *Grodt & McKay Realty, Inc. v. Commissioner*, 77 T.C. 1221, 1237 (1981) (finding that the passage of benefits and burdens is "key" to sale); *Merrill v. Commissioner*, 40 T.C. 66, 76 (1963), aff'd, 336 F.2d 771 (9th Cir. 1964) (deciding that seller's holding period ended prior to passage of bare legal title because buyers obtained "almost all the incidents, both beneficial and detrimental, of total ownership").

22. 77 T.C. 1221, 1237-38 (1981) (citations omitted). The Tax Court and other courts have subsequently used those factors. See, e.g., *Bailey v. Commissioner*, 912 F.2d 44, 47 (2d Cir. 1990) (stating that "many different factors" determine tax ownership); *Benedict v. United States*, 881 F. Supp. 1532, 1542-50 (D.C. Utah 1995) (analyzing each *Grodt & McKay* factor).

As reflected in items (7) and (8), risk of profit and loss is a prominent theme. For example, in *Bradford v. United States*, a taxpayer that acquired shares subject to an obligation to resell them at a specified time for a fixed price had a holding period in the shares of zero because the purchaser would enjoy appreciation or suffer depreciation in the shares arising after the taxpayer acquired them.²³ In determining whether an estate sells assets to beneficiaries, risk of profit and loss is often critical. In the case of a specific bequest, where the will identifies particular property to be delivered to the beneficiary, the estate does not realize gain or loss on transferring the property to the beneficiary because the estate was never exposed to risk in the

Several extensive studies of tax ownership have been made. Richard Marsh argues that the multi-factor test described in *Grodt & McKay* is one of at least six tests for a sale of real estate that courts have purported to apply. The others are whether title has passed, whether the parties intended a sale, whether the purchasers are unconditionally obligated to pay, whether sufficient benefits and burdens of ownership pass, and whether either title or benefits and burdens of ownership pass. Marsh argues that with certain modifications, the benefits and burdens test best reconciles the cases. He advocates a three-pronged test for real estate sales:

- (1) whether the purchaser has acquired at least the overall potential for appreciation in the property, (2) whether the risks and rewards of operation of the property have shifted in some significant manner from the seller to the purchaser, and (3) whether the purchaser has the most "junior" stake in the property's residual, except for any nonrecourse lender or the equivalent.

Richard E. Marsh, Jr., *Tax Ownership of Real Estate*, 39 *Tax Law* 563, 566-67 (1985).

Examining tax ownership in the context of leasing transactions, Michael Simonson also proposes a three-part test:

- (1) whether the lessor retained an asset of value at the end of the lease term, (2) whether the lessor made a significant equity investment in the leased property at some point during the lease term and, most significantly, (3) whether the lessor retained either "upside" potential or "downside" risk normally associated with the ownership position of a lessor.

Michael H. Simonson, *Determining Tax Ownership of Leased Property*, 38 *Tax Law* 1, 3 (1984). Simonson rejects as unhelpful distractions the economic profit requirement and subjective intent inquiry that courts often use. See Peter L. Faber, *Determining the Owner of an Asset for Tax Purposes*, 61 *Taxes* 795, 809 (1983) (arguing that the right to capital appreciation and depreciation are the most important "sticks in the bundle" of ownership).

23. 444 F.2d 1133 (Ct. Cl. 1971). See also Rev. Rul. 82-150, 1982-2 C.B. 110 (holding that owner of deep in-the-money option to purchase nontraded stock of foreign corporation is actual owner of stock for foreign personal holding company purposes). But see *Stanley v. United States*, 436 F.Supp. 581 (N.D. Miss. 1977), *aff'd*, 599 F.2d 672 (5th Cir. 1979) (*per curiam*) (holding that no sale occurred upon agreement to purchase interest-paying convertible debentures from family members at maturity because purchaser's only attribute of ownership prior to maturity was risk of profit and loss in issuer's common stock); *Morgan Pacific Corp. v. Commissioner*, 70 T.C. Memo. (CCH) 540, T.C. Memo (RIA) ¶ 95418 (1995) (finding that noteholder's agreement with shareholders of note issuer to swap debt return for equity return was consistent with debtor/creditor relationship).

property and therefore never owned it.²⁴ On the other hand, if a bequest of a specific dollar amount is satisfied with property other than money, the estate realizes gain or loss as if the estate sold the property to a third party and delivered cash to the beneficiary.²⁵

Item (4) in the *Grodt & McKay* list—whether the contract creates present obligations on the part of the purchaser and seller—relates to the closed transaction doctrine, which reflects the concept of risk, formal notions of when a transaction is “closed”, and administrative concerns about valuation. Under that doctrine, a transaction that is subject to meaningful conditions to closing generally is not a realization event until closing because, prior to closing, there is a risk that the transaction might not in fact occur.²⁶ An executory contract to sell is not itself a sale. But, prior to the closing date, there may be as a practical matter little risk that a transaction will fail to occur, and the closed transaction doctrine may nonetheless have the result of delaying the sale for tax purposes until a formal closing occurs. Further, a transaction may be considered closed in advance of full performance by the parties, even though there is a risk that such performance may never occur. A purchaser may become unable to pay. Either party may choose to

24. See Rev. Rul. 55-117, 1955-1 C.B. 233 (ruling that no sale or exchange occurs upon partial distribution of testamentary trust principal); Priv. Let. Rul. 8447003 (June 8, 1984) (reaching same conclusion because beneficiary’s right “fluctuated” until distribution date); see also Regs. § 1.1014-4(a)(2) (requiring heir to take basis equal to fair market value on estate tax valuation date).

25. Regs. § 1.661(a)-2(f) (no gain or loss is realized by trust or estate on in-kind distribution except in satisfaction of right to specific dollar amount or other specific property); see *Kenan v. Commissioner*, 114 F.2d 217 (2d Cir. 1940) (holding that gain was realized because beneficiary “took none of the chances” that property would appreciate or depreciate); *Suisman v. Eaton*, 15 F.Supp. 113 (D. Conn. 1935), aff’d, 83 F.2d 1019 (2d Cir. 1936) (per curiam), cert. denied 299 U.S. 573 (1936) (holding that transfer of securities in satisfaction of legacy of specified dollar amount was “sale or other disposition”); Rev. Rul. 83-75, 1983-1 C.B. 114 (ruling that distribution of trust corpus to pay fixed annuity to charity is sale or exchange); see also Louis A. DeCotto, *Sales and Other Dispositions of Property Under Section 1001: The Taxable Event, Amount Realized and Related Problems of Basis*, 26 *Buff. L. Rev.* 219, 228-32 (1977).

26. *Lucas v. North Texas Lumber Co.*, 281 U.S. 11, 13 (1930) (holding that notice of exercise of option is not a sale where purchaser was ready to close “as soon as the papers were prepared”); *Borrelli v. Commissioner*, 31 T.C. Memo (CCH) 876, 881, T.C. Memo (P-H) ¶ 72,178, 72-919 (1972) (holding that option is not a sale because conditional); *Hoven v. Commissioner*, 56 T.C. 50, 56 (1971) (holding that executory contract is not a sale because purchaser not unconditionally obligated); *Dyke v. Commissioner*, 6 T.C. 1134, 1139-40 (1946) (holding that no sale of shares occurred until all conditions of escrow agreement were satisfied). Remote contingencies are no impediment to a closed transaction. *Herbert J. Investment Corp. v. United States*, 500 F.2d 44, 46 (7th Cir. 1974).

breach.²⁷ A seller may continue to be at risk with respect to property after it is sold because, for example, sales proceeds contingent on the performance of the property are yet to be paid or the seller remains responsible for liabilities related to the property.²⁸ Because sales that involve contingent proceeds raise valuation problems, such transactions are, under rare circumstances, held open until the proceeds are actually received.²⁹

Prevailing tax law identifies a single owner of each item of property and views certain rights to acquire property as separate from ownership, even if such rights convey risk of profit or loss in the property. An owner of an option to purchase an asset enjoys the potential for profit in the asset because if the asset increases in value, so does the option. The Supreme Court held in *Helvering v. San Joaquin Fruit & Investment Co.*,³⁰ however, that an option is a property right separate from ownership and conveys no interest in the underlying asset until exercise. Similarly, under this separate transactions approach, the Second Circuit in *Woodsam Associates, Inc. v. Commissioner*³¹ held that no disposition results from incurring a nonrecourse mortgage secured by an asset whose basis to the taxpayer is less than the amount of the mortgage. A creditor is not an owner even though the creditor bears risk of loss.

Finally, in *Cottage Savings Association v. Commissioner*,³² the

27. The cases have viewed the possibility of breach as irrelevant and, accordingly, have chosen a legally, rather than economically, oriented test. See *Fletcher v. United States*, 303 F. Supp. 583 (N.D. Ind. 1967), aff'd, 436 F.2d 413, 415 (7th Cir. 1971) (per curiam) (holding that contract obligation was not an option because breach unlawful); *Grodt & McKay Realty, Inc. v. Commissioner*, 77 T.C. 1221, 1242 (1981) (holding that risk of nonperformance is not normally associated with tax ownership).

28. *Commissioner v. Brown*, 380 U.S. 563, 574 (1965) (holding that risk shifting is not "an essential ingredient" of a sale). Contingent payment sales may be eligible for installment method reporting. See Regs. § 15A.453-1(c).

29. Regs. § 15A.453-1(d)(2)(iii) (in "rare and extraordinary" case where fair market value of contingent payment obligation is not readily ascertainable, transaction may be held open). See also *Burnet v. Logan*, 283 U.S. 404, 413 (1930) (holding that seller was entitled to recover basis before recognizing gain in contingent payment sale since contingent payments might never be received and had no readily ascertainable value); *Philadelphia Park Amusement Co. v. United States*, 126 F.Supp. 184 (Ct. Cl. 1954) (in arm's length transaction, if valuation of property received is difficult, such value may be presumed to equal the value of the property given in the exchange).

30. 297 U.S. 496, 498-99 (1935) (holding that lease and purchase option was not a transfer of land).

31. 198 F.2d 357, 359 (2d Cir. 1952).

32. 499 U.S. 554 (1991). See *Bacon & Adrion*, supra note 17 (arguing that *Cottage Savings* affirms that exchange of property is realization event regardless of economic or financial similarity of properties exchanged); Thomas L. Evans, *The Realization Doctrine After Cottage Savings*, 70 *Taxes* 897 (1992) (explaining that under *Cottage Savings*, realization doctrine operates based on legal form, not economic substance); Loren D. Prescott, Jr., *Cottage*

Supreme Court interpreted the realization requirement in a manner that the Court believed served the purpose of the realization requirement to avoid burdensome valuation. But, the connection between valuation and the Court's test for realization—whether exchanged properties embody “legally distinct entitlements”—is tenuous. The taxpayer in that case, a savings and loan association, exchanged a pool of mortgage receivables that it owned for another pool of mortgage receivables with similar financial characteristics. The transaction was designed to trigger realization of losses in the taxpayer's original pool for tax purposes but not for financial accounting purposes. The Court held that the exchange was a realization event because the exchanged properties consisted of different legal rights and obligations. The new mortgages were made by different obligors and secured by different properties than the old mortgages.³³ It is unclear why the Court believed that an exchange of properties with different legal rights and obligations makes valuation practical. The Court's emphasis on legal rights and obligations was, in addition, a rejection of economic risk as a relevant criterion for realization. The Court rejected as subjective, not administrable, and doctrinally irrelevant the Commissioner's argument that no realization occurred because the new pool was an “economic substitute” for the old pool.

B. *Fungible Assets*

Notwithstanding *Cottage Savings*, risk is an important theme under the benefits and burdens doctrine. Hedging publicly-traded stock might therefore appear at first blush to constitute a disposition of the stock because the hedge changes, and in some cases eliminates, the taxpayer's exposure to risk in the stock.³⁴ Edward Kleinbard has argued, however, that different criteria for ownership apply in the context of fungible traded assets.³⁵ The benefits and burdens doctrine developed primarily in the context of unique assets, such as real estate. Unlike unique assets, fungible assets can be sold short because the short seller can acquire property in the market to close out the short position.³⁶ Since short sales of fungible securities are possible,

Savings Association v. Commissioner: Refining the Concept of Realization, 60 Fordham L. Rev. 437 (1991).

33. However, the proposed regulations interpreting *Cottage Savings* do use economic tests. Prop. Regs. § 1.1001-3. See *supra* note 19.

34. See *supra* note 1 and accompanying text (describing equity swap, short sale against the box, and married put and call).

35. Kleinbard, *supra* note 6, at 784.

36. The term “fungible” is slightly over broad to describe the type of assets that Kleinbard argues are subject to a special realization rule. Short sales are possible and common in the case of publicly-traded assets, but not all fungible assets are publicly-traded. Shares in a closely-held corporation, for example, are fungible because the shares are interchangeable and identical, but short sales in such shares are impractical because a short seller could not be

many people can be exposed to risk (directly or inversely) in a particular security. But, for tax purposes, there is only one owner. According to Kleinbard, the critical factor indicating ownership of a fungible asset is the "freedom to dispose" of both legal title and market risk in the asset.³⁷ Ownership of a fungible asset does not require exposure to risk, and hedging such an asset does not generally defeat ownership or trigger realization of accrued gain.³⁸

C. *Special Statutory Realization Rules*

The Code provides several special realization rules applicable to

certain to be able to acquire shares to cover the short sale.

37. Kleinbard, *supra* note 6, at 793-94. See also Kevin Dolan & Carolyn DuPuy, *Equity Derivatives: Principles and Practice*, 15 Va. Tax Rev. 161, 208 (1995) (arguing that transferring the economic benefits of ownership cannot transfer tax ownership).

38. As argued by Kleinbard, this doctrine developed primarily in the context of short sales against the box and securities loans. In a short sale against the box, an owner of a security (the security in the "box") borrows an identical security and then sells the borrowed security. After the sale, the taxpayer is both long and short the security, and is therefore not at risk with respect to the security. See *supra* note 1. The tax law nonetheless treats the taxpayer as continuing to own the security. See *Griffin v. Commissioner*, 45 B.T.A. 588, 593 (1941), nonacq., 1942-1 C.B. 23 (holding that gain or loss on short sales is calculated separately from gain or loss on long positions); *Bingham v. Commissioner*, 27 B.T.A. 186, 189 (1932), acq., 1933-1 C.B. 2 (holding that no gain or loss is realized on short sale against the box until short position is closed out); *Rev. Rul. 72-478*, 1972-2 C.B. 487 (short sale against the box is valid short sale where long and short positions are reflected in separate accounts). In a securities loan, an owner transfers property in exchange for a contract right, but remains at risk with respect to the property. Nonetheless, the tax law treats the securities lender as having disposed of the security. See *IRC* § 1058 (nonrecognition of gain or loss for securities lender if requirements met); *Provost v. United States*, 269 U.S. 443 (1926); *Rev. Rul. 60-177*, 1960-1 C.B. 9 (holding that dividend-equivalent payment to securities lender is not a dividend). See also *Priv. Let. Rul. 8818010* (Feb. 4, 1988) (holding that legging into reverse currency swaps is not a realization event with respect to original currency swaps involving same counterparties because the taxpayer remains obligated under original currency swaps).

The doctrine is at odds with itself. As argued by Kleinbard, the doctrine creates a separate realization rule for fungible securities. However, that conclusion depends in part on the identification rule in *Regs. § 1.1012-1(c)*, which reflects a conception of shares as nonfungible. The identification rule entitles a taxpayer that sells some, but not all, of the shares in a pool of identical shares to identify which shares were sold for purposes of determining the taxpayer's basis and holding period. (The Clinton Administration has proposed repealing the identification rule. See *supra* note 3.) In the absence of identification, shares are treated as sold on a first-in, first-out basis. The identification rule is an essential piece of the tax treatment of short sales against the box. The taxpayer is entitled to specify that the shares delivered to the short sale purchaser were the borrowed shares, not the shares in the "box." Kleinbard argues that because a short sale against the box leaves the taxpayer riskless with respect to the shares initially owned, but is not a disposition of those shares for tax purposes, ownership does not depend primarily on risk in the case of fungible assets.

financial instruments: a loss deferral regime for straddles, mark-to-market regimes for "section 1256 contracts" and for securities dealers, and a matching regime for "hedging transactions." Except in narrow circumstances, those rules do not cause a taxpayer to realize gain upon entering into a hedge of an appreciated asset.

Section 1092 defers a loss realized on one leg of a straddle until the gain on the other leg is recognized.³⁹ Section 1256 requires that a taxpayer mark to market annually any "section 1256 contract," including futures contracts and certain exchange-traded options.⁴⁰ By enacting sections 1092

39. In its most generic sense, a straddle is a set of rights and obligations whose values offset one another. Specifically, under § 1092(a)(1), any loss with respect to one or more "positions" is taken into account only to the extent it exceeds any "unrecognized gain" with respect to "offsetting positions," and any loss not so taken into account is carried forward. "Position" means an interest in personal property. IRC § 1092(d)(2). "Personal property" means personal property of a type that is actively traded. IRC § 1092(d)(1). A taxpayer holds "offsetting positions" if, by reason of holding one position, there is a "substantial diminution of the taxpayer's risk of loss" in the other. IRC § 1092(c)(2)(A). Although stock is, in general, not personal property under § 1092(d)(3)(A), stock can be personal property if accompanied by the appropriate offsetting position. Specifically, stock is personal property if it is part of a straddle under which the offsetting position is "(1) an option with respect to such stock or substantially identical stock or securities or (2) under regulations, a position with respect to substantially similar or related property (other than stock)." IRC § 1092(d)(3)(B). Regs. § 1.1092(d)-2(a), which was promulgated on March 17, 1995, implements the latter prong.

40. Specifically, "section 1256 contract" means any "regulated futures contract," "foreign currency contract," "nonequity option," or "dealer equity option." IRC § 1256(b).

A "nonequity option" is an exchange-traded option that is not an "equity option." IRC § 1256(g)(3). An "equity option" is an option to buy or sell stock (or the value of which is determined by reference to any stock, group of stocks, or stock index), except that an option with respect to a group of stocks or stock index is a nonequity option if the Commodities Futures Trading Commission has designated a contract market in the option (or the Treasury has determined that the option meets the legal requirements for such a designation). IRC § 1256(g)(6). Thus, some broad-based equity-based options are "nonequity options" and therefore marked to market under § 1256.

A "dealer equity option" is an equity option held or issued by a dealer of a type that is listed on the exchange on which the dealer is registered and is purchased or granted by the dealer in the normal course of the dealer's activity of dealing in options. IRC § 1256(g)(4). Thus, options dealers are required to mark to market listed options on single stocks or groups of stocks, even in the absence of a contract market designation for such options.

Section 1256(d) provides an elective exception to the general mark-to-market rule of § 1256(a) in the case of mixed straddles. Mixed straddles are straddles, as defined in § 1092, consisting of at least one § 1256 contract and at least one position that is not a § 1256 contract. Each position must be clearly identified by the taxpayer as being part of such straddle.

Section 1256(e) exempts "hedging transactions" from the mark-to-market regime of § 1256(a). Hedging transactions generally are transactions entered into in the normal course of the taxpayer's trade or business primarily to reduce risk with respect to ordinary income- or loss-producing transactions and must be clearly identified by the taxpayer. Cf. Regs.

and 1256, Congress responded to a long battle between the Treasury and taxpayers over commodities straddles. Before the enactment of those and related provisions in 1981, a taxpayer would enter into a forward contract to sell a commodity in one month and a hedge in the form of an approximately economically offsetting forward contract to purchase the commodity in another month. Over time, one contract would inevitably increase in value, and the other would decrease in an approximately equal amount. The taxpayer would then close out the loss position, recognizing capital loss, and enter into a new forward contract to hedge the gain position. In a subsequent taxable year, the taxpayer would close out the gain position, as well as the new forward contract, recognizing capital gain. Thus, with little or no economic investment, a taxpayer was able to manufacture a loss in one year and a gain in a later year.⁴¹ The Treasury attacked the losses on the grounds that they were not incurred in transactions entered into for profit, leading to significant uncertainty and eventual litigation.⁴²

Sections 1092 and 1256 were thus originally aimed at situations in which the taxpayer's initial investment is zero and the taxpayer attempts to trigger loss in one year and gain in a later year. Section 1092 accordingly defers losses, but does not generally trigger gain.⁴³ Section 1256 generally requires recognition of gain or loss as it accrues.⁴⁴

§§ 1.1221-2 (treating income and loss from hedging transactions as ordinary); 1.446-4 (matching timing of income and loss from hedging transactions to timing of items from underlying transaction).

41. See Staff of Joint Comm. on Taxation, 97th Cong., 1st Sess., General Explanation of the Economic Recovery Tax Act of 1981, 294-99 (Comm. Print 1981) [hereinafter Staff of Joint Comm.].

42. See 2 Bittker & Lokken, *supra* note 12, ¶¶ 45.1, 45.6.

43. An exception applies to a "section 1092(b)(2) identified mixed straddle." A "mixed straddle" is a straddle that consists of at least one § 1256 contract and one position that is not a § 1256 contract and meets various other conditions. Temp. Regs. § 1.1092(b)-5(e). A "section 1092(b)(2) identified mixed straddle" is a mixed straddle with respect to which an appropriate election has been made. If one of the positions comprising a § 1092(b)(2) identified mixed straddle was held before the straddle was established, the position is deemed sold for its fair market value as of the close of the last business day preceding the day on which the straddle is established. Temp. Regs. § 1.1092(b)-3(b)(6). See also Temp. Regs. § 1.1092(b)-4(c)(5) (same for mixed straddle accounts).

44. Unlike § 1092, § 1256 applies whether or not the § 1256 contract is held in combination with other positions resulting in a riskless or reduced risk position. Section 1256 has been defended as an application of the constructive receipt doctrine, as well as a response to the commodity straddling activity discussed in the text. E.g., Staff of Joint Comm., *supra* note 41, at 296; *Murphy v. United States*, 992 F.2d 929 (9th Cir. 1993). Many § 1256 contracts are marked to market as a business matter under the rules of the exchange on which the contract is traded. See IRC § 1256(g)(1)(A) (deposits and withdrawals with respect to regulated futures contract depend on mark-to-market system).

Section 475, enacted in 1993, generally requires securities dealers to mark to market securities (other than those that are held for investment and clearly identified as such).⁴⁵ "Security" for this purpose is broadly defined to include certain derivative financial instruments and hedges (clearly so identified by the taxpayer) of securities.⁴⁶

Finally, section 1.446-4 of the regulations requires taxpayers to match the timing of items on a "hedging transaction" with the timing of items on the underlying hedged position. For those purposes, a hedging transaction generally includes hedges of ordinary income- or loss-producing assets or liabilities.

III. A CLOSER EXAMINATION OF THE DISTINCTION BETWEEN HOLDING AND DISPOSING

Many dispositions are undertaken voluntarily by a taxpayer in order to change the taxpayer's exposure to risk. The taxpayer disposes of one asset and acquires another because the taxpayer prefers exposure to the risk carried by the new asset. Similarly, when a taxpayer hedges, the taxpayer voluntarily changes her exposure to risk. Because hedges and dispositions are voluntary and often have a similar impact on a taxpayer's exposure to risk, one might conclude that hedges should receive the same tax treatment as dispositions. But, why should voluntariness, risk or both be relevant to the tax treatment

In the unlikely event that a taxpayer holds a contract that becomes a § 1256 contract (because, for example, the CFTC designates a market in such contracts), § 1256 apparently requires recognition of previously accrued gain or loss.

45. IRC § 475(a), (b).

46. A "security" is a share of stock, a partnership interest, a beneficial ownership interest in a widely held or publicly traded partnership or trust, a note, certain notional principal contracts, an interest or derivative financial instrument in any of the foregoing, and any clearly identified hedge of any such security that is not itself otherwise a security. IRC § 475(c)(2).

Section 475 resolved a dispute between taxpayers and the Treasury over methods of accounting for securities dealers. Section 1.471-5 of the regulations permitted three methods for such dealers' inventories: cost, market, and the lower of cost and market. To the objection of some dealers, proposed regulations would have required securities dealers to forgo accounting based on the lower of cost or market for securities and commodities inventories in order to elect mark-to-market accounting for notional principal contracts. Prop. Regs. § 1.446-4(a)(3). See Letter from Stephen L. Gordon on behalf of International Swap Dealers Association to Karl T. Walli, Internal Revenue Service (Sept. 27, 1991), available in 91 TNT 210-50 (linkage indefensible); Letter from Saul M. Rosen, Salomon Brothers, Inc., to Karl T. Walli (Dec. 6, 1991), available in 91 TNT 255-37 (same); Letter from Joanne Ames, American Bankers Association to Fred Goldberg, former Commissioner of the Internal Revenue Service (Sept. 23, 1991), available in 91 TNT 203-34 (same). The Internal Revenue Service withdrew the proposed regulations on October 8, 1993, in response to the enactment of § 475. FI-16-89, 1993-2 C.B. 611.

of hedges? And, what role do those concepts play in justifying and describing the distinction between holding and disposing?

Normatively, both voluntariness and risk appear to be irrelevant. They are unrelated to the Haig-Simons concept of income because a taxpayer's increase in wealth does not depend on whether the taxpayer has changed voluntarily the taxpayer's exposure to risk.

Voluntariness and risk are also unrelated to the administrative concerns relating to valuation and liquidity addressed by the realization requirement.⁴⁷ The periodic valuation of assets and liabilities under an accrual taxation regime could be extremely burdensome. The realization requirement obviates the need for periodic valuation. If realization occurs by a cash sale, valuation is simple. If the taxpayer receives property, other than money, valuation may be difficult, but the realization requirement reduces valuation problems by requiring valuation only upon realization, rather than periodically over the taxpayer's holding period.

As to liquidity, under accrual taxation, some taxpayers would be taxed on appreciation, but have inadequate cash with which to pay the tax, because they have not exchanged their assets for cash. They would have to sell assets in order to raise funds to pay the tax. The realization requirement reduces the need for such forced sales by deferring tax until disposition. If the taxpayer receives only cash in exchange for an asset, the taxpayer should have enough cash to pay the tax since the tax is less than the taxpayer's gain, which is in turn less than the amount of cash received. In a property-for-property exchange, liquidity may be a problem. The taxpayer may need to sell some of the property received in the exchange in order to raise cash to pay tax. The realization requirement reduces liquidity problems, however, by making such forced sales necessary only upon realization, not periodically.

Although voluntariness and risk are unrelated to valuation and liquidity, voluntariness and risk might nonetheless be important, especially for publicly-traded assets. The valuation and liquidity justifications for the realization requirement are less compelling for publicly-traded assets, which are generally easy to value and liquid, than for other assets. Indeed, some scholars have advocated repealing the realization requirement for publicly-traded assets.⁴⁸

But, voluntariness and risk do not explain as a descriptive matter, much less normatively justify, the tax law's differential treatment of holding and disposing. Voluntary action by the taxpayer is not necessary for realization since forced dispositions are realization events. Further, voluntary

47. See *supra* notes 12-13 and accompanying text.

48. E.g., Slawson, *supra* note 13; Note, *supra* note 13. It may, however, be difficult to value a controlling, or even a large, block of shares of a publicly-traded corporation, even if the value of a single share is known.

action is not sufficient since holding is voluntary but is not a realization event. A change in risk through a voluntary action (of holding) is not sufficient for realization either because changes in risk occur while a taxpayer holds, but do not trigger realization.

There is no consistent relationship between risk and dispositions either. In a sale or exchange, the taxpayer disposes of an asset that the taxpayer held before the transaction. If a taxpayer exchanges her boat for someone else's car, perhaps it is obvious that she owns a new asset. In many cases, however, the determination that the asset that the taxpayer owns after the transaction is a different asset from the asset she owned before depends on formal notions of what constitute separate assets. The economic concept of risk could potentially define assets for purposes of realization with the result that a change in risk is necessary or sufficient or both for realization. But, the concept of risk tends to dissolve assets rather than define them. A change in the *amount* of risk to which the taxpayer is exposed is neither necessary nor sufficient for realization since such amount might not change if a taxpayer exchanges an asset but often does change while a taxpayer holds an asset. A change in the *nature* of risk could form the test for realization, but requires supplemental rules defining separate types of risk. Further, even if it is clear that a taxpayer has disposed of something, identifying *what* asset has been disposed of can be a troublesome matter unresolved by the concept of risk. If a taxpayer disposes of a part of an asset, the taxpayer could equally be viewed as disposing of the part only or of the whole asset.

Examples in this Part III and Part IV involve Coin Flip, a hypothetical asset that, unless otherwise stated, entitles its holder to be paid \$100 in the event that a particular coin flip turns up heads and zero in the event that the flip turns up tails. There is a 50% probability of each occurrence.⁴⁹

49. The examples deliberately do not specify the taxpayer's basis or holding period in Coin Flip in order to focus the analysis on realization. Basis and holding period are relevant to the amount and character of gain or loss realized *if* there is a realization event, but are not relevant to *whether* there is a realization event.

Basis and holding period could, however, be relevant to the appropriate timing of gain or loss under a regime that imposes tax based on expected outcomes in advance of realization. For example, if Coin Flip was purchased for \$20 one year before the coin flip, the taxpayer should arguably be required to accrue over the year \$30—an amount equal to the expected value of Coin Flip of \$50 (see *infra* note 52 and accompanying text), less the taxpayer's \$20 basis in Coin Flip. See Prop. Regs. § 1.1275-4 (accrual based on payment schedule projected at issuance of contingent payment debt instrument); Shuldiner, *supra* note 6, at 285 (financial instruments should accrue income based on expected future values). Even under such a regime, however, realization is relevant because actual outcomes inevitably differ from expected outcomes and realization is likely the appropriate time to adjust for such differences.

A. *Voluntary Action by the Taxpayer*

Sales and exchanges are usually voluntary, as is hedging. That similarity is important for the economic substitute argument because the argument centers on avoiding social costs generated by taxpayers choosing to engage in transactions for tax reasons. As demonstrated in Part III.B below, a change in risk does not alone trigger realization. Changes in risk can occur as a taxpayer holds an asset. A taxpayer's exposure to risk fluctuates while the taxpayer holds one asset and, after an exchange, fluctuates while the taxpayer holds the second asset. The exchange does not demarcate a change in the taxpayer's overall exposure to risk. Although riskiness exists on a continuum, realization is an on/off switch. A voluntary action could potentially demarcate a sale or exchange. But, voluntariness does not distinguish between holding and disposing because holding an asset is voluntary, as is disposing.

A voluntary action by the taxpayer is not necessary for realization. For example, forced dispositions of property by virtue of government condemnation, foreclosure, or corporate merger are realization events, yet it would be strained to characterize them as resulting from voluntary taxpayer actions. However, nonrecognition provisions sometimes apply in these cases, perhaps reflecting a congressional determination that it is not appropriate to tax involuntary dispositions.⁵⁰

A voluntary action is also not sufficient for realization since holding is voluntary. A taxpayer that holds effectively decides daily to hold rather than sell. Holding could be viewed as a voluntary decision to expose oneself to the risks carried by the asset that the taxpayer holds. Holding a share of stock is equivalent to selling it and then repurchasing.⁵¹ The observation that the realization requirement creates an incentive to hold rather than sell concedes that holding is voluntary. Voluntary action coupled with a change in risk can be viewed as sufficient for realization only if the voluntariness of holding is disregarded.

50. See IRC §§ 1033 (gain realized upon involuntary conversion recognized only to extent amount realized exceeds cost of replacement property); 354 (nonrecognition on exchange of stock for stock in corporate reorganization). Section 108 excludes from gross income certain amounts that would otherwise constitute discharge of indebtedness income, and requires the taxpayer to reduce tax attributes by the amount so excluded. Section 108 is thus a nonrealization provision, not a nonrecognition provision.

51. See IRC § 1091 (disallowing deduction from disposition of stock or securities if taxpayer acquires substantially identical stock or securities within thirty days before or after sale).

B. Risk

Any connection between dispositions and risk is largely a matter of definition, not substance. A change in risk is generally neither necessary nor sufficient for realization. Potentially, a change in the *nature* of risk could be sufficient for realization, but that formulation depends on defining what constitutes such a change.

1. *The Concept of Risk.*—Variance and standard deviation of outcomes anticipated *ex ante* are textbook measures of risk. Each measures the extent to which actual outcomes are likely to differ from the expected, or average, outcome.⁵² An asset with a high variance and standard deviation is likely to provide an actual outcome that differs significantly from its expected outcome, while the outcome of an asset with a low variance and standard deviation is likely to be close to the asset's expected outcome. For example, common stock that is expected to be worth \$100 has a higher variance than a debt instrument of a creditworthy issuer that is also expected to be worth \$100. The common stock could easily turn out to be worth much less or much more than \$100, while the debt instrument is very likely to be worth an amount that is close to \$100.

The capital asset pricing model (CAPM) provides another approach to measuring risk of a capital asset.⁵³ Under CAPM, capital assets carry

52. Mathematically,

Expected return = $E(R) = \sum P_j R_j$, where P_j is the probability of the j th return and R_j is the j th possible return;

Variance = $\sigma^2 = \sum P_j (R_j - E(R))^2$; and

Standard deviation = $\sigma = \sqrt{\sigma^2}$.

See Edwin J. Elton & Martin J. Gruber, *Modern Portfolio Theory and Investment Analysis* 47-51 (5th ed. 1995); Richard A. Brealey & Stewart C. Myers, *Principles of Corporate Finance* 131-34 (4th ed. 1991).

For example, suppose that, in a game of chance, a player bets \$100 and is entitled to receive \$120, \$110, or \$90 with a probability of 50%, 40%, and 10%, respectively. The expected return is the weighted average of the possible returns. Since the player has a 50% probability of a \$20 return, a 40% probability of a \$10 return, and a 10% probability of losing \$10, the expected return is (50% of \$20) + (40% of \$10) + (10% of -\$10), or \$13. Variance, which measures the extent to which the actual return is likely to differ from the expected return, is the weighted average of the squares of the differences between each possible return and the expected return. Thus, variance is (50% of (20-13)²) + (40% of (10-13)²) + (10% of (-10-13)²), or 81. Standard deviation is the square root of variance, or 9.

For simplicity, the examples in Parts III and IV calculate expected value assuming that the time value of money is zero.

53. See John Lintner, *The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets*, 47 *Rev. Econ. & Stat.* 13 (1965); William F. Sharpe, *Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk*, 19 *J. Fin.* 425 (1964).

systematic and unsystematic risk. Systematic risk, measured by “beta,” is the asset’s sensitivity to market risk, and unsystematic risk is the additional risk.⁵⁴

2. *Sales and Risk*.—A sale for cash, illustrated in Example 1, is a paradigmatic realization event.

Example 1. Taxpayer owns Coin Flip. Taxpayer sells Coin Flip for \$50 in cash.

Sales arguably eliminate risk in two senses. The first focuses on what the taxpayer owns after the transaction, while the second focuses on what the taxpayer does not own. First, after the transaction, the taxpayer owns dollars. Measured by reference to nominal dollars, dollars are riskless. But, measured by reference to a more meaningful standard, the value of dollars changes over time. Dollars are risky because their value depends on inflation and currency exchange rates.

The second sense in which the sale eliminates risk is that after the sale, the taxpayer is not at risk with respect to Coin Flip. The taxpayer’s fortunes no longer depend on whether the coin turns up heads or tails. The nature of the taxpayer’s risk has changed from exposure to the flip of a coin to cash.

3. *Amount of Risk*.—A change in the taxpayer’s exposure to a particular *amount* of risk is not necessary or sufficient for a realization event.⁵⁵ It is not necessary because a property-for-property exchange could involve two assets with the same, or approximately the same, amount of risk, as illustrated in the following example.

Example 2. Taxpayer owns Coin Flip and exchanges it for another asset entitling Taxpayer to \$100 if a coin (different from the coin on which Coin Flip is based) turns up heads and zero if the coin turns up tails. The new asset has the same variance as Coin Flip. Notwithstanding the identical riskiness of Coin Flip and the new asset, the exchange is probably a realization event.⁵⁶

54. Brealey & Myers, *supra* note 52, at 137-39, 143. Beta is the ratio of the stock’s covariance with the market divided by the variance of the market. *Id.* at 145. Covariance measures the extent to which two assets, *a* and *b*, are likely simultaneously to exceed or be less than their respective expected returns and is denoted by σ_{ab} . Thus, $\sigma_{ab} = \Sigma(R_{aj} - E(R_a))(R_{bj} - E(R_b))$. Elton & Gruber, *supra* note 52, at 56.

55. For example, the taxpayer in *Cottage Savings* intentionally exchanged assets with similar financial characteristics. *Cottage Savings Ass’n v. Commissioner*, 499 U.S. 554, 557 (1991).

56. The exchange is probably a realization event if the obligor of Coin Flip is different from the obligor of the new asset. *Id.* at 560-62. Even if the coin flips have the same

A change in the amount of risk to which the taxpayer is exposed is also not sufficient for a realization event because a taxpayer's exposure to risk in an asset fluctuates while the taxpayer holds the asset. Variance and standard deviation (and beta) change if expectations about outcomes change while the taxpayer holds.

Example 3. A taxpayer owns Coin Flip. During the taxpayer's holding period, circumstances change so that Coin Flip will pay the taxpayer \$75 if the coin turns up heads and \$25 if the coin turns up tails. As illustrated in the chart below, that change in expectations means that the variance and standard deviation of Coin Flip have changed.

	Probability and Outcome	Expected Value	Variance	Standard Deviation
Initial	50% 100 50% 0	50	2500	50
Subsequent	50% 75 50% 25	50	625	25

The new possible outcomes of \$75 and \$25 fall within a narrower range than the initial possible outcomes of \$100 and zero. Although the new outcomes do not change the \$50 expected value, they reduce the variance of Coin Flip from 2500 to 625, and the standard deviation from 50 to 25.

Changes in the riskiness of capital assets are not unusual. In fact, they are the norm. For example, if a corporation sells one line of business and enters a new one, the riskiness of the corporation's stock thereafter reflects the risks of the new business. Riskiness can also change in the absence of extraordinary transactions. Any change in the corporation's businesses or the market factors affecting them can alter the riskiness of the corporation's stock if expectations about outcomes change. Studies show that beta for a particular stock changes over time.⁵⁷ Changes in risk also occur with respect to other

obligor, the exchange may be a realization event. An exchange of convertible preferred stock for convertible debt of the same issuer might involve no material change in the taxpayer's exposure to risk, but is nonetheless a realization event.

57. Brealey & Myers, *supra* note 52, at 183-86 (noting, however, that "true betas" appear to be "reasonably stable"). One widely-used source for betas predicted that the beta of Aetna Life and Casualty, America Online, and American Express changed from 0.96, 1.57, and

property. For example, if a machine has a faulty part that threatens to explode the machine, the riskiness of returns from the machine may be reduced by replacing the part. Also, a debt instrument's exposure to interest rate risk generally decreases as the remaining term decreases.

4. *Nature of Risk.*—Perhaps then a change in the *nature* of risk is necessary or sufficient or both for realization. If the taxpayer is exposed to one random variable, such as the value of one issuer's stock, and is then exposed to another random variable, such as the value of a different issuer's stock, realization occurs. This explains why an exchange of IBM stock for GM stock is a realization event and why the exchange of Coin Flip for cash in Example 1 is a realization event.

But, that formulation depends on rules defining separate risks. There is reason to believe that although IBM stock and GM stock may carry different *amounts* of risk, it is a matter of definition to view them as carrying risks of a different *nature*. Under CAPM, a taxpayer with a diversified portfolio is exposed to one risk, market risk, regardless of which shares the taxpayer owns. Using CAPM, a property-for-property exchange by a taxpayer with a diversified portfolio substitutes one exposure to market risk (measured by beta) for another. Example 4 illustrates the idea of a property-for-property exchange as a change in the taxpayer's sensitivity to a *single* random variable.

Example 4. Taxpayer owns Coin Flip and exchanges it for a new asset that pays \$75 or \$25, respectively, based on whether the coin used in Coin Flip turns up heads or tails.

1.25, respectively, in March 1995 to 0.98, 1.59, and 1.2 in May 1995. See BARRA U.S. Equity Beta Book-Company Listing (May 1995); BARRA U.S. Equity Beta Book-Company Listing (March 1995). See also Marshall F. Blume, On the Assessment of Risk, 26 J. Fin. 1, 8 (1971) (concluding that estimates of beta tend to regress towards mean over time); Robert A. Levy, On the Short-Term Stationarity of Beta Coefficients, Fin. Analysts J., Nov.-Dec. 1971, at 55, 62 (providing evidence that beta tends to be "stationary for large portfolios, less stationary for smaller portfolios and unpredictable for individual securities"); Thomas M. Tole, How to Maximize Stationarity of Beta, J. Portfolio Mgmt., Winter 1981, at 45, 47 (arguing that increasing number of securities in portfolio improves two conditions necessary for stationary portfolio beta).

Risk measurement involves speculative predictions about the future or extrapolations from the past. Because probabilities of possible outcomes cannot be easily determined, most financial analysts use historical data to calculate variance. Brealey & Myers, *supra* note 52, at 135-36. Portfolio managers and other investment professionals spend significant time and effort using sophisticated statistical procedures to estimate risk. "Beta books" are published by various financial advisory services and brokerages providing betas for various stocks. See, e.g., BARRA, *supra*. Such calculations are estimates, some more accurate than others. Brealey & Myers, *supra* note 52, at 185-89.

	Probability and Outcome	Expected Value	Variance	Standard Deviation
Coin Flip	50% 100 50% 0	50	2500	50
New Asset	50% 75 50% 25	50	625	25

Before and after the exchange, the taxpayer owns an asset that is sensitive to the flip of a particular coin, but the degree of sensitivity of the initially-owned and subsequently-owned assets differs. Similarly, if a taxpayer with a diversified portfolio exchanges stock in one corporation for stock in another corporation, the taxpayer is exposed to one kind of risk, market risk, before and after the transaction, but the sensitivity to market risk of the initially- and subsequently-owned stock differs as reflected in their different betas.

Even apart from CAPM, the riskiness of a share of stock depends on the assets and liabilities of the issuer. The nature of the risk to which a taxpayer is exposed could therefore be defined by reference to those assets and liabilities, rather than the share of stock. As illustrated in Example 5, whether a transaction is viewed as changing the nature of the risk to which a taxpayer is exposed depends on whether the nature of the taxpayer's risk is defined by reference to the entity's assets and liabilities or the stock that the taxpayer owns.

Example 5. Taxpayer owns stock in a corporation that owns Coin Flip. The corporation exchanges Coin Flip for another asset, a bet on a roll of a pair of dice.

The exchange is a realization event for the corporation, but not for the taxpayer/stockholder,⁵⁸ because the taxpayer holds stock without exchanging anything. But, the nature of the taxpayer's risk has changed. The taxpayer was first exposed to the flip of a coin and then exposed to a roll of dice.

5. *Disposing of a Portion of an Asset.*—Even in the case of a sale or exchange that changes the amount or nature of risk, questions remain

58. The absence of realization with respect to the taxpayer is not a result of the separate tax on corporations, but rather is the result when any separate entity, including a pass-through entity, holds Coin Flip. If the entity were a partnership or S corporation rather than a C corporation, the taxpayer would include gain or loss from the entity's exchange of Coin Flip, but that is different from deeming the taxpayer to have sold the partnership interest or S corporation shares.

about *what* the taxpayer disposed of. If a taxpayer replaces the engine on her boat, she could be viewed as disposing of the old engine only or as disposing of her old boat for a new boat. Similarly, risk does not help determine whether the disposition illustrated in Example 6 is a disposition of Coin Flip or a subasset of Coin Flip.

Example 6. Coin Flip can be viewed as a combination of two assets, Coin Flip A, which pays \$50 if the coin turns up heads and nothing if it turns up tails, and Coin Flip B, which pays \$50 if the same coin turns up heads and nothing if it turns up tails. Suppose the taxpayer sells Coin Flip A for \$25 cash. That might be a realization event only with respect to Coin Flip A. Alternatively, if Coin Flip is viewed as a single asset, then the transaction is a disposition of Coin Flip in exchange for \$25 in cash plus Coin Flip B.

Determining whether an asset has been disposed of is especially difficult in the case of a disposition of a subasset for property, rather than cash, particularly if the property received depends on the same random variable as the subasset transferred.

Example 7. Suppose, as in Example 6, that Coin Flip is viewed as a combination of Coin Flip A and Coin Flip B. Taxpayer, who owns Coin Flip, exchanges Coin Flip A for another asset, Coin Flip C, entitling the holder to payment depending on the results of the same coin flip as the flip involved in Coin Flip. This exchange might be a realization event only with respect to Coin Flip A. But, it could instead be viewed as an exchange of Coin Flip for a combination of Coin Flip B and Coin Flip C.

Changes in risk provide no apparent normative basis for treating holding and disposing differently. Risk also does not describe or explain the distinction. Dispositions may or may not change the amount or nature of the taxpayer's exposure to risk. Dispositions cannot be distinguished from holding based on their effect on the taxpayer's exposure to risk, absent definitions about which types of risk matter. Further, if a disposition has occurred, risk does not determine what has been sold or exchanged. The realization requirement is highly formal. Not only is it unrelated to the normatively relevant economic concept of income and administrative concerns of valuation and liquidity, its relationship to risk is attenuated.

IV. HEDGING AS A SUBSTITUTE FOR A DISPOSITION

It has long been recognized that within the Haig-Simons definition of income, unrealized appreciation and realized appreciation are identical. Two principal justifications—valuation and liquidity—have been advanced for treating the two forms of appreciation differently. In addition, voluntariness

and risk present themselves as possible explanations for the differing tax treatment of simple cases of holding and disposing. I have so far argued that for publicly-traded assets, neither valuation, liquidity, voluntariness, nor risk furnishes a coherent justification or explanation for the different tax consequences of selling and holding.

What implications does that conclusion have for hedging, which resembles selling in some ways, but not all? At a minimum, an argument in favor of taxing hedges must do more than point out that taxing hedging avoids problems of valuation and liquidity or that hedging involves voluntary changes in risk. On all those counts, dispositions, which precipitate taxation, are functionally equivalent to holding, which does not.

The economic substitute argument in favor of taxing hedging is more sophisticated, however. It suggests that there may be social costs, especially in the form of transaction costs, when the tax regime treats economically similar transactions differently. Even if there is no normative justification for distinguishing between holding and selling, the appropriate treatment of hedging can be analyzed based on whether taxpayers treat hedging as a substitute for selling, resulting in social costs. This Part IV discusses the structure of some basic hedges in order to determine the extent to which taxpayers use them as substitutes for dispositions. Some hedges, such as a short against the box transaction, do, from the taxpayer's point of view, strongly resemble dispositions and will therefore be used as substitutes so long as the tax treatment of hedging continues to be better than the tax treatment of disposing. Other hedges, such as acquisition of a put option, bear a weaker resemblance to dispositions.

Arguably, a realization requirement that took account of differing *amounts* of risk, and therefore required measurement of risk, could measure the extent to which a hedge resembles a sale. But, except at a very gross level, risk measurement is not administrable. Compliance with, and administration of, tax rules requiring measurement of fair market value is difficult enough. Measuring risk is even harder. Involving *amount* of risk in the test for realization cannot be done in a comprehensive and administrable way. Since the realization requirement is itself a response to the practical problem of measuring value, it would be perverse to institute a rule that requires even more difficult measurements.

A. *Hedges That Strongly Substitute for Dispositions*

In the following example of a "married put and call," the taxpayer simulates a sale of Coin Flip for \$50 cash.⁵⁹

59. This strategy can be used to transform a share of common stock that does not pay dividends into a bond. For example, a taxpayer owning a share worth \$10 could buy a

Example 8. Taxpayer owns Coin Flip. Taxpayer sells a call for \$25 entitling the holder to the excess of the payment under Coin Flip over \$50. Taxpayer also purchases a put for \$25 entitling Taxpayer to the excess of \$50 over the payment under Coin Flip. Taxpayer will have \$50 at the end of the day, regardless of whether the coin flip turns up heads or tails.

	Outcome	Coin Flip	Put Premium	Call Premium	Put Payment	Call Payment
Heads	50 =	100 +	(25) +	25 +	0 +	(50)
Tails	50 =	0 +	(25) +	25 +	50 +	0

Because Taxpayer is certain to have \$50, the married put and call is similar to a sale of Coin Flip for \$50 cash. As illustrated below, buying a put and selling a call results in a riskless position with zero variance and standard deviation.⁶⁰

	Probability and Outcome	Expected Value	Variance	Standard Deviation
Coin Flip	50% 100 50% 0	50	2500	50
Coin Flip and Sell Call and Buy Put	50% 50 50% 50	50	0	0

cash-settled put option and sell a cash-settled call option with respect to the share, each with a one-year term and a strike price of \$11. Under the put, the taxpayer would be entitled in one year to receive any excess of \$11 over the value of the share on that date. Under the call, the taxpayer would be obligated to pay the owner of the call any excess of the value of the share one year from now over \$11. If the stock value exceeds \$11 on the exercise date, the call owner will exercise, and the put will lapse. If the stock value is less than \$11 on such date, the taxpayer will exercise the put, and the call will lapse. If the stock value is exactly \$11, neither option will be exercised. Thus, regardless of the value of the stock, the taxpayer will have a total of \$11 (\$10 plus the equivalent of 10% interest), taking into account the value of the stock and the payments that the taxpayer makes or receives under the options.

60. Taxpayer's position is riskless in the sense that the amount of cash that Taxpayer will have is certain. The value of cash is, however, risky. See *supra* Part III.B.2.

“Hedge and forget” strategies, such as a married put and call, short against the box, equity swap, or a forward contract approximate a disposition by making a taxpayer’s returns largely independent of the price of the taxpayer’s stock.⁶¹ Some hedge and forget strategies leave the taxpayer slightly exposed to risk in the hedged asset, however, because of counterparty credit risk. For example, in the case of an equity swap, a married put and call, or a forward contract, the taxpayer remains exposed to the possibility that the counterparty may default, in which case the taxpayer’s return would depend on price variations in the underlying asset.⁶²

B. Purchase of a Put or Sale of a Call

1. *Reduces Some Risks, But Introduces Others.*—The purchase of a put or sale of a call might be used by a taxpayer as a substitute for a sale because a taxpayer that owns an asset and buys a put or sells a call reduces exposure to risk in the asset. Example 9 illustrates that buying a put reduces a taxpayer’s exposure to risk in an asset.

Example 9. Taxpayer, who owns Coin Flip, purchases a put for \$25 entitling Taxpayer to the excess of \$50 over the payment under Coin Flip. Thus, if the coin turns up heads, the put entitles Taxpayer to nothing (the excess of \$50 over the \$100 payment under Coin Flip) and if the coin turns up tails, the put entitles Taxpayer to \$50 (the excess of \$50 over the payment of zero under Coin Flip). The following table shows Taxpayer’s net outcomes:

	Outcome =	Coin Flip +	Put Premium +	Put Payment
Heads	75 =	100 +	(25) +	0
Tails	25 =	0 +	(25) +	50

61. See *supra* note 1.

62. A short against the box arguably does not involve credit risk. Kleinbard, *supra* note 6, at 789 n.30.

There is precedent for disregarding credit risk in the context of realization. For example, the original issue discount rules require a taxpayer to accrue income under a noncontingent bond, even though there is risk that the accrued amounts will not be received because the issuer of the bond defaults. See IRC § 1272(a)(1) (including original issue discount in gross income); T.A.M. 9538007 (June 13, 1995) (finding no “doubtful collectibility” exception to original issue discount accrual).

Owning only Coin Flip is riskier than owning Coin Flip and the put, because the variance of outcomes is higher in the first case than in the second:

	Probability and Outcome	Expected Value	Variance	Standard Deviation
Coin Flip	50% 100 50% 0	50	2500	50
Coin Flip and Put	50% 75 50% 25	50	625	25

The financial concept of “delta” also illustrates that acquisition of a put or sale of a call reduces, but does not eliminate, a taxpayer’s exposure to price variations in the underlying asset. Delta is the rate of change in value of a derivative security with respect to the value of the underlying asset.⁶³ If the price of the underlying asset changes, the price of an option on that asset changes less. For every incremental change in the value of the underlying asset, the option will change in value by some *fraction* of that increment. Delta is that fraction. For example, if a taxpayer owns one share of stock and a put with respect to one share of stock with delta of, say, negative 0.75, then, if the value of the stock declines by a small amount, such as \$1, the put increases in value by \$0.75. If the stock value instead increases by \$1, the put value decreases by \$0.75. A change in stock value of \$1 thus changes the taxpayer’s overall position by only \$0.25.

The delta of an option depends on, among other variables, the value of the asset. For a deep in-the-money option, the absolute value of delta approaches one, meaning that the option changes in value approximately dollar-for-dollar with changes in the asset value. A deep in-the-money put is thus a very good hedge of the underlying stock because, for every incremental change in value of the underlying stock, the put changes by approximately the same amount in the other direction. At the other end of the spectrum, a deep out-of-the-money put changes in value very little for any change in value of the underlying stock and therefore does not significantly hedge the underlying stock.

Although buying a put or selling a call reduces the taxpayer’s exposure to risk of price changes of an asset, it also exposes the taxpayer to

63. Delta is the first partial derivative of the derivative security’s value with respect to the underlying asset’s value. See John Hull, *Options, Futures, and Other Derivative Securities* 298-307 (2d ed. 1993).

new risks, such as the volatility of the underlying stock. Under the Black-Scholes option pricing technique, option prices depend on, among other variables, the volatility of the underlying stock. But, the value of stock does not depend on the volatility of the stock. As discussed in Part III.B.1., above, the total volatility of a share of stock consists of systematic risk and unsystematic risk. Stock values depend on systematic risk only because diversification can offset exposure to unsystematic risk. Thus, a stockholder who acquires a put is introduced to volatility risk in the underlying stock.

If purchase of a put or sale of a call is treated as a disposition, it is unclear, however, what asset has been disposed of. As discussed in Parts IV.B.2., 3., and 4., below, acquisition of a put or sale of a call by a taxpayer owning a share of stock could be viewed as a disposition of the share, a subposition of the share, or a fraction of the share.

2. *Similar to Disposition of Share.*—Under the “put-call parity” theorem, the combination of owning stock, buying a put on that stock, and selling a call on that stock with the same strike price and exercise date as the put is equivalent to owning a zero coupon bond that provides for a payment at maturity (the exercise date of the options) of an amount equal to the strike price of the options.⁶⁴ On the exercise date of the options, either the stock will be worth exactly the strike price, or the put or call will be exercised. In all events, on that date, the taxpayer will have an amount of cash and stock equal to the strike price. Algebraically, $S + P - C = Z$, where S represents owning the stock, P represents owning the put, $-C$ represents being short (being the grantor of) the call, and Z represents owning the zero coupon bond. Solving that equation for S , it is apparent that $S = Z - P + C$. Owning stock can be disaggregated into owning a bond, selling a put, and owning a call.

Consider a taxpayer who owns stock and acquires a put. After acquiring the put, the taxpayer owns $S + P$, which is equivalent to owning $Z + C$. The acquisition of the put might be a substitute for a disposition of the stock in exchange for a zero coupon bond and a call. Indeed, a taxpayer might acquire a put in order to set a minimum on the taxpayer’s return. By owning S and P together, the taxpayer is assured of having at least an amount equal to the strike price of the put on the expiration date, just as the taxpayer would be assured of receiving at least the stated redemption price at maturity on such date by owning Z and C . Therefore, if acquisition of the put is an appropriate time to tax previously accrued appreciation, the taxpayer’s

64. John C. Cox & Mark Rubinstein, *Options Markets* 41-42 (1985); Hull, *supra* note 63, at 163-66. See also Warren, *supra* note 6, at 465-67 (arguing that put-call parity poses conceptual challenge to Code’s realization regime for stock and options, and original issue discount accrual regime for debt). The text assumes that the stock does not pay dividends.

amount realized is the value of the bond and call, which equals the value of the stock and put. The taxpayer's basis is the basis in the stock plus the cost of the put. The value of the put drops out, with the result that the acquisition of the put would cause the taxpayer to recognize gain or loss equal to the difference between the value of the stock and the taxpayer's basis in the stock. That is the same amount of gain that the taxpayer would realize by selling the stock for its fair market value.

3. *Similar to Disposition of Embedded Short Put.*—Based on put-call parity, the purchase of the put could instead be viewed as a disposition of a subposition of the stock, rather than a disposition of the entire share. Since S equals $Z - P + C$, a share of stock may be viewed as having embedded within it a short put, $-P$.⁶⁵ Acquisition of the put *eliminates* the taxpayer's risk in the subposition, $-P$, that is embedded in the stock. On that view, the taxpayer's amount realized is the amount that the taxpayer received upon selling the embedded put, and the taxpayer's basis is the cost of acquiring the new put. It is unclear, however, how much amount realized the taxpayer should be treated as having for the embedded put. Although the taxpayer's basis in S is known, allocation of that basis among subpositions, including a short subposition, is unclear.⁶⁶

4. *Similar to Disposition of Fraction of Share.*—Acquisition of a put by a taxpayer that owns a share of stock could instead be viewed as a disposition of a fraction of the share. Owning a share of stock and a put on that stock is similar economically to owning a fraction of a share of the stock, owning an appropriate amount of Treasury obligations, and following a strategy under which, as the value of the stock increases, Treasury obligations are sold and stock is purchased, and, as the value of the stock falls, stock is

65. In fact, a share of stock could be viewed as having an infinite number of short puts embedded within it, because the formula $S = Z - P + C$ is true if the strike price of the options and the stated redemption price at maturity of the bond equal one another, and the exercise date of the options and maturity date of the bond are the same. That price could be any amount, however, and the date could be any date.

66. The Treasury proposal appears to treat stock as a fundamental unitary asset. It does not apply to a taxpayer that owns stock and buys a put (unless the put is substantially certain to be exercised) because buying the put *reduces*, but does not substantially *eliminate*, risk of loss and opportunity for gain with respect to the stock. See Budget Bill, *supra* note 3, § 9512. But, as demonstrated in the text, if stock may be disaggregated, then, under the proposal, buying a put *would* trigger realization with respect to an embedded put. See N.Y. St. B. Ass'n Report, *supra* note 3 (taxpayer's appreciated financial position should generally not be disaggregated). The proposal's assumption that stock is a fundamental asset that should not be broken down into constituent parts is administratively helpful, but enables taxpayers that own appreciated stock to avoid the proposal entirely by selling a call or purchasing a put.

sold and Treasury obligations are purchased.⁶⁷ In fact, such a strategy is called a "synthetic put."

Suppose that a taxpayer owns one share of stock worth \$100 and a put whose value, at that stock price, changes inversely by 50% of any change in the stock price.⁶⁸ If the value of a share of the stock decreases by \$1, the put will increase in value by approximately \$0.50, and if the value of a share of the stock increases by \$1, the put will decrease in value by approximately \$0.50. Thus, a \$1 decrease in value of the stock causes a \$0.50 decline in the taxpayer's overall position. The same result would occur if, instead of owning one share of stock and a put, the taxpayer owned 0.5 shares of stock with a value of \$50 and invested the remainder of the portfolio in Treasury obligations. A \$1 decline in value of a share of the stock would cause a \$0.50 decline in value of the taxpayer's stock position and no change in the value of the Treasury obligations.⁶⁹ Thus, acquisition of the put resembles a

67. Cox & Rubinstein, *supra* note 64, at 47; Elton & Gruber, *supra* note 52, at 593-94; Hull, *supra* note 63, at 319. Synthetic puts are sometimes referred to as "artificial" or "homemade" puts, and the strategy as "portfolio insurance." See generally *Portfolio Insurance: A Guide to Dynamic Hedging* (Donald L. Luskin ed., 1988).

The combination of owning stock and selling a call can also be created by dividing the taxpayer's portfolio between stock and Treasury obligations. In that case, however, as the stock price rises, the taxpayer sells stock and buys Treasury obligations, and as the stock price falls, the taxpayer buys stock and sells Treasury obligations. Cox & Rubinstein, *supra*, at 47.

Transaction costs make continuous rebalancing of the portfolio inefficient. See, e.g., Gerard Gennotte & Alan Jung, *Commissions and Asset Allocation*, *J. Portfolio Mgmt.*, Fall 1992, at 12. But, creating synthetic puts and calls using futures contracts, rather than the underlying stocks themselves, can reduce transaction costs. Elton & Gruber, *supra*, at 594; Hull, *supra*, at 320.

68. "Delta" of the put is -0.5. See *supra* note 63 and accompanying text.

69. At a different stock price, the put value would vary with the stock value by a different percentage, requiring a different mix of stock and Treasuries. For example, at a stock price of, say, \$120, the put might change in value by only 25% of any change in the stock value, and a \$1 decrease in value of a share of the stock would cause a \$0.75 decrease in the value of the taxpayer's stock and put position. The equivalent stock and bond portfolio would consist of 0.75 shares of the stock and the remainder in Treasury obligations. The proportion of the portfolio that should be invested in stocks can be described in terms of the value of the stock, the strike price, the risk-free rate of interest, the dividend yield on the stock, the volatility of the stock, and the time remaining until expiration. Hull, *supra* note 63, at 319.

The fraction of the overall position invested in stock or Treasury obligations must be adjusted as the time to expiration of the synthetic put decreases, even if the value of the stock does not change. If the synthetic put is out-of-the-money, the fraction invested in stock should be increased as the time to expiration decreases, so that in the absence of any change in stock value, the taxpayer owns one share of stock at maturity. If the synthetic put is in-the-money, the fraction invested in Treasuries should increase over time, so that at expiration the taxpayer owns only Treasuries with a value equal to the strike price. See Cox & Rubinstein, *supra* note 64, at 46.

disposition of 0.5 shares.

C. Risk-Magnifying Transactions

If a taxpayer wants to increase exposure to risk in a share of stock that the taxpayer owns, the taxpayer could sell the stock and purchase a call on the stock. Disposing of the stock would be a realization event. Instead, the taxpayer could try to avoid realization by increasing risk using a separate transaction. A taxpayer can enter into a transaction that magnifies the taxpayer's exposure to risk of the same variable that the taxpayer was exposed to before the transaction. For example, a taxpayer owning a share of stock might agree to pay a counterparty the square of the value of the share. Example 10 is a simplified version of such a contract, illustrating the taxpayer's increased exposure to Coin Flip after the transaction.

Example 10. Taxpayer owns Coin Flip. Taxpayer sells a contract for \$5,000 entitling the holder to be paid the square of the payment under Coin Flip. Thus, if the coin turns up heads, Taxpayer will pay the holder of the contract \$10,000. If the coin turns up tails, Taxpayer will pay the holder nothing. Taxpayer's net outcomes are as follows:

	Outcome =	Coin Flip +	Premium +	Payment
Heads	(4,900) =	100 +	5,000 +	(10,000)
Tails	5,000 =	0 +	5,000 +	0

The variance of the taxpayer's outcomes is dramatically increased by selling the contract, but the outcomes continue to depend only on the flip of the coin:

A synthetic put can be created for a diversified portfolio, instead of a single stock, or for a fixed-income security, rather than equity. See Erol Hakanoglu et al., Constant Proportion Portfolio Insurance for Fixed-Income Investment, *J. Portfolio Mgmt.*, Summer 1989, at 58.

Derivatives other than options can be created synthetically. For example, options can form the building blocks of synthetic futures contracts. See PanAgora to Boost OTC Derivatives Use, Eyes Emerging Markets Instruments, *Derivatives Week*, Dec. 20, 1993, at 1 (synthetic futures positions in Germany, Spain, and the Netherlands constructed by purchasing call option on an equity index and selling put with same strike price).

	Probability and Outcome	Expected Value	Variance	Standard Deviation
Coin Flip	50% 100 50% 0	50	2500	50
Coin Flip and Sell Contract	50% (4,900) 50% 5,000	50	24,502,500	4,950

D. Factor Hedges

The price of a share of stock is not fundamental because it can be decomposed into other risky variables. Factor hedges reduce or eliminate a taxpayer's exposure to a risk that influences the price of a share of stock.

Under arbitrage pricing theory (APT), a share of stock reflects several general economic variables, as well as the stock's unique risk.⁷⁰ Although there is debate about which variables matter, some authors have proposed that the appropriate variables are the level of industrial activity, the rate of inflation, the spread between short- and long-term interest rates, and the spread between the yields of low- and high-risk corporate bonds.⁷¹ Under APT, stock price is a function of the stock's sensitivity to those random variables. Just as betas can be estimated, so can the stock's sensitivity to those variables.⁷² A hedge can be constructed to eliminate exposure to some variables, while maintaining exposure to others.

Example 11. Taxpayer owns Asset U, which consists of Coin Flip R (\$100 if coin is heads, nothing if tails), Coin Flip S (\$200 if different coin is heads, nothing if tails), and Coin Flip T (\$300 if third coin is heads, nothing if tails). Taxpayer shorts Coin Flip R; that is, in exchange for \$50, Taxpayer agrees to pay someone \$100 if the coin involved in Coin Flip R turns up heads, and nothing if such coin turns up tails.

Such a hedge could be viewed as a disposition of Coin Flip R only or of Asset U. The example echoes the issues raised in Examples 6 and 7, in which

70. See Brealey & Myers, *supra* note 52, at 169.

71. *Id.* at 171; Elton & Gruber, *supra* note 52, at 383. See, e.g., Claude B. Erb et al., Country Risk and Global Equity Selection, *J. Portfolio Mgmt.*, Winter 1995, at 74 (country credit ratings correlate with international equity returns); Steven L. Heston & K. Geert Rouwenhorst, Industry and Country Effects in International Stock Returns, *J. Portfolio Mgmt.*, Spring 1995, at 53 (country dominates industry as factor in international equity returns).

72. Brealey & Myers, *supra* note 52, at 170.

the taxpayer disposed of a subasset of Coin Flip. A disposition of a part could be viewed as a disposition of the part only or of the whole. Perhaps if the value of Coin Flip R dominates the value of Asset U, the hedge is a substitute for a sale of Asset U.

Another type of hedging strategy based on APT consists of entering into a short position in one asset in order to hedge a long position in a different asset. If the two assets have similar sensitivities to the underlying variables, the short position offsets the long position.

Example 12. Taxpayer, who owns Asset U (described in Example 11), shorts Asset V, which also pays based on the R, S, and T coins, but in somewhat different amounts.

This type of hedge could be a substitute for a disposition of Asset U because the taxpayer's exposure to the variables underlying Asset U has been reduced. But, determining what kinds of risk underlie any particular asset and the asset's sensitivity to those risks is an art, rather than a science.⁷³

E. *Portfolio Diversification*

Portfolio diversification reduces a taxpayer's exposure to risk in a share of stock. Under CAPM, capital assets produce returns based on the performance of the market and another random variable. Sensitivity to the market is reflected in the asset's systematic risk, and the other random variable is unsystematic risk. Portfolio diversification eliminates unsystematic, but not systematic, risk by including in the portfolio other assets with

73. Arbitrage pricing theory is, in effect, already recognized in the tax law. Section 1.246-5(b)(1) of the regulations defines "substantially similar or related property" for purposes of § 246(c)(4)(C) (dividends received deduction holding period tolled if taxpayer diminishes risk of loss) and § 1092(d)(3)(B)(i)(II) (stock and offsetting position with respect to substantially similar or related property can be straddle). Under the regulation, property is substantially similar or related to a stock if (1) the fair market values of the stock and the property primarily reflect the performance of a single firm or enterprise, the same industry or industries, or the same economic factor or factors, such as interest rates, commodity prices, or currency exchange rates, and 2) changes in the fair market value of the stock are reasonably expected to approximate, directly or inversely, changes in the fair market value of the property (or a fraction or multiple thereof). For example, although two automobile manufacturer stocks primarily reflect the value of the same industry, they are not substantially similar or related because individual management decisions and capital structures affect their respective values, which, accordingly, are not reasonably expected to approximate one another. Regs. § 1.246-5(d) ex. 1. On the other hand, the stocks of two corporations, each of which holds gold as its primary asset, are substantially similar or related because they reflect the performance of the same economic factor and, based on historically similar price movements, are reasonably expected to change in value together. Regs. § 1.246-5(d) ex. 2.

unsystematic risk.⁷⁴ The example below illustrates reduction in a taxpayer's exposure to unsystematic risk through portfolio diversification.

Example 13. Taxpayer owns 1,000 assets, each of which pays \$2 if a particular coin turns up heads and nothing if the coin turns up tails. Heads and tails each have a 50% probability. Taxpayer's expected value is \$1,000 because Taxpayer has a 50% probability of getting \$2,000 and a 50% probability of getting nothing. Suppose that Taxpayer exchanges 999 of the assets for 999 new assets involving 999 different coins, each different from the coin involved in the retained coin flip. Each new asset pays \$2 if its respective coin turns up heads and nothing if tails. Each coin has a 50% probability of turning up heads and a 50% probability of tails. Taxpayer's expected value is still \$1,000, but variance is much lower. Overall, Taxpayer is likely to receive an amount that is close to \$1,000. Taxpayer has moved from an undiversified portfolio to a diversified portfolio. Although there is a realization event with respect to the 999 assets that were exchanged, there is no realization event with respect to the retained asset.

Although diversification is a form of hedging, it does not appear to be a substitute for a disposition of the retained asset.⁷⁵

F. *Dynamic Hedging*

A taxpayer may use a dynamic hedging strategy, involving frequent purchases and sales, to dispose of some risk in a share of stock instantaneously. Under such a strategy, a taxpayer eliminates risk of small price changes in the underlying asset, becoming "delta neutral," but remains exposed to risk of large price changes in the underlying asset.⁷⁶

For example, suppose that a taxpayer owns one share of stock worth \$100 and hedges by selling ten calls, each with respect to one share of stock and each having a delta of 0.1.⁷⁷ If the value of a share of stock increases

74. Brealey & Myers, *supra* note 52, at 137-38.

75. If portfolio diversification were treated as a disposition, basis in the risk disposed of would be zero. Because unsystematic risk can be eliminated through portfolio diversification, no part of the return on an asset is attributable to the bearing of unsystematic risk and, similarly, no part of a taxpayer's purchase price, or basis, should be attributed to unsystematic risk. Amount realized might also be zero, however, on the view that the value of the assets in a portfolio do not reflect unsystematic risk, regardless of whether the portfolio is diversified.

76. There are many kinds of dynamic hedging strategies, including synthetic puts. See *supra* notes 67-69 and accompanying text. The text discusses a dynamic hedging strategy designed to render the taxpayer neutral to small price changes in the underlying asset.

77. See *supra* note 63 and accompanying text.

by \$1, the taxpayer's overall position is unchanged because the value of the stock that the taxpayer owns increases by \$1, but the value of the taxpayer's obligations under each of the ten calls increases by \$0.10.

A taxpayer could dynamically hedge as a substitute for selling since the strategy aims to achieve a riskless overall position.⁷⁸ But, dynamic hedging introduces the taxpayer to new types of risks.

First, the value of the options in the example depends on other variables in addition to the stock value. Under the Black-Scholes option pricing technique, in addition to depending on the value of the underlying stock, the price of an option depends on the price volatility of the underlying stock, the strike price of the option, the time remaining until maturity of the option, and the risk-free rate of interest.⁷⁹ The Black-Scholes technique derives from an analysis of a riskless portfolio consisting of an option and an appropriate amount of the underlying asset.⁸⁰ It posits that over a very short period of time, the return on the portfolio is the risk-free rate of interest because arbitrage opportunities would otherwise be available.⁸¹ Using stochastic calculus, it establishes an equation for the return on the portfolio, sets that equal to the return on the portfolio at the risk-free rate, and solves for the value of the derivative security.⁸²

Second, dynamic hedging requires frequent monitoring and trading because the delta of the options changes as the value of the stock changes. In order to remain delta neutral, the taxpayer must buy or sell shares of stock (or write or close out calls) as the stock price changes because delta is different at different stock prices. Owning one share of stock and being the grantor of ten calls achieves a risk-free (or, more precisely, delta risk-free) position while the stock price is \$100. When the stock price moves away from \$100, a different number of calls would balance the stock. For example, if delta is 0.25 at a stock price of \$120, the taxpayer would, at that price,

78. Some taxpayers engaged in dynamic hedging are already required to mark to market under § 475 or § 1256. But, traders that use options to dynamically hedge single stocks are not subject to those provisions because § 475 applies only to securities dealers and § 1256 applies to certain options on a group of stocks or a stock index, but not to options on a single stock.

If a taxpayer dynamically hedges and makes a mixed straddle election under § 1.1092(b)-3(d) of the regulations, gain accrued prior to the establishment of the straddle is recognized when the straddle is established. Temp. Regs. § 1.1092(b)-3(b)(6).

79. See Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. Pol. Econ. 637, 638-39 (1973).

80. Robert C. Merton, *Theory of Rational Option Pricing*, 4 Bell J. Econ. & Mgmt. Sci. 141, 160 (1973).

81. *Id.*

82. Black & Scholes, *supra* note 79, at 637; Hull, *supra* note 63, at 218-21; Merton, *supra* note 80, at 141.

need to be the grantor of only four calls to hedge the taxpayer's one share of stock. Gamma is the rate of change of delta of a derivative security with respect to changes in the value of the underlying asset.⁸³ Delta hedging is imperfect because delta is not constant. Gamma measures how frequently a delta neutral position must be rebalanced in order to maintain delta neutrality.⁸⁴

Taxpayers might not view delta hedging as a good substitute for a sale because it introduces the taxpayer to new risks and requires ongoing monitoring and trading⁸⁵ and because transaction costs make inefficient some adjustments that would ideally be made under a dynamic hedging strategy. A taxpayer is generally not perfectly delta hedged. In the case of delta hedged portfolios with large gammas, the hedging strategy would leave the taxpayer highly exposed to price changes if the portfolio were not frequently rebalanced.

Treating dynamic hedging as a realization event would be administratively burdensome. For example, it would be difficult and impractical to draw lines between portfolios with low gammas and those with larger gammas. Indeed, whether a taxpayer is following a dynamic hedging strategy, rather than a strategy designed to take a view on a stock or on the market, could be unclear, could change over time, and is a matter of degree.

V. EFFICIENCY AND EQUITY ANALYSIS OF THE ECONOMIC SUBSTITUTE ARGUMENT FOR TREATING HEDGING AS A REALIZATION EVENT

The decision whether to treat hedging as a realization event should be based on efficiency and equity considerations relating to the ability of taxpayers to use hedges as economic substitutes for sales. As compared with current law, treating hedging as a realization event is not a clear winner. Taxing hedging might eliminate some transaction costs associated with hedging because some taxpayers who would have hedged under current law will likely choose to sell. A reformed realization rule might apply too narrowly, however, inviting taxpayers to enter into more complicated hedges generating greater transaction costs than the current realization system. Or, it might result in taxpayers holding their assets without hedging, exacerbating the lock in effect of current law. Taxing hedging is appealing on equity grounds, but arguments in favor of taxing hedgers also apply to taxing holders. The desirability of reforming realization to apply to hedging depends on the particular terms of the regime under consideration.

83. Gamma is the second partial derivative of the value of the derivative security with respect to the value of the underlying asset. See Hull, *supra* note 63, at 310-14.

84. *Id.* at 310.

85. A trading desk is required in order to monitor and trade with the required frequency. Financial institutions are therefore well-positioned to engage in dynamic hedging.

A. *Efficiency and Equity Under Current Realization Requirement*

Realization proposals should be analyzed by comparison with the current realization regime, which produces certain social benefits and costs. The well-recognized benefits of the realization requirement relate to valuation and liquidity.⁸⁶ The realization requirement makes unnecessary the annual valuation of assets that would be required under an ideal income tax. The realization requirement also helps prevent taxpayers from being required to sell assets in order to raise funds to pay tax.

The realization requirement produces several social costs. First, the requirement discourages taxpayers from selling appreciated assets. A taxpayer who would otherwise sell an appreciated asset might decide to hold, rather than incur tax on the appreciation. The realization requirement creates a lock in effect by imposing tax on dispositions but not on holding.⁸⁷ It thus undermines a taxpayer's ability to hold a portfolio that matches the taxpayer's risk and other preferences.

Second, the realization regime causes social costs in the nature of transaction costs by allowing taxpayers to avoid lock in through hedging. As discussed in Part II.B., above, hedging fungible assets generally does not trigger gain under current law. Thus, entering into an equity swap, short sale against the box, or married put and call enables a taxpayer to eliminate exposure to risk in an appreciated asset without triggering tax. Those transactions bear transaction costs, which vary depending on the type of hedge. Short against the box transactions have low transaction costs because the short sale involves a publicly traded asset, but equity swaps involve significant social resources since they are over-the-counter products drafted specially for the parties. Even short sales against the box involve some transaction costs. They are more expensive than the ultimate elective tax under which a taxpayer checks a box on the taxpayer's return. To the extent that taxpayers avoid lock in through hedging, the social costs of lock in are eliminated, but transaction costs are created.

Third, the realization requirement favors relatively affluent taxpayers because the deferral benefit of the realization requirement is only available to holders of appreciated capital.⁸⁸ Thus, assuming that fairness requires distribution of the tax burden in accordance with ability to pay, measured by

86. See *supra* notes 12-13 and 47-48 and accompanying text.

87. See, e.g., Daniel N. Shaviro, *An Efficiency Analysis of Realization and Recognition Rules Under the Federal Income Tax*, 48 *Tax L. Rev.* 1, 5 (1992) (noting that lock in constitutes a reduction in a taxpayer's pretax welfare without any revenue gain to the government).

88. The step up in basis at death under § 1014 provides an additional benefit to holders of appreciated assets.

economic income, the realization requirement forces persons who earn their income through labor to bear more than their fair share of the tax burden.

Fourth, the realization requirement creates a perceptual cost. The public may believe the system is unfair when taxpayers with large amounts of capital appreciation avoid paying tax. That perception of unfairness may be exacerbated when such taxpayers hedge their appreciated assets without paying tax.⁸⁹ For a tax system based on voluntary compliance, the perception that the regime is fair is crucial. On the other hand, realization may be a sufficiently esoteric subject that public perception of the fairness of the realization rule in general and its application to hedging may be mixed or uncertain.

B. *Would Treating Hedging as a Realization Event Be an Improvement?*

Whether a reform of the realization requirement to apply to hedging would be an improvement over current law depends on the particular proposal because different proposals would have different effects.

The valuation and liquidity benefits that underlie the realization requirement would be lost generally if entering into a hedge were treated as a realization event. But, those benefits are small in the context of publicly-traded assets where valuation is generally simple and the market is liquid.⁹⁰ Valuation could be more difficult if a nonmarketable asset, or a large block of shares of a single issuer, needed to be valued.⁹¹ But, presumably, in order to arrange the hedge that triggered the realization event, the parties estimated the asset's fair market value. In any event, valuation and liquidity concerns are no greater in the context of hedging than they are in the context of property-for-property exchanges that are taxable under current law.

As to lock in, treating hedging as a realization event would probably cause some taxpayers that would otherwise hedge to sell. The Joint Committee on Taxation has estimated that the Treasury proposal will generate 100 million in revenue for each year from 1996 through 2002,⁹² implying that some taxpayers that, under current law, would have utilized a short

89. I thank Noel Cunningham for emphasizing this point to me.

90. Valuation could be difficult if hedging is treated as a realization event and the taxpayer is treated as realizing an amount other than the fair market value of the asset.

91. The Treasury proposal could require valuation of a nonmarketable asset. The proposal generally applies to appreciated financial positions, whether or not they are marketable. However, a contract for sale of nonmarketable stock, debt, or partnership interests is excluded if the sale occurs within one year after the contract is made. Budget Bill, *supra* note 3, § 9512 (proposed § 1259(c)(3)).

92. Joint Comm. on Tax'n, *Estimated Revenue Effects of "Middle Class Bill of Rights Tax Relief Act of 1996"* (Jan. 6, 1996), reprinted in B.N.A. Daily Tax Report (Jan. 10, 1996), at L-9.

against the box or other hedge to neutralize their position without triggering tax would, under the proposal, sell their appreciated asset (or hedge in a way that is covered by the proposal). Such a taxpayer's desire to dispose of the asset is sufficiently strong that the taxpayer would prefer to sell and recognize gain than to hold and defer tax. As to those taxpayers, there would not be lock in under current law (because the taxpayer would have hedged) and there will not be lock in under the proposal (because the taxpayer will sell or hedge). The transaction costs associated with avoiding lock in would be reduced under the proposal because taxpayers will generally sell, rather than hedge, and selling generally involves transaction costs that are less than or equal to the costs of hedging. The extent of that reduction in social costs may not be dramatic, however, since a short sale against the box, the standard hedging device for publicly traded assets under current law, does not involve significantly greater transaction costs than a sale.

Other taxpayers that want to overcome lock in will avoid triggering gain under a new realization rule by hedging in a way that is not covered, but such hedges might involve higher transaction costs. The Treasury proposal, for example, would favor imperfect hedges over perfect hedges, encouraging people to buy puts or sell calls or enter into collars with respect to appreciated assets, rather than enter into a short sale against the box or total-return equity swap. Over-the-counter puts, calls, and collars would likely involve higher transaction costs than a short sale against the box. A realization regime that covered puts and calls would encourage taxpayers to create synthetic puts or calls unless those were also taxed.⁹³ For taxpayers who make such substitutions, the lock in effect of the realization requirement is reduced (to the extent the hedge overcomes lock in), but not eliminated, because the hedges permitted under the regime would not neutralize the taxpayer's position.

93. The tax incentive to use synthetic puts or calls might not be sufficient to overcome the transaction costs required to implement a synthetic option. But see *UBS Creates Synthetic DAX Put Option Position*, *Derivatives Wk.*, Nov. 22, 1993, at 4 (stating that for German tax reasons, a synthetic put option was created because exchange-traded puts were unavailable).

From a market perspective, synthetic puts are destabilizing because the strategy involves buying as the stock value increases and selling as it decreases. See Donald L. Luskin, *After the Fall*, in *Portfolio Insurance*, *supra* note 67, at 311, 313 (portfolio insurance is "trend-following" strategy). In fact, there is debate about the extent to which portfolio insurance exacerbated the October 1987 market crash. See *Report of the Presidential Task Force on Market Mechanisms* 36 (1988) (stating that three portfolio insurers made \$2 billion of total \$21 billion of New York Stock Exchange sales on Monday, October 19); Luskin, *supra*, at 313 (finding that portfolio insurance was not uniquely responsible); Mark Kritzman, *Portfolio Insurance and Related Dynamic Trading Strategies*, in *Financial Options: from Theory to Practice* 454, 482 (Stephen Figlewski et al. eds., 1990) (stating that although market conditions for success of portfolio insurance are more restrictive than originally expected, strategy remains "reasonably effective").

Further, the transaction costs of hedging would be increased because taxpayers would need to engage in especially sophisticated transactions in order to avoid triggering gain. Taxpayers would need to be exceptionally well-advised, not just well-advised, to win.⁹⁴

Those transaction costs include legal fees for determining whether the realization rule applies to particular hedges. For example, the Treasury proposal appears narrow, applying to a taxpayer that enters into a position with respect to "the same or substantially identical property" and thereby "substantially eliminate[s] both risk of loss and opportunity for gain."⁹⁵ In fact, the scope of the Treasury proposal is uncertain in many respects.⁹⁶ A more narrowly drawn rule, such as a rule that applied only to short against the box transactions, would reduce such interpretive costs.

Finally, some taxpayers that would have hedged under current law will, under a realization rule that applies to hedging, continue to hold their appreciated assets without hedging.⁹⁷ They suffer lock in, which they would not suffer under current law (because they would hedge), but they do not incur the transaction costs that they would have incurred under current law.⁹⁸

94. Tom Herman, *White House Moves to Curb Techniques to get Around Capital-Gains Taxes*, *Wall St. J.*, Jan. 15, 1996, at A2 (arguing that taxpayers will use more sophisticated strategies if Administration's "substantial elimination" test is enacted).

95. Budget Bill, *supra* note 3, at § 9512 (proposed § 1259(c)(1)(A)).

96. N.Y. St. B. Ass'n Report, *supra* note 3 (arguing that Treasury proposal could lead to "costly and unnecessary market distortions and inefficiencies" unless prompt guidance is provided).

97. This group includes taxpayers that would have hedged under current law solely in order to avoid gain recognition on a sale *and* taxpayers that would have used imperfect hedges for nontax reasons to achieve a desired exposure to risk.

98. If many taxpayers choose neither to sell nor hedge, treating hedging as a realization event could reduce revenues relative to a realization regime not based on risk. Suppose that a taxpayer holding a risky appreciated share of stock that pays no dividends wants to sell the stock and purchase Treasury bonds. Suppose further that the taxpayer will not sell because the taxpayer does not want to realize gain on the appreciation. Under a realization regime that does not tax hedging, the taxpayer could hedge into a Treasury bond return and, depending on the type of hedge, would generally pay tax currently on the Treasury bond return that accrues after inception of the hedge. If the counterparty to the hedge is tax-exempt, there would be no offsetting deduction in the system with the result that more tax could be collected by virtue of the hedge than would be collected if the hedge did not occur. Under a regime that treats hedging as realization, the taxpayer will not hedge because she does not want to realize gain on the appreciation. She will also not pay any tax on any subsequent return on her stock because the stock does not pay dividends. To the extent that such a regime discourages taxpayers owning appreciated assets without a currently taxable return from hedging into assets with a currently taxable return, the regime could suppress revenues as compared with current law.

As to distributional considerations, consider three taxpayers: Holder, Seller, and Hedger. Each holds an asset with \$90 of unrealized appreciation. Holder simply holds her asset. Seller sells her asset for its fair market value. Hedger hedges her asset.⁹⁹ The three taxpayers have the same ability to pay, but the realization requirement treats Holder better than Seller. From a distributional standpoint, all three taxpayers should be taxed.

Because the realization requirement favors higher income taxpayers by allowing deferral that is generally not available to labor income, taxing Hedger helps ameliorate that unfairness. Individual investors who hedge are likely to be high bracket taxpayers. Perhaps we should be unconcerned that the system fails to tax Holder. On this view, one imperfection in the regime does not justify more imperfections.¹⁰⁰

Not all hedgers are individuals, however. Anecdotal evidence indicates that corporations,¹⁰¹ individuals,¹⁰² and institutional investors¹⁰³

99. Deborah Schenk uses a similar example. See Schenk, *supra* note 4.

100. Indeed, in the example in the previous paragraph, if the amount of appreciation were \$90 million, rather than \$90, there might be no Holder or Seller under current law because persons with that amount of appreciation who wanted to dispose of their assets might find a way to avoid realization by hedging.

101. Corporations utilize a wide variety of hedging strategies. See Deborah L. Paul, *Derivatives Can Be Used To Monetize Portfolio Stock Investments, But Tax Issues Remain*, 1 *Derivatives* 52 (1995). For example, in addition to short against the box, option, and equity swap transactions, see *supra* note 1, corporations hedge exposure to portfolio stock by issuing debt instruments that pay contingent returns based on the performance of such stock. E.g., Debt Exchangeable for Common Stock issued by Allstate based on The PMI Group, Inc. Common Stock (May 1995), Sprint Corporation based on Southern New England Telecommunications Corporation Common Stock (March 20, 1995), First Chicago Corporation based on NEXTEL Communications, Inc., Common Stock (February 8, 1994), and American Express Company based on First Data Corporation Common Stock (October 7, 1993). *Id.* at 54 n.9. See also Saul Hansell, *Lazard Finds Brawny Ally for Derivatives*, N.Y. Times, Mar. 22, 1994, at D1 (discussing equity swap strategy for corporate shareholders).

The issuance of § 1.1092(d)-2(a) of the regulations on March 17, 1995, may have deterred some corporate and other taxpayers from entering into equity swaps because those regulations generally treat actively traded stock and an offsetting equity swap as a straddle.

102. Individuals have fewer hedging alternatives than corporations. Equity swaps are generally available to individuals only if they have a high net worth. See Adam Bryant, *Betting the Farm on the Company Stock*, N.Y. Times, Apr. 16, 1995, § 3, at 1 (stating that executives may diversify portfolio with equity-for-equity swap); *Executive Privilege*, N.Y. Times, Apr. 3, 1994, § 3, at 2 (pointing out that equity swaps are not available to small stockholders); Floyd Norris, *For Wall St., A New Tax Break*, N.Y. Times, Mar. 29, 1994, at D1 (reporting that Chairman and CEO of Autotote Corporation entered into equity swap with Bankers Trust covering 500,000 Autotote shares).

Other hedging devices, such as short sales against the box and exchange-traded options, are readily available to individuals. See Peter Brimelow & Mark Hulbert, *Constructing Your Own Hedge Fund*, *Forbes*, July 31, 1995, at 114 (recommending simultaneous long and short positions in different stocks); William Baldwin, *Crash Insurance*, *Forbes*, July 31, 1995,

use derivatives to hedge investment assets. The distributional impact of imposing tax on corporations and other entities that hedge is uncertain.

Further, imposing tax on Hedger creates a new distributional concern. Not all capital investors are alike. Because realization inevitably depends on form, whatever the particular proposal, there will likely be ways to hedge without triggering realization. Under current law, the formality is obvious, and hedges, such as the short against the box, that do not trigger realization are available to relatively unsophisticated investors. Under a realization regime that taxed short against the box transactions and other hedges that

at 116 (index put options for individual with appreciated portfolio); Ken Brown, A Way to Hold on to Those Stock Profits, *N.Y. Times*, July 9, 1995, § 3, at 7 (reporting on professor purchasing index puts as insurance); Floyd Norris, Investing It: 4700 and Coping with High Anxiety, *N.Y. Times*, July 9, 1995, § 3, at 1; (discussing short sales against the box used "routinely" by large investors, such as family with huge profits in Salomon stock).

103. See Aim Creates Equity Hedges for Pension Fund Clients, *Derivatives Wk.*, Feb. 21, 1994, at 5 (put, "put spread," and "put butterfly" hedging strategies); Burgundy Hedges International Portfolio with S&P 500 Puts, *Derivatives Wk.*, Feb. 14, 1994, at 6; Cristal Hedges Equity Exposure, *Derivatives Wk.*, July 31, 1995, at 5 (reporting that short-dated index put options were acquired to hedge French equity market exposure); JGB Swap Activity Heats Up, *Derivatives Wk.*, June 26, 1995, at 2 (discussing funds entering swaps to hedge Japanese Government Bonds); Murphy Capital Hedges S&P 100 While Remaining Bullish, *Derivatives Wk.*, Sept. 5, 1994, at 7 (fund hedges with puts); Paul O'Keefe, Derivatives Come to the Rescue of Lloyd's of London Trusts, *Derivatives Wk.*, Oct. 25, 1993, at 1 (fund to purchase index put); Paul O'Keefe, Surge in Equity Swaps: J.P. Morgan Leads the Way with Giant Deal, *Derivatives Wk.*, May 3, 1993, at 1 (reporting \$620 million swap of S&P 500 for floating interest-like return); U.S. Hedge Funds are Sticking with Derivatives, Says Study, *Derivatives Wk.*, Nov. 28, 1994, at 5 (stating 56% of U.S. hedge funds use derivatives).

Institutional investors include funds subject to the Investment Company Act of 1940, hedge funds, and pension funds. The Investment Company Act of 1940 imposes restrictions, including leveraging and hedging restrictions, on funds with more than 100 investors. The organizational documents or investment policies of the fund may impose additional limitations on hedging. Among such investment companies are "mutual funds," which typically qualify as a "regulated investment company" under § 851, entitled generally to conduit treatment. See 3 Bittker & Lokken, *supra* note 12, ¶ 95.7.1.

Alternatively, U.S. investors may invest in funds not subject to the Investment Company Act of 1940. Because of their relatively unregulated ability to hedge, some such funds are called "hedge funds." For tax purposes, these funds are generally organized to qualify for flow-through treatment.

Pension funds are also important hedgers. See, e.g., Calpers Chooses Dynamic Hedging Strategies: Names Palomar, BEA to Manage FX Exposure, *FX Week*, March 13, 1992, at 1. Investment income of pension funds is generally excluded from unrelated business taxable income under § 512(b). That exclusion covers income and deductions from notional principal contracts (including equity and equity index swaps), Regs. §§ 1.512(b)-1(a)(1), 1.446-3(c)(1)(i), and gain or loss recognized in connection with the pension fund's investment activities from the lapse or termination of options to buy or sell securities. IRC § 512(b)(5); Regs. § 1.512(b)-1(d)(2).

strongly substitute for sales, the system's formality may be less obvious and therefore require more sophisticated tax planning available only to more affluent investors. For example, under the Treasury proposal, the short against the box transaction would trigger realization, but certain collars would not.¹⁰⁴ Constructing a collar, and determining whether a particular collar was covered by the proposal, would require consultation of a tax expert and perhaps also an investment bank, expenses that a less affluent investor may not want to incur. Further, to the extent that taxpayers choose not to sell (or choose to hedge in a manner that is not taxed), a reformed realization requirement will not raise revenue or improve the distribution of the tax burden.

As to the perceptual concern, it is unclear what signal would be sent to the public by reforming the realization requirement to apply to hedging. On the one hand, perhaps the regime would be viewed as remedying an unfairness. On the other hand, if the rule is perceived as ineffective because some taxpayers are able to avoid paying tax through more sophisticated hedging, the public perception of unfairness in the system might not be counteracted.

In sum, the lock in and transaction costs caused (or aggravated) by taxing Hedger create second best¹⁰⁵ arguments that militate against that reform. Distributional concerns favor taxing all appreciation, including appreciation accrued by Hedger. The Treasury proposal appears to strike a reasonable balance among those competing concerns.

C. *The Consumption Tax Perspective*

The present tax system is a hybrid income-consumption tax.¹⁰⁶ Many of its departures from a pure income tax move the system structurally towards a consumption tax. Indeed, the realization requirement is sometimes

104. A collar is a combination of options, or an equity swap, that leaves the taxpayer exposed to price variations in the underlying asset within a range, but protects the taxpayer outside that range.

105. The theory of the second best begins with the observation that our income tax regime retreats from an ideal income tax system in many ways. Further, taxing Haig-Simons income is not itself the aim of the tax system. Rather, the goal is efficiency and a fair distribution of the tax burden based on well-being. As a result, individual proposals, such as a proposal to treat hedging as a realization event, that move toward an accretion system are not necessarily steps in the right direction. Particular proposals must be assessed in the context of whether they move the system as a whole closer to achieving the desired allocation of tax burden. A particular proposal that moves away from taxing economic income may be desirable if it offsets other departures from the ideal. Boris I. Bittker, A "Comprehensive Tax Base" as a Goal of Income Tax Reform, 80 Harv. L. Rev. 925, 982-84 (1967).

106. William D. Andrews, A Consumption-Type or Cash Flow Personal Income Tax, 87 Harv. L. Rev. 1113, 1117-18 (1974).

viewed as a consumption tax feature of present law because, under that requirement, no tax is imposed if the taxpayer remains invested in the same asset.¹⁰⁷

Consumption tax proposals have been popular recently. And, the advantages and disadvantages of a consumption tax as compared with an income tax have been debated for many years.¹⁰⁸ A consumption tax ideally is neutral between current and future consumption, while an income tax favors current consumption.¹⁰⁹ But, a consumption tax could be regressive.¹¹⁰

An advocate of a consumption tax might believe that even absent wholesale adoption of a consumption tax, the more consumption tax treatment contained within the income tax system the better. Since income equals consumption plus changes in wealth, reducing tax on changes in wealth is desirable because it shifts the system towards taxing consumption only. On that view, the realization requirement appropriately defers tax on savings and therefore offsets the income tax system's overall disincentives for savings. Further, taxpayers' efforts to avoid realization through hedging should be encouraged because they advance a self-help consumption tax. Under a more extreme version, achieving realization could be made more difficult by, for example, repealing the rule that property-for-property exchanges are realization events.¹¹¹

107. See William D. Andrews & David F. Bradford, *Savings Incentives in a Hybrid Income Tax*, in *Uneasy Compromise: Problems of a Hybrid Income-Consumption Tax* 276 (Henry J. Aaron et al. eds., 1988) (stating that capital gain treatment may be closer to consumption tax model than accretion tax model).

108. See Andrews, *supra* note 106; David F. Bradford, *The Case for a Personal Consumption Tax*, in *What Should Be Taxed: Income or Expenditure?* 75 (Joseph A. Pechman ed., 1980); Barbara H. Fried, *Fairness and the Consumption Tax*, 44 *Stan. L. Rev.* 961 (1992) (traditional arguments for fairness of consumption tax not persuasive); Richard Goode, *The Superiority of the Income Tax*, in *What Should Be Taxed?*, *supra*, at 49; Alan Gunn, *The Case for an Income Tax*, 46 *U. Chi. L. Rev.* 370 (1979) (claim that income tax imposes double tax on savings is dubious); Alvin C. Warren, Jr., *Fairness and a Consumption-Type or Cash Flow Personal Income Tax*, 88 *Harv. L. Rev.* 931 (1975); William D. Andrews, *Fairness and the Personal Income Tax: A Reply to Professor Warren*, 88 *Harv. L. Rev.* 947 (1975).

109. See, e.g., Andrews, *supra* note 106, at 1168.

110. See U.S. Dep't of the Treasury, *Blueprints for Basic Tax Reform* 136 (1977) (arguing that apparent regressivity of cash flow consumption tax is misleading); Michael J. Graetz, *Implementing a Progressive Consumption Tax*, 92 *Harv. L. Rev.* 1575 (1979) (describing serious implementation problems).

111. Nonrecognition rules already provide that certain exchanges are not currently taxed. E.g., IRC §§ 351 (nonrecognition on contribution of property to controlled corporation in exchange for stock); 354 (nonrecognition on exchange in pursuance of plan of reorganization of stock or securities solely for stock or securities of party to reorganization); 721 (nonrecognition on exchange of property for partnership interest).

If property-for-property exchanges were generally tax-free, sales for cash should be

The argument that incremental steps towards a consumption tax are desirable is not clear, however, even assuming that a consumption tax would be better than an income tax. Whatever the merits of a consumption tax, incremental shifts toward it in the context of an income tax might not be wise. Steps toward a consumption tax could produce some of the possible regressivity of a consumption tax. Arguments for inching toward a consumption tax should do more than point out the merits of a consumption tax.¹¹²

VI. THE FUTURE OF THE REALIZATION REQUIREMENT

A reform of the realization requirement to apply to hedging would be formal because the realization requirement's distinction between holding and disposing is formal. Such a reform aims to maintain the integrity of the categories, but the categories are themselves normatively irrelevant and conceptually unclear. The advantages of distinguishing between holding and disposing are undermined by the inefficiencies needed to maintain the distinction. Consideration should be given to placing more assets (and liabilities)¹¹³ on an accrual system.¹¹⁴

tax-free if the funds are reinvested. Cf. IRC §§ 1034 (rollover of gain on sale of principal residence if new principal residence is purchased within two years of sale); 1042 (nonrecognition of gain on sale of securities to employee stock ownership plan if "qualified replacement property" purchased within specified period).

112. A potentially promising route is systematic construction of a better hybrid income-consumption tax. By distinguishing among savings for life cycle, precautionary, and bequest purposes, Edward McCaffery, for example, has evaluated regimes that would provide different treatment for different kinds of savings. Edward J. McCaffery, *Tax Policy Under a Hybrid Income-Consumption Tax*, 70 *Tex. L. Rev.* 1145 (1992). Michael Knoll has evaluated three hybrids: a blended hybrid under which earnings are taxed at full marginal rates and savings at reduced marginal rates, a simple hybrid that would provide immediate expensing of a portion of basis and economic depreciation for the remainder, and a system that would provide a deduction for a fraction of the undepreciated portion of every asset at a statutorily defined cost of capital. Michael S. Knoll, *Designing a Hybrid Income-Consumption Tax*, 41 *UCLA L. Rev.* 1791 (1994). Those reforms tend to reduce the significance of the realization requirement by placing significant savings on a consumption tax model. Hedging would therefore pose less of a problem for those regimes than for the current system.

113. Although this article focuses on realization with respect to assets, realization is also a key issue for liabilities. A borrower can realize cancellation of indebtedness income or bond repurchase premium if the borrower is treated as extinguishing the liability for less or more, respectively, than the principal amount of the borrowing.

114. It has been argued that the law is heading in this direction. See Thomas L. Evans, *The Evolution of Federal Income Tax Accounting—A Growing Trend Towards Mark-to-Market?* 67 *Taxes* 824 (1989) (stating that uniform capitalization rules, percentage of completion method for long-term contracts, limitations on availability of cash method of accounting, repeal of reserve method for bad debts, and curtailment of installment method in Tax Reform Act of 1986 and Revenue Act of 1987 reflect trend toward mark-to-market). See also Scott M. Kolbrenner, *Derivatives, Design and Taxation*, 15 *Va. Tax Rev.* 211, 274-75

Comprehensive accrual taxation is impractical, but limited mark-to-market regimes may be workable. The valuation and liquidity concerns underlying the realization requirement are less problematic in the context of marketable securities, and, accordingly, such securities could be subject to a mark-to-market regime.

On the other hand, a limited mark-to-market regime raises efficiency problems of its own by encouraging taxpayers to invest in assets not subject to the regime. In general, assets outside the mark-to-market regime would be favored from a tax point of view because marking to market eliminates the deferral benefit of the realization requirement. In addition, for individuals, marking to market eliminates the possibility of a basis step-up at death under section 1014. For example, if marketable securities were subject to an accrual regime and real estate were not, tax considerations would encourage investment in real estate or nonpublicly-traded stock.¹¹⁵ An additional difficulty for a limited mark-to-market regime would be valuing hedges. For example, if a taxpayer owns stock and purchases a put, valuing the stock may be simple, but valuing the put would not be simple if the put were not itself traded.

Substantial examination is required before significantly expanding mark-to-market treatment. The general parameters for such examination are that assets (and liabilities) subject to mark-to-market should be susceptible of valuation with relative ease and should be liquid, in order that the system be administrable and not unfair to taxpayers with limited cash resources. Also, in view of the efficiency concern described in the previous paragraph, demand for such assets (and liabilities) must be relatively inelastic to tax results.¹¹⁶

VII. CONCLUSION

Derivative financial instruments enable taxpayers to dispose of risk in an asset without disposing of the asset itself. The resemblance of hedging to disposing raises the question whether hedging should be a realization

(1995) (advocating mark-to-market regime for contingent payment debt instruments).

115. See Shaviro, *supra* note 87, at 38 (arguing that taxing unrealized appreciation in publicly traded stock may cause taxpayers to invest in other stocks); Edward A. Zelinsky, *For Realization: Income Taxation, Sectoral Accretionism and the Virtue of Attainable Virtues* (forthcoming) (stating that limited mark-to-market regime would distort investment decisions).

116. See Shaviro, *supra* note 87, at 30-35 (stating that it is generally best to tax tax-inelastic events).

Limited accrual taxation would appear to enhance equity. The realization requirement presumably favors high-bracket taxpayers most and therefore reduces progressivity. Although taxpayers with investment income exist in all brackets, limited accrual taxation would appear to enhance the overall system's allocation of tax burden according to ability to pay.

event. But, on closer examination, the connection between dispositions and risk is tenuous and, at best, dependent upon many formal assumptions about which risks matter and what constitutes a single asset. Conceptually, the resemblance between a hedge and a disposition is dependent upon such assumptions. Because the distinction between holding and disposing is formal, whether hedging should be treated as a disposition can only be made based on second-best efficiency and equity arguments addressing the ability of taxpayers to substitute hedging for disposing. The Treasury proposal strikes a reasonable compromise among competing concerns, but, in the end, a realization requirement that applies to hedging introduces marginal efficiency and equity advantages in exchange for significant complexity defending a meaningless distinction. A better approach to overcoming the difficulties posed by the realization requirement might be to limit its scope by imposing a broader mark-to-market regime than currently applies.