CES Working Paper Series

SOCIAL CONTRACT, TAXATION
AND THE STANDING OF
DEADWEIGHT LOSS

Richard A. Musgrave

Working Paper No. 1

SOCIAL CONTRACT, TAXATION AND
THE STANDING OF DEADWEIGHT LOSS

Abstract

This paper develops the proposition that the normative design of a good tax system depends on the premises or social contract by which individuals are joined in society. This thesis is applied to Lockean entitlement to earnings, utilitarian welfare maximization and rules of fairness, including maximin. The role of tax avoidance and deadweight loss is examined under the various premises and found to be of questionable contractual standing. Within the utilitarian context, this questions the ranking of "optimal taxation" as the best available solution.

Richard Musgrave
P.O. Box 98
Hartland Four Corners
Vermont 05049
USA

Richard A. Musgrave

One of the key issues to be settled among the members of society is how to distribute the tax burden, based on the premises or social contract by which they are joined. Different conceptions of that setting may be expected to yield different views of the good tax system. My purpose is to examine that linkage. There is, to be sure, no single version of that setting which can claim to be *the* correct one. Formulations range from natural–law based entitlement to earnings, over utilitarian commitment to maximum aggregate welfare, to fairness rules such as ability–to–pay or maximin. To choose among them is not a matter of economics only. Their consequences for individual liberty, social harmony and stability must be allowed for as well, and the observer's own sense of distributive justice also enters. No attempt is made here to render such a choice. Rather, I wish to examine how normative views of taxation fit into the internal logic of alternative models and how this relationship has developed. As Schumpeter aptly put it: "It may or may not be the economist's business to posit imperatives, but it certainly is his business to rationalize given imperatives by analyzing their implications" (Schumpeter, 1954, p. 946).

This nexus is of special interest with regard to the role of deadweight loss in tax design. Along with the "optimal taxation" model (Diamond and Mirlees, 1972), that concept has now moved to the center of tax theory. Dating back to Marshall (1890), Ramsey (1927) and Pigou (1928), the idea was not a new one. Allowance for deadweight loss in measuring tax burden only capped the utilitarian quest for least total sacrifice as the supreme principle of taxation. Nevertheless, focus on deadweight loss as an inherent component of tax burden profoundly changed the climate of tax analysis. If the tax dollar costs more than what government gets, the true cost of public services is magnified and their efficient scale is reduced; and if deadweight loss rises with the marginal rate of tax, the case for progressive taxation is weakened. On both grounds, focus

on deadweight loss pointed to an inherent flaw in public sector operation. Where previous concern had been with private sector failure in the provision of social goods, attention now shifted to public sector failure in meeting its task.[1]

Reflecting this strategic role of dead weight loss, much has been said on how to measure and minimize its burden. At the same time, no attention has been given to its "standing" — a term suggested to me by Peter Diamond — in the broader context of social contract theory. As we view the nature of taxation under the various contract models, special attention will thus be given to this aspect.

Lockean Entitlement and Benefit Taxation

We begin with the Lockean entitlement to earnings and its corollary of benefit taxation. Given by natural reason or revelation, so argued Locke, the system of natural liberty leaves the fruits of nature to man in common, but the fruits of labor to the worker alone:

> "Though the earth, and all inferior creatures be common to all Man, yet every man has a property in his own person. This no Body has any right to but himself. Whatever then he removes out of the state that nature hath provided, and left it in, he has mixed his labor with, and has joined to it something that is his own, and thereby makes it his property."

In this way, man comes "to have a property in several parts of that which God gave mankind in common, and that without any express Compact of all the Commoners." (Locke, 1790, p. 328). The very process of income creation also yields its just distribution. Hence there is no place for redistribution in the Lockean system.

An exception to the entitlement rule only arises with the return to land and natural resources. Such returns by their very nature cannot be traced to individual effort and therefore remain subject to common claim. To overcome this exception, a baseline concept was suggested, setting a date beyond which the common claim ceases to apply (Nozick, 1974). This, however, hardly disposes of the issue. Rents arise and change in the course of economic development, and rent seeking is an ongoing process. There remains the question of how the common claim should be assigned among individuals and how this merges with the economist's efficiency view of rent as the prime base for taxation (R A. Musgrave, 1983). The rent of land, however, forms only a minor part of total income and its special problem may be passed over here.

As to the remainder, we take Lockean entitlement to apply to capital as well as to labor income. Even though Locke's discussion was in terms of labor, both involve separation from nature and may be included. We thereby pass over the suspicion that wages are more deserved, a suspicion contained in the philosophical tradition from Aristotle to Aquinas and still alive in the statutory tax distinction between "earned" and "unearned" income.

Consideration must also be given to whether entitlement applies to all earnings or to those in a competitive market only, presuming a rate of compensation equal to marginal product and product pricing in line with marginal cost. The answer, in Locke's spirit, should be in the affirmative. Competitive pricing is required and the resulting gains in producer and consumer surplus are to be viewed as deserved. Only then will the invisible hand of the market secure an outcome that is not only efficient but also just. This duality is at the heart of Locke's benign view of the natural order and Smith's premise that self-interest, even if contrary to the actor's intent, turns out to serve the common good (A. Smith, 1759; R. A. Musgrave, 1976).

But the function of the market, as Locke and Smith well knew, is not all-inclusive. Property must be protected and protection must be paid for, "and 'tis fit everyone who enjoys his share of the protection, should pay out of his estate his share for the maintenance of it." (Locke, 1790, p.408). Just taxation in the Lockean system, therefore, means benefit taxation, a principle which, in line with the entitlement rule, calls for social goods to be priced in analogy to private goods in a competitive market.

The same principle applies in both cases, but with a difference. While private goods are rival in consumption, social goods are not. Private good X, if consumed by A, cannot also be consumed by B. Social goods generate benefits the consumption of which is nonrival. Their benefits can be enjoyed by both, without thereby interfering with each other. Efficiency, therefore, calls for supply to be extended to the point where marginal cost matches the sum of marginal utilities derived by the consumers (Samuelson, 1954). Contrary to the case of private goods, individuals now share the same quantity; but where marginal evaluations differ, just distribution of the resulting surplus now calls for differential tax prices.

The rationale for pricing social goods in line with benefit taxation thus readily follows, and efficiency-minded economists should rejoice where needs can be met in the social mode. The benefits of the same resource are thereby permitted to be enjoyed more widely. The problem, however, is how to implement efficient provision of such goods. In order to obtain the benefits of private goods, consumers must bid for them in the market and thereby reveal their preferences. Unless the price is paid, they will be excluded from consumption. In the case of social goods, exclusion does not apply, either because it is inapplicable or inefficient.[2] Available freely, they need not be bid for in the market. Consumers act as free riders and there will be no automatic preference revelation. Absent such information, neither the efficient

provision of social goods nor their equitable pricing can proceed. Consumer bidding at the market must thus be replaced by a political process of budget determination.

Where Locke thought his natural order of property rights to hold without a contract, that order must now be supplemented by a contractual agreement to expedite this process. In line with uniform application of the entitlement rule each person is given equal weight, and a budget specifying expenditures and tax assignments is to be voted upon. Since tax assignments thus determined will have to be met, voters will wish to choose a budget pattern to their liking. If incomes and preferences were the same, or zero transaction costs permitted unlimited bargaining, a unanimous vote would result. But such is not the case, so that a majority rule must be accepted (Wicksell, 1896) and written into the contract. Majority rule falls short of an optimal solution, but it is the best that can be done. This is not surprising. Although Locke recognized the existence of social goods, their provision falls outside his natural order. Not amenable to market-enforced preference revelation, a second-best solution has to be accepted.

Nor is this the only imperfection. In designing the vote, tax prices are to be determined so as to approximate the preferences of payees. If incomes and preferences were the same across individuals, the same price would apply throughout and could be imposed in lump-sum form. Only its level would have to be determined. But incomes and preferences differ, and so do evaluations placed on public services. Differentiation is needed but the tax vote, if only for reasons of feasibility, cannot list millions of individual tax prices. Individuals have to be grouped and a generally applicable formula has to be chosen, including a tax base and rate structure from which individual liabilities can be derived. That formula should be indicative of taxpayers' evaluations as evidenced by their economic characteristics. Since the value placed on a given level of public services will depend on the level of income, a broadly defined income (or,

for that matter, expenditure) concept will be an appropriate tax base; and since marginal valuations will rise with the level of income, so will the appropriate tax price. An income tax formula, with a rate structure based on the observable income elasticity of demand for related private goods thus offers a useful approximation.

This approximation is secured, however, at an efficiency cost. As the tax is imposed, the taxpayer finds his/her net wage rate reduced and responds by substituting leisure for income. Tax liability is cut thereby, but a deadweight loss in the form of reduced worker surplus is added. Engaging in tax avoidance (a concept to be distinguished from illegal tax evasion or non-compliance with the law) still leaves the taxpayer with a net gain, but the total burden exceeds what the Treasury gets in revenue.

How then is this excess burden or deadweight loss to be dealt with in the context of benefit taxation? Standard economic analysis would suggest that it be treated as a cost which should be allowed for, along with other costs, in determining efficient outcomes. The act of tax avoidance is viewed as a utility-maximizing adaptation to a change in relative prices, not different in nature from similar adjustments to market-induced price change. Tax avoidance in that view reflects entitlement to use one's own resources to advantage, thus being not only efficient but also just. Avoidance has standing and deadweight loss is a cost to be allowed for in setting the benefit tax. This reasoning, however, overlooks an essential point. The reduction in the net wage rate caused by insertion of the tax wedge, differs from a market-induced change in factor prices. Market-induced changes, like the weather, happen upon taxpayers without their own doing, while the tax wedge implements a social contract to which the taxpayer is a party. The purpose of the contract, in line with Lockean entitlement is to charge benefit taxes, reflecting as closely as possible the taxpayer's marginal evaluation as it would be forthcoming if the tax were

imposed in lump-sum form. Avoidance, undertaken to forestall this outcome, becomes a breach of contract. The resulting deadweight loss becomes a self-inflicted burden and thus loses contractual standing.

What are the consequences regarding the benefit tax which policy should try to approximate? If avoidance is given standing, deadweight loss is a legitimate part of the burden. As between taxpayers with equal incomes, tax liability should then vary inversely with deadweight loss and directly with the elasticity of labor suply. The provision of social goods should be carried to the point where marginal benefit equals marginal cost, including that of deadweight loss. But if deadweight loss is seen to lack standing, its self-inflicted burden is no longer to be credited when setting the avoider's tax liability, nor should it be allowed for in setting the appropriate level of public services. The correct outcome as implied in the Lindahl and Samuelson formulations, would then match that under lump-sum taxation.

As noted before, it should not be surprising that a Lockean solution to social good pricing can only be approximated. The basic difficulty does not arise from the mere fact of non-rival consumption. If preferences were known, that feature could be readily incorporated into the Lockean system. Rather, the difficulty arises because preferences are not known and must be ascertained via a political process.

Welfare Maximization and Least Total Sacrifice

We now turn to the utilitarian model with its quite different scenario. The entitlement claim is discarded as is the premise that the shape of just distribution is prescribed by natural law. Mankind is set free to arrange its own order, including the state of distribution,

and rational calculus is to give the correct solution. We begin with the classical version and then note two amendments.

Classical Version

As stated in the opening sentence of Bentham's treatise on "The Principles of Morals and Legislation":

> "Nature has placed man under the governance of pain and pleasure. It is also for them alone to point out what we ought to do, as well as to determine what we shall do." (Bentham, 1789. p. 1).

An action is to be approved or rejected, depending on whether it creates utility, i.e. whether it adds to or subtracts from pleasure or satisfaction. This holds for governmental as well as for private action, from which Bentham draws his rather heroic conclusion :

> "The interest of the community then is what? -- the sum of the interests of the several members who compose it." (Bentham, 1789, p. 3).

An action which serves to maximize this sum is therefore the right action. Income or wealth as means to happiness are to be distributed so as to maximize the aggregate happiness derived therefrom. Proceeding from this premise, and assuming income available for distribution to be fixed, Bentham later added these propositions:

(1) a person's happiness increases with his wealth;

(2) the rich person's excess of happiness is not as great as his excess of wealth;

(3) therefore, the more equal the distribution of wealth, the greater will total happiness be. (Bentham, 1802, p. 46).

Since total happiness is to be maximized, an equal distribution of income is called for. Implicit in (2) is the assumption of declining marginal wealth or income utility, an assumption which

has remained central to the utilitarian model. The egalitarian solution is then qualified by allowing for adverse effects of redistribution on the level of income. Unless the fruits of labor can be enjoyed, so Bentham continued, industry will be detroyed; and where equality and security of property come into conflict, the former must yield (Bentham, 1802). Bentham's authority may thus be claimed by egalitarians and supply-siders alike, depending on which part of the argument is chosen.

Bentham's central concern was with the broader problem of optimal income distribution, an optimal negative income tax or tax-transfer scheme, and not with the narrower objective of allocating the cost of public services among their beneficiaries. Application of welfare maximization to the finance of public service only followed later, and as an adjunct to ability-to-pay theories of taxation. As an alternative to the benefit view, a long line of authors from Bodin over Smith to Mill had argued that tax contributions, as a matter of fairness should be in line with faculty or ability-to-pay. With ability viewed as a function of income, people with equal incomes should pay the same while those with higher incomes should pay more. Adam Smith, calling for taxation in proportion to the income received under the protection of the state (Smith, 1787) may be placed in either the benefit or ability-to-pay camp, but from Mill on the stage is clearly set for the latter. With focus on sacrifice incurred rather than income surrendered, Mill held that the differential should be set so as to impose an equal absolute level of sacrifice (J. S. Mill, 1857), while Sidgwick (1907) called for a standard of equal proportional sacrifice. With the rise of marginal utility analysis in the 1880s, equal marginal sacrifice was added as a third variant. Embraced by Edgeworth, it soon swept the field (Edgeworth, 1891). Pigou subsequently endorsed equal marginal sacrifice as the "ultimate principle of taxation, its viability given directly in intuition" (Pigou, 1927, p. 42.). Underlying this intuition, however, was the role of equal marginal sacrifice as a key to least total sacrifice and hence to welfare

maximization. There thus occurred a paradigm switch from ability-to-pay as fairness rule to welfare maximization as a dictum of utilitarian efficiency. Based on the efficiency case for distributing income so as to maximize welfare, minimum aggregate sacrifice became the rule for distributing the tax burden. The essential link between the content of the public service budget and the pattern of tax finance was thereby broken.

Just as Bentham's principle of maximum aggregate happiness had called for equal distribution of a fixed income total, so did it now call for minimizing total sacrifice by lopping off fixed incomes from the top down until the necessary revenue was reached. But following Bentham's example, the egalitarian conclusion and its case for progressive taxation was again qualified by allowance for the detrimental effects of taxation. Viewed previously in terms of a declining income base, modern analysis replaced income decline with the burden of deadweight loss. Beginning with Marshall, Ramsey and Pigou, this has now reached full bloom in the optimal tax model (Diamond and Mirrlees, 1971). Tax avoidance, as noted before, generates a deadweight loss which then becomes part of the aggregate burden that is to be minimized. Since the magnitude of loss per dollar of revenue rises with the marginal rate of tax, the least sacrifice rule no longer calls for maximum progression. To minimize the aggregate burden, a balance must now be struck between (1) flattening rates so as to reduce deadweight loss and (2) steepening progression so as to place the burden where marginal utility is lower. Considering both, optimal progression stops far short of what had been previously taken to be the case (Mirrlees, 1971). Allowance for deadweight loss thus changed the economics, not to mention the political economy of progressive taxation.

Given the central role of deadweight loss in the utilitarian model, we again turn to its contractual standing. We return to Bentham's heroic proposition that rational individuals in

seeking to maximize their own welfare, will also agree to maximize aggregate welfare. Why should individuals with superior earnings capacity agree to share their advantage with those less favored? They may find it in their interest to enter into agreements so as to escape the insecurity of a Hobbesian jungle (Buchanan, 1976), but that agreement would hardly be one which maximizes aggregate welfare. The conflict disappears if, as suggested by Hume, it is only "sympathy" which yields true satisfaction (Hume, 1793). The individual then maximizes his own satisfaction by adopting Bentham's rule. A similar theme appears in the early writing of Adam Smith whose impartial spectator counsels the selfish individual to seek the approbation of others (Smith, 1759). But neither Hume nor Smith believed this advice to carry decisive weight in human conduct. What drives the wealth of nations is not the observer's counsel, but self-interested pursuit of riches (A. Smith, 1778). With J. S. Mill, the premise of moral conduct switches from observation of human psychology to postulation of an ethical premise. The utilitarian is admonished to act " as if" Hume's hypothesis was correct. "As between his own happiness and that of others", so he argued, "utilitarianism requires him to be as strictly impartial as a disinterested and benevolent spectator. In the golden rule of Jesus of Nazareth we read the complete spirit of the ethics of utility" (Mill, 1861, p. 16)) . Even though individuals may prefer otherwise, they are required to value the satisfaction of others as if it were their own. Bentham's utilitarian solution then turns out to rest on an ethic of extreme altruism (Rawls, 1974, p. 189).

This contradicts the image of utilitarianism as seeking one's own satisfaction, but the conflict may be cushioned by moving to a contractarian formulation. Individuals will be more willing to surrender their advantages and to follow the observer's counsel, provided they are given assurance that others will do so as well. They will then agree to join in a utilitarian contract to maximize aggregate satisfaction. Thus cast in a contractarian mode, the utilitarian

model (though still anchored in Mill's ethic of impartiality) is given a more tenable foundation.

Having accepted the goal of maximum aggregate welfare, individuals will also subscribe to its more limited version of minimizing aggregate loss in collecting a given tax bill. Consistent therewith, they should stand ready to be taxed on what their income would be in the absence of tax, and respond as if the tax was imposed in lump-sum form. By treating the tax as if imposed in lump-sum form, there will be no substitution effect and hence no deadweight loss. If, however, taxpayers fail to comply and engage in avoidance, a deadweight loss is incurred; but that loss is based on a breach of contract and once more lacks standing. Avoidance nevertheless occurs and cannot be prevented. Income in the absence of tax cannot be identified in a *cum-tax* setting. The resulting deadweight loss, however, need not be honoured and compensated for when assigning tax liabilities. The deadweight loss term in the utility function may be disregarded when arriving at the rate schedule. That schedule will be steeper than called for by the optimal taxation model. While avoidance still enters in determining the revenue response, the efficiency cost of deadweight loss is viewed as a self-inflicted burden and is disregarded. While both solutions are inferior to lump-sum taxation, the question is which is second and which third best? The optimal tax model is more efficient, but that is not the entire story. Disregard of deadweight loss may be viewed as more in line with impartiality and the spirit of the underlying contract. The least that can be said is that the optimal taxation model is not as optimal as its form suggests.

Amendments

It remains to note two later amendments to the classical model and their bearing on the standing of deadweight loss. The earlier formulation carried the implicit assumption of an

observable and cardinal utility function, similar and comparable across individual members of the group. On this basis, and given the shape of the function, aggregate welfare gains or losses from transfer or withdrawal of income were open to calculation. Still underlying Pigou's rule of equal marginal sacrifice (Pigou, 1927), these assumptions came to be questioned and rejected (Robbins, 1939) but were soon replaced by the construct of a subjectively-based social welfare function (Bergson, 1938; Samuelson, 1945). Each individual may construct his/her personal welfare function, reflecting the utility derived from own income as well as from that of others, thereby permitting alternative states of distribution to be ranked as the observer sees them. The earlier objection no longer applied, but to derive policy conclusions the subjective functions must then be combined into a representative one. Based on a premise of equal worth, all views are assigned equal weight, but given the difficulties involved (Arrow, 1954), the outcome offers a second-best solution only. Modern utilitarians, nevertheless, stipulate and routinely apply such functions. Social weights are assigned to the losses (including deadweight losses) from taxation, and the aggregate loss is minimized on that basis. In line with utilitarian intuition if not social judgement, the function is shown to record declining marginal social utility. Whereas the earlier utilitarian had thought to maximize welfare as based on the observed capacity to experience satisfaction, maximization is now based on a socially stipulated welfare function and the outcome depends on its shape (Cooter and Helpman, 1974 ; Atkinson and Stiglitz, 1980). Though a major reformulation, this does not reverse our earlier conclusions regarding the standing of dead weight loss. Individuals, have agreed to the shape of that function and to minimize aggregate loss based thereon. Tax avoidance interferes therewith and remains of questionable standing.

A further adaptation of the classical approach involved restatement of the maximization agreement as choice under uncertainty. The earlier formulation had moved directly

from Mill's ethical stricture of impartiality to its consequence for distribution. Impartial X, who values Y's satisfaction as his own, will agree to any rearrangement which adds more to Y's position than it detracts from that of his own. From this, agreement to maximize the aggregate gain from redistribution (or to minimize the aggregate burden of taxation) was taken to follow directly. Stimulated by its role in the von Neumann-Morgenstern utility function, more recent analysis reinterpreted the impartiality principle as involving such a choice. Individuals are asked to choose among alternative patterns of distribution on a disinterested basis, that is without knowing what their own position in the outcome will be. Placed in such a position, they will then find it in their interest to opt for a solution which maximizes aggregate or, similar for a fixed population, average welfare (Vickrey, 1945 ; Harsanyi, 1953, 1955).

Interpretation of impartiality as choice under uncertainty soon gained wide acceptance, not only as an attractive way of putting the case, but viewed as an essential part of the argument. "Neither the concept of rational choice alone," so it is argued, "nor a commitment to humanitarian morality can yield a useful ethical theory. Rather, we need a combination of both" (Harsanyi, 1982, p. 61). Perhaps so, but the question is why the rational part of the argument must involve the detour of choice under uncertainty. If impartiality is interpreted to mean that individuals value their neighbours' welfare as their own, a bit of arithmetic should suffice to reason that aggregate welfare is to be maximized. This, to be sure, interprets rationality as logical deduction from the premise, rather than an exercise of self-interested preference; and in that sense it seems less "utilitarian". But that exercise in self-interest only follows an "unselfish" acceptance of the impartiality premise, posing thereby an awkward inconsistency in the two-step procedure. Philosophers, alas, may have been captured too readily by the economist's delight in uncertainty analysis.

Once more, this reformulation of the utilitarian argument does not overturn our earlier conclusions regarding the standing of deadweight loss. Tax avoidance, undertaken in the defense of entitlement to pre-tax earnings, is inconsistent with a social contract to accept choice under uncertainty. Avoidance once more involves non-compliance and lacks standing.

Rules of Fairness

Equal sacrifice rules, prior to their conversion into marginal and thereby least total sacrifice terms, were meant to offer rules of fairness in assigning the tax burden. Beginning with entitlement to pre-tax income, the taking should be spread in a fair fashion. Equal absolute sacrifice would reflect the principle of equal worth, equal proportional sacrifice would view fairness as calling for relative positions to be left unchanged, and so forth. Various meaningful rules may be posed, but what matters here is that tax avoidance once more interferes with their correct implementation, i.e. application as measured from the taxpayer's position in absence of tax. The standing of deadweight loss is again left in question.

It remains to note Rawl's principle of maximin as a guide to fair taxation (Rawls, 1971). Similar to the utilitarian model, entitlement is discarded. Individuals place themselves in an original position, where they agree to be deprived of morally relevant information regarding their own endowments.[3] They will then adopt two basic principles of justice, i.e. (1) each individual has an equal right to liberty compatible with a similar right for others, and (2) social and economic inequality is to be subject to the condition of securing (a) the greatest expected benefit of the least advantaged and (b) a fair equality of opportunity. These two principles are taken to follow from the premise of equal rights as defined by the original position. In combination, they provide more assurance of individual rights than does the utilitarian rule of

maximizing aggregate welfare. They thus command acceptance in the original position whereas the utilitarian principle taken by itself would not.

As in the neo-utilitarian formulation, the argument again centers on rational choice under uncertainty, made from behind a veil of ignorance in the original position. Probability again enters as an inevitable consequence of the contract doctrine in terms of rational choice, (Rawls, 1971, p.172) and our earlier reservations again apply. Maximin might be reconciled with the utilitarian approach by substituting aggregate welfare maximization for condition 2a (Rawls, 1974). This, however, implies the unrealistic assumption that choice under uncertainty will in fact yield a maximin solution, thereby requiring a premise of extreme risk aversion, i.e. an infinitely high marginal utility of income at the bottom of the scale (Arrow, 1970). Fearful of ending up in that position, individuals will then agree to the maximin rule. This rationale breaks down if a subsistence income is taken as assured and concern is with the state of distribution above that level. Choice under uncertainty will then leave inequality at a higher level than under maximin.

A better case for maximin may well be arrived at by replacing the underlying ethic of impartiality with one of dislike of superiority. But let us follow Rawls' own formulation, and consider how avoidance and deadweight loss fare under his maximin rule. It is evident to begin with that the rule becomes interesting only once earnings are variable, i.e. taxpayers engage in avoidance. Given fixed incomes, an egalitarian solution would follow. Avoidance and the consequence of deadweight loss are thus inherent in the maximin proposition. But assuming its inherent assumption of extreme risk aversion, such deadweight losses as result at the top will be swamped by the infinitely high utility gain at the bottom. Marginal tax rates will thus be raised to the point of declining revenue, no matter how large the finite value of deadweight loss which is incurred in the process.[4]

But tax avoidance, as noted before, hardly fits the terms of the original position. Having agreed to replace entitlement with impartial choice, contractees should not then interfere with its implementation via avoidance. Maximin is itself a second best concept only.

Conclusion

The preceding discussion has applied the logic of alternative social contracts to the design of an optimal tax system. Not surprisingly, we found the optimal arrangement to differ with the nature of the underlying contract; but in each case, allowance for deadweight loss proved of questionable standing. Lest this conclusion appear too strong, some qualifications may be added.

1. Questioning the standing of deadweight loss in seeking the best available solution does not render its efficiency cost irrelevant. Deadweight losses which result from market imperfections in the conduct of private transactions are both costly and inequitable. Deadweight losses due to tax avoidance differ because the taxpayer thereby negates adherence to previously agreed upon terms. At the same time, there is no virtue or efficiency gain in imposing tax penalties. Where two tax bases do equally well in approximating the contractual goal, that with the smaller deadweight loss should be chosen.[5]

2. Subsequent disallowance of the remaining loss, moreover, need not be total. As previously noted, the solution may seek a compromise between the economist's concept of efficiency and what is considered just under the social contract, thereby granting partial allowance for deadweight loss.. An analogy is found in the application of Paretian economics to legal rules.

A theft which imposes no property damage, as the Paretian might hold, is costless and hence justifies no prosecution cost. As Pareto would have been quick to note, this overlooks the fact that economic efficiency is not all there is to justice, and that rights granted by the

social contract are a social good which deserve protection at a cost (Lewin and Trumbull,
1991). By way of compromise, the appropriate fine might be set higher if the property is
damaged.

3. While it has been of interest to view the tax implications of alternative contracts, society
need not make an exclusive choice among them. There is no inconsistency in combining
utilitarian concerns for redistribution so as to assure minimum levels of income, with
adherence to entitlement over the remainder of the range. Given such a setting,
considerations of entitlement may enter into setting tax rates, to combine with those drawn
from an utilitarian or Rawlsian premise.

3. The Lockean premise of entitlement, as we noted in the initial section, excludes redistribution
and calls for taxation to be modeled on the benefit pattern. But benefit taxation remains an
important part of the problem even if Lockean redistribution is disallowed and a utilitarian
or Rawlsian approach is followed. Having established the appropriate state of distribution,
the provision for social goods still calls for finance by benefit taxation, not only to secure
just pricing but also to induce preference revelation. A bridge between these two spheres
was provided first by Wicksell's proposition that benefit taxation to be just must be
matched by a just state of distribution, a sequence which also underlies my distinction
(Musgrave, 1958) between the analytics of the allocation and distribution branches of the
fiscal system. [6] While this distinction has been accepted widely as a way of dividing up the
problem, it was designed primarily to separate two analytical issues. This insight is lost
in the classical tradition from Mill to optimal taxation, where taxation is viewed
as a separate issue. Linkage to the expenditure side of the budget follows only in the context
of general welfare maximization , where preferences for social goods are taken as given. The
role of taxation in securing preference revelation and equitable charging for social goods is
thereby disregarded.

Footnotes

1. With focus on deadweight loss we here pass over other defects in the fiscal process due to
imperfections in the voting process and self-serving interference by "bureaucrats" and "
politicians" (Buchanan and Tullock, 1962; Buchanan, 1975 ; R . A. Musgrave, 1981), as well
es the use of otherwise imperfect taxation as a corrective force (Brennan and Buchanan,
1980).

2. Exclusion is impracticable for benefits such as security provided by national defense or
improved air quality provided by environmental measures. Exclusion by toll is feasible
regarding the benefits of highway travel or broadcast reception; but unless there is crowding
an efficiency cost of underutilization results. Before restriction is applied, that cost has to
be measured against the gain of preference revelation.

3. The construct of choice under uncertainty as seen by both Harsanyi and Rawls implies that
individuals, in line with the ethics of impartiality, disregard relevant information regarding
their own prospects, and then choose among alternative distributions from behind a veil of
ignorance (Dworkin, 1973). This differs from bargaining in a Hobbesian context where
prospects, without voluntary surrender of information, may in fact be uncertain
(Buchanan, 1976).

4. This conclusion, of course, does not hold if maximin is applied to allocating limited tax
liabilities over a range of finite income utilities (Atkinson and Stiglitz, 1980, p. 421),
but in that case it is difficult to see why the maximin rule would be chosen in the context of
an uncertainty model.

5. Alternative tax sources, as stressed in the optimal tax literature but disregarded here,
include selective commodity as well as income bases.

6. This separation becomes blurred where distribution is viewed in in-kind terms and social
goods are provided in that context.

Bibliography

Arrow, K., 1951. Social Choice and Individual Value , (J.Wiley, New York).

_____, 1973. "Some Ordinalist-Utilitarian Notes on Rawls' Theory of Justice", Journal of Philosophy, 70.

Bentham, J., 1789, The Principles of Morals and Legislation, L. Lafleur, ed. (Hafner Press, New York). .

_____, 1802. "Principles of the Civil Code", in 1978, C. B. McPherson, ed., Property (University of Toronto Press, Toronto).

Bergson, A., 1938. "A Reformulation of Certain Aspects of Welfare Economics", Quarterly Journal of Economics, LII.

Buchanan, J., 1975. The Limits of Liberty: Between Anarchy and Leviathan, (University of Chicago Press, Chicago).

_____, 1976. "A Hobbesian Interpretation of the Rawlsian Difference Principle, Kyklos, 29.

_____, and Tullock,G., 1962, The Calculus of Consent, (University of Michigan Press, Ann Arbor).

Cooter, R. and Helpman, E., 1974. "Optimal Income Taxation for Transfer Payments, Quarterly Journal of Economics, 88.

Diamond, P.A. and Mirrlees, J. A., 1971, " Optimal Taxation and Public Production", American Economic Review, 61.

Dworkin, R., 1973, "The Original Position", University of Chicago Law Review, 40-500.

Harsanyi, G. C., 1953, "Cardinal Utility in Welfare Economics and in the Theory of Risk Taking", Journal of Political Economy, LX I.

_____, 1955, "Cardinal Welfare, Individualistic Ethics and Interpersonal Comparisons of Utility", Journal of Political Economy, LXIII.

_____, 1962, "Morality and the Theory of Rational Behavior", in Sen, A. and Williams, B., eds., Utilitarianism and Beyond, 1982, (Cambridge University Press, Cambridge).

Hume, D., 1739, A Treatise of Human Nature

Lewin, and Trumball,W., 1990, "The Social Value of Crime", International Review of Law and Economics, IV.

Locke, J., 1790, Two Treatises of Government, ed. Laslett, (Cambridge University Press, Cambridge), 328, 408.

Marshall, A., 1953, Principles of Economics, 8th ed., (Macmillan, London), 467.

Mill, J. S., 1896, Principles of Political Economy, 9th.ed., (Longman's, London), vol.II, 293.

_____, 1861, "Utilitarianism, on Liberty, and Considerations on Representative Government, (Dent and Sons, London), 16.

Mirrlees, J.A., 1971, "An Exploration in the Theory of Optimal Taxation", Review of Economic Studies, 38.

Musgrave, R. A., 1958, The Theory of Public Finance, (McGraw-Hill, New York), Part I.

_____, 1981, "Leviathan Cometh - Or Doth He?, in Ladd.H and Tideman T.(eds), Tax and Expenditure Limitation, (Urban Institute, Washington, D.C.)

Nozick, R. 1974, Anarchy, State and Utopia, (Blackwell, Oxford), 176.

Pigou, A. C., 1927, A Study in Public Finance, (Macmillan, London), 42.

Rawls, J. , 1971, A Theory of Justice, (Harvard University Press, Cambridge), 189.

_____, 1974, "Concepts of Distributional Equity: Some Reasons for the Maximin Criterion", American Economic Review, 64.

Robbins, L., 1938, "Interpersonal Comparison of Utility : A Comment", Economic Journal, 48.

Samuelson, P., 1947. Foundations of Economic Analysis. (Harvard University Press., Cambridge).

_____, 1954, "The Pure Theory of Public Expenditures". Review of Economics and Statistics, 3.

Sidgwick, H., 1889. The Method of Ethics , (Macmillan, London).

Smith, A., 1759. The Theory of Moral Sentiments. (Arlington House).

_____, 1787. The Wealth of Nations, ed. Cannan, (Putnam, London), vol. II, 310.

Vickrey, W., 1945, "Measuring Marginal Utility by Reaction to Risk", Econometrica, XIII.

Wicksell,K., 1897. Finanztheoretische Untersuchungen. (Fischer. Jena). For exerpts see Musgrave R. A. and Peacock, A., 1958, eds., Classics in The Theory of Public Finance. (Macmillan, London).