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THE INCOME TAX AS INSURANCE: THE CASUALTY LOSS AND MEDICAL EXPENSE DEDUCTIONS AND THE EXCLUSION OF MEDICAL INSURANCE PREMIUMS

Louis Kaplow

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Program in Law and Economics
Harvard Law School
Cambridge, MA 02138

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Abstract

Whether personal income tax deductions can be defended as refinements to the concept of income or are tax expenditures continues to be the subject of debate. The casualty loss and medical expense deductions are frequently justified on the ground that ability to pay is reduced by largely unavoidable expenditures or losses. This investigation reconsiders the question taking account of the ex ante availability of private insurance, which is in fact widespread for many major losses in both areas. When individuals can insure, the second level of insurance implicit in the casualty loss and medical expense deductions is inefficient with regard to choices that affect expected losses as well as choices concerning the overall level of protection against risk.

The Income Tax as Insurance: The Casualty Loss and Medical Expense Deductions and the Exclusion of Medical Insurance Premiums

Louis Kaplow*

Stanley Surrey pioneered the tax expenditure movement, which in his view entails the proposition that personal deductions in the income tax are upside-down subsidies rather than appropriate refinements to the concept of income. See, e.g., Surrey (1973). This position has been challenged, notably by Andrews (1972),[1] who argues, for example, that the medical expense deduction can be justified on the ground that ability to pay is reduced by the cost of medical treatment required to restore one's health. Others, such as Kelman (1979), have in turn criticized this view.

For the most part, those in the debate ground their arguments in appeals to the Haig-Simons concept of income or some substitute concept that serves a similar purpose: from the underlying concept, the appropriate treatment of particular items is derived based on arguments about what treatment is more faithful to the original definition. This enterprise, however, is inherently problematic, for debates about definitions cannot give meaningful guidance to policy unless informed by the objectives underlying the definitions.[2] Thus, for example, an

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[1] See also Bittker (1973), Epstein (1971), Musgrave (1967).

income tax is said to be justified (or, if one favors a consumption tax, unjustified) because it is better (worse) than the alternatives as a matter of efficiency and equity.[3] As Griffith (1989) properly emphasizes, a convincing resolution of debates about personal deductions in the income tax as well as about other issues can only be achieved by stating explicitly one's objectives -- e.g., utilitarian or Rawlsian -- and determining what treatment best meets them.[4]

This investigation reconsiders the appropriate tax treatment of casualty losses and medical expenses, taking an ex ante perspective that emphasizes individuals' consumption choices and insurance decisions. The latter is particularly important because the most convincing rationales offered for the casualty loss and medical expense deductions implicitly appeal to notions relating to insurance, and because insurance is widely available and frequently purchased both for medical expenses and major casualties (e.g., serious damage to one's home and car).

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[2] To be sure, rules of thumb, often embodied in concepts and definitions, can be useful in making everyday decisions. But when academic debate over important matters continues for decades, it surely is time to set aside aphorisms and substitute a more direct exploration.

[3] Andrews (1972) argues that the tax base should be defined in terms of what it is that society means to redistribute. But this can be determined only after stating the principles from which redistributive policies are derived.

[4] Griffith offers an intentionally oversimplified examination of the medical expense deduction solely for the purpose of illustrating how differences in objectives may translate into a different policy prescriptions. While his illustration persuasively makes this point, his exclusion of ex ante considerations makes his account unconvincing with regard to what the appropriate treatment of medical expenses should be.

Similar comments concerning the problems of deriving policy from definitions and another partial examination of the medical expense deduction can be found in Stiglitz and Boskin (1977).

The analysis demonstrates that, if individuals make informed, rational ex ante decisions concerning consumption and the purchase of insurance, deductions for casualty losses and medical expenses are inefficient. In particular, an income tax without these provisions that adjusted rates to maintain the same ex ante distribution is Pareto superior to the existing regime, so one need not adopt a particular view of distributional equity to resolve the issue as a matter of principle. The reason the deductions are inefficient is that they constitute implicit partial insurance -- a form of subsidy -- in an amount that depends upon one's consumption and insurance decisions and thus distorts them.

Sections 1 and 2 develop the analysis, moving from the simplest effects of deductions on consumption choices to simpler and then more complex effects on insurance decisions. For convenience of exposition, the first section emphasizes the casualty loss deduction and the second emphasizes the medical expense deduction along with the exclusion from taxable income of employer-provided insurance, although much of the analysis in each section is applicable to both deductions.[5] Section 3 discusses a variety of further issues and section 4 offers a brief conclusion. Throughout, it is emphasized that all provisions of the tax code concerning these losses -- whether losses are deductible, whether insurance premiums are deductible,

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[5] The primary exception is that the exclusion for employer-provided medical insurance has no statutory analog for casualty losses, although it would be possible to make casualty insurance premiums deductible, producing the same effects.

and whether insurance proceeds are taxable -- must be examined simultaneously, as the effects of one provision may offset or exacerbate those of another.

1. The Casualty Loss Deduction

The casualty loss deduction is only relevant when the casualty affects an asset used for its owner's consumption; with business or investment assets, more general code provisions provide for the deductibility of losses.[6] To examine the effect of the casualty loss deduction, consider a simple illustration. An individual contemplates buying a single consumption good -- a yacht. The yacht has a potential useful life of one period. Assume that the alternatives the individual considers are as follows:

1. Purchase a yacht for 100. There is a 10% chance that the yacht will be destroyed by a storm at the beginning of the period. (For convenience, assume that there will not be another storm.) If this happens, the individual will purchase another yacht for 100.[7]

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[6] I.R.C. §165(c). There are important limits, including limits on the deductibility of capital losses (I.R.C. §1211) and on the ability to carry over operating losses (I.R.C. §172).

[7] Given the structure of the example, it would be more appropriate for the purchase price of another yacht after the storm to be 111.11, assuming all yachts (including those not yet sold) are subject to the same probability of destruction by the storm. (Otherwise, since for simplicity the storm is assumed to be at the beginning of the period, individuals would simply wait until just after the storm to purchase yachts for 100.) With this adjustment, the appropriate price for insurance would be 11.11, the rental price would be 111.11, and the price for xachts and the European vacation should be changed to 111.11. This complication is ignored in order to facilitate the

2. Purchase a yacht for 100 and insurance for 10.

3. Rent a yacht for its useful life at a rental of 110. (Because the rental agency is assumed to be responsible to replace the yacht if it is destroyed in a storm, which has a probability of 10%, it charges 110 rather than 100.)

4. Purchase a xacht, which is like a yacht except that it is indestructible, for 110.

5. Go to Europe for 110.

Risk neutrality

To focus on behavioral effects uncomplicated by matters relating to insurance, begin with the case where the individual is risk-neutral. First, assume that there is no income tax, or an income tax with no casualty loss deduction. The individual would be indifferent among the first four options. Each provides a period of yachting for an expected cost of 110. The choice between these options and the European vacation will be determined by which yields greater utility. The individual's choice will be efficient, as there is no divergence between the private and social costs or benefits.

Next, consider an income tax with a marginal rate of $\underline{t}$ and a full casualty loss deduction.[8] The only effect is that option 1

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exposition; the only effect on the analysis is to oversimplify the measure of the extent of implicit insurance provided by a casualty loss deduction in this example.

[8] For simplicity, the $100 exclusion, 10% floor, requirement of itemization, and 3% phase-out of personal deductions for high-income individuals, as well as the possibility that a casualty loss may affect one's marginal rate, will be ignored.

is subsidized by 10$\underline{t}$: there is a 10% chance of losing 100, which would produce a deduction worth 100$\underline{t}$, and the individual, being risk-neutral, considers only the expected value. This leads to inefficient behavior if it induces the individual to choose option 1 when, but for the deduction, the European vacation would have been chosen because it yields greater utility. More generally, when individuals can continuously vary the amount they spend on various consumption goods, such a subsidy will distort their behavior.

The subsidy of option 1 also will induce the individual to choose it over options 2-4. As the example is now stated, this is unimportant because the first four options produce identical utility at identical cost. This will not, however, generally be the case. The different technologies (the xacht) and different methods of ownership (rental vs. outright purchase) may entail different costs and produce different levels of utility. For example, the xacht may cost only 108[9] or be slightly more pleasurable, or the rental may be more convenient. As a result, the tendency of the subsidy to favor option 1 will distort these other decisions as well.

Risk aversion

Assume, more realistically, that the individual is risk-averse. Moreover, to simplify the analysis here, assume that, aside from considerations of risk, the five options all yield

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[9] At a marginal tax rate of .3, the subsidy would be worth 3, which makes the expected cost of option 1 -- purchasing a yacht without insuring -- only 107. This would be chosen over the more efficient xacht, which costs 108.

identical utility. Consider the individual's choice among the options when there is no income tax or an income tax without a casualty loss deduction. As before, the individual would be indifferent among options 2-5 -- each costs 110 for certain and produces, by assumption, identical utility. With risk aversion, however, the individual would strictly prefer any of these options to option 1 -- which produces the same utility in consumption at the same expected cost, but involves the individual bearing risk (the cost is 100 or 200 with probabilities of .9 and .1). This illustrates how "insurance" can take many forms: outright purchase (option 2), indirect purchase (3), choice of technology (4), or choice of a less risky activity (5). The individual's choice will be efficient.

Next, consider again an income tax with marginal rate t and a full casualty loss deduction. As before, the effect is to subsidize option 1, the expected value of the subsidy being $10t$. But option 1 is still risky, although to a lesser extent since the tax deduction acts as insurance covering a portion of the loss equal to t: the individual now faces a loss of $100(1-t)$ with probability 10%. (The subsidy of $10t$ can be seen to arise because of the fact that the tax system does not charge a premium for the insurance; an actuarially fair premium for coverage of t on a 100 loss that has probability 10% would simply equal $10t$.)

Thus, depending on the level of t and the extent of the individual's risk aversion, either of two choices may be made: the individual may, as in the case with no deduction, purchase one of options 2-5, or instead purchase option 1, bearing the

portion of risk not mitigated by the casualty loss deduction. Whenever the latter choice would be made, the result is inefficient: assuming taxes are adjusted to offset distributional effects, individuals will be worse off because of the existence of the deduction.[10] That is, the result is Pareto dominated.

The inefficiency in this instance arises not from the nature of the consumption or the technology, but from the fact that the individual bears risk. The subsidy induces the individual to forgo insurance, leading to the ironic result that the free partial insurance embodied in the casualty loss deduction may encourage individuals to bear more risk than otherwise, because they may select an aggregate level of protection against risk that is less than if the free partial insurance were not offered.[11] The explanation is simple: the more insurance the individual obtains, the more of the tax code's insurance must be forfeited.[12] Since the tax code's insurance is free, one must make a greater incremental economic sacrifice than otherwise in order to obtain a more complete level of insurance coverage. The asymmetry is that the tax code's partial insurance is subsidized

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[10] Obviously, if one does not adjust for the distributive effect, individuals can only be better off by being offered something for free that they may decline in whole or in part. The point of the distributional adjustment is to distinguish such an effect. Assume, for example, that each income class is given the choice ex ante between the casualty loss deduction or slightly lower rates, where the expected tax revenue from each is the same. Compare Griffith (1989); see also Andrews (1972). Because individuals would unanimously prefer the latter, no deduction is Pareto superior to a deduction. (That lower tax rates may also less distort behavior would increase the degree of preference for a system with no deduction. See Feldstein and Friedman (1977).)

[11] This effect is noted briefly in Vickrey (1947).

[12] The deductions only apply to the portions of one's losses or expenses not covered by insurance. Even if this were not the case, choices that reduced the probability or magnitude of the loss still would involve sacrificing the tax code's insurance.

but the alternatives, involving more complete protection against risk (broadly construed to include options 2-5), are not.

Combining the effects noted in the preceding subsection with those here, the casualty loss deduction distorts choices of activity, technology, form of ownership, and exposure to risk. Note that this illustration confined the private insurance choices to all-or-nothing, whereas in fact some technologies or consumption choices may have varying levels of risk and individuals may choose to purchase insurance coverage that is incomplete. The primary reason individuals might purchase partial insurance coverage (aside from distortions caused by the tax system[13]) is to reduce the costs of moral hazard, which is considered in section 2's discussion of the medical expense deduction; it will be seen that the results are similar.

The conventional argument for the deduction[14]

The conventional argument takes an ex post perspective and considers whether it is appropriate to allow a deduction for an uninsured casualty loss. Implicitly, this approach considers only option 1. A horizontal equity argument is made: as between two individuals of identical adjusted gross income, each of whom

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[13] In the absence of moral hazard, the presence of a loss deduction generally will lead individuals to purchase partial coverage (leaving them exposed to some of the loss when the effects of their partial coverage and the casualty loss deduction are combined) if the tax rate is moderate or low, but no insurance if the tax rate is above some critical value that depends on individuals' risk preferences and the extent of the loss. See Kaplow (1990a).

[14] This argument appears most often in connection with the medical expense deduction, which receives far greater attention. As noted in the introduction, the analysis of this section is applicable to the medical expense deduction, and will not be repeated in section 2.

bought identical yachts and acquired no insurance, the one who suffers a casualty has less ability to pay than the one who did not, so a deduction should reflect this fact.[15] This rationale is essentially equivalent to a straightforward insurance approach that instead takes an ex ante perspective.[16] Note that if one wished to provide fully equal treatment of these pre-casualty equals,[17] it would be necessary to provide a transfer from the fortunate to the unfortunate that compensated completely for the latters' losses. This is exactly what a complete insurance policy entered by all ex ante would accomplish -- and exactly what rational individuals would have purchased were there no tax deduction. If one wished to accomplish this through the tax system instead, a 100% credit rather than a deduction would be necessary, with taxes on each income class raised sufficiently to cover the costs.[18]

Once the connection between a tax break for casualty losses and insurance is made explicit, it is natural to adopt an ex ante perspective and consider directly the possibility that individuals may have purchased insurance or otherwise altered their behavior to take account of the riskiness of their consumption decision.[19] A 100% credit for uninsured losses, by

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[15] Goode (1976) notes the prevalence of this attitude with regard to the medical expense deduction.

[16] See Kaplow (1989).

[17] The tax code's insurance only equalizes outcomes to the extent of t.

[18] Griffith (1989) notes the potential desirability of a 100% credit when discussing the medical expense deduction from a utilitarian perspective, although he does not make the insurance comparison.

[19] This perspective is considered briefly in Goode (1976) and Vickrey (1947).

subsidizing option 1, would be inefficient -- and would not make available anything individuals could not have obtained for themselves. Moreover, as the next section demonstrates, even if direct insurance (rather than alternative technologies or consumption choices) is what individuals desire, providing it through the tax system in the form of a deduction or credit results in other distortions when one takes account of moral hazard.[20]

2. The Medical Expense Deduction and the Exclusion of Medical Insurance Premiums

The medical expense[21] and casualty loss deductions are parallel provisions addressing parallel problems.[22] Each

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[20] When moral hazard is present, individuals optimally obtain partial insurance, so ex post there will be differences among ex ante equals. This raises the question of whether an ex ante or ex post equity perspective is appropriate. This investigation employs the ex ante perspective because it selects a Pareto superior policy, assuming one makes ex ante distributional adjustments. This reinforces the criticism in Kaplow (1989) of conventional ex post horizontal equity notions: attaching any weight whatever to ex post horizontal equity violations in this instance would be unanimously rejected. Although it has been recognized that horizontal equity and utilitarianism sometimes conflict, see, e.g., Stiglitz (1982), it is not thought that horizontal equity, as conventionally applied, might conflict with the Pareto principle.

[21] I.R.C. §213. The effects of flexible benefit plans are similar, so they will not be considered explicitly. The primary difference is that such plans cover expenses up to a ceiling (chosen by the individual), whereas the medical expense deduction covers all expenses above a floor. (The combination might result in some individuals being fully protected against small losses, not at all protected against additional losses through some range, and partially protected against greater losses -- but at a decreasing rate, as large deductions would eventually reduce one's marginal rate.)

[22] Some of the analysis to follow is applicable to explicit government insurance, particularly Medicaid. Just as some individuals might reduce or forgo insurance coverage because a fraction of uninsured losses are borne by the government through the tax system, so individuals may forgo health insurance -- particularly for catastrophic events -- because of Medicaid. This incentive would presumably be greatest for low or moderate income individuals with few assets. By forgoing insurance, they are likely to save money. In the event of a serious medical problem, their small margin of

provision allows individuals who itemize to take a full deduction for uninsured losses above a floor representing a nontrivial percentage of adjusted gross income.[23] As a result, the analysis is largely the same.

Two aspects of medical expenses not considered in section 1 should, however, be emphasized. First, the tax code, in addition to allowing a deduction for medical expenses, also allows many individuals an indirect deduction for medical insurance premiums: employer-provided insurance is excluded from the measurement of the employee's gross income.[24] Second, the analysis in section 1 did not address moral hazard. The level of medical expenditures is typically thought to be determined by individual behavior, both before an adverse event (e.g., smoking, taking up dangerous sports, nutrition) and afterwards (e.g., frequency and duration of contact with the medical system, types of practitioners used, diligence in adhering to prescribed treatment). Thus, it has been common to emphasize moral hazard when considering medical

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income and assets would quickly be wiped out, at which time they would be eligible for Medicaid.

Such individuals are disproportionately represented among the tens of millions who are uninsured. Moyer (1989), Pauly (1986). Related, firms with larger percentages of low-wage workers are less likely to offer insurance, and thus their employees are less likely to be insured. Rossiter and Taylor (1982). Among those poor families having private health insurance, the proportion without a limit on the amount of hospital expenditures they might have to pay is about 20% higher than the national average. Farley (1985). This possibility is consistent with evidence on Medicaid participants. In 1977, nearly 5 million individuals had Medicaid for part of the year and had no insurance (3.3 million) or other insurance (1.6 million) for the remainder of the year. Wilensky and Berk (1982). (A regime of compulsory insurance -- e.g., through national health insurance -- would not, of course, produce this sort of problem.)

[23] The floor is currently 7.5% for medical expenses and 10% for casualty losses. Other details not central to the analysis are again ignored. See note 8.

[24] I.R.C. §106. See also note 29.

care,[25] although moral hazard is surely relevant for casualty losses as well[26]. This section will analyze only the issues that arise from the possible deductibility[27] of insurance premiums and from the consideration of moral hazard. A complete analysis of the casualty loss and medical expense deductions can be obtained by combining the relevant portions of both sections.

This section will examine four possible regimes, each of which is partially reflected in current law. (For the moment, it is assumed that, as under current law, insurance proceeds used to pay for medical expenses are not taxable.[28])

1. Premium not deductible, uninsured expenses not deductible. (This regime governs self-employed individuals who have expenses below the floor or do not itemize.)

2. Premium not deductible, uninsured expenses deductible. (This describes self-employed individuals who itemize, with respect to expenses above the floor.[29])

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[25] Kelman (1979) emphasizes that illness is influenced by past behavior as a reason for denying a deduction for medical expenses, but his reasons are largely unrelated to those offered here. Rather, he raises the point to emphasize that voluntariness, combined with the tax system's tendency not to tax psychic income arising from the prior choices, undermines Andrews' argument for allowing a deduction. The normative principle from which it follows that a deduction should not be permitted is not made explicit.

[26] For example, before a storm hits, one can take more or less precautions to prevent damage to one's yacht, and after damage is done, more or less care may be spent in selecting who will perform the repairs. (Note that casualty losses are usually measured directly, by the loss incurred, while medical losses are measured by expenditures to correct them, although one could imagine doing each differently.)

[27] For convenience, the discussion will refer to the deduction of premiums rather than to the employer's payment of such premiums being excluded from income.

[28] I.R.C. §§104(a)(3), 105(b). The option of taxing such proceeds is considered in section 3.

3. Premium deductible, uninsured expenses not deductible. (This includes employees with employer-provided insurance that covers losses that are below the floor or not deductible because the individual does not itemize.)

4. Premium deductible, uninsured expenses deductible. (This describes employees with employer-provided insurance who itemize, with respect to expenses above the floor.)

Consider each regime in turn.[30]

In the first regime, which corresponds to that first considered in the section on casualty losses, individuals bear all of their losses and the full cost of any insurance. Assuming throughout this section that individuals are risk-averse, they would purchase insurance. Were it not for moral hazard, they would purchase complete coverage. In the presence of moral hazard, however, it is familiar that they would purchase partial coverage, so as to maintain some incentive to control costs. See Arrow (1963), Shavell (1979). This is the second-best optimum in that, given available information, any alternative, whether involving more or less coverage, leaves individuals worse off.

In the second regime, as with the casualty loss deduction, the deductibility of uninsured losses is tantamount to free partial insurance. This free insurance distorts incentives due

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[29] While medical insurance premiums are deductible, for most individuals who itemize (typically middle and higher income individuals), the cost of health insurance would be mostly or totally under the floor. See Goode (1976).

[30] The analysis will abstract from current law and consider each regime in its pure form -- ignoring, for example, that a loss may be partly deductible, only to the extent it exceeds the floor.

to moral hazard.[31] Moreover, it affects the individual's insurance decision. The most straightforward effect is that each increment to the level of private insurance coverage causes the individual to forgo more of the free insurance offered through the tax code. This induces individuals to choose less coverage overall than they would in the first regime, as noted in section 1. There are, however, two countervailing effects, described more fully in the discussion of the fourth regime: (1) the level of government insurance through the tax system may exceed the level of private insurance individuals would have purchased, and (2) some of the moral hazard effect of private insurance is externalized to the government, which may induce individuals to purchase greater aggregate levels of coverage. The tendency to purchase less insurance in order to qualify for more of the government's free insurance will tend to dominate when moral hazard is not very great, in which case individuals would tend to purchase nearly complete coverage were it not for the deductibility of uninsured losses. (Thus, in the illustration in section 1 where moral hazard was ignored, individuals purchased complete coverage when losses were not deductible, but might have forgone coverage if losses were deductible.) To compare individual welfare in the two regimes, it is appropriate, as

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[31] Kelman (1979) notes that, if a medical expense deduction were to be allowed, it would be more appropriate to allow specified deductions for particular ailments where the amount of the deduction does not depend on individuals' actual expenditures. His motivation is to separate the consumption dimension of some medical expenditures from their treatment aspect. Whatever the virtue of this result, such an approach has the desirable feature that it avoids ex post moral hazard. See Pauly (1986). Presumably, this is one reason that public and private health insurance schemes have recently moved toward reimbursing providers based on treatment categories.

noted previously, to adjust taxes to remove any distributional effects. When this is done, it is clear that welfare is lower in regime 2: the different aggregate level of protection against risk that is chosen in regime 2[32] could have been chosen in the undistorted system, regime 1, but was rejected because it yielded less utility.

In the third regime, because premiums are deductible but uninsured losses are not, insurance is subsidized. Thus, individuals purchase a greater level of coverage than they would otherwise prefer.[33] As compared with regime 1, they are purchasing protection against risk that is not worth the added social cost when one accounts for the increase in moral hazard, but this inefficient choice is nonetheless made because of the subsidy.[34]

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[32] By coincidence, for some individuals the two tendencies may precisely offset; for them, welfare in regimes 1 and 2 would be equal.

[33] See Pauly (1986). Farley and Wilensky (1985) estimated that a family paying the average amount of premiums ($987) with no tax benefit and subject to the average tax rate (31%) spend another $132 if the tax subsidy applied to the entire premium. Feldstein and Friedman (1977) estimated large effects of the tax subsidy on the level of health insurance purchased (in particular, on coinsurance rates -- the portion of expenses individuals would remain responsible to pay), implying large welfare losses. Other studies are surveyed in Pauly (1986), who indicates that, at the time of his writing, the tax subsidy was sufficiently large to make the after-tax cost of insurance protection negative for many workers (i.e., the after-tax cost of premiums was less than the expected payments).

[34] The fact that much employer-provided insurance covers 100% of very small losses illustrates this effect. For example, some dental policies cover *only* expenses up to $1000. Phelps (1983). Given the moral hazard and administrative costs involved, combined with the incredibly small amount of risk, it seems plausible that such policies are a product of the tax system. See Phelps (1983), Pauly (1986). Group plans, most of which are employer-provided and thus subsidized by the exclusion of employer-paid premiums from income, are far more likely than individual plans to have coverage for dental care, physician office visits, prescription drugs, and medical equipment, while they are far less likely to have deductibles of more than $100. Farley (1986). In addition, individuals may use flexible benefit plans to pay in full for small items not covered by their insurance or excluded by the deductible.

In the fourth regime, in which both premiums and uninsured losses are deductible, it might appear that there is no distortion of the insurance decision[35] -- i.e., that the distortions in regimes 2 and 3 precisely offset. For each unit of protection, one pays a premium. The unit of protection only effectively shields one against 1-$\underline{t}$ units of the loss (because $\underline{t}$ of the loss was otherwise covered by the tax system), but that unit of protection costs only 1-$\underline{t}$ because the premium is deductible. This argument, however, is incomplete. First, regime 4 will be inefficient to the extent the level of partial insurance implicit in the tax code, considered alone, exceeds the level that individuals would have chosen in regime 1.[36]

Second, regardless of whether the tax code's implicit insurance coverage exceeds the level individuals would otherwise select, the existence of implicit government insurance that does not entail charging a premium results in what might be called a two-stage moral hazard problem, noted briefly in the discussion of regime 2.[37] To understand this effect, note initially that each increment of protection entails further moral hazard. This moral hazard, in turn, increases the aggregate expected loss, which is insured partially by private insurance and partially by the tax system through the deduction. Thus, the additional moral

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[35] The distortion in choice of activity or technology discussed in section 1 would still exist. Thus, for example, purchasing a yacht for 100 and insurance for 10 would be cheaper than purchasing an indestructible xacht for 108 if the insurance premium were deductible at a 30% marginal rate (while the added cost for the advanced technology is not).

[36] With top marginal rates near 30%, this is much less likely than when top marginal rates were 70%, or even higher.

[37] See Kaplow (1991).

hazard effect increases the expected costs of both insurance systems. For private insurance, this increase will be reflected in the premium. But the tax system charges no premium, so this aspect of the increased expected cost will not be taken into account by the individual. Thus, the level of aggregate coverage the individual would choose in this regime will tend to be higher than the level of private insurance the individual would have bought in regime 1 -- in which the individual received the full benefit of insurance but bore the full cost. In regime 1, the individual was just indifferent to an infinitesimal increase in coverage; here, that same incremental increase produces the same risk-spreading benefit but at less cost to the individual. As a result, regime 4 is inefficient.

In sum, all regimes except regime 1 -- no deductibility of premiums or uninsured losses -- are inefficient relative to the second-best optimum. Thus, the conclusion of section 1 on the casualty loss deduction being inefficient continues to hold when considering a wider array of regimes and taking account of how moral hazard affects individuals' insurance decisions.

3. Discussion and Extensions

Taxability of insurance proceeds

The discussion in sections 1 and 2 took as given the current rule that insurance proceeds to cover casualty losses or medical expenses typically are not taxable, unless they reimburse

previously deducted amounts.[38] Often this treatment is said to be justified because, if the proceeds would be taxable, there would be an offsetting deduction in any event. With all the limits on the casualty loss and medical expense deductions, this is not true in many instances. More important for present purposes, however, one can hardly rely on this rationale to the extent the justification for the offsetting deductions is put into question.

Instead, it is useful to emphasize the prior payment of an insurance premium and make an analogy to the notion of basis. Begin by recalling the first regime considered in sections 1 and 2:[39] premiums were assumed not to be deductible, losses not deductible, and insurance proceeds not subject to tax. Now compare an alternative that differs only with respect to the treatment of insurance: premiums are deductible and proceeds are included in income.[40] Both systems would be nondistorting with regard to an individual's ex ante decision to purchase actuarially fair insurance (i.e., insurance for which the premium just equals the expected recovery under the policy). The former system fails to recognize gain when one receives a large payment and fails to allow a loss deduction when no payment is made

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[38] See note 28 (medical insurance); I.R.C. §123 (insurance for living expenses during loss of occupancy caused by casualty; nullifying court decision holding such insurance proceeds taxable). If proceeds exceeded the adjusted basis of an asset and were not reinvested and thus subject to the nonrecognition rule of I.R.C. §1033, the gain would be taxable.

[39] One could also consider modifications in the other regimes, but few additional insights would be gained.

[40] Except for the timing of the deduction for the premium -- a complication ignored here -- this is equivalent to a system that viewed the premium as an investment in a financial asset, with realization at the time proceeds are received or at the expiration of the policy.

(i.e., when one has good luck, and thus in hindsight would rather not have purchased the insurance). The basis can be seen as the premium, and it, on average, just equals the proceeds. With the latter system, because the premium is deducted, there is no basis. As a result, neutrality would require taxing the receipt of proceeds. It would appear that individuals would be indifferent between these two systems.

To analyze this further, consider the case in which there is no moral hazard.[41] With the former system, individuals purchase full insurance coverage. The occurrence of a loss does not produce any fluctuation in actual income or after-tax income. With the latter system, the possibility of a loss means that even individuals purchasing full coverage would experience a fluctuation in their after-tax income, because, when there is a loss, their after-tax income is lower by the amount of the loss (which equals the amount of the insurance proceeds) times the tax rate. Thus, although the latter scheme is equivalent to the former on an expected value basis, the latter involves the individual bearing some risk because, in essence, the tax system erases a fraction of the insurance policy (the fraction equaling the tax rate). In principle, individuals could gross up their level of insurance coverage to offset this effect.[42] For

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[41] It would be straightforward to demonstrate that the analysis also applies when individuals purchase partial insurance coverage because of moral hazard.

[42] This possibility, as well as the close relationship between whether insurance proceeds should be taxed and whether premiums should be deductible, is noted by Halperin (1989). He also suggests another perspective: individuals who purchase insurance along with an asset subject to casualty loss have, in essence, purchased a different asset. The loss is the insurance company's, not theirs, and the proceeds can be seen as flowing to the seller of the replacement asset. Following the illustration in section 1, one might

example, if the tax rate were one-third, they could purchase coverage for 150% of their loss. After paying tax on the proceeds, they would be just whole. The premium would be 50% higher than with the former system, but since the entire premium is deductible, the after-tax cost of the premium would be the same as with the former system.

At this point, it would appear that the latter regime, by allowing deductibility of premiums and taxing insurance proceeds, results in a wash. To avoid the administrative costs of accounting for all this, it would be better simply to adopt a system that ignores insurance altogether. There are, however, some additional differences. The existence of progressive rates makes the latter system less generous because the average tax rate on the proceeds would exceed that applicable to the deduction of the premium; the net effect would be to tax, and thereby discourage, the purchase of insurance. On the other hand, the latter system is more generous with regard to any load paid on the insurance policy (i.e., an amount in excess of the expected recovery to cover costs of administering the policy), because the load is deductible. The above analysis suggests that this generosity would be undesirable, as it amounts to a subsidy for the insured activity (e.g., yachting).[43] Finally, the former

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say that the insurance company is like a lessor that has promised to make an asset available regardless of whether a casualty occurs. The lessee suffers no casualty loss and receives no payments.

[43] See Vickrey (1947). For medical insurance, the nature of the subsidy is less apparent in the case where moral hazard is insignificant. Yet the load is a real cost of the insurance; it is more efficient that it be fully taken into account when individuals make insurance decisions. To the extent all individuals would acquire insurance, paying the same load, the distributional consequences would be insignificant, but there may be efficiency consequences

system may be preferable because the latter requires individuals to purchase insurance that depends on their future tax bracket, which may introduce added uncertainty and create additional incentive problems, particularly with coverage that nominally exceeds 100%.[44]

Exclusion of "gains"

Halperin (1989), paralleling an earlier suggestion of Vickrey (1947), argues that perhaps the casualty loss deduction is defective because it is asymmetric: it allows a deduction for losses but does not include in income what might be termed "casualty gains." The idea is that one purchases an asset only if its expected value equals or exceeds its price. If, in the event of a casualty, its value is less than the price paid, it must be that one expects the value to exceed the price if there is no casualty. That is, when there is no casualty, one possesses an asset worth more than what one paid. Thus, the argument goes, one should be taxed on the gain. (In the example in section 1, one might say that, when there is no storm, there is a casualty gain of 10, because the individual secured an asset worth 110 -- the cost of rental or other alternatives that

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if the level or type of insurance purchased depended on the after-tax cost of the load.

[44] In the example with 150% coverage, if one's tax rate unexpectedly declined, one would stand to profit by having one's asset destroyed. This possibility introduces another element of moral hazard, which in turn affects the level of insurance coverage individuals would obtain. This problem and the other noted in the text might be mitigated if the amount to be paid under the insurance policy were to depend on one's actual tax bracket, determined ex post. Such a policy, however, would introduce an additional moral hazard element with regard to one's taxable income (e.g., timing one's realizations of capital gains would affect the amount of insurance coverage).

guaranteed the ability to engage in yachting for the period -- for a price of only 100.[45])

It is useful to consider the relationship between the idea that casualty gains are excluded and the analysis here.[46] One can view the yacht purchaser as consisting of two personalities: one is in the business of purchasing yachts to rent and the other is the lessee and user of yachts.[47] The former stands to have a profit of 10 if there is no storm and a loss of 100 if there is (because the yacht must be replaced, to rent to the other personality). Standard, uncontroversial, tax accounting for this business would show both the profit (the "casualty gain") and any casualty loss. The lessee/user pays the lessor/purchaser the market rental, which is not deductible and thus results in no tax consequences, regardless of whether there is a casualty.[48] One might argue, therefore, that the correct treatment of the single individual -- the purchaser/user -- should be the sum of the treatment of these two hypothetical persons.

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[45] As stated in the text, the numbers do not fully add up, because taxable income of 10 with probability .9 and a tax deduction of 100 with probability .1 leaves one with an expected (net) deduction of 1, and thus an expected subsidy of $1t$. But if one adjusted the example to be complete, as described in note 7, the casualty gain would be 11.11 rather than 10, so the (net) expected deduction and subsidy would be zero.

[46] Although for many purposes Halperin adopts an ex ante perspective and often discusses the effect of tax provisions on the purchase of insurance, he does not systematically examine the effects of different regimes as is done here; nor does he offer an explicit criteria for evaluating the effects.

[47] Since the example involves only one period, where the asset is fully expired at the completion, the issue of excluding imputed rent from the tax base does not arise. See Bradford (1984), Goode (1976).

[48] Compare note 42.

With regard to the activity choices discussed in section 1 and the insurance choices addressed in sections 1 and 2, the effect of allowing the casualty loss deduction while taxing the casualty gain appears to be largely the same as that of allowing no deduction and failing to tax the gain. Since measuring the gain (which involves assessing the probability of losses that did not occur in the tax year) would be administratively costly and often nearly impossible,[49] as Halperin emphasizes, it would seem preferable simply to disallow a deduction for casualty losses. Because the prospective gains and losses that are ignored accrue to the same individual, typical problems of tax arbitrage do not arise.[50]

There remains, however, an important difference between a regime that ignores losses and gains and one that involves deducting losses and taxing gains: the latter amounts to compulsory partial insurance (to the extent of one's marginal tax rate) while the former does not. Thus, the latter regime is subject to the insurance distortion arguments in section 2 addressed to a regime that allowed a casualty loss deduction and a deduction for insurance premiums (regime 4).[51] First, if the

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[49] See Vickrey (1947). In addition to various assets used in different ways, one must also consider medical expenses. In all instances, any attempt at valuation would inevitably involve predictable errors, which would reintroduce some asymmetry. Ignoring both losses and gains avoids the problem entirely. (Such valuations are implicit in insurance contracts, in that voluntarily paid premiums reflect expected losses and thus implicitly measure the casualty gain. See the discussion of administrative differences between direct insurance and tax deductions in the section to follow.)

[50] Of course, with progressive rates, the gain and loss would not all enter at the same rate, and to the extent the individual could influence the timing of such gains and losses, some manipulation would be possible.

[51] Regime 2 entailed a tendency to underinsure in aggregate because increasing one's level of private insurance involved forgoing some of the free

marginal tax rate exceeds the level of insurance that otherwise would be optimal (as, with moral hazard, optimal insurance is partial), inefficient overinsurance would result. Second, as individuals purchase more private insurance, some of the moral hazard is externalized to the government and thus ignored. Thus, in addition to administrative considerations, there is a conceptual basis for preferring a system that would allow no deduction rather than one that would allow a casualty deduction while taxing casualty gains.

Administrative differences between private insurance and implicit insurance through the tax system

The discussion in sections 1 and 2 assumed that both private insurance and implicit government insurance through tax deductions were simple and costless to administer. Considering administrative costs and practices further illuminates the question of appropriate tax treatment.

First, the existence of tax deductions for losses that may also be partially insured privately results in duplication of effort. Second -- perhaps in part because of such duplication, in part because the level of government insurance is often modest, and in part because of limited enforcement resources -- the government tends to spend far less effort on claims administration than do private insurance companies. Thus, for

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insurance implicit in the tax code. With regime 4, this problem was avoided because the deduction for the premium on private insurance just offset this effect. For the regime that taxes casualty gains, the tax on casualty gains is in essence the insurance premium for the government's insurance, so the government insurance is not free. In all these regimes, however, one is subject to the more subtle distortions in insurance coverage that arise when moral hazard is present.

example, a taxpayer simply writes a number on a tax return and receives a check (implicitly -- in practice, a refund may be larger or the tax due may be smaller). Rarely will there by any audit, examination of receipts, analysis of the nature of the expense, and the like. This is quite striking when one considers that the medical deduction involves a revenue loss in excess of $3 billion for fiscal year 1991 and the exclusion of employer insurance payments, far less subject to abuse, exceeds $40 billion.[52]

There are other, more subtle differences.[53] Notably, private insurance involves tailoring coverage and setting premiums to account for moral hazard.[54] Thus, with medical insurance, categories of expenditures more subject to moral hazard have higher coinsurance rates (i.e., individuals contribute a greater percentage of such costs). Casualty insurance will be more expensive for types of assets subject to greater risks. For example, auto collision and theft coverage will be more expensive for fancier cars and fire insurance will be more expensive for wooden structures. Limits on administrative resources and a

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[52] O.M.B. 1990.

[53] Differences in administrative costs have other ramifications. For example, as discussed in the subsection on the taxability of proceeds, private insurance policies involve load charges, which reflect real costs, whereas the administrative costs of implicit tax code insurance are not charged to the insured. Another cost difference is that the tax code's insurance is more comprehensive: as one enters a new activity, one need not write a separate insurance policy. For major casualties (as those involving a home or car), however, the administrative cost is likely to be small compared to the stakes involved. Moreover, individuals may obtain liability coverage in any event, and casualty coverage would often be available in the same policy.

[54] In addition, individuals with different risk preferences can choose different levels of insurance coverage. The tax system's insurance is at a stipulated level.

desire to keep the tax system relatively simple may explain why government definitions do not make such distinctions.[55] More directly, such distinctions are not made because the tax code does not purport to be involved in the insurance business. Thus, casualty losses and medical expenses that actually are incurred will not be excluded or reimbursed at a lower rate based on considerations of moral hazard.

In addition, existing tax rules affect efforts aimed at controlling costs of the medical care system. Cost control efforts have received increasing attention from insurance companies and the government with respect to Medicaid and Medicare, and concerns for cost control have been important in the expansion of HMOs and other innovations in the marketplace. Yet medical system cost control does not have similar prominence on the agenda of the Internal Revenue Service or the tax-writing committees of Congress despite the tens of billions of revenue cost incurred annually through the tax system.[56] Employer-provided insurance is the lion's share of these costs, so the tax coffers may benefit indirectly as a result of private cost

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[55] The tax code's definition of casualty, I.R.C. §165(c)(3), refers to losses "from fire, storm, shipwreck, or other casualty, or from theft," and interpretations of "other casualty" emphasize suddenness. The apparent attempt is to distinguish probabilistic, substantial decreases in value from gradual, anticipated declines -- wear and tear -- which should not be deductible because they are consumption. If one wished to appeal to definitions, one could simply note that probabilistic consumption is still consumption. For example, if houses were destroyed by floods for certain once every 100 years rather than with probability 1% every year (or through erosion, by a certain 1% annually), it becomes more apparent that behavior will be distorted if the tax code allows deductions for any of these causes of decreased value.

[56] Tax expenditures for the exclusion and deduction of health insurance premiums in 1982 constituted about 10% of private health insurance expenditures. Pauly (1986).

control efforts. Yet the fact that a significant fraction of the benefit of such efforts accrues to the government rather than directly to the purchasers of insurance coverage blunts the incentives to limit health care costs.

Comments on the literature and distributional concerns

The preceding discussion indicates that allowing deductions for casualty losses and medical expenses is inefficient. Deductions distort activity choices as well as insurance decisions. In particular, the implicit insurance offered through the tax code may result in individuals securing less aggregate protection against risk than they would in the absence of such tax code insurance. Given a choice, individuals would prefer a tax code without such deductions and with correspondingly lower rates. In principle, it would be possible to distribute the revenue savings in a manner that made all taxpayers better off.[57]

One noteworthy aspect of this analysis is that none of it requires one to define "income" or "consumption." Rather, the discussion focuses exclusively on the possible effects of alternative regimes on behavior. Any conclusions about tax policy that emerge depend on how one assesses these consequences.

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[57] As a practical matter, this generally would not be possible. It would not be administratively feasible, for example, to identify which individuals of a given income level tended to engage in more casualty-prone activities. That some individuals would be worse off as a result of such a tax reform is not necessarily an argument against it, as there is no obvious basis for suggesting that individuals who prefer more risky activities should be entitled to pay less taxes.

If the revenue savings were not distributed to income groups in proportion to their current benefits but rather more evenly, the effect would be progressive. Currently, the exclusion for medical insurance premiums and the medical expense deduction favor wealthier families. See Feldstein and Friedman (1977). (The casualty deduction is quite small by comparison.)

Of course, after the analysis is complete, one could, for example, deem medical expenses to be "consumption" or not, but this would merely restate one's conclusion in less straightforward terms.[58] Moreover, it would reopen debate about what one really means by "income" or "consumption" without illuminating the underlying reasons for preferring one tax treatment over another.[59]

The investigation here also differs from much (not all) of the literature by adopting an ex ante rather than an ex post perspective. Instead of focusing on whether one who has suffered a casualty deserves more generous treatment than one who does not, it considers the situation prevailing at the time individuals make decisions that influence the likelihood and extent of their losses as well as the degree to which they will be compensated. This perspective is important for two reasons. First, ex post tax treatment has important effects on ex ante behavior that are relevant in assessing various tax regimes. Second, the ex ante perspective is relevant to considerations of equity. In particular, through their insurance decisions or choices of activities, individuals may reduce or eliminate their

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[58] In commenting on his argument that the medical expense deduction can be justified as a refinement to the concept of income, Andrews (1972) states that his point involves "recognizing that the notion of consumption as a base for personal taxation may rationally be elaborated differently than it is for other purposes." Once the term becomes a term of art, however, it serves only to communicate accepted understandings, not as a basis for illuminating new contexts, because any presumption that one may draw upon familiar applications of the term is rejected.

[59] This point should not be understood as a claim that using definitions, as with income or consumption, is necessarily wrong. Reasoning from definitions, concepts, and other proxies is often useful. But here, as emphasized in the introduction, the existence of continued controversy itself seems sufficient to justify examining foundations. How often and when this is appropriate cannot be stated simply.

exposure to losses. There is good reason to view differently losses voluntarily borne by individuals who accept a gamble and would have benefited financially if they had experienced a more favorable outcome.[60] Moreover, in the contexts examined here, all individuals would in principle choose to be governed by a regime without deductions if they could.[61] It is not clear what principle of distributive justice would refuse to honor this choice.[62]

There is, however, an important reservation concerning distribution: what if individuals have ex ante differences beyond their control? One might imagine such differences to be insignificant for most casualty losses, but there are important differences in medical condition that will affect one's future

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[60] This point is suggested in Bittker (1968) and Bradford (1986).

[61] See also the discussion of horizontal equity in note 20 and the accompanying text.

[62] One might view differently losses that were "voluntarily" borne by individuals who made uninformed or irrational decisions to forgo insurance. A moderate paternalistic perspective might favor attempting to produce the result such individuals would have achieved had they chosen properly from the standpoint of their own welfare. In this instance, compulsory insurance at the level informed individuals would have chosen is preferable to deductions for a number of reasons. First, it provides the right level of protection, rather than the partial protection of a loss deduction that depends on one's tax bracket, status with regard to itemizing, and the like. Second, it avoids distorting some activity choices that would influence the extent of expected losses and thus the level of insurance premiums (if such activities can be observed by insurance companies and thus used in setting premiums). Moral hazard from the insurance itself may be unavoidable. One danger of a compulsory scheme is in setting the level of required coverage too high -- particularly if the scheme must, of necessity, apply to a large portion of individuals who are well-informed and thus who would make sensible decisions if not compelled to act differently.

Another aspect of imperfect consumer choice may involve ex post decisions. For example, some individuals may be reluctant to seek medical care because they underestimate its value. A subsidy may help offset such a tendency. Of course, a subsidy may be most important for lower cost, preventive expenses, which would be under the floor of the current deduction. Moreover, to the extent that the existence of a medical expense deduction (in contrast to the exclusion for employer-provided insurance) discourages the purchase of insurance, it accordingly might be seen as less desirable than suggested by the discussion in the text.

medical expenses. Even these differences would not be important if all could purchase insurance at the same rates and adverse selection were not a serious problem. Those having access to fairly comprehensive group medical insurance through employers or professional organizations may face little difficulty in this respect. If, instead, some individuals are unable to obtain medical insurance except at very high rates because observable factors indicate that they are more prone to health problems, one may wish to take this into account in determining the appropriate distribution of income, and thus in determining the appropriate tax base.[63] To avoid distorting insurance and other decisions of such individuals, it generally would be more efficient to offer direct subsidies or, if through the tax system, special deductions or credits that depended on status rather than actual events. Thus, for example, an additional tax deduction for the blind might be preferred to subsidizing particular purchases they might make.[64] If such alternatives were too administratively costly and if innate health differences were substantial, one might choose to allow a medical expense deduction and a deduction for medical insurance premiums (particularly for non-employer-provided insurance, where premium differences would be the greatest) as a second-best provision, or to pursue other health policies, such as national health insurance.[65]

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[63] In practice, the distinction often will be difficult to make, as emphasized by Kelman (1979). For example, a middle-aged individual may face high medical insurance costs because of a life of smoking or poor nutritional habits.

[64] Compare note 31.

[65] By analogy, the case for an income tax to reduce variations in labor income arising from uncertainty that is anticipated is relatively weak, see

4. Conclusion

This investigation has considered a number of aspects of the casualty loss and medical expense deductions. The perspective adopted here emphasizes how both deductions are, in essence, a rather odd sort of free, partial, quasi-compulsory insurance: for no explicit premium (except higher taxes generally), some individuals (those who itemize) receive partial coverage (at a level equaling their tax rate) for qualifying losses (where the portion of losses one insures directly are not qualifying). Focusing on individuals' ex ante decisions, the effect is to distort their behavior. Most obviously, activities are subsidized to an extent that increases with the risk of loss involved. Moreover, insurance decisions are distorted. One possibility is that risk-averse individuals, who otherwise would have purchased substantial insurance, might forgo insurance in order not to sacrifice the free partial insurance offered by the tax system. In such cases, individuals bear more risk as a result of their being offered some free insurance. More subtle

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Kaplow (1990b), while that for reducing variations in future labor income arising from unmeasurable innate differences in ability stands independently, see Stern (1982). The argument in the context of medical expenses is, however, more precarious. Individuals with poorer innate health will face substantially higher insurance premiums only if insurance companies can determine at modest cost who such individuals are. But if this determination is in fact feasible, there is less of a case for using medical expense deductions for uninsured expenses and other indirect policies rather than direct subsidies to benefit such individuals.

For medical insurance and uncertain labor income, if innate differences cannot be observed by insurance companies but can be observed by individuals, a pooling equilibrium need not result, and if it does, it will not be efficient, as some individuals will insure more than the optimal amount and others less. See Rothschild and Stiglitz (1976). It is not apparent that these are significant practical problems for medical insurance markets. For a discussion of insurer practices making adverse selection less likely, see Pauly (1986). As he suggests, if the tax subsidy were removed, employers might offer a greater variety of choices to employees, which could make adverse selection more serious than it currently is.

distortions that take into account moral hazard and its effect on insurance coverage were also considered.

The approach adopted here differs from most of the previous literature on these personal deductions by focusing entirely on the effects of various regimes on behavior and how these effects might be evaluated, ignoring the perplexing questions of how "income" and "consumption" should be defined. Moreover, it emphasized the need to consider simultaneously whether losses or expenses are deductible, premiums are deductible, insurance proceeds are taxable, and "casualty gains" are taxable, as changes in one provision may offset or exacerbate the effects of another.

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