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TAXING SALES OF DEPRECIABLE ASSETS

James R. Hines Jr.

Investors in depreciable assets used in a trade or business claim depreciation deductions following investment, and upon sale or other disposition of their assets are taxed on gain or loss equal to differences between amounts realized and adjusted basis. The taxation of these realized gains and losses is asymmetric: losses are deductible against ordinary income, whereas a portion of the gain on sales of personal property, and virtually all gains on sales of real property, are taxed at more favorable capital gain tax rates. Evidence from U.S. tax returns in 2012 indicates that the aggregate annual magnitude of the tax saving due to the asymmetric taxation of these gains and losses is relatively modest, roughly between \$800 million and \$1.71 billion. This paper considers the policy basis of this asymmetric tax treatment, noting that depreciation rules together with the elective nature of sale and realization implies that the tax system inefficiently discourages sales of depreciable business assets on which taxpayers have unrealized gains. In order to maintain efficient reallocation of used assets it is necessary to tax realized gains rather lightly. Taxpayers with unrealized losses on depreciable property have the option of retaining or discarding the property, in the first case claiming subsequent depreciation deductions against ordinary income and in the second claiming an immediate ordinary loss. The availability of these options implies that limiting the tax rate applicable to deductions for losses on sales of depreciable assets again would also inefficiently discourage asset sales. Consequently, the elective nature of asset sales implies that an efficient system imposes asymmetric taxes on gains and losses from sales of depreciable assets.

I. INTRODUCTION

Asset sales have important federal tax consequences, as taxpayers in selling assets thereby realize heretofore untaxed gains or losses. The policy of taxing gains and losses at the time of sale is the logical counterpart of not taxing unrealized gains and losses as they accrue, since cumulative taxable income over the lifetime of an investment thereby reflects the change in a taxpayer's net economic position.

Sales of depreciable assets used in a trade or business pose challenging problems for systems of taxing income, including the system used in the United States. There is understandable concern over the current U.S. tax treatment of used asset sales, in which some proceeds are taxed as ordinary income, and others are taxed at more favorable rates as capital gains. The purpose of this essay is to consider the appropriate tax treatment of business asset sales, and to evaluate the U.S. tax system in light of this analysis.

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There is an important sense in which the tax treatment of asset sales is part of the broader problem of permitting investors recovery of their investment expenses. Gross investment returns are components of taxable income, against which investors are quite appropriately entitled to deduct expenses associated with producing this income. Capital expense recovery includes not only the deduction of adjusted basis in calculating capital gains, but also depreciation deductions, the deduction of basis in assets discarded or abandoned, and other adjustments. All of these aspects of capital investment expense recovery raise knotty problems.

It is obviously necessary to permit taxpayers to deduct expenses incurred in a trade or business. Expense deduction is the sine qua non of income taxation, since the concept of taxable income is that it is net of expenses; without expense deductions income taxation becomes a form of sales taxation. Investors generally are not permitted to deduct capital expenses at the time they are incurred,¹ but instead capitalize investment expenditures, and claim depreciation deductions over a course of years.² There is concern over the appropriate method of calculating depreciation for tax purposes. Most critics argue that by permitting taxpayers to claim “accelerated” depreciation deductions that are more generous in the first years following an investment than the depreciation deductions offered by straight-line depreciation, taxpayers experience an overly favorable tax treatment of investment expenses and excessive opportunities for tax sheltering.³ Similar criticism has been leveled at the tax treatment of asset sales, and in particular the ability of taxpayers to have certain gains on these sales taxed at favorable capital gain tax rates, whereas losses can be deducted at (generally higher) ordinary tax rates.⁴

Professor Douglas A. Kahn of the University of Michigan Law School famously offered a defense of accelerated depreciation and a critique of the current system of depreciation recovery in the case of asset sales.⁵ The basis of Professor Kahn’s argument is that the U.S. tax system generally taxes gains and losses on a realization basis, and that the realization doctrine implies that some aspects of changes in the values of depreciable assets during their useful lifetimes are properly not incorporated in deter-

1. I.R.C. §263(a) (2012). *See generally* Douglas A. Kahn & Jeffrey H. Kahn, FEDERAL INCOME TAX, (7th ed., 2016) (providing a highly lucid description and interpretation of federal income tax statutes).

2. §167(a).

3. *See, e.g.*, Theodore S. Sims, *Debt, Accelerated Depreciation, and the Tale of a Teakettle: Tax Shelter Abuse Reconsidered*, 42 UCLA L. REV. 263 (1994).

4. *See, e.g.*, Calvin H. Johnson, *Gains and Losses on Business Depreciable Property*, 126 TAX NOTES 787 (2010).

5. Douglas A. Kahn, *Accelerated Depreciation – Tax Expenditure or Proper Allowance for Measuring Net Income?*, 78 MICH. L. REV. 1 (1979). Professor Kahn replies to a critic in Douglas A. Kahn, *Accelerated Depreciation Revisited – A Reply to Professor Blum*, 78 MICH. L. REV. 1185 (1980); and revisits this issue in Douglas A. Kahn, *A Proposed Replacement of the Tax Expenditure Concept and a Different Perspective on Accelerated Depreciation*, 41 FLA. ST. U. L. REV. 143 (2013).

mining depreciation schedules and the taxation of gains and losses when assets are sold. Professor Kahn's argument exposes an important source of inconsistency in much of the U.S. system of taxing business income, in that the Internal Revenue Code applies the realization doctrine rather loosely and incoherently. It is noteworthy that, as Professor Kahn demonstrates, application of the realization doctrine to the problem of capital expense recovery carries such dramatic implications for appropriate depreciation allowances.

This paper considers an alternative rationale for accelerated depreciation and the current asymmetric taxation of capital gains and losses on dispositions of depreciable assets. This rationale concerns incentives to sell used assets. Taxpayers holding used depreciable assets on which they have unrealized gains or losses will find that asset sales typically occasion realization with tax consequences. As a result, the tax system influences decisions of whether to hold or sell used assets. This is inefficient, since an efficient system would allocate business assets to their most productive uses, whether current owners or others, if potential productivity gains exceed costs of reallocating the assets. That the tax system might impede productivity-enhancing reorganization of business activity is hardly limited to cases of used asset sales, but nonetheless raises an important set of considerations in crafting rules for depreciation and the taxation of gains and losses on sales of depreciable assets.

II. THE TAX TREATMENT OF CAPITAL INVESTMENT

Taxpayers investing in capital assets used in a trade or business and with useful lives exceeding one year are permitted to take depreciation deductions over a period of years following their investments. These deductions are determined by formulas that are based on asset characteristics, with depreciation methods differing between equipment and structures, and depreciable lifetimes functions of asset types and uses.⁶ Generally speaking, depreciable real property is depreciated straight line, meaning that taxpayers claim depreciation in equal annual increments over the lifetime of an investment. Residential housing investments are depreciated over 27.5 years, and most other depreciable real property, consisting largely of commercial and industrial buildings, is depreciated over 39 years.⁷

Personal property is depreciated using declining balance methods which are determined through various methods based on property characteristics that determine property classes.⁸ Property in the three-, five-,

6. § 168. The following description of the tax treatment of depreciation applies to assets put in place since 1988; some assets put in place prior to then will continue to be depreciated according to other methods, and may be taxed on disposition somewhat differently than more recent investments.

7. § 168(c).

8. § 168 (noting that some property classes are defined by statute in I.R.C. § 168(e), and for those not addressed by statute, I.R.C. § 168(i)(1) provides that property class lives

seven- and ten-year classes are depreciated using a 200% declining balance method, with a switch to straight line depreciation in the first year where doing so produces a greater depreciation allowance.⁹ Property in the fifteen- and twenty-year classes is depreciated using a 150% declining balance method, with a switch to straight line depreciation in the year in which doing so produces a greater depreciation allowance.¹⁰ Taxpayers can elect to use straight line depreciation, or to use 150% declining balance depreciation for property that is eligible for 200% declining balance depreciation,¹¹ though it is seldom in their interests to make such elections, since doing so delays the claiming of valuable deductions. Additional depreciation provisions of the Internal Revenue Code include mid-quarter, mid-month, and mid-year conventions for claiming depreciation allowances in the year in which property is placed in service,¹² and different depreciable lifetimes and depreciation methods for certain properties, such as water utility property or railroad grading and tunnel bores.¹³

Declining balance depreciation differs from straight line depreciation by calculating the current depreciation allowance as the product of a constant factor and the remaining basis in an asset. For example, using the mid-year convention, ten-year property depreciated according to 200% declining balance would be entitled to a depreciation allowance of 10% of the purchase price in the first year, reflecting that the annual straight-line allowance for such property, 10% of purchase price, is doubled in the case of a 200% method, and the taxpayer is entitled to just half of this allowance given the mid-year convention. At the start of the second year the owner's basis in the asset is reduced to 90% of purchase price, so allowable depreciation that year is 20% of this basis, or 18% of the original purchase price. At the start of the third year basis is just 72% of the original purchase price, so allowable depreciation that year is 14.4% of original purchase price. The taxpayer switches to straight line depreciation as soon as there are five or fewer years of remaining depreciable life, since straight line depreciation at that point will constitute 20% or more of remaining basis, thereby exceeding what is available from 200% declining balance.

Depreciation rules have been modified over time, notably including the introduction of "bonus depreciation" that currently permits businesses with limited investment expenditures to take immediate deductions for up to \$500,000 of qualifying investment spending.¹⁴ Furthermore, a more limited version of "bonus depreciation" is currently available for most

correspond to those known as the Asset Depreciation Range as established by statute as of January 1, 1986.) *See also* Rev. Proc. 87-56, 2 C.B. 674, (modified by Rev. Proc. 88-22, 1 C.B. 785) (describing Asset Depreciation Range property class lives).

9. § 168(b)(1).

10. § 168(b)(2).

11. § 168(b)(3)(D).

12. § 168(d)(4).

13. *See, e.g.*, §168(c).

14. I.R.C. § 179(b) (2014).

property (typically equipment) with depreciable lifetimes of 20 years or less. Half of qualifying expenditures on this property can be immediately deducted, with the remaining half depreciated according to normal schedules.¹⁵ This provision is currently temporary: in 2018, 40% of qualifying investment can be immediately deducted; in 2019, 30%; and starting in 2020, this component of “bonus depreciation” no longer applies.

Market values of depreciable property change over time, due to normal wear and tear, obsolescence, and fluctuations in market conditions. As a result, any legislated system of depreciation allowances produces depreciation allowances, and corresponding changes in basis, that will correspond imperfectly if at all to changes in market values of individual items of depreciable property. Fluctuations in market values do not affect allowable depreciation as long as assets are not sold, but upon sale or other disposition there is a reckoning in which gain or loss may be recognized. Taxpayers who retire or abandon depreciable property are entitled to immediate deductions of remaining basis.¹⁶ Taxpayers who sell depreciable property recognize a form of gain or loss equal to the difference between the sale price and basis.

If depreciable property is sold for less than the value of remaining basis, then the resulting loss is deductible against ordinary income. There is a minor wrinkle in that if property was held for more than one year then these losses are combined with any net gain arising from condemnations or involuntary conversions of property used in a trade or business or capital assets used in a profit seeking activity. If the result is a loss, then the gains are taxable, and the losses deductible, as ordinary gain and loss,¹⁷ though if the result is a gain, then the gain from condemnations and involuntary conversions is taxable as capital gain.

If depreciable property held for more than one year is sold for more than the value of remaining basis, then in the case of personal property the resulting gain is taxable as ordinary income to the extent of prior depreciation.¹⁸ This “recapture” provision reflects the notion that prior depreciation was too generous, permitting the taxpayer to claim ordinary deductions that exceeded the loss of economic value of the depreciable property. Any gain in excess of cumulative prior depreciation is not “recaptured,” but instead treated as Section 1231 gain. In the case of depreciable real property, “recapture” applies only to prior depreciation in excess of straight line depreciation,¹⁹ which for all practical purposes means that there is no recapture on sales of real property put in place in recent decades, so all of the gain on sales of depreciable real property held for more than one year is Section 1231 gain.

15. I.R.C. § 168(k) (2012).

16. Treas. Reg. § 1.167(a)-1 (1972).

17. I.R.C. § 1231 (2014).

18. § 1245 (2014).

19. I.R.C. § 1250 (2005).

Section 1231 gains from real and personal property are taxed as capital gains. Corporate taxpayers are subject to the same tax rates on capital gains and losses as they are on ordinary income, so the rather small difference between treating a gain as ordinary income and treating it as capital gain is that a corporation that would otherwise have a capital loss carryforward is able to apply the loss against any current gains. From the standpoint of individual taxpayers the difference between capital gains and ordinary income gains is far more consequential, since long term gains on dispositions of personal property are subject to a maximum tax rate of 20%,²⁰ and gains on dispositions of real property are subject to maximum tax rate of 25%.²¹ In contrast, the top personal income tax rate is currently 39.6%.²² As a result, individual taxpayers—who include subchapter S corporations, partnerships, LLCs, and other so-called pass-through entities—holding depreciable property face lower tax rates on certain gain dispositions than the rates at which they are permitted to take deductions on loss dispositions.

Available evidence from U.S. tax returns reflects the effect of recapture and other provisions together with taxpayer behavior.²³ The following table presents information drawn from 2012 individual tax returns reporting disposition of depreciable personal property used in a trade or business. As indicated below, more than three quarters of individual taxpayer sales of depreciable personal property held for more than a year produce neither capital gain nor capital loss, doubtless reflecting that these assets are sold for more than adjusted basis but less than original purchase prices, thereby producing recapture of previously claimed depreciation deductions. By dollar volume, out of a total \$17.2 billion of these sales, \$11.2 billion, or 65%, result in no capital gain or loss. Of the remaining sales, more than half produce capital losses, with aggregate value of \$1.0 billion. Just 193,000 transactions reported capital gains, with sales revenue of \$4.8 billion, basis of \$1.5 billion, and net gains of \$2.5 billion, so presumably these figures omit roughly \$0.8 billion of recapture of previously claimed depreciation allowances.

LONG TERM CAPITAL GAIN/LOSS, DEPRECIABLE
PERSONAL PROPERTY, 2012

	Transactions	Sales	Basis	Gain/Loss
Gain transactions	193,000	\$4.8 b	\$1.5 b	\$2.5 b
Loss transactions	249,000	\$1.2 b	\$2.2 b	(\$1.0 b)
No gain/loss	1,515,000	\$11.2 b	\$7.7 b	N/A

20. I.R.C. § 1(h)(1)(D) (2015).

21. § 1(h)(1)(E).

22. §§ 1(a)-(d).

23. Evidence in the following tables is drawn from Janette Wilson & Pearson Liddell, *Sales of Capital Assets Data Reported on Individual Tax Returns, 2007-2012*, 35 *STAT. OF INCOME BULL.* (Winter 2016), at 25–26.

The evidence in the table suggests that, from the standpoint of total dollars involved, there is little asymmetry in the taxation of gains and losses from sales of depreciable personal property. Corporate owners of depreciable property are excluded from this table, and in any event face the same tax rates on long term capital gains and losses. Individual sellers of long term capital assets usually are subject to recapture on all of the difference between sales prices and basis. Among those taxpayers who do not have gains that are entirely subject to recapture, aggregate losses of \$1.0 billion are deductible against ordinary income, and aggregate gains of approximately \$0.8 billion are recaptured and therefore subject to tax at ordinary rates.²⁴ The only asymmetry appears in that \$2.5 billion of additional gain is subject to taxation as a long term capital gain rather than ordinary income. In 2012 the maximum long term capital gain tax rate on sales of personal property was 15%, and the maximum personal tax rate on ordinary income was 35%.²⁵ If every investor was in the top tax bracket, then the tax benefit associated with \$1.0 billion of aggregate loss was 35% of \$1.0 billion, or \$350 million. If individuals were instead permitted to claim benefits of deducting capital losses against no more than a 15% tax rate, then the aggregate tax benefit would decline to \$150 million, a drop of \$200 million. Alternatively, if gains were subject to tax at 35% rather than 15%, the tax on \$2.5 billion of gain would rise from \$375 million to \$875 million, a rise of \$500 million. Consequently, the asymmetric taxation of gains and losses is responsible for a tax reduction of between \$200 and \$500 million.

Sales of depreciable real property used in a trade or business present a different picture, and not surprisingly, since there is effectively very little recapture of prior depreciation on disposition of real property. The following table presents evidence from 2012 individual tax returns reporting disposition of depreciable personal property used in a trade or business.²⁶

LONG TERM CAPITAL GAIN/LOSS, DEPRECIABLE REAL PROPERTY, 2012

	Transactions	Sales	Basis	Gain/Loss
Gain transactions	430,000	\$58.7 b	\$45.0 b	\$12.1 b
Loss transactions	109,000	\$14.1 b	\$20.3 b	(\$6.0 b)
No gain/loss	68,000	\$4.2 b	\$3.4 b	N/A

The dollar figures in this table greatly exceed those in the prior table, a reminder of the enormous value of depreciable real property used in U.S. businesses, and the liquidity of the market for used real property. Relatively few transactions result in neither capital gain nor capital loss, and more than 70% of asset sales generate gains, with an aggregate value of \$12.1 billion. Aggregate losses are \$6.0 billion. Since the \$12.1 billion of

24. I.R.C. § 1245 (2014).

25. I.R.C. §§1 (h)(1)(C), 1(i)(2) (2010).

26. Wilson & Liddell, *supra* note 23, at 25–26.

aggregate gain is taxable at a maximum rate of 25%, whereas the \$6.0 billion of aggregate loss was deductible at ordinary income tax rates that in 2012 could be as high as 35%, the treatment of gains and losses on depreciable real property that year was indeed asymmetric.

The data in the second table are further evidence of the small dollar magnitude of the asymmetry in taxing capital gains and losses on disposition of depreciable real property used in a trade or business. Any asymmetry arises only if gains and losses are taxed at different rates, and the 25% maximum tax rate on long term gains bears only on high income investors. If every investor that year was subject to what was then the top individual tax rate of 35%, then the aggregate \$6.0 billion loss reduced individual tax liabilities by \$2.1 billion. If individuals were instead permitted to claim benefits of deducting capital losses against no more than a 25% tax rate, then the losses would have reduced aggregate tax liabilities by \$1.5 billion. By this measure, the tax asymmetry was responsible for an aggregate tax saving of \$0.6 billion – and even that figure is based on an assumption that all investors were top bracket taxpayers, which is surely too strong. Alternatively, if taxpayers were entitled to deduct capital losses against ordinary income but also had to include capital gains in ordinary income, then their aggregate tax liability on gains would rise from \$3.025 billion (25% of \$12.1 billion) to \$4.235 billion, a gain of \$1.21 billion. This evidence, together with the evidence on the taxation of gains and losses on depreciable personal property, suggests that the aggregate magnitude of reduced taxes associated with tax asymmetry lies between \$800 million and \$1.71 billion.

III. TAX INCENTIVES AND ASSET SALES

Sales of depreciable assets used in a trade or business have two tax consequences. The first is that, as noted, sale may occasion taxable gain or loss for the party selling the asset. The second is that the party selling the asset will discontinue claiming depreciation allowances, and the buying party will start claiming what may possibly be very different depreciation allowances. Both tax consequences may influence taxpayer behavior.

It is illustrative to consider a scenario in which a taxpayer holds an asset purchased initially for \$1 million and on which he or she has claimed \$600,000 of cumulative depreciation deductions. The taxpayer's basis is now \$400,000, and if the taxpayer has no other gains or losses and was to sell the asset for \$400,000 there would be neither taxable gain nor taxable loss, and consequently no associated tax liability. The asset sale nonetheless has tax implications, because the original owner of the asset no longer would be able to claim depreciation deductions, whereas the new owner would be able to do so. Significantly, the new owner does not claim the same depreciation deductions that the old owner would have claimed, but instead depreciates the investment anew, using the original depreciation schedule, including the original depreciation period. Thus, for example, someone who had owned an apartment building for 16.5 years would have

11 years of remaining depreciation deductions, since residential real estate is depreciated over 27.5 years. If the owner sells the property, the new owner of the apartment building depreciates the property over 27.5 years, not 11 years, since the original depreciation rules apply, this time to a used asset.

In cases of real property, all of which is depreciated straight line, it is obvious that the present value of the buyer's depreciation deductions is less than the present value of the remaining depreciation deductions available to the seller, had he or she retained ownership of the asset. The reason is that the period over which depreciation is claimed is longer if the asset is sold, because the depreciation process starts over with the new basis. In the case of the apartment building that has been depreciated for 16.5 years, if the seller were to retain the building then he or she would claim depreciation in equal increments over the remaining 11 years of the building's tax lifetime. If the building is sold then the buyer claims depreciation in equal increments over the next 27.5 years. Since in the example the market value of the building happens to equal the seller's tax basis, it follows that the buyer's basis would be the same, and the present value of depreciation deductions in equal increments over 11 years is greater than the present value of the same aggregate magnitude of depreciation deductions in equal increments over 27.5 years.

Differences between present values of depreciation deductions taken by old and new owners of property are rather more subtle in cases of personal property. If a seller's basis in personal property equals its market value, then as long as the seller and buyer use a common rate of declining balance depreciation there will be no difference in the allowances they can claim. An owner of ten-year personal property with a basis and market value of \$10,000 would claim \$2,000 of depreciation in the next year using 200% declining balance, and the same would be true of an investor who bought the property for \$10,000. A difference appears only due to the switchover to straight line depreciation, which inevitably occurs earlier for sellers than for buyers. As noted earlier, depreciation of ten-year property switches to straight line after an owner has claimed at least five years of depreciation, which happens sooner for an original owner than it would for a subsequent buyer.

Consequently, the depreciation rules generally discourage asset sales even in cases in which there is no associated capital gain or loss. To the extent that asset values differ from basis then there will be taxable gain or loss, which generally affects the desirability of asset sales. Consider the case of a commercial building used in a trade or business, in which the investor has a basis of \$1 million and ten years of remaining depreciation. If the building has a market value of \$1.5 million, then a sale for that amount will cause the seller to realize a gain of \$0.5 million that will be taxed at a maximum rate of 25%, which produces a tax liability of \$0.125 million. On the positive side, the buyer would be entitled to claim depreciation deductions on a basis of \$1.5 million, which exceeds the \$1 million

basis of the seller – but these depreciation deductions are available on a straight-line basis over thirty-nine years, rather than the ten years over which the seller would depreciate the seller's remaining basis.

The only way in which the seller and buyer together enjoy tax benefits from selling a depreciable asset with a heretofore unrealized gain is if the capital gains tax rate is very low compared to the tax rate on ordinary income, and if the present discounted value of depreciation allowances available to buyers per dollar of asset value is not much less than that available to sellers. An extreme example would be if the capital gain tax rate were zero and purchasers of depreciable assets were entitled to take immediate deductions for 100% of their expenditures. In such a case owners of used assets would have no remaining depreciation allowances, and by selling assets the new owners would be able to depreciate them anew. It is nonetheless difficult to envision recent combinations of capital gain tax preferences and depreciation schedules in which sellers and buyers together would have been able to receive the same tax benefits from the sale of an appreciated used asset as they would have from the seller retaining the asset.²⁷ If the capital gain tax rate were the same as the ordinary tax rate then the only case in which the sale of an appreciated asset would not increase the tax liability of sellers and buyers taken together would be if investors were entitled to take immediate deductions for 100% of their expenditures. With a more realistic depreciation schedules asset sales would be tax neutral only with a considerable capital gain tax preference.

The owner of a used depreciable asset with an unrealized tax loss has the ability to sell the asset and claim an immediate deduction against ordinary income for the difference between adjusted basis and the amount realized. This tax benefit from a used asset sale comes at the cost of consigning the asset to a new owner whose present value of depreciation allowances per dollar of remaining basis is less than the seller's present value of depreciation allowance per dollar of remaining basis. The net tax effect of the sale is therefore the difference between two terms, the first of which is the product of the seller's basis and one minus the seller's present value of depreciation allowances per dollar of basis; the second term is the product of the asset's market value and one minus the buyer's present value of depreciation allowances per dollar of basis. With a sufficiently large unrealized capital loss it will be advantageous to sell used depreciable assets, though with a small unrealized capital loss it will not be; the distinction depends on differences in values of depreciation allowances available to sellers and buyers.

27. Roger H. Gordon, James R. Hines Jr. & Lawrence H. Summers, *Notes on the Tax Treatment of Structures*, *THE EFFECTS OF TAXATION ON CAPITAL ACCUMULATION* 223–54 (Martin S. Feldstein ed., 1987) (identifying scenarios in the mid-1980s in which U.S. buyers and sellers had tax incentives to sell used assets with unrealized gains).

IV. TAX POLICY WITH ELECTIVE SALES

It is clear from the preceding analysis that owners of depreciable assets with unrealized gains would have incentives not to sell their assets in the absence of a sufficiently favorable tax rate on capital gains. Owners of depreciable assets with unrealized losses might or might not have incentives to sell their assets, though these incentives depend on the extent of unrealized gain relative to asset values, and depreciation allowances available to sellers and buyers. Under current rules the capital gain tax rate does not affect incentives to sell assets with unrealized losses.

It is noteworthy that a tax system designed to minimize the system's distortion to used asset sales is very unlikely to feature symmetric taxation of gains and losses. Taxation of gains at preferential rates, which is necessary to avoid excessively discouraging sales, could in concept be matched by permitting sellers of used assets to deduct losses only against reduced tax rates that correspond to the rates at which gains are taxed. Such a system would offer a form of symmetric taxation conditional on realization, but the more relevant question is whether it provides efficient incentives.

Reducing the tax benefits associated with loss realizations improves the efficiency of the market for used assets only if the system otherwise excessively encourages asset sales. The U.S. tax system currently encourages sales of some used assets with unrealized capital losses, and discourages sales of others. It is not clear whether on net the system encourages or discourages these sales in the aggregate, but even assuming that the system currently encourages aggregate asset sales, there is a closely related set of considerations that must be taken into account in designing the tax treatment of used asset sales. If losses realized on sales of depreciable assets were made deductible at tax rates below the rates on ordinary income, then the system would encourage some taxpayers to avoid sales and obtain tax benefits via other methods. Owners of used depreciable assets have the option of retaining their assets and claiming depreciation allowances, and they also have the option of discarding assets and claiming immediate losses for any remaining basis. Both options produce deductions against ordinary income. The alternative of retaining an asset and claiming depreciation allowances is the basis of the analysis in Section III, but it is important not to lose sight of the ability of taxpayers to obtain tax benefits from discarding assets, and a system that reduces the tax benefits associated with sales of used assets can be expected to encourage the alternative of asset discards. Given the significant inefficiency of encouraging taxpayers to discard assets that might otherwise have been sold to a buyer in whose hands the asset would be productive, it follows that government policy that seeks productive use of business assets should be wary of indirectly encouraging these discards.

Governments seeking to impose efficient business taxes must design tax rules taking into account the potential for taxation to distort markets for used assets. The first owner of a business asset need not be the party in

whose hands the asset years later would be most productive, and an efficiently operating market system would reallocate the asset to the new owner provided that the associated transaction costs are less than the productivity difference. There are differing types of transaction costs in the modern world. Some, such as the cost of physically relocating assets, may be more or less intrinsic to these transactions; but others, notably including tax costs, are entirely the products of the institutions we choose. The greater are the tax costs of business assets finding their ways to the most productive owners, the less efficient the economy will be. A tax system that least distorts sales of used depreciable assets admittedly has an asymmetric appearance, but this superficial feature seems a small price to pay in return for encouraging the economy to operate properly.