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OPTIMAL TECHNIQUES OF REDISTRIBUTION

Christopher Curran

Associate Professor, Emory University Department of Economics
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Abstract

Legal scholars have often argued that a legal system in providing a 'level playing field' for consumers and producers should be designed to help in society's efforts to achieve an optimal distribution of income. This chapter reviews research by law and economics scholars that challenges this premise. Using neoclassical welfare economics most of these scholars conclude that there exists a taxation scheme that achieves a desired income distribution and is preferred by all members of society to any plan for redistributing income using the legal system. An implication of this research is that economic efficiency and not fairness is the appropriate criteria for evaluating any legal rule.
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1. Introduction

In this chapter we examine the issue of whether income redistribution goals are more efficiently achieved by using the tax system or by incorporating these goals into the design and implementation of a legal system. As stated, this question takes as given that some amount of income redistribution is desirable and ignores the extensive literature on (1) the desirability of income redistribution and (2) the effectiveness of income redistribution in combating poverty. While the problem that remains - that of developing the most cost effective method of achieving the desired income distribution - has a strong production flavor, the answer has important implications both for the study and practice of law. If the arguments of Kaplow and Shavell (1994) and others are correct, then law and economics scholars should adopt their suggestion that 'it is appropriate for economic analysis of legal rules to focus on efficiency and to ignore the distribution of income in offering normative judgments' (Kaplow and Shavell, 1994, p. 677). If their analysis is flawed or if, as some authors suggest, traditional neoclassical economics models contain serious deficiencies, then the arguments of Calabresi (1991), Kronman (1980), Kennedy (1982) and Arlen (1992) that the courts should consider income distribution when evaluating legal rules have merit.

2. Two Lines of Research

It is not unusual for legal scholars to assume that courts ought to be concerned with the proper distribution of income. Indeed, given that allowing the courts to consider issues of income distribution in judging cases will increase the demand for the services of lawyers and the legal system, it would be surprising if legal scholars were unanimous in concluding that courts ought to ignore the implications of legal policies on the income distribution (see, for example, Polinsky and Shavell, 1991). Moreover, Friedman's (1981) and Lott's (1987) papers imply that a court should consider a party's wealth when that consideration leads to optimal deterrence. Rather than reviewing all of this literature, this chapter focuses on articles directly addressing the issue of whether it is more efficient to use the legal system or taxation to redistribute income. Heavy reliance on neoclassical economic theory and (usually) mathematical models characterizes the articles contributing to this discussion.

3. Related Literature

While Shavell (1981) is the first law and economics scholar to address the issue of the most efficient way to redistribute income, his arguments draw directly from the optimal taxation literature of the 1970s. (See Auerbach, 1985, and Stiglitz, 1985, for thorough reviews of the optimal taxation literature and Drèze and Stern, 1985, for a review of the cost-benefit literature.) Shavell acknowledges his particular intellectual debt to two articles in this literature. In the first, Mirrlees (1971) demonstrates that commodities whose demand are independent of income should not be taxed (with a fixed per unit tax) when there is an optimal income taxation system in place. In the second, Hylland and Zeckhauser (1979, p. 266) demonstrate that 'in the optimal arrangement, distributional objectives are achieved through the tax system alone'. Moreover, Hylland and Zeckhauser conclude that, in the presence of the optimal income tax, government programs should be adopted based purely on efficiency criteria. Shavell's 1981 paper reaches a conclusion that echoes that of Hylland and Zeckhauser. In particular, Shavell (1981, p. 414) argues that 'despite imperfect ability to redistribute income through taxation, everyone would strictly prefer that legal rules be chosen only on the basis of their efficiency'.

4. Legal Scholarship

The conclusions of Shavell (1981) are contrary to those made by earlier legal scholars. Scholars such as Ackerman (1973), Kennedy (1976), Michelman

(1978), and Kronman (1980) argue that an important role of legal institutions is to redistribute income. Indeed, Kronman (1980, p. 510) argues that the choice between using the legal system and using taxation to redistribute income depends on 'contextual considerations that are likely to vary from one situation to the next'. Kronman suggests that all of the alleged problems with using courts to redistribute income are equally likely to be problems with taxation. For instance, critics of using the courts to redistribute income claim that there is no reason to believe that judges can correctly assess the distributional consequences of any particular decision. Kronman counters that difficulty in applying egalitarian rules in individual cases does not mean that we cannot use egalitarian principles when designing the legal system. To the claim that the legal system should 'remain neutral between the aims and activities of its citizens' (Kronman, 1980, p. 502), Kronman responds that taxation is no more neutral than are the courts and the relative neutrality of the two methods of redistributing income is an empirical issue. Kronman responds in a similar manner to claims that regulation is more injurious to its intended beneficiaries and is more expensive to administer than is taxation by asserting that these are empirical issues than cannot be resolved through the use of theory alone, a conclusion not supported by Shavell (1981).

5. Shavell Forgotten

Not only does Shavell's research offer conclusions contrary to earlier research, it appears to have been ignored by legal scholars during the ten years following its publication. Calabresi (1991), Donohue (1989), Ellis (1982) and Kennedy (1982) all discuss the role of the legal system in achieving the proper distribution of income without mentioning Shavell's 1981 seminal article. Abraham and Jeffries (1989), who argue that information about a defendant's wealth should not be considered in determining punitive awards, do not reference Shavell. In their defense, the connection of Shavell's conclusion to the issue that Abraham and Jeffries discuss is not obvious. Abraham and Jeffries argue that the consideration of a defendant's wealth is not germane to the issue of punitive damages and invites jury speculation about issues about which they have no information. They argue that traditional arguments that the legal system needs punitive damages in order to deter individuals from inflicting harm for personal satisfaction and to neutralize the effects of underenforcement are incorrect. While Abraham and Jeffries do not point out the connection, their arguments echo those of both Hylland and Zeckhauser (1979) and Shavell (1981) that distributional goals are best achieved through the tax system while government programs - including legal regulation - should ignore distributional goals in favor of efficiency criteria. Thus, by Hylland and Zeckhauser's and Shavell's logic one would consider the defendant's wealth

only in cases wealth is correlated with deterrence, a conclusion that matches Abraham and Jeffries' result.

6. Shavell Remembered

Arlen (1992) appears to be the first author to acknowledge Shavell's 1981 article. While the model that Shavell develops assumes that people are risk neutral, he points out that his results are independent of this assumption. Arlen argues, incorrectly it turns out, that Shavell's conclusions do not hold when individuals are risk averse. The most recent contributions to this literature are in direct response to what Kaplow and Shavell (1994) and Miceli and Segerson (1995) perceive as a general misunderstanding of Shavell's 1981 article by legal scholars, including Arlen (1992). In what follows, we discuss Shavell (1981) and Kaplow and Shavell (1994) together because of the similarities in the two articles. We then review Miceli and Segerson (1995). Since the model in Miceli and Segerson (1995) corrects and places Arlen's results in the context of the Shavell model, we include Arlen (1992) in this discussion.

7. Shavell's Analysis

The arguments in Shavell (1981) and Kaplow and Shavell (1994) are essentially identical. These authors argue that all efforts to redistribute income - be these efforts through the legal system or through the tax system - distort work efforts (see Hausman, 1981, for an empirical justification of this point). Redistributing income through the legal system creates additional inefficiencies in the activities affected by the legal rules. Thus, we should be able to construct a new tax schedule that we can combine with efficient legal rules that will have the same distortions of work effort but none of the inefficiencies that arise when we use the legal system to redistribute income.

8. Achieving a Desired Income Distribution

Since this result is key, we consider it here in some detail. Shavell (1981) and Kaplow and Shavell (1994) assume that individuals are risk neutral maximizers of expected utility, which is equal to their income net of taxes, expected liability costs, expected damages, and the costs of work effort and care taking. The tax schedule is a function of income while the expected liability and damages are functions of the level of care taken by the individual. In order to simplify the analysis, these authors assume that (1) an individual's income is a linear

function of his work effort and (2) in the aggregate the government returns all taxes collected. Following existing literature, they define the efficient level of care as that care level that minimizes sum of the total costs of care and the expected accident costs. As Shavell (1981, p. 416) and Kaplow and Shavell (1994, p. 678) note, the level of care that is efficient is independent of an individual's income. These authors show that we can replace *any* regime having an inefficient legal rule and a tax schedule with a regime with an efficient legal rule and a properly modified tax schedule that raises the same level of taxes. More importantly, they also show that all members of society prefer the regime with the efficient legal rule.

9. Modification of the Tax Schedule

The modification to the tax schedule under the inefficient legal rule offers some insight into what drives these results. The modified tax schedule is equal to the tax schedule in the inefficient regime plus the total accident costs in the inefficient regime minus the total accident costs in the efficient regime (see Kaplow and Shavell, 1994, p. 678). Substitution of the new tax schedule into the expected utility function yields the results that the expected utility is the same in the efficient regime (with the modified tax schedule) as it is in the inefficient regime. Moreover, this new tax schedule yields a greater level of revenue. Remember that the modified tax schedule is equal to the old tax schedule plus the efficiency savings that come from switching to the efficient legal rule. Thus, if we rebate these savings uniformly to the population in the form of a lump sum (negative) tax, no-one's incentive to work is affected and everyone is better off by the amount of the rebate in taxes.

10. Other Reasons for Using the Tax System to Achieve Distributional Goals

Kaplow and Shavell (1994, pp. 674-676) offer several other, more traditional reasons for favoring the use of the tax system over the legal system to redistribute income. First, the tax system can allocate the impact of income redistribution on all of the rich and all of the poor. By contrast, using the legal system to redistribute income yields haphazard results. The legal system can only affect those individuals involved in a lawsuit. Moreover, in many cases consumer response is bound to mute or completely negate efforts to use the courts to redistribute income. For instance, individuals bound by contracts will adjust prices to take account of efforts by the courts to redistribute income. Similarly, corporations may well be able to pass on to consumers the income redistribution efforts by the courts. Second, Kaplow and Shavell (1994, p. 675)

argue that claims that the legal system should be involved in income redistribution efforts because the political system is unable to achieve the ideal amount of income redistribution do not stand close examination. In particular, the legal system operates under the influence of the politicians and there is no reason to believe that efforts by the courts to redistribute income in ways not intended by the politicians will escape their scrutiny. Thus, Kaplow and Shavell (1994, p. 677) conclude that their analysis 'suggests that it is appropriate for economic analysis of legal rules to focus on efficiency and to ignore the distribution of income in offering normative judgments'.

11. A General Model

Miceli and Segerson (1995) offer the most complete analysis of the issue of role of income distribution in setting efficient levels of care. These authors analyze the role of risk aversion in the Shavell (1981) and Kaplow and Shavell (1994) model. In doing so, they correct and reconcile Arlen's (1992) results with the other models. Miceli and Segerson argue that of the three potential optimal choice criteria - Pareto efficiency, the Pareto criterion, and aggregate welfare - Pareto efficiency is the proper one to use. They define Pareto efficiency by the following choice problem:

Max U_i subject to U_v U_v^o (1) where U_i is the utility level of the injurer, U_v is the utility level of victim, and U_v^o is some arbitrarily fixed level of utility for the victim. The Pareto criterion has the same definition as (1), except that U_v^o is set equal to the victim's original utility level, $U(W_v^o)$. Finally, aggregate welfare is the solution to the following choice problem:

Max $U_i + U_v$(2) is where some weight placed on the victim's utility. Miceli and Segerson (1995, p. 194) illustrate the three concepts with the utility possibilities frontier (UPF) shown in Figure 1. The UPF contains all of the Pareto optimal points. As illustrated in Figure 1, the Pareto criterion and the aggregate welfare each pick points that are subsets of the Pareto optimal points. The authors prefer to use Pareto optimality as their choice criterion for two reasons. First, unlike the other concepts, Pareto optimality does not involve interpersonal comparisons of utility. Second, we can specify any income distribution by varying U_v^o.

Figure 1 The utility possibility curve (UPC) for injurer and victim
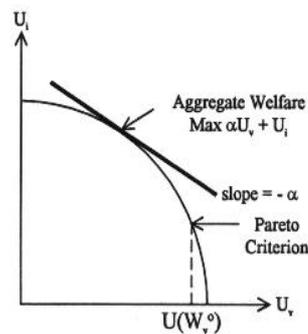

12. Definition of Terms

Miceli and Segerson (1995, p. 197) define $P(X)$ to be the probability of an accident (where $P' >$ and $P'' < 0$); X, the injurer's care level; m, the damages that the victim suffers if there is an accident; W_i and W_v, the injurer's and victim's preaccident wealth levels, respectively; D, the damages paid by the injurer in case of an accident; and T, a (positive or negative) transfer from the injurer to the victim that occurs independent of whether an accident occurs. As Miceli and Segerson (1995, p. 197) note, the addition of the variable T allows them to 'decouple distribution and cost minimization issues'. They then split the analysis into two distinct parts. In the first they derive the first-best care levels while in the second they analyze the ability of various liability rules to give individuals the incentives necessary to take these first-best care levels.

13. Efficient Care Standards

Miceli and Segerson (1995) show that in the presence of fully working insurance markets, the first-best care standards are independent of both injurer's and victim's wealth levels as long as the policymaker is free to choose the care standard and the amount of the transfer, T. Only in the case where the policymaker can only set the care standard is the care standard a function of the injurer's wealth. For instance, Arlen (1992) implicitly assumes in her analysis that the amount of the transfer, T, and the amount of damages, D, are preset such that $T = D = 0$. Figure 2 illustrates the case when the policymaker can only set the care standard. The solid curve labeled UPF_1 is the utility

possibilities frontier that faces the policymaker who is free to set the care standard and the amount of the transfer. Since the policymaker's choice set is restricted, the utility possibilities frontier available to the policy maker who can only set the care standard must lie inside the unrestricted UPF at all points except the point where T and D by coincidence equal the levels that would occur in the unrestricted case. In Figure 2 the dashed line labeled UPF_2 represents the restricted UPF, while point A represents the one point where T and D equal the values they would have in the unrestricted case. Clearly, there exist solutions on UPF_1 where both the victim and the injurer can achieve higher utility levels than they can on the restricted UPF_2.

Figure 2 Restricted and unrestricted utility possibility curves
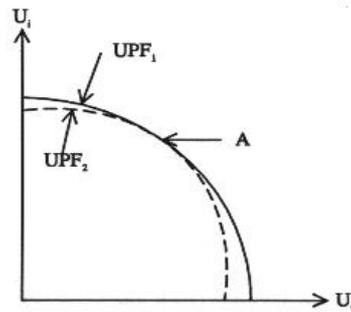
14. Efficiency of the Legal Rules

By choosing appropriate liability rules society attempts to induce injurers to take the efficient level of care. The potential success of society in achieving this goal while concurrently attempting to reach an ideal distribution of income depends on the number of policy tools available to the policy makers. Miceli and Segerson (1995, pp. 200-202) analyze the efficiency of strict liability and negligence under various assumptions about the choice variables available to the policy makers. As they note, the efficient care level solves Max U_i subject to U_v U_v^o and X maximized U_i(3) given the liability rule. Miceli and Segerson demonstrate that, when policymakers can set the care standard X, the damage award D, and the transfer from the injurer to the victim T, both strict liability and negligence rules are efficient. The reason for this result is that the policy makers have three tools - X, D, and T - with which to achieve three goals - income distribution, cost minimization and efficient incentives for the injurer.

Thus, the policy makers can set X to minimize total social cost, D to give the injurer the proper incentives, and T to redistribute income, resulting in society attaining a point somewhere on UPF_1, as shown in Figure 2. In contrast, if one or two of the three control instruments are not available to the policymakers, then society can achieve the three goals only by coincidence.

15. An Existence Theorem

The results presented by Shavell (1981), Miceli and Segerson (1995) and Kaplow and Shavell (1994) comprise an existence theorem - if society decides to redistribute income, there exists a tax schedule for redistributing income that everyone prefers to any other way of redistributing income, including the use of legal rules or institutions. As Kaplow and Shavell (1994, p. 675) note, the importance of this result to legal scholars is that it demonstrates that it is appropriate to evaluate legal rules only on the basis of efficiency criteria.

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