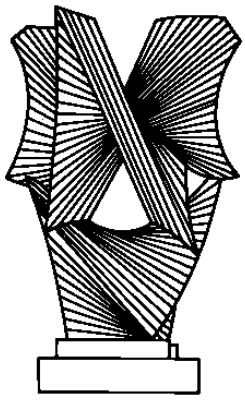
2000

An Economic Analysis of Anti-Tax Avoidance Laws

David A. Weisbach
dangelolawlib+davidweisbach@gmail.com

CHICAGO

JOHN M. OLIN LAW & ECONOMICS WORKING PAPER NO. 99
(2D SERIES)



An Economic Analysis of Anti-Tax Avoidance Doctrines

David A. Weisbach

THE LAW SCHOOL
THE UNIVERSITY OF CHICAGO

An Economic Analysis of Anti-Tax Avoidance Doctrines

David A. Weisbach

The University of Chicago Law School

May 17, 2002

Contact information:

David Weisbach
University of Chicago Law School
1111 E. 60th St.
Chicago, IL 60637
phone: (773) 702-3342
fax: (773) 702-0730
d-weisbach@uchicago.edu

Abstract

This article analyzes the effect of tax law doctrines designed to reduce tax shelters, such as the business purpose doctrine, and the economic substance doctrine. The article analyzes these doctrines as changes to the marginal elasticity of taxable income. As these doctrines are strengthened, the elasticity of taxable income goes down (in absolute value). By reducing the marginal elasticity of taxable income, the doctrines increase the efficiency of the tax system. Because the doctrines cannot perfectly identify tax avoidance, however, they induce a distortionary response by taxpayers, who may structure shelters to avoid the doctrines. This distortionary effect reduces their efficiency. The net benefit should be set equal on the margin to the marginal administrative cost of the doctrines.

An Economic Analysis of Anti-Tax Avoidance Doctrines

Tax avoidance or tax shelters are a pervasive problem in most tax systems. Taxpayers have strong incentives to structure transactions to take advantage of inconsistencies or gaps in the tax rules to reduce their tax liabilities. Virtually all methods of taxation face this problem—inevitably the rules defining the tax base have holes or inconsistencies that can be exploited.

One of the most common but most controversial methods of addressing this problem is through a variety of doctrines that together might be termed anti-avoidance doctrines. These doctrines, such as the business purpose doctrine, the economic substance doctrine, and the pre-tax profit requirement, do not try to fill in all the gaps or eliminate the inconsistencies in the tax law. Instead, they attempt to address the problem of avoidance directly by identifying avoidance behavior and limiting the resulting tax benefits. To do this, they weigh tax and non-tax elements in a transaction and, if the non-tax elements are sufficiently large, they disallow the results. For example, the business purpose doctrine compares the business purpose to the tax purpose of an action. The pre-tax profit requirement determines whether the profit potential without regard to tax savings is sufficient. The economic substance doctrine determines whether there are sufficient non-tax economics. Failure to meet any of these standards results in denial of the asserted tax benefits notwithstanding literal compliance with the otherwise applicable statutes.

The goal of this paper is to analyze the consequences of these doctrines. Although there is a substantial literature discussing anti-avoidance doctrines, there has been surprisingly little analysis of the consequences of these doctrines.[1] Many analyses of the problem view it as a problem of statutory interpretation. One might argue, that courts should not override explicit statutory language even if the

1.For example, see Chirelstein (1968), Gideon (1986), Gunn (1978), Hariton (1999), Isenbergh (1982), Rosenberg (1988), and Smith (1999).

language creates some unintended tax result. There is, therefore, no role, or a very limited role, for anti-avoidance doctrines. But analysis of the interaction among the various governmental institutions that are involved in statutory enactment and interpretation does not answer the question of the optimal content of the law. If courts or agencies cannot override explicit statutory language, the problem just gets pushed back one step further to determining whether statutes should include these principles. Focusing on statutory interpretation is helpful in thinking about institutional issues but is not central to the underlying problem.

Another common approach is based on taxpayers' right to limit the taxes they pay. It is clear that under current law, taxpayers have what is termed a "right" to alter their affairs to minimize taxes. But the existence of such a right and the oft quoted statements about lack of patriotic duties to pay tax are just conclusions. Under the analysis used here, the strength of any "right" to tax plan is a consequence of the optimal strength of anti-avoidance doctrines. Whatever is not caught under optimal anti-avoidance doctrines is the right to tax plan.

To some extent, anti-avoidance doctrines can be analyzed through a rules/standards analysis. Anti-avoidance doctrines are standards while the tax law is generally implemented through rules. The optimal use of anti-avoidance doctrines should reflect the optimal trade-off between rules and standards in the tax law. (Weisbach 1999) This is an important element in the analysis, but solely using the tools for analyzing rules and standards would be incomplete. If tax avoidance creates large inefficiencies, we might be more willing to tolerate standards than if tax avoidance does not generate large inefficiencies. We need to know the costs of tax avoidance and the costs and benefits of responses in addition to the appropriate mix of rules and standards.

One is left with direct analysis of the consequences of tax avoidance and of responses to it. That is the task taken up here. The approach used here is to view tax

shelters as gaps in the tax base and attempts to limit tax shelters as similar to any other expansion of the tax base. So, for example, we might consider expanding the tax base to include imputed rent. Doing so would eliminate some distortions, such as between the decision to own a home and rent a home, but would be administratively expensive. To determine whether it is worthwhile, we need to evaluate the distortions caused by the narrower tax base and evaluate the administrative costs of expansion. Anti-avoidance doctrines presents basically the same question. Tax shelters are gaps in the tax base and anti-avoidance doctrines reduce the size of these gaps, effectively broadening the base. But anti-avoidance doctrines come at some administrative cost and we must compare the inefficiencies of the narrower base with the cost of expansion. The tools used to discuss the appropriate scope of the tax base can be used to analyze anti-avoidance doctrines and shelters.

For most of this paper, I will assume the government is optimally implementing the tax law. That is, the government is subject to a budget constraint and chooses tax laws that maximize the welfare of its citizens, taking into account the deadweight loss caused by taxation, taxpayers' compliance costs, and government administrative costs. There are no institutional issues such as concerns about the competence or authority of various branches of government. I will also leave distributional issues aside until Part III of the paper, so that the initial analysis will concern only efficiency.

The advantage of these assumptions is that they isolate and simplify the problem. They eliminate issues of sloppy drafting, avoidance of inefficient taxes, and politically-motivated tax incentives, issues which often confound the analysis. (For example, a common argument is that avoidance of the corporate tax is not inefficient because the corporate tax itself is thought to be inefficient.) Only once we understand the effects of anti-avoidance doctrines in an optimal world can we

determine their effects in the real world. The last section of the paper relaxes the optimality and distributional assumptions and examines how the conclusions change.

Section I provides background and sets forth the basic assumptions. Section II analyzes the efficiency effects of anti-avoidance doctrines, leaving aside their administrative costs. Section III analyzes the administrative costs of anti-avoidance doctrines and discusses the trade off between anti-avoidance doctrines and other approaches to shelters. Section IV relaxes the optimality assumption and discusses how the conclusions might change under more realistic conditions. Section V concludes.

I. Definitions and Background

As noted above, virtually all tax systems have gaps or inconsistencies. The reason is that the tax base for most tax systems, such as income, consumption, wages, or property, is difficult to define or observe perfectly. For example, income is difficult to measure because it requires measurement of changes in value during each accounting period. Consumption is difficult to measure because we can only observe the purchase of consumption goods sold in the market rather than actual consumption. Wage taxes generally cannot identify returns to labor that are disguised as returns to capital.

Tax systems respond by using imperfect measurements along easier to observe surrogate margins. For example, our income tax relies on realization and a byzantine variety of other rules and definitions. Wage tax systems typically only measure cash wages or very close substitutes for cash wages. Consumption tax systems measure only market purchases.

A consequence of the difficulty of measuring the base perfectly or of the use of surrogate margins is that there will be collateral responses to taxation—responses

other than the direct responses of using a given base. For example, an ideal income tax may affect work effort and savings. Actually implemented, income taxes create lock-in on the sale of assets. Wage taxes should theoretically only affect work effort, but they may also cause taxpayers to alter the form of their compensation to disguise wages as returns to capital. Tax shelters are simply one of these collateral responses.

Optimal tax theory typically focuses on responses to taxation, such as changes to labor supply or savings rates, that are a direct consequence of the explicitly stated tax base. Because of these collateral responses to taxation, however, the theory cannot only focus on these explicit margins.[2] It must consider how individuals alter their behavior along all margins. Altering behavior along other margins will be inefficient just like altering work or savings. For example, individuals may work less because of a wage tax, but they may also structure their compensation inefficiently as tax-free fringe benefits or returns to capital. The lock-in effect created by the realization rule limits diversification of portfolios.

The economics literature has recently begun to address this fact. The most recent and general approach focuses on the compensated elasticity of taxable income as a measure of the efficiency of the overall tax system.[3] The intuition is that all tax induced behavior entails costs that will be incurred until at the margin, the private cost equals the tax savings. All tax reduction behavior, therefore, has the same effect on the margin and we can measure overall efficiency by simply measuring the compensated elasticity of taxable income. For example, suppose individuals have the option of structuring their compensation as fringe benefits or working less to

2.See Slemrod (1990) for an extended discussion of this argument

3.Recent articles on this approach include Feldstein (1995), Slemrod (1998), and Slemrod and Kopczuk (2000). For different but complementary approaches to the problem, see Cremer and Gahvari (1993), Kaplow (1990), Kaplow (1996), Kaplow (1998), Mayshar (1991), Slemrod and Yitzhaki (1996), Stern (1982), Yitzhaki (1979).

avoid taxable income. Traditional analysis would focus on the labor elasticity. We should instead look at taxable income elasticity on the assumption that at the margin the private cost of switching cash wages into fringe benefits is equal to the costs of working less. The change in taxable income when the tax rate is increased measures the cost of both of these substitutions. Focusing only on labor supply elasticity would make the tax seem too efficient: labor supply changes less than taxable income because of the shift into fringe benefits.

The compensated elasticity of taxable income approach is interesting because elasticity, rather than being a primitive determined by preferences, is a tool set by the policy maker. Audit rates, the size of the tax base, and the penalty structure affect the elasticity of taxable income. By determining the effects of changes in policy instruments on changes in the elasticity of taxable income, we can determine the efficiency effects of a wide variety of policy options.

We can view the problem of tax shelters this way. More specifically, we can view tax shelters as a problem of defining the tax base. Shelters arise because of the difficulty of specifying or observing the base perfectly.[4] They are, effectively, inadvertent omissions from the tax base. That is, we might have thought we were taxing income or consumption, but it turns out that if taxpayers buy and sell exotic derivatives in the right combination or change the corporate structure in the right way, taxes are not due. The tax base is narrower than we thought. This affects the elasticity of taxable income just like any other omission from the tax base.

Anti-avoidance doctrines affect the ability of taxpayers to shift into shelters and, therefore, are a policy tool that affects the elasticity of taxable income and the efficiency of the tax system. Stronger anti-avoidance doctrines reduce the elasticity of taxable income because they make it more difficult to shift into shelters.

4.See Bankman (1999) for a description of modern tax shelters

Narrowing anti-avoidance doctrines make it easier to avoid taxation, reducing the tax base and increasing the elasticity of taxable income. The question is how to set them optimally.

Before turning to this analysis, two points need further elaboration. First, there are many responses to tax shelters other than anti-avoidance doctrines. In particular, we can more carefully specify the tax system so that there are fewer avoidance opportunities. That is, through more effort, we can design a tax system that has fewer inconsistencies or gaps that taxpayers can use for shelters. If an unanticipated shelter arises, the tax system can be amended to address it at that time. We can think of this response as a rules-based approach or an ex ante approach while anti-avoidance doctrines are a standards-base or ex post approach.[5]

Optimization will involve a trade-off between further specification of the tax rules and the use of anti-avoidance doctrines and will most likely involve some use of each. In theory, we must optimize along all margins simultaneously. We can, however, simplify the analysis by taking it in two steps. We can think of all of the responses to shelters initially as a single response that affects elasticity of taxable income. We can then we can determine the optimal trade-off between the various responses to shelters, such as rules-based approaches and anti-avoidance doctrines. Following this approach, I will focus first on anti-avoidance doctrines as an example of responses to shelters and then discuss how we think about the trade-off between anti-avoidance doctrines and rules-based approaches.[6]

Second, I've yet to define anti-avoidance doctrines and it is not easy to do: they are, as discussed above, just another element in the definition of the tax base, so in

5.Other commonly discussed approaches to shelters focus on the audit and penalty regimes in the tax law. Audit and penalty regimes in the tax law, however, are only effective if there is some possibility that the shelter in question does not work under current law. While audit rates and penalties may be important, the focus here is on shelters that would be upheld absent anti-avoidance doctrines, and, therefore, these approaches have no effect.

principle they cannot be separated from other similar elements of the definition of the tax base, such as the general definition of taxable income. One might be tempted to define anti-avoidance doctrines as tax doctrines that address shelters, but we have no *a priori* definition of shelters. Instead, the definition of shelters must be a consequence of the appropriate scope of anti-avoidance doctrines. That is, before we determine the proper scope of anti-avoidance doctrines, we cannot distinguish one type of tax avoidance behavior from another, shelters from, say, working less. It is anti-avoidance doctrines themselves that tell us that some types of avoidance behavior is impermissible, not something external. Therefore, in defining anti-avoidance doctrines for purposes of optimization, we cannot limit them to particular types of avoidance behaviors.

While this means we easily cannot provide a rigorous definition of anti-avoidance doctrines, we can provide a rough approach. Anti-avoidance doctrines are standards that override the otherwise applicable statutory rules. That is, we can think of the tax system as being made up of a set of specific laws that govern how various items are taxed.[7] Anti-avoidance doctrines are applied in addition to these laws and override them. They usually weigh tax and non-tax elements in a transaction and disallow tax benefits for transactions that have insufficient non-tax elements. For example, the business purpose doctrine overrides the otherwise applicable rules to deny tax benefits if the taxpayer has insufficient non-tax reasons for entering into a transaction. The step transaction doctrine overrides the otherwise applicable rules if there are extraneous, ephemeral steps in a transaction.

This definition is not airtight. It is impossible to determine which rules override

---

6.This second task generally follows the approach in Weisbach (2000).

7.This structure is itself dependent on the scope of anti-avoidance doctrines. Broad anti-avoidance doctrines, for example, may mean a less complex structure. The optimization is joint. But for purposes of the analysis, assume the underlying structure is set within some reasonable range and we are considering the effects of anti-avoidance doctrines.

otherwise applicable law and which are merely part of the background, the otherwise applicable law. But limiting the category to broad-based standards limits the problem significantly—one can imagine the underlying normal rules and the overriding standards.

Given this definition, we can think of anti-avoidance doctrines as varying along a single dimension, say α, that can vary between zero and one. The variable α represents the strength of the anti-avoidance doctrines, the degree to which taxpayers may alter their activity to reduce taxes. At α equal to one, taxpayers must do exactly as they would absent taxation.[8] This is just lump sum taxation—taxation is not based on actual behavior so it cannot be avoided. At α equal to zero, there would be no anti-avoidance doctrines. As α increases from zero to one, the strength of the anti-avoidance doctrines increases. For example, to achieve the desired tax benefits, transactions will have to be more and more closely related to the taxpayer's business, or must have a higher and higher degree of expected pre-tax profit, or extraneous steps will be more closely scrutinized. As α gets close to one, the anti-avoidance doctrines would be much stricter than current law. For example, business purpose may have to be the predominant or sole motive for each step in a transaction, or the rate of return on a transaction may have to be expected to be the market rate of return.

It is somewhat difficult to imagine the world with α equal either to zero or to one. An extreme change in α would be accompanied by other changes in the tax law. For example, if α were zero, the tax law might be more complex to reduce shelter opportunities and α equal to one is probably impossible to achieve because

8.Note that α needs to be defined so that when it is equal to one, taxpayers may not respond to taxes at all, rather than that taxpayers may not engage in shelters or other tax avoidance activity. The reason why it must be defined this way is that there is no *a priori* definition of shelters. Defining α as covering all behavioral responses to taxation eliminates the need to define shelters as a distinct category of behavior.

we cannot determine what taxpayers would have done absent tax. But this does not significantly reduce the utility of the exercise. Understanding the effects of marginal changes to α should enable us to evaluate current proposals. Moreover, imagining the world with very high or very low α all other things held equal helps us understand the role of anti-avoidance doctrines in the tax system.

II. Efficiency Effects of Anti-Avoidance Doctrines

A. General Effects of Changing a Policy Instrument.

As noted above, we will think about a change in the strength of anti-avoidance doctrines as a change to the tax base that affects the elasticity of taxable income. Before focusing on anti-avoidance doctrines specifically, consider more generally the effects of a change in a policy instrument, such as the scope of the tax base. The economic literature has isolated three effects of such a change.[9]

First, changing the strength of a policy instrument, such as the definition of the tax base, will have a direct effect on utility. Suppose that taxes are imposed on a previously untaxed activity so that the tax base is effectively broadened. Individuals who previously engaged in this activity tax-free will now face a tax and will either pay the tax or alter their behavior to avoid the tax. Either way, considering only the direct effect of the new tax, their utility goes down. If, alternatively, the tax base is narrowed, utility goes up. The same holds true for other policy changes such as changes to the audit rates, penalty structure, or technical legal issues, such as the definition of capital gains.

Second, changing the strength of a policy instrument will change tax revenue, holding the elasticity of taxable income constant. Increasing the scope of the tax base will generally raise revenues while narrowing the scope will generally lower revenues. If revenue is raised, it can be spent on public goods or returned to

9.See for example, Equation 10 in Slemrod and Kopczuk (2000).

taxpayers through lower taxes elsewhere. This second effect holds the elasticity of taxable income constant, so it resembles the traditional analysis where elasticity is taken as a primitive.

Finally, changing the strength of a policy instrument will change the elasticity of taxable income. This affects taxpayers ability to substitute into non-taxable activities for a given increase in the tax rate. For example, if the tax base is expanded, the elasticity of taxable income will go down because taxpayers will be less able to substitute to non-taxed activities. This means that tax revenues will go up beyond the revenues that would be raised holding elasticity constant.

The net effect of changing the policy instrument is the sum of these three effects: the direct effect on utility (expressed in dollars), the change in revenues holding elasticity constant, and the change in revenue due to the change in taxable income elasticity. We can add this up over all taxpayers. (If we were to consider distributional effects, we would weight the direct effect on utility by the marginal social valuation of transfers to each individual.) This sum, at the margin, should be set equal to the marginal administrative costs of changing the strength of the policy instrument. That is, we keep on expanding the use of the policy instrument until the marginal benefit (the sum of the three effects) equals the marginal cost.

Consider a concrete example. Suppose there are three commodities that can be consumed, say apples, pears, and bananas. Individuals can also choose not to consume these goods by working less, effectively consuming more leisure. Therefore, individuals may choose among the three fruits and a total amount to consume. Suppose our individual taxpayer prefers apples to pears and pears to bananas and that in the no-tax world, he would consume mostly apples and a few pears. In addition, suppose that we currently impose a tax just on apples. The individual will shift some of his apple consumption to pears because of the tax and may also reduce overall consumption. These shifts—to more pears and to less

consumption—create the elasticity of taxable income (or, more accurately, the elasticity of taxable consumption). The elasticity measures the amount by which taxable consumption (that is, consumption of apples) changes when the tax rate on apples is increased a small amount.

Now suppose we add pears to the tax base. There are three effects. The individual is worse off because his choices have been restricted. His choice of part pears, part apples under the apples-only tax is now more expensive than it was, forcing him to adjust his behavior. He will switch some of his consumption back to apples because pears are no longer relatively cheaper than apples. He may also switch some of his consumption to the remaining tax favored items, bananas and leisure. He is worse off (or more precisely, not better off) because his set of choices is restricted. This is the first effect highlighted above—the direct effect on individual utility.[10]

Taxing pears will also raise revenue. The individual will switch back somewhat to apples and may continue to consume some pears, in both cases paying tax where none was paid before. The second effect noted above is the revenue effect holding taxable income elasticity constant. To determine the change in revenue holding taxable income elasticity constant, we simply adjust the expected tax receipts assuming no change in behavior by the change in behavior predicted by the elasticity. For example if elasticity was 0.5 prior to the change in law, a one percent increase in tax will cause a half percent decrease in taxable income. We can compute the change in revenues on this basis, with revenues going up less than in the zero elasticity case.

10.Note that the overall effect of taxing pears may well be to increase individual utility—it may be a good idea to tax pears. This first effect only measures the direct effect on utility, leaving aside the other benefits. Thus, this first effect does not consider that the revenues from taxing pears can be used to reduce other taxes or pay for public goods.

The third effect is change in revenues because of the change in the elasticity of taxable income. It will be more costly for the individual to avoid taxes because of the tax law change—he now has to switch to bananas or reduce overall consumption even more. Because avoidance is more costly, a percent increase in tax rates will induce a smaller change in taxable income. This makes the tax system more efficient in the sense that a given tax rate will induce fewer changes in behavior and raise more revenue. This is analogous to the familiar notion that taxing items with lower elasticities creates lower deadweight loss. (In fact, we can show under certain assumptions that the additional tax revenue from the change in elasticity is directly proportional to the deadweight loss in the system.[11] The intuition is, as just stated, that the tax system becomes hard to avoid so that the deadweight loss from shifting behavior is smaller and correspondingly, the tax revenues from a given tax are higher.)

Overall, expanding the tax base raises revenue directly and indirectly. It raises revenue directly through tax payments on the newly taxed item. It raises revenue indirectly by reducing the tax-induced substitution to non-taxed items, reducing the elasticity of taxable income. In addition, individuals are worse off because a previously untaxed activity is now taxed. The net effect could be positive or negative. Assuming there is a net benefit, we should expand the base so that the marginal benefit is equal to the marginal administrative costs.

Is the tax on pears a good idea? We need to compare the net effect of the tax to the marginal administrative costs of taxing pears. We can isolate some likely factors. The most important factor is whether pears are a better substitute for bananas or apples—the cross-elasticities between the various commodities. These cross-

11.In particular, the statement in the tax holds if we assume that the elasticity of taxable income does not depend on the marginal tax rate. See Slemrod and Kopczuk (2000) for a proof of the statement in the text.

elasticities determine the effect on taxable income elasticity. For example, if pears are a very good substitute for apples but not for bananas, taxing pears will increase the elasticity of taxable income a lot, making it likely that taxing pears is a good idea. If, by contrast, bananas and pears are good substitutes for each other but not for apples, taxing pears may not be a good idea as it will not affect taxable income elasticity very much.[12] The other important factor is whether it is difficult to tax pears. They might be very hard to identify or to trace and the net benefit would have to be high to match this high administrative cost. For example, in the real world, taxing imputed rents is administratively difficult and the benefit of expanding the tax base to capture imputed rent is not generally thought to be high enough to be worthwhile.

B. Anti-avoidance doctrines.

Anti-avoidance doctrines are a sub-class of this general problem of defining the tax base. In fact, the very goal of anti-avoidance doctrines is to change the elasticity of taxable income—the primary purpose of anti-avoidance doctrines is to prevent taxpayers from shifting their activity into shelters. By limiting tax shelters, the hope is that decisions will be less based on taxes and more on other considerations. This is precisely a change in the elasticity of taxable income. There are some subtleties in the analysis and it is worth considering each of the three effects outlined above in more detail.

The first effect is that individual utility is lowered when anti-avoidance doctrines are strengthened (holding all else equal). When α, the strength of anti-avoidance doctrines is increased, their choices are restricted, and, therefore, utility is lower (or can at best be the same).

We can be more precise about how strengthening anti-avoidance doctrines

12.This is the intuition behind efficient line drawing. See Weisbach (2000).

affects utility. Consider a small increase α. Prior to the increase, taxpayers would have entered into tax avoidance transactions until the cost of avoidance exactly equaled the taxes saved. When α is increased, some taxpayers who previously avoided tax, those on the margin, will stop avoiding taxes because avoidance has gotten too expensive. These marginal taxpayers are no better or worse off than they were prior to the change in α because they were indifferent to avoiding and paying tax. Other taxpayers, however, will continue to avoid tax, but now it is more costly to do so they must engage in more elaborate shelters to avoid tax, incurring additional costs. Overall, taxpayers are worse off.

I call this effect the *distortionary* effect of anti-avoidance doctrines. The distortionary effect means that an increase in the strength of anti-avoidance doctrines makes shelters worse. Moreover, we know that the amount by which an increase makes shelters worse outweighs the benefits of making fewer taxpayers shelter for fear of the rules. The reason is that the direct effect on utility of an increase in α is negative—choices are restricted.[13]

We can see the distortionary effect in actual transactions and cases. Take, for

13.Kaplow's (1990) model of tax evasion and enforcement has a factor quite similar to the distortionary effect. In his model, taxpayers incur costs to evade and the cost increases with government enforcement efforts. When the government increases enforcement, some taxpayers cease to evade but others continue to evade at a higher cost. This is much like in the discussion in the text in which taxpayers engage in more expensive shelters in response to anti-avoidance doctrines. Kaplow, however, concludes that the effect is ambiguous contrary to the conclusion in the text that the effect reduces utility. The approaches, however, are consistent. The reason for the apparent difference is that Kaplow includes in the distortionary effect the benefit of the rate reduction allowed because of the additional tax revenue collected from increased enforcement. The statement in the tax treats the tax revenue as a separate factor. The ultimate conclusions, that the decision to expand enforcement or to strength anti-avoidance doctrines depends on the revenue and the distortionary effect, are very similar.

Note also that the distortionary effect occurs in the fruit example as well. An increase in the tax on pears induces a switch to apples and to bananas. The switch to bananas is like the switch to worse shelters caused by an increase in α. In fact, this effect—the change in behavior for marginal and for inframarginal taxpayers—occurs for any tax policy change.

example, the classic tax shelter case *Knetsch v. Commissioner*.[14] In *Knetsch*, the taxpayer borrowed from an insurance company and bought an annuity from same company with substantially the same terms as the borrowing. Interest on the borrowing was immediately deductible but earnings on the annuity were deferred. Money moved around in a circle creating tax benefits. The Supreme Court held that the taxpayer was not entitled to the claimed tax benefits. The theory for this holding is unclear, but the best reading is that the court was relying on the sham transaction doctrine. The sham transaction holds, roughly, that if taxpayers only pretend to go through the steps rather than engage in a real transaction, the claimed results will not be allowed. It is a very weak anti-avoidance doctrine.

What do taxpayers learn from *Knetsch*? They learn that Mr. Knetsch simply planned wrong. The transaction was too perfect, so that the Court could treat it as if nothing happened. What Mr. Knetsch should have done was to vary the payment terms of the annuity and the loan so that they did not match perfectly. Alternatively, he should have borrowed from and lent to different institutions (which could easily have transferred the cash back to where it started, completely the circle in three rather than two steps). The transaction would then have been respected as "real."[15] Taxpayers reading *Knetsch* will do exactly this —they will take a little bit of risk or make the transaction a little bit more complicated to avoid the holding in the case. This is exactly the distortionary effect—taxpayers in response to an anti-avoidance doctrine will engage in more costly shelters.

Similarly, in the transactions described ACM[16] and similar cases, taxpayers used an enormously complex offshore partnership to do essentially nothing while

14.364 U.S. 361 (1960).

15.For example, in Frank Lyon Co v. United States, 435 U.S. 561 (1978), the Supreme Court respected a sale-leaseback transaction in large part because a third party bank was involved. In addition, there was a small but remote risk that the transaction would actually have a net effect.

16.ACM v. Commissioner, 157 F.3d 231 (3d Cir. 1998).

creating tax losses. The trick involved a misallocation of basis when property is sold for a contingent payment to be made in the future. Under the rules in effect at the time, basis was over-allocated to late payments and under-allocated to early payments, effectively creating up-front gain and loss later on. The offshore partnership, usually located in a Caribbean tax haven, allowed the gain to be allocated to a foreign bank who did not pay taxes and the loss to be allocated to a domestic company to use against their taxable income. The transaction was structured so that as little as possible happened, primarily through the use of financial instruments that hedged out all the risk and ensured that money merely went in a circle. The courts have disallowed the claimed benefits of this transaction on theories similar to those used in *Knetsch*.

The taxpayer response is similar. One learns from the case that the taxpayer simply misplanned the transaction. They should not have made the payments match up so perfectly. They should have inserted some risk or some real economics into the transaction. One tax lawyer (Hariton 1999) went so far as to suggest in print that the taxpayer's mistake was that they should have used an office building rather than financial instruments. Courts cannot easily ignore an office building. This is again, the distortionary effect. Taxpayers building office unwanted buildings in small Caribbean countries because of anti-avoidances doctrine is not a desirable result.

The second effect of strengthening anti-avoidance doctrines is the revenue effect holding elasticity constant. This is a little bit difficult to imagine because changing α is primarily about making it harder to avoid taxes—changing α is about changing the elasticity of taxable income. If, however, we can imagine elasticity held constant, it would be as if some shelters were disallowed through the increase in α but other shelters were available that were equally attractive to taxpayers.

In this case, the revenue effect of increasing α would be low because people

would just shift to the substitute shelters. That is, if the government eliminates a particular shelter, the transaction will disappear if there are equally attractive shelters still available. In particular, anti-avoidance doctrines target transactions that have mixed tax and business benefits. If the tax benefit is eliminated, the transaction will no longer make sense. This is generally true even as α gets large. Effectively, all of the benefit of anti-avoidance doctrines is in the change to the elasticity of taxable income. This is strong contrast to the fruit example, where there is a reason to consume the taxed item and, therefore, there was a revenue effect even holding elasticity constant.

The remaining effect, the change in the elasticity of taxable income, is the goal of anti-avoidance doctrines. As α is increased, it becomes more difficult to avoid taxes and, therefore, the elasticity of taxable income goes down The size of the change in elasticity depends on the availability of shelters that fall outside the anti-avoidance doctrines. If taxpayers can easily restructure transactions to avoid the anti-avoidance doctrines, there will be little change in elasticity and little change in revenue. If, on the other hand, taxpayers cannot readily avoid the anti-avoidance doctrines, there will be a larger effect on revenue.

The effect of changing elasticity is very much like the fruit example. The size of the change is dependent on the cross-elasticities for items on either side of the line. In the fruit case, we concluded that if pears are good substitutes for bananas, there is likely to be little benefit from taxing pears but not bananas but if pears were good substitutes for apples, it might be a good idea to tax pears. Similarly, anti-avoidance doctrines that merely induce taxpayers to shift their behavior toward worse shelters without raising significant revenue (by causing taxpayers to shift toward non-avoidance behavior) are inefficient. Anti-avoidance doctrines that cause taxpayers to shift back to non-avoidance behavior and, therefore, raise significant revenue are likely to be more efficient. The problem is much like any line drawing problem in

the tax law, such as defining the notion of realization event or independent contractor. Wherever the line is drawn, taxpayers will shift their behavior around the boundary and the goal is to find the most efficient place to draw the line.

To summarize, the two main effects of anti-avoidance doctrines are the distortionary effect and the change in the elasticity of taxable income. An increase in the strength of anti-avoidance doctrines will reduce sheltering (the change in elasticity) but also make those shelters that remain worse (the distortionary effect). Anti-avoidance doctrines should be set so that the net effect is equal, on the margin, to the marginal administrative costs. The next section discusses administrative costs of anti-avoidance doctrines.

III. Administrative costs of anti-avoidance doctrines

Anti-avoidance doctrines are costly to use. They rely on identification of tax planning. Tax planning can be mixed with other activities, such as financial reporting, record keeping, and tax filing, and separately identifying tax planning may be difficult. Moreover, the tax law often uses simplified rules, so that some transactions may be mistaxed. It is difficult to identify when an otherwise ordinary transaction is mistaxed and when the transaction is structured to take advantage of this mistaxation. The same activity can occur innocently or because of tax planning. Congress also often uses the tax law to create incentives and, presumably, behavior motivated by these incentives should not be disallowed under an anti-avoidance doctrine. To decide on the proper strength of anti-avoidance doctrines, we need to know the information or administrative costs of using anti-avoidance doctrines and, in particular, how these costs change as α is changed.

At the most basic level, we know that administrative costs increase with α. It is relatively easy to identify purely tax motivated transactions but it is more difficult to identify transactions with mixed motives. Preventing all tax motivated changes in

behavior, (i.e., setting α equal to 1), would be impossible. The ultimate question is just an empirical question about the size of these costs.

I offer no empirical analysis here, although my hunch is that it is relatively easy to identify a much broader class of transactions as tax motivated than we do under current law. Current anti-avoidance doctrines are extremely weak in the sense that almost any business element in a transaction outweighs substantial tax motivation. We could easily require a greater business element without increasing administrative costs significantly. Instead, I will focus on three notable aspects of anti-avoidance doctrines: that they represent a trade-off between the use of rules and standards; that they impose significant uncertainty; and that they may often be applied erroneously.

The rules/standards aspect of anti-avoidance doctrines was discussed in Weisbach (1999), building on Kaplow (1992). Briefly, Kaplow's argument was that rules should be used where the law applies frequently. This argument was based on an explicit assumption that the content of rules and standards would be set the same and the decision was merely a question of minimizing the cost of providing that content. Holding content fixed, rules are cheaper where the law applies frequently because the higher up-front promulgation costs of a rule need only be incurred once while the higher application and enforcement costs of standards must be incurred each time the law is applied. Weisbach (1999) argued that content is not likely to be the same for rules and standards because of avoidance transactions. In particular, because the content of rules is determined ex ante, they must anticipate avoidance transactions even if the transactions are unlikely to occur. One cannot follow the seemingly rational strategy of providing content only for the reasonably common cases and not worrying about mistaxation of the unusual transactions. These uncommon and mistaxed transactions will quickly become common because of the incentive to find these gaps in the tax law and structure avoidance transactions

around them. This means that a regime that relied solely on rules would be highly complex. Standards need not anticipate all avoidance transactions because appropriate content can be given only if such a transaction were to occur. If only one percent of these rare transactions occur, content need only be given for that one percent. We should, therefore, expect a mixed regime where we try to gain the benefits of rules for frequent transactions while limiting complexity through the use of standards.

This basic argument applies here. We can modify the argument, however, to fit within the more general framework provided here. Both complex rules and anti-avoidance doctrines are methods of responding to avoidance. Both have similar effects on avoidance transactions—they change the elasticity of taxable income and impose some distortionary cost because both will imperfectly identify avoidance. In either case, the response should be set so that the marginal cost of responding is equal to the net of benefit. Rules, because they must anticipate avoidance transactions in advance, are a more expensive method of responding and, therefore, are less effective. The problem is not necessarily that rules would be more complex—the marginal administrative costs of any response will be the same and be equal to the net benefit. Instead, rules will be less effective at responding, creating a higher elasticity of taxable income. That is, Weisbach (1999) held the size of the response to avoidance constant and argued that for a given size of response, rules would be more costly because of the complexity they require. In the framework given here, the marginal cost of the response is given (and equal to the net of the benefits discussed above). Rules will be less effective given this cost. The basic conclusions, however, remain: we should expect some sort of mixed strategy using both anti-avoidance doctrines and rules-based approaches.

The second notable effect of anti-avoidance doctrines is that they create uncertainty. As anti-avoidance doctrines become stronger, the law becomes more

uncertain. To some extent analysis of uncertainty is inherent in the rules/standards analysis, but it is worth some separate attention.

Many, such as Gideon (1999) have claimed that anti-avoidance doctrines impose large costs because of their uncertainty. There has, however, been very little analysis of uncertainty in the tax law, and it is not clear why the need for certainty in the tax law would be greater than in any other area.

The basic analysis of uncertainty in the law was considered in the tort context by Craswell and Calfee (1986). They consider a negligence rule in which less than reasonable care leads to full liability for injuries. Reasonable care, however, means no liability whatsoever. If the standard of care is certain, there is a sharp break in outcomes for a defendant, leading the defendant to have an incentive to take reasonable care. If, however, liability is uncertain for a given level of care, the incentives may change.

Suppose there is a possibility that a defendant won't be held liable for less than reasonable care and a possibility that a defendant will be held liable for care above the standard. (Assume that the expected standard of care, however, is still the optimal level.) The defendant only knows that more care will tend to lead to a lower probability of liability. The defendant will set a level of care so that marginal costs equal marginal benefits, based on the probabilities of being held liable.

There are two offsetting effects. First, the defendant has an incentive to take too little care because of the possibility of not being held liable anyway. But, in addition, each additional unit of care reduces the probability of being held liable, creating an incentive to take more care even if care is already optimal. That is, the defendant anticipates the possibility of type I and type II errors and adjusts behavior to respond. Without more information, we cannot predict which effect dominates. Indeed, we cannot even predict whether reducing uncertainty (except to zero) improves or worsens incentives.

The tort analyses should apply directly to anti-avoidance doctrines. In an ideal world, we would balance the rate effect and the distortionary effect, setting the marginal cost equal to the marginal cost of other taxes. "Care" in the form of avoiding anti-avoidance doctrines beyond that level would lead to a marginal cost that is too high. That is, there can be too few shelters just as in tort law, there can be too much care. Anti-avoidance doctrines, like the negligence rule, are uncertain and we should expect the results of uncertainty to be generally similar to the results in tort law. The unfortunate conclusion is that we do not know the overall effect of uncertainty and are unlikely to find out. In setting the strength of anti-avoidance doctrines, we should think about uncertainty, but unless we know more, uncertainty probably shouldn't have too much effect on our conclusions.

There are three caveats or extensions to this conclusion. First, as noted by Craswell and Calfee in the tort context, individuals may be risk averse. This will increase the incentive to take too much care (to avoid shelters too much). That is, whatever the balance between the two factors, the benefit of there being some likelihood of not getting caught and the incentive to take additional care, when the individual is risk averse will be tilted toward more care. A reasonable conclusion in the case of risk aversion is that it is likely that uncertainty leads to too much care. We think of this as the actual or effective α being above the nominal α. This means we must give some attention to uncertainty but there is still nothing special in the tax law that makes uncertainty unduly damaging.

Second, the greater the uncertainty, the greater the bargaining range. In tort law, the bargaining takes place between private parties, so there should be no expected change in outcomes—the parties should expect to capture about half the bargaining surplus, which means that the ex ante anticipated level of required care is not changed. In tax law, the bargaining is between taxpayers and the IRS. Taxpayers are likely to capture the majority of the bargaining surplus. As α increases and

uncertainty increases, therefore, the expected level of anti-avoidance doctrines does not correspondingly increase. Effectively, if α is sufficiently high, the tax return becomes an opening position in a bargain rather than a statement of the expected outcome. Taxpayers may respond to this increased uncertainty by taking more aggressive positions on their returns.[17] The effective α is below the nominal α in this case. This effect may, therefore, offset the effect of risk aversion, but without a better idea of magnitudes, the net effect is uncertain.

Finally, a common complaint about the uncertainty created by anti-avoidance doctrines is that different taxpayers react differently. Aggressive taxpayers are not deterred while less aggressive taxpayers are. Effectively, the wrong parties, those who want to take advantage of the system, are rewarded. This claim, however, is really no different from the claim that a tax on apples effects people differently depending on their preference for apples. It is not clear from the claim why uncertainty has special status.

Uncertainty, therefore, is not a particularly important factor in setting anti-avoidance doctrines, on its own (as opposed to a factor that is implicit in the rules/standards analysis). It may affect behavior, particularly for risk averse taxpayers, and it may affect bargaining positions on audit, but uncertainty in the tax law does not impose any special costs not present in other areas of the law.

The final aspect of anti-avoidance doctrines mentioned above is that they may be erroneously applied. This is a separate consideration from uncertainty—a law may have no variance but still apply incorrectly to some cases. Anti-avoidance doctrines are likely to be applied incorrectly because the information needed to apply them is costly and in some cases, elusive—they look to motivation or intent.

17.This argument is contrary to Scotchmer and Slemrod (1989). They argue that uncertainty leads to higher reported income. They do not, however, consider the likely bargaining advantage of taxpayers when uncertainty increases.

The stronger the anti-avoidance doctrines, the greater the risk of error. For example, a taxpayer building a widget factory in a tax haven solely for business reasons might be potentially subject to anti-avoidance doctrines because the factory is in a tax haven. Similarly, a taxpayer engaging in a complex financing arrangement might be potentially subject to anti-avoidance doctrines because the complexity of the arrangement is an indicia of tax motivation. The question is the effect of this type of error.

Begin by noting that there is nothing special about the error of anti-avoidance doctrines as opposed to other approaches to shelters. In particular, tax rules will also have errors—they will frequently be over or under-broad. It is expensive to measure along the various margins we use in the tax law and one should expect error whatever the approach. There is no reason to think that the error from the use of anti-avoidance doctrines will be greater than with rules-based approaches. Rules-based approaches allow focused effort by expert drafters, but because of the difficulty of predicting future transactions, the information required to draft the rules is costly. Without some justification, we should not include error costs in the analysis of anti-avoidance doctrines without including the error costs in other approaches to shelters.

Regardless of the approach taken to shelters, however, we must include error costs in the calculation—errors affect the efficiency of the response to shelters. To do this, we can think of anti-avoidance doctrines as imposing a tax on two different activities: the targeted avoidance activity and the erroneously caught activities. Setting α to minimize deadweight loss on either activity alone will lead to higher than optimal deadweight loss on the other activity. For example, if α is set considering only its effects on shelters, the tax on erroneously caught activities will be too high. If α is set at zero to eliminate error, the tax on shelters will be too low. The single tax rate, the level of α, must be adjusted to minimize the total costs.

This situation has been modeled in the context of a commodity tax. (Weisbach 2000). The well-known "Ramsey" rule for commodity taxes is that taxes be set to create equal percentage reductions in demand for all commodities. If a single tax applies to two (or more) commodities, that tax should be set so that the percentage change in the two commodities taken together is equal to the percentage change in demand for all other commodities. The implication is that α should be set lower than otherwise to reduce error costs. The amount lower depends on the size of the dead weight loss created by the error, which will be related to the responsiveness of the erroneously taxed activity to the additional tax.

IV. Distribution and Public Choice Considerations

This section offers some very brief comments about the effects of distributional and public choice considerations on the efficiency analysis given above. The goal is only to sketch some of the ideas, and further analysis is warranted.

A. *Distribution*

A common claim is that tax shelters reduce the progressivity of the tax system because they are available only to the rich. Contrary to this intuition, however, it is very hard to say much here. There is no reason to think that reducing shelters directly increases progressivity. If tax shelters were reduced, the extra revenue could be used to reduce other taxes on the rich. That is, the existing marginal rate structure might already take into account the existence of tax shelters. Therefore, the distributional question seems somewhat independent of the efficiency question.

The connection between redistribution and anti-avoidance doctrines is that anti-avoidance doctrines affect the elasticity of taxable income and, therefore, the efficiency of the tax system. Redistribution becomes cheaper when the tax system is implemented more efficiently, and, for a given welfare function, we are likely to want more redistribution as it becomes cheaper. Therefore, it anti-avoidance

doctrines are currently too weak, strengthening them might lead to more progressivity.[18]

B. *Public choice and institutional concerns*

If we no longer assume that government is benevolent, the analysis may change. There are two primary questions. First, the argument made above assumed that the underlying tax system was efficient. But, the political process does not necessarily produce efficient taxes. The question is whether we should think differently about an anti-avoidance doctrine that prevents avoidance of an inefficient tax. The second question is whether, as indicated above, the analysis of uncertainty changes when the assumption of a benevolent government is dropped. These will be taken up in order.

Before analyzing the problem of avoidance of inefficient taxes, note that the assumption of efficient taxes is not as naive as it may initially seem. Although factually untrue, assuming the underlying taxes are efficient isolates the tax shelter problem, which allows a cleaner analysis of the problem. It may also have practical importance. It is not necessarily true that we should enact subpar anti-avoidance doctrines merely because some underlying tax is inefficient. We can instead enact efficient anti-avoidance doctrines and hope to reform the other tax rules in the future.

Suppose, however, that anti-avoidance doctrines should react to the inefficiency of the underlying tax. One might initially think that anti-avoidance doctrines should not apply to inefficient taxes. Avoiding these taxes is good. Raising these taxes by imposing anti-avoidance doctrines is bad.

To some extent this is true. Increasing taxes on sheltered items and decreasing taxes on other items may not be appropriate. Nevertheless, this intuition carried too

18.See Slemrod and Kopczuk (2000) for a detailed analysis of the relationship between the elasticity

far seems off base. It is hard to imagine that we would want to condone wholesale avoidance of a tax, even if the tax is stupid. For example, we would surely want to enforce the fraud penalties regardless of the merits of the tax.

I have four possible theories for this intuition, most of which can be found in prior literature. Each of these is speculative and the details need to be worked out.

1. *Avoidance is worse than the problem*. Avoidance of a tax is often an inefficient method of repealing the tax. For example, most academics believe that the double-level corporate tax is inefficient and should be eliminated in favor of a uniform tax on all capital. Avoidance of the corporate tax, however, often creates a zero tax on corporate capital, which also may not be optimal. Proposals to repeal the corporate tax also make informed policy decisions about the effect of repeal on foreigners, tax exempts, and other holders of capital that are subject to special tax regimes. Avoidance of the corporate tax may result in repeal in a fashion that is inconsistent with these decisions.

Similarly, the realization doctrine distorts economic activity, primarily by causing a lock-in problem. Schemes that avoid the realization doctrine, however, tend to be asymmetrical—gains are not taxed or deferred, and losses are taxed immediately. Repeal of the realization doctrine would most likely not create this asymmetry.

Whether avoidance of the problem is worse than the problem itself will depend on the particular facts. In some cases, avoidance may be efficient but in other cases it may not be. If there are sufficient cases where avoidance is worse than the problem, a general rule prohibiting avoidance might be efficient.

2. *Visibility and Compliance*. There may be significant costs to allowing avoidance of taxes that are on the books. The most important of these costs is compliance. It is

---

of taxable income and progressivity.

difficult to make general statements about compliance. Notwithstanding a host of studies, we are not sure why so many people pay taxes. Under most theories, it would be rational for taxpayers to evade or avoid most of their taxes. But if social norms play a role, so that whether your neighbor pays taxes affects whether you pay taxes, then avoidance of inefficient taxes may have wider implications. If avoidance of a dollar of inefficient taxes causes avoidance of a dollar of other taxes, we may not want to allow either one.

3. *Least inefficiency*. Assuming that there is no fiscal illusion, that Congress actually wants to collect the taxes it enacts, the alternative to anti-avoidance rules is some other method of collecting the tax, such as increased complexity. If Congress is going to impose an inefficient tax regardless, anti-avoidance rules might be the cheapest way to do so, so that the inefficiencies are minimized.

This argument might cut the other way. We should make it expensive to the government to impose inefficient taxes because it will be less willing to do so if it costs more. Which side has the better argument depends in part on how one thinks Congress responds to incentives.

4. *Incentives on drafters*. Drafters of tax laws have an incentive to make them more complex so that they can earn rents after they leave government explaining the laws to clients. Without anti-avoidance rules, there is an excuse to make the laws extremely complex to limit potential abuses. Anti-avoidance rules will tend to make the law less complex, which might counter the bad incentives on drafters.

All of these arguments, or none of them, might stand up to greater scrutiny. Suppose, however, we are generally going to enforce existing tax laws regardless of their efficiency. Then, we can make some statements about the appropriate content of anti-avoidance doctrines. In particular, congressional intent becomes the most important element in defining avoidance. The function of anti-avoidance rules is not to make the system more efficient but to ensure that duly enacted taxes are

collected.

In fact, tying the anti-avoidance doctrines to legislative intent makes sense in terms of implementation as well. The basic story behind shelters depended on insufficiently perfect tax laws. Shelters take advantage of the gaps. If a transaction is squarely within the intent of the law, it is not taking advantage of the gaps. Moreover, a definition of shelters based purely on what the business would have done absent taxes is, in some sense, incoherent. Taxes change prices in subtle ways and businesses generally take prices as given. There is no such thing as "what the business would have done without taxes." But it is relatively easy (not easy, but relatively easy) to identify transactions that are completely outside anything Congress might have imagined. Finally, the government sometimes enacts explicit incentives, such as the tax-exemption for state and local bonds or investment tax credits. Taxpayers are supposed to take these incentives into account, so anti-avoidance doctrines must take congressional intent regarding these incentives into account as well. Legislative intent is probably a necessary element in any anti-avoidance doctrines and, in fact, may be the predominant element.

The second institutional question is the effect of uncertainty when government is no longer assumed to be benevolent. Uncertainty in this case seems far more ominous than it did when discussed above. The need to fight off corrupt tax collectors may be the reason for the strong intuition that many have that certainty is an important element in taxation.

The strength of this argument will depend on the context. Current proposals call for an increase in anti-avoidance doctrines that apply to corporations. The argument is very weak in this context. If anything, the balance of power is the other way—the taxpayers have the upper hand. Large corporations may face grief with their auditors, but they also have enormous resources at their disposal to fight them with.

V. Conclusion

The main goal of this paper is to provide a consequentialist framework for evaluating anti-avoidance doctrines, a framework that does not rely on assumed, preexisting rights, such as the right to minimize taxes. The basic goal of anti-avoidance doctrines is to change the elasticity of taxable income. The framework used here shows that this benefit must be balanced against the distortionary effect of anti-avoidance doctrines and the administrative costs of anti-avoidance doctrines. When the assumptions of a benevolent government and no distributional concerns are relaxed, the basic factors in the analysis remain largely the same.

References

Bankman, Joseph. 1999. "The New Market for Corporate Tax Shelters," 83 Tax Notes 1775.

Chirelstein, Marvin A. 1968. "Learned Hand's Contribution to the Law of Tax Avoidance," 77 Yale Law Journal 440.

Craswell, Richard, and Calfee, John. 1986. "Deterrence and Uncertain Legal Standards," 2 Journal of Law, Economics and Organization 279.

Cremer, Helmuth, and Gahvari, Firouz. 1993. "Tax Evasion and Optimal Commodity Taxation," 50 Journal of Public Economics, 261-275.

Feldstein, Martin. 1995. "Tax Avoidance and the Deadweight Loss of the Income Tax," NBER Working paper no. 5055.

Gideon, Kenneth W. 1986. "Mrs. Gregory's Grandchildren: Judicial Restrictions of Tax Shelters," 5 Virginia Tax Review 825.

Gideon, Kenneth. W. 1998. "Assessing the Income Tax: Transparency, Simplicity, Fairness," 81 Tax Notes 999.

Gunn, Alan. 1978. "Tax Avoidance," 76 Mich. Law Review 733.

Hariton, David P. 1999. "How to Define 'Corporate Tax Shelter'," 84 Tax Notes 883.

Isenbergh, Joseph. 1982. "Musings on Form and Substance in Taxation," 49 Chicago Law Review 859.

Kaplow, Louis. 1990. "Optimal Taxation with Costly Enforcement and Evasion," 43 Journal of Public Economics 221-236.

_____. 1992. "Rules versus Standards: An Economic Analysis," 42 Duke Law Journal 557.

_____. 1996. "How Tax Complexity and Enforcement Affect the Equity and Efficiency of the Income Tax," 49 National Tax Journal 135-150.

_____. 1998. "Accuracy, Complexity and the Income Tax," 14 Journal of Law, Economics and Organization 61-83.

Mayshar, Joram. 1991. "Taxation with Costly Administration," 93 Scand. Journal of Economics 75-88.

Rosenberg, Joshua D. 1998. "Tax Avoidance and Income Measurement," 87 *Michigan Law Review* 365.

Scotchmer, Suzanne, and Slemrod, Joel. 1989. "Randomness in Tax Enforcement," 38 Journal of Public Economics 17-32.

Slemrod, Joel. 1990. "Optimal Taxation and Optimal Tax System," 4 Journal of Economic Perspectives 157-178.

_____. 1998. "Methodological Issues in Measuring and Interpreting Taxable Income Elasticities," 51 National Tax Journal 773.

_____, and Kopczuk. 2000, "The Optimal Elasticity of Taxable Income," NBER Working Paper No. 7922.

_____, and Yitzhaki, Shlomo. 1996. "The Cost of Taxation and the Marginal Efficiency Cost of Funds," 43 International Monetary Fund Staff Papers 172-198.

Smith, Robert. 1999. "Business Purpose: The Assault upon the Citadel," 53 Tax Lawyer 1.

Stern, Nicholas. 1982. "Optimum Taxation with Errors in Administration," 17 Journal of Public Economics 181-211.

Weisbach, David. 1999. "Formalism in the Tax Law," 66 Chicago Law Review 860.

Weisbach, David. 2000. "An Efficiency Analysis of Line Drawing in the Tax Law," 29 Journal of Legal Studies, 71-97.

Yitzhaki, Shlomo. 1979. "A Note on Optimal Taxation and Administrative Costs," 69 American Economic Review 475-480.

Chicago Working Papers in Law and Economics
(Second Series)

1. William M. Landes, Copyright Protection of Letters, Diaries and Other Unpublished Works: An Economic Approach (July 1991)
2. Richard A. Epstein, The Path to *The T. J. Hooper*: The Theory and History of Custom in the Law of Tort (August 1991)
3. Cass R. Sunstein, On Property and Constitutionalism (September 1991)
4. Richard A. Posner, Blackmail, Privacy, and Freedom of Contract (February 1992)
5. Randal C. Picker, Security Interests, Misbehavior, and Common Pools (February 1992)
6. Tomas J. Philipson & Richard A. Posner, Optimal Regulation of AIDS (April 1992)
7. Douglas G. Baird, Revisiting Auctions in Chapter 11 (April 1992)
8. William M. Landes, Sequential versus Unitary Trials: An Economic Analysis (July 1992)
9. William M. Landes & Richard A. Posner, The Influence of Economics on Law: A Quantitative Study (August 1992)
10. Alan O. Sykes, The Welfare Economics of Immigration Law: A Theoretical Survey With An Analysis of U.S. Policy (September 1992)
11. Douglas G. Baird, 1992 Katz Lecture: Reconstructing Contracts (November 1992)
12. Gary S. Becker, The Economic Way of Looking at Life (January 1993)
13. J. Mark Ramseyer, Credibly Committing to Efficiency Wages: Cotton Spinning Cartels in Imperial Japan (March 1993)
14. Cass R. Sunstein, Endogenous Preferences, Environmental Law (April 1993)
15. Richard A. Posner, What Do Judges and Justices Maximize? (The Same Thing Everyone Else Does) (April 1993)
16. Lucian Arye Bebchuk and Randal C. Picker, Bankruptcy Rules, Managerial Entrenchment, and Firm-Specific Human Capital (August 1993)
17. J. Mark Ramseyer, Explicit Reasons for Implicit Contracts: The Legal Logic to the Japanese Main Bank System (August 1993)
18. William M. Landes and Richard A. Posner, The Economics of Anticipatory Adjudication (September 1993)
19. Kenneth W. Dam, The Economic Underpinnings of Patent Law (September 1993)
20. Alan O. Sykes, An Introduction to Regression Analysis (October 1993)
21. Richard A. Epstein, The Ubiquity of the Benefit Principle (March 1994)
22. Randal C. Picker, An Introduction to Game Theory and the Law (June 1994)
23. William M. Landes, Counterclaims: An Economic Analysis (June 1994)
24. J. Mark Ramseyer, The Market for Children: Evidence from Early Modern Japan (August 1994)
25. Robert H. Gertner and Geoffrey P. Miller, Settlement Escrows (August 1994)
26. Kenneth W. Dam, Some Economic Considerations in the Intellectual Property Protection of Software (August 1994)
27. Cass R. Sunstein, Rules and Rulelessness, (October 1994)

28. David Friedman, More Justice for Less Money: A Step Beyond *Cimino* (December 1994)
29. Daniel Shaviro, Budget Deficits and the Intergenerational Distribution of Lifetime Consumption (January 1995)
30. Douglas G. Baird, The Law and Economics of Contract Damages (February 1995)
31. Daniel Kessler, Thomas Meites, and Geoffrey P. Miller, Explaining Deviations from the Fifty Percent Rule: A Multimodal Approach to the Selection of Cases for Litigation (March 1995)
32. Geoffrey P. Miller, Das Kapital: Solvency Regulation of the American Business Enterprise (April 1995)
33. Richard Craswell, Freedom of Contract (August 1995)
34. J. Mark Ramseyer, Public Choice (November 1995)
35. Kenneth W. Dam, Intellectual Property in an Age of Software and Biotechnology (November 1995)
36. Cass R. Sunstein, Social Norms and Social Roles (January 1996)
37. J. Mark Ramseyer and Eric B. Rasmusen, Judicial Independence in Civil Law Regimes: Econometrics from Japan (January 1996)
38. Richard A. Epstein, Transaction Costs and Property Rights: Or Do Good Fences Make Good Neighbors? (March 1996)
39. Cass R. Sunstein, The Cost-Benefit State (May 1996)
40. William M. Landes and Richard A. Posner, The Economics of Legal Disputes Over the Ownership of Works of Art and Other Collectibles (July 1996)
41. John R. Lott, Jr. and David B. Mustard, Crime, Deterrence, and Right-to-Carry Concealed Handguns (August 1996)
42. Cass R. Sunstein, Health-Health Tradeoffs (September 1996)
43. G. Baird, The Hidden Virtues of Chapter 11: An Overview of the Law and Economics of Financially Distressed Firms (March 1997)
44. Richard A. Posner, Community, Wealth, and Equality (March 1997)
45. William M. Landes, The Art of Law and Economics: An Autobiographical Essay (March 1997)
46. Cass R. Sunstein, Behavioral Analysis of Law (April 1997)
47. John R. Lott, Jr. and Kermit Daniel, Term Limits and Electoral Competitiveness: Evidence from California=s State Legislative Races (May 1997)
48. Randal C. Picker, Simple Games in a Complex World: A Generative Approach to the Adoption of Norms (June 1997)
49. Richard A. Epstein, Contracts Small and Contracts Large: Contract Law through the Lens of Laissez-Faire (August 1997)
50. Cass R. Sunstein, Daniel Kahneman, and David Schkade, Assessing Punitive Damages (with Notes on Cognition and Valuation in Law) (December 1997)
51. William M. Landes, Lawrence Lessig, and Michael E. Solimine, Judicial Influence: A Citation Analysis of Federal Courts of Appeals Judges (January 1998)
52. John R. Lott, Jr., A Simple Explanation for Why Campaign Expenditures are Increasing: The Government is Getting Bigger (February 1998)

53. Richard A. Posner, Values and Consequences: An Introduction to Economic Analysis of Law (March 1998)
54. Denise DiPasquale and Edward L. Glaeser, Incentives and Social Capital: Are Homeowners Better Citizens? (April 1998)
55. Christine Jolls, Cass R. Sunstein, and Richard Thaler, A Behavioral Approach to Law and Economics (May 1998)
56. John R. Lott, Jr., Does a Helping Hand Put Others At Risk?: Affirmative Action, Police Departments, and Crime (May 1998)
57. Cass R. Sunstein and Edna Ullmann-Margalit, Second-Order Decisions (June 1998)
58. Jonathan M. Karpoff and John R. Lott, Jr., Punitive Damages: Their Determinants, Effects on Firm Value, and the Impact of Supreme Court and Congressional Attempts to Limit Awards (July 1998)
59. Kenneth W. Dam, Self-Help in the Digital Jungle (August 1998)
60. John R. Lott, Jr., How Dramatically Did Women=s Suffrage Change the Size and Scope of Government? (September 1998)
61. Kevin A. Kordana and Eric A. Posner, A Positive Theory of Chapter 11 (October 1998)
62. David A. Weisbach, Line Drawing, Doctrine, and Efficiency in the Tax Law (November 1998)
63. Jack L. Goldsmith and Eric A. Posner, A Theory of Customary International Law (November 1998)
64. John R. Lott, Jr., Public Schooling, Indoctrination, and Totalitarianism (December 1998)
65. Cass R. Sunstein, Private Broadcasters and the Public Interest: Notes Toward A AThird Way@ (January 1999)
66. Richard A. Posner, An Economic Approach to the Law of Evidence (February 1999)
67. Yannis Bakos, Erik Brynjolfsson, Douglas Lichtman, Shared Information Goods (February 1999)
68. Kenneth W. Dam, Intellectual Property and the Academic Enterprise (February 1999)
69. Gertrud M. Fremling and Richard A. Posner, Status Signaling and the Law, with Particular Application to Sexual Harassment (March 1999)
70. Cass R. Sunstein, Must Formalism Be Defended Empirically? (March 1999)
71. Jonathan M. Karpoff, John R. Lott, Jr., and Graeme Rankine, Environmental Violations, Legal Penalties, and Reputation Costs (March 1999)
72. Matthew D. Adler and Eric A. Posner, Rethinking Cost-Benefit Analysis (April 1999)
73. John R. Lott, Jr. and William M. Landes, Multiple Victim Public Shooting, Bombings, and Right-to-Carry Concealed Handgun Laws: Contrasting Private and Public Law Enforcement (April 1999)

74. Lisa Bernstein, The Questionable Empirical Basis of Article 2=s Incorporation Strategy: A Preliminary Study (May 1999)
75. Richard A. Epstein, Deconstructing Privacy: and Putting It Back Together Again (May 1999)
76. William M. Landes, Winning the Art Lottery: The Economic Returns to the Ganz Collection (May 1999)
77. Cass R. Sunstein, David Schkade, and Daniel Kahneman, Do People Want Optimal Deterrence? (June 1999)
78. Tomas J. Philipson and Richard A. Posner, The Long-Run Growth in Obesity as a Function of Technological Change (June 1999)
79. David A. Weisbach, Ironing Out the Flat Tax (August 1999)
80. Eric A. Posner, A Theory of Contract Law under Conditions of Radical Judicial Error (August 1999)
81. David Schkade, Cass R. Sunstein, and Daniel Kahneman, Are Juries Less Erratic than Individuals? Deliberation, Polarization, and Punitive Damages (September 1999)
82. Cass R. Sunstein, Nondelegation Canons (September 1999)
83. Richard A. Posner, The Theory and Practice of Citations Analysis, with Special Reference to Law and Economics (September 1999)
84. Randal C. Picker, Regulating Network Industries: A Look at *Intel* (October 1999)
85. Cass R. Sunstein, Cognition and Cost-Benefit Analysis (October 1999)
86. Douglas G. Baird and Edward R. Morrison, Optimal Timing and Legal Decisionmaking: The Case of the Liquidation Decision in Bankruptcy (October 1999)
87. Gertrud M. Fremling and Richard A. Posner, Market Signaling of Personal Characteristics (November 1999)
88. Matthew D. Adler and Eric A. Posner, Implementing Cost-Benefit Analysis When Preferences Are Distorted (November 1999)
89. Richard A. Posner, Orwell versus Huxley: Economics, Technology, Privacy, and Satire (November 1999)
90. David A. Weisbach, Should the Tax Law Require Current Accrual of Interest on Derivative Financial Instruments? (December 1999)
91. Cass R. Sunstein, The Law of Group Polarization (December 1999)
92. Eric A. Posner, Agency Models in Law and Economics (January 2000)
93. Karen Eggleston, Eric A. Posner, and Richard Zeckhauser, Simplicity and Complexity in Contracts (January 2000)
94. Douglas G. Baird and Robert K. Rasmussen, Boyd=s Legacy and Blackstone=s Ghost (February 2000)
95. David Schkade, Cass R. Sunstein, Daniel Kahneman, Deliberating about Dollars: The Severity Shift (February 2000)
96. Richard A. Posner and Eric B. Rasmusen, Creating and Enforcing Norms, with Special Reference to Sanctions (March 2000)

97. Douglas Lichtman, Property Rights in Emerging Platform Technologies (April 2000)
98. Cass R. Sunstein and Edna Ullmann-Margalit, Solidarity in Consumption (May 2000)
99. David A. Weisbach, An Economic Analysis of Anti-Tax Avoidance Laws (May 2000, Revised May 2002)