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PROPORTIONATE TAXATION AS A FAIR DIVISION OF THE SOCIAL SURPLUS: THE STRANGE CAREER OF AN IDEA

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The article considers a surprisingly resilient argument, going back to Adam Smith, for the fairness of proportionate taxation: that proportionate taxation represents the fair way to divide the surplus value produced by social cooperation among all of society's members. The article considers two recent variants on that argument, one by Richard Epstein in *Takings* and one by David Gauthier in *Morals by Agreement*. It concludes that the normative and empirical assumptions that underlie these, and all other variants, of the argument are so implausible as to suggest the argument cannot be taken seriously as a defense of proportionate taxation. The article concludes by considering other possible explanations for the enduring attraction of proportionate taxation for political philosophers, particularly those with libertarian and quasi-libertarian leanings.

A. INTRODUCTION

In the last twenty years, proposals to replace the existing, progressive federal income tax with a proportionate (flat-rate) tax have gained increasing popularity in the United States.[1] A proportionate (flat-rate) tax takes from each person an equal percentage of whatever attribute (income,

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[1] Few of the so-called 'flat tax' proposals floated in recent years would impose true proportionate taxation, as they exempt lower, and in some cases lower-middle, income taxpayers from taxation entirely. All of them would, however, move the existing tax system

consumption, wealth, etc.) is taken as the appropriate tax base, irrespective of their total holdings. Thus, under a proportionate income tax levied at (say) a 40 percent rate, Bill Gates, earning $100 million a year, would pay $40 million in taxes, and Joe Dishwasher, earning $10,000 a year, would pay $4,000. From a social welfarist perspective, the resulting distribution of tax burdens might be thought too generous to Gates, left still with $60 million a year to live on, and overly harsh to Joe Dishwasher, left with only $6000. From a libertarian perspective, however, such a scheme might be thought not nearly generous enough to Gates. A strict consent-based libertarian would, of course, reject *any* compulsory tax as theft, on the grounds that it represents a non-consensual taking of Gates' property. Even those 'minimal state' libertarians who are willing to accept compulsory taxation as a shadow price for public goods that cannot be provided optimally by the private market are unlikely to regard as fair a pricing scheme that forces Bill Gates to pay 1000 times more than Joe Dishwasher for the privilege of living in the same society and availing himself of the same publicly supplied goods. Notwithstanding the obvious drawbacks of proportionate taxation from the perspective of both social welfarism and libertarianism – two of the dominant strains of contemporary thinking on distributive justice – the view that a proportionate tax is 'the fairest tax of all', as two recent proponents termed it,[2] has been embraced by a surprising array of political philosophers and pundits over the past four centuries. Hobbes, Locke and (somewhat more ambiguously) Adam Smith, subscribed to the view.[3] Over the past fifty years, so have Friedrich Hayek, Milton Friedman and John Rawls, to name just a few.[4] Any tax system that could claim the allegiance of such odd political bedfellows must appeal simultaneously to quite different intuitions of fairness.

This paper will explore one such intuition that has had widespread support, going back at least as far back as Adam Smith: the belief that proportionate taxation is the obviously fair solution for dividing the social surplus generated by civilization. I will focus on two recent versions of the argument: Richard Epstein's in *Takings* and David Gauthier's in *Morals by Agreement*. While both authors have developed the argument in more detail than other proponents, many of their intuitions seem to be widely shared among those who support proportionate taxation on libertarian and quasi-libertarian (e.g. Lockean contractarian) grounds. To that extent, the analysis offered here has more general application to an important strand

in the US closer to proportionate taxation, and are customarily justified by arguments thought to support true proportionate taxation.

[2] Hall and Rabushka (1995, p. 3).

[3] For a summary of the proponents of proportionate taxation through the early part of the twentieth century, see Seligman (1908, pp. 148–84).

[4] Hayek (1960, p. 316); Friedman (1962, pp. 174–6); Rawls (1971, pp. 278–9).

of political argumentation over just taxation. I conclude that, whatever one makes of Epstein's or Gauthier's premises, such premises do not lead to proportionate taxation. Indeed, it is difficult to derive proportionate taxation from any coherent theory about the just division of the social surplus.

While there are important differences in Epstein's and Gauthier's arguments, the two are strikingly similar in general structure. Before turning to look at each argument in detail, it may be useful to summarize that structure. Both authors start with the conventional Lockean assumption that there exists a set of individual entitlements that are beyond the reach of the state, and thus constrain any fair tax system. In sharp contrast, though, to the more conventional libertarianism of (for example) Nozick, both authors assume those entitlements are not coincident with, and will in general be less than, the market value of our labor and capital in organized society. In Epstein's case, those entitlements are defined by the value each person's assets would have had in the state of nature. In Gauthier's case, they are defined (more ambiguously) as the market prices paid for factors of production, stripped of any 'rents'. Both authors treat the amount by which the aggregate social product in organized society exceeds those entitlements as a 'social surplus' – value generated by the existence of society to which no one (including the factor of production to whom it was paid) has in the first instance a Lockean entitlement. Thus, to use Nozick's disparaging characterization, Epstein and Gauthier both assume that a significant component of social value generated by human effort comes into the world 'unowned' as a Lockean matter, on the 'manna-from-heaven model'.[5] As I discuss below, that first key step results in both schemes licensing (unintentionally, I think, in Epstein's case, intentionally in Gauthier's) a degree of redistribution of (pretax) factor prices from rich to poor that would be unthinkable under more conventional libertarian schemes, in which the government's taxing power is limited to raising the revenue necessary to finance the minimal state.

That first key step sets up the second: the central problem of distributive justice, in both authors' view, is figuring out who gets the social surplus. Both authors conclude there is a unique solution to the problem. For Epstein, it is a *pro rata* division of the surplus, in proportion to the value of each person's assets in the state of nature. For Gauthier, it is division of the surplus in accordance with a formula he denotes 'minimax relative concession'. Two radically different notions of justice appear to drive these and other arguments on behalf of a particular division of surplus value from civilization. The first is that the division effects some impartial principle of substantive fairness. The second is that it is the

[5] Nozick (1974, p. 219).

likely outcome of a bargain between rational, self-interested members of society, each of whom is negotiating from a moralized (Lockean) state of nature. While traces of both notions of justice are present in Epstein's and Gauthier's arguments, justice as (idealized) bargaining outcome clearly dominates Gauthier's argument, and justice as substantive fairness seems to dominate Epstein's.

Finally, both authors conclude that dividing the social surplus in accordance with their respective formulae will lead to proportionate taxation. As Epstein put the conclusion in 1987, '[f]rom a Lockean perspective, a strong case can be made that ... the flat tax is the only acceptable [tax]'.[6] As I suggest below, whatever one makes of both arguments up until this point, it is impossible to make sense of the conclusion. In both arguments, proportionate taxation is justified only contingently, as the method of taxation that will result in division of the surplus in accordance with the authors' preferred formulae. Granting arguendo the authors' premises, it is highly improbable that they would lead to anything approximating proportionate taxation.

B. EPSTEIN'S TALE OF TWO PIES

The essentials of Epstein's argument are presented in the Tale of Two Pies that opens *Takings*. Imagine society as two concentric circles, Epstein says. The outer circle represents the aggregate value of our assets in organized society. The inner circle represents the (smaller) value of our assets in the Hobbesian state of nature – or more precisely, the value of the assets we would have acquired in the state of nature under just Lockean principles of acquisition. The difference between the two – the outer ring – represents the increment in social value generated by the creation of the (Hobbesian) state, in which we have solved the coordination problems inherent in the Hobbesian war of all against all. The central problem of distributive justice, concludes Epstein, is 'Who gets the surplus?' For Epstein, all roads, whether constitutional, Lockean rights theory or utilitarian, lead to the same answer: the surplus 'should be divided among all citizens, *pro rata* in accordance with their private holdings', by which he means in accordance with the value of individuals' assets justly acquired in the state of nature.[7] That solution, central to *Takings*, appears to be fundamental to Epstein's view of a just society.[8]

For present purposes, I want to set aside the constitutional and utilitarian aspects of Epstein's argument, and focus solely on the argument

[6] Epstein (1987, p. 68).
[7] Epstein (1985, pp. 3–5, 162–4); Epstein (1987, pp. 52–3).
[8] Epstein (1985, pp. 3–5); Epstein (1993, pp. 90–8).

from a Lockean perspective. From that perspective, two questions immediately arise. First, why should a Lockean consider the incremental value in private holdings generated by the existence of a formal state to be part of a 'social surplus' that the state is entitled to distribute among the members (*pro rata* or in accordance with any other formula)? Why doesn't it come into existence (in Nozick's terms) already owned by whoever commands it on the market through (pretax) prices? Second, assuming we can justify the state's right to distribute that surplus, why should it distribute it among the members of society in proportion to state-of-nature holdings?

The answer to both questions for Epstein, along with others, including Smith, who have been drawn to the 'just division of the social surplus' argument for proportionate taxation, appears to derive from an unexamined analogy to private partnerships.[9] The general line of argument goes as follows. Think of society as an n-person joint venture, in which we all bring to the table our state-of-nature assets, which we agree to pool in this collective venture called the state, in return for our aliquot share of the returns to investment, or surplus, that our cooperation generates. If this were a private partnership between two persons, one putting up $60,000 of capital and one putting up $40,000, the two would and should agree to split the profits from their venture 60/40, in accordance with their contributions. There is no reason to assume a different result when we move from a two-person private partnership to an n-person public one.

The analogy is a deeply troublesome one, in ways that call into question both Epstein's definition of surplus and his method for dividing it.

1. What surplus value is subject to division by collective agreement?

In the typical private joint venture envisioned in the 60/40 partnership example above, the boundaries between the partnership's activities and the separate activities of each partner are clearly demarcated. As a result, the portion of the partners' wealth attributable to the returns to the partnership's activities, and hence subject to division between the partners in accordance with some jointly agreed-to decision rule, is clearly demarcated as well.

In contrast, it is far from obvious what portion (if any) of the value generated by society a Lockean should regard as a common social surplus, subject to division by some collective decision rule. What exactly are the boundaries of the financial partnership we are embarked upon in

[9] Epstein (1985, p. 163). For a more recent, and somewhat more equivocal, reiteration of the argument that responds to some of these criticisms in a earlier draft of this article, see Epstein (2000, pp. 6, 8–13). For Smith's version of the argument, see Smith (1998, p. 945).

the Lockean social contract? Does that partnership extend only to the operations of the formal state, or does it extend to social organization in any form? Epstein and others appear to assume the latter, in treating the entire (aggregate) increase in wealth we all hypothetically realize in moving from the state of nature to America circa 2003 as subject to division by collective decision making. That narrow view of individual entitlements, and concomitantly broad view of the social surplus, of course, implies that the enormous gains society bestows on those whose natural talents have little use value on their Crusoeian island – or in the dysfunctional Hobbesian state of nature – are all up for grabs. One *could* take this view of our implicit (Lockean) social contract, pursuant to which all the gains that, say, Wayne Gretzsky realizes by moving from being Wayne Gretzsky alone on a desert island, thinking of inventing a game called hockey if he could ever find ice, eleven other players, and an audience to pay to watch, to being Wayne Gretzsky in late twentieth-century America earning $20 million a year, are thrown into a common pool for division in accordance with some norm of just distribution. This is certainly a plausible moral position, with a number of respectable adherents. But it seems like an odd concession to collectivist ethics for a sometime libertarian like Epstein to make. As suggested below, one would expect him to insist on a more exacting accounting of what precisely Gretzsky owes to whom, and why, in recompense for the benefits of social cooperation. A Nozickean would clearly take the view that Gretzsky owes society nothing, beyond his aliquot share of the revenues required to run the minimal state. Limiting what is up for grabs to that portion of private gains directly attributable to the provision of specific, costly, public goods, is another possibility – a view that implicitly limits the scope of the social contract to the operations of the formal state.

2. How should the surplus value created by the existence of organized society be divided?

Assuming that America circa 2003 represents one great joint venture, with each participant entitled to some share of the aggregate returns to civilization, Epstein concludes that those returns should be divided among the participants in proportion to the value of their state-of-nature assets. Epstein defends this result in part by appeal to a (largely tautological) view of fairness: Proration is desirable because it 'advances the welfare of [cooperators] in equal proportions that speak of formal equality and equality of impact'.[10] The deeper justification, however, seems to come from the view – implicit in the partnership analogy – that *pro rata* division is

[10] Epstein (1993, p. 98).

the obvious solution to the bargaining problem facing social contractarians, for the same reasons that it is the obvious solution for our private contractarians in the 60/40 partnership described above. State-of-nature assets represent the opportunity cost of entering into a social contract, just as the $60,000 and $40,000 respectively represent the opportunity costs of entering into the private partnership above. Those opportunity costs should be viewed as inputs in one large production process called civilization, where the aggregate return is the output, and hence the reward per unit of investment ought to be the same for all.

Accepting the returns-to-investment analogy, the difficulty for Epstein's argument is that *pro rata* division in accordance with the value of assets contributed is an obvious solution only for inputs that have an opportunity cost (expected return outside the partnership) equal to their value inside the partnership. That condition is presumably met in the 60/40 partnership example above, if we assume the partners' only contributions are (fungible) cash, which is receiving a marginal (competitive) return. In such a case, the constraints of the market – the opportunity cost of capital – dictate a *pro rata* division of the partnership's income, whatever justice might require; many would take that result to be consonant with what justice in fact requires.

But in the Lockean social contract, the value of each person's assets is (by hypothesis) greater if exploited within the joint venture of civilization than it is outside of that joint venture, in the state of nature. That is to say, the Lockean social contract resembles an n-person multilateral monopoly rather than a competitive equilibrium. Imagine, for example, that in our two-person partnership, partner A contributes a really good idea, which requires $100,000 in ready cash to exploit, and partner B contributes the $100,000 – the only person, as it turns out, that was willing to come up on the spot with the required cash. Now, there are gains from cooperation here in excess of the returns available to either partner from her next best available opportunity. To that extent, the partners are locked in a bilateral monopoly with each other. How should returns from the joint venture be divided now?

The problem presents one instance of the allocation-of-common-costs (common-surplus) problem that has been subject to extensive analysis in the game theory literature. The question posed by the problem is: how should the common costs (common surplus) of a value-enhancing cooperative venture be allocated among the cooperating parties? In game theoretic analyses, the possible solutions ('core') of the common-costs (common-surplus) problem are taken to include all allocations that give each player in the cooperative game a payoff at least as great as the greater of (1) what she could have secured through a non-cooperative strategy, and (2) what she could have achieved as a member of the most profitable coalition of players that could secede from the group to pursue their own cooperative strategy.[11] Clearly, condition (1) requires that each person get a return from civilization (net of taxes) at least equal to the value of her assets in the state of nature – that the choice to be in this society rather than out of it be individually rational. This, of course, correlates to the minimum constraint of strict pareto superiority that Epstein imposes on the aggregate taxes-for-civilization deal each member of society receives, by requiring that the state not touch the inner circle (representing each member's state-of-nature assets). Condition (2) adds the additional requirement of group rationality: the best endowed group in society (and by extension each lesser endowed group in turn) will claim for itself, at a minimum, that portion of the gains from social cooperation that it could have achieved by seceding from America circa 2002 and forming a new state whose membership is limited to the best endowed.

What if anything do the above conditions imply about the appropriate division of surplus from society? First, the strict requirement of individual or group rationality holds as a descriptive matter – that is, predicts the actual outcomes in allocating common costs – only where exit from the group is possible and costless. To the extent it is costly for the best endowed members of society (and by extension any other subgroup) to secede from an existing state to form their more perfect union, the gains they could have realized in that more perfect union are, as a purely positive matter, expropriable by the less well-endowed majority. This, of course, describes to a considerable extent the situation facing the very rich in America circa 2003, and virtually all other existing societies. Whether such exit costs ought to be taken into account in ideal bargaining theory is a more complicated question with no obvious answer.[12]

Assuming that exit is costless (or, if not, that we are morally required to ignore those costs), if there are no increasing returns to scale for society and no externalities, in a large enough economy where no individual has a large impact on the economy, as Kenneth Arrow has noted, 'the core shrinks to the competitive equilibrium'. That is to say, conditions (1) and (2) lead to whatever division of surplus happens to result from market prices, and there is, as Arrow states, no problem of social justice left at all.[13] If Wayne Gretzsky doesn't like the taxes-for-civilization deal he is getting from America circa 2003, he can pick up his hockey stick and secede with a subgroup of the most talented from whom he can extract a much better deal – a fact that will ultimately force America circa 2003 to offer him that better deal in an open competition for Gretzsky's talents. In

[11] See Kornhauser (1998, pp. 1568–72); Moulin (1988, pp. 89–95); Osborne and Rubinstein (1994, pp. 257–5).

[12] Fried.

[13] Arrow (1983, p. 188).

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such a world, taxation is presumably relegated to a pure benefits tax, with rates set to mimic (as far as possible) the prices the market would itself set for publicly provided goods or services.

If there *are* increasing returns to scale from organized society, generating significant gains from non-secession for any subgroup, including the best-endowed, there is unlikely to be any unique solution to the problem. Moreover, a solution that assigns surplus (net of taxes) in proportion to the value of state-of-nature assets is not necessarily even in the core of the game.[14]

3. Would *pro rata* division of the surplus value of the social contract, in proportion to the value of individual rights in a state of nature, lead to proportionate taxation?

Let us assume that for whatever reason – some intuition of what justice as impartiality would require, or some intuition about the likely outcome of an idealized bargain – in a just society, surplus value generated by social cooperation will be allocated among members of society in proportion to the value of each member's justly acquired assets in the state of nature. What tax scheme would effect that result?

We should note at the start that it is impossible to answer that question unless we can come up with a value for such state-of-nature assets. That task requires not only, as Epstein concedes, 'that we have a very clear sense of what counts as individual rights', but also that we have some clue what those rights would have been worth to each of us in the state of nature.[15] Given the unspecified nature of Epstein's state of nature, it is difficult to know how to begin to think about this question. Epstein doesn't seem to have in mind a Crusoeian state of nature, in which we are driven back on our private resources, without markets or other less formalized barter mechanisms to increase the value of our assets through exchange. He seems rather to have in mind a Hobbesian state of nature, in which some rudimentary community and cooperation exists, punctuated by theft, physical violence, and various other outcroppings of the war of all against all. If this hypothetical world is very far removed from ours – if, that is, the creation of the Lockean state has actually generated significant surplus value – attempting to imagine our respective positions in that world seems a hopelessly speculative task. Would Wayne Gretzsky be playing hockey in the Hobbesian state? Would he be earning, if not $20 million a year, still far more than anyone else? If so, could he get his paycheck safely home at night without having it boosted from him by one

14 Kornhauser (1983) provides a proof of the latter proposition in the context of joint litigation costs.

15 Epstein (1985, p. 5).

of the many bands of marauders given free rein in the Hobbesian state of nature? And how about all of us? Would we be the well-paid *consigliores* of the *de facto* mafia running the Hobbesian state of nature? Or would we be doing piecemeal physical labor for some minor warlord out in the provinces? The extraordinarily speculative, and unchannelled, nature of the inquiry Epstein's *pro rata* division rule invites here makes it doubtful that that rule could ever be operationalized so as to produce even rough answers to the question, 'Who gets the surplus?'. Let us assume we could somehow solve this problem, and come up with some rough value for all of our state-of-nature assets. What if anything would Epstein's *pro rata* division rule imply about the appropriate tax rates? Epstein, along with numerous others drawn to the partnership analogy, assumes the answer is a proportionate tax (presumably levied on income). In fact, a proportionate tax will result in a *pro rata* distribution of the surplus only if two conditions are met: everyone must derive utility from the creation of the minimal state in proportion to the value of his or her rights in a state of nature, *and* the utility each person derives must all be reflected in income (or whatever other tax base we use). It is extremely unlikely that *either* of these conditions will be met, let alone both.

A simple example will illustrate the problem. Suppose we have a two-person society in the state of nature. Person A, a hunter, has rights, in the form of human capital, with a market value of \$10. Person B, a gatherer, has rights, in the form of human capital, with a market value of \$20. The two enter into a compact to create a Nozickean/Lockean minimal state. In addition to forswearing Hobbesian aggression against the other, both agree to hire a mercenary police force and army to enforce their Hobbesian contract against mutual aggression and to defend themselves jointly against outside aggression, and agree to create a variety of public goods, including a lighthouse, a TV broadcasting system, and roads. All of these goods and services together cost \$100 to supply.

Due to the advances that civilization has brought, person A is now able to give up hunting and become a taxi driver for visiting tourists. She spends her spare time watching television. The total subjective value to her of her rights in civilization is equal to \$230, of which \$140 is attributable to income generated by driving a cab and \$90 to the pleasures of watching TV. Person B, in the meantime, becomes a television technician. He works all the time, generating rights with a total subjective value to him of \$260, equal to the total market earnings he realizes.

Thus, in our simplified example, the total costs of civilization are equal to \$100, and the total incremental benefits of civilization are \$460 (\$490 in total utility now enjoyed, minus \$30 total utility previously enjoyed in the state of nature), yielding a net surplus value from civilization of \$360. How is the \$100 cost of producing that \$460 benefit to be divided through the tax system? Epstein's Tale of Two Pies requires it to be divided such that A

	Epstein's Tale of Two Pies	
	A (hunter-turned taxidriver)	B (gatherer-turned-TV repairman)
SON wealth	$10	$20
Wealth in Lockean state	$230 ($140 income and $90 imputed income)	$260 (income)
Tax allocation required to get *pro rata* distribution of surplus	$100	$0
After-tax wealth	$130	$260
Net of rights in SON	– $10	– $20
After-tax share of surplus	$120	$240
Tax allocation under 25% proportionate income tax	$35	$65

TABLE 1.

ends up with one-third of the total $360 surplus value, or $120, and B ends up with the remaining $240. But, as Table 1 indicates, to obtain that result A must bear the entire $100 cost of public goods and B nothing. In contrast, a proportionate tax on earned income (which in this example totals $400) would take 25% of the earned income from each of the two, producing a $35 tax bill for A (.25 times $140) and a $65 tax bill for B (.25 times $290).

Thus, Epstein's 'proportionate division of the surplus' rule clearly produces results that are wildly removed from a proportionate tax on income. In this particular example, it produces a tax scheme in which 100% of the tax burden falls on the person with the lower earned income. That particular result is simply an artifact of the numbers chosen. If we vary the assumptions, for example, to produce a rank reversal for A and B in moving from the state of nature to society, we will produce a confiscatory tax on the rich. Imagine, for example, that in place of A, we have A′, a wily but puny hunter, whose brains compensate only partially for her absence of brawn, leaving her with $5 in wealth in the state of nature. In the Lockean minimal state circa 2003, A′ becomes a well-paid law professor, with an income ten times greater than B's income as a taxi driver. A tax designed to return A′ and B to their relative state-of-nature positions must take from A′ not only enough to defray the full costs of running a minimal state, but enough on top of that to finance the substantial transfer payment necessary to leave B four times better off than A′ (B's relative position in the state of nature). It must, in short, confiscate almost all of the market return to her labor. The larger point is clear, however: only by the most implausible coincidence – that our respective endowments retain the same relative values at every point in contemporary society that they would have had in a hypothetical state of nature – would Epstein's rule *ever* produce something approximating proportionality.[16]

Epstein appears to assume precisely that coincidence, by implicitly assuming that the value of market rights in a hypothetical state of nature are simply a scaled-down version of the value of each individual's aggregate rights at any given moment in society. Thus, if Brains is earning one hundred times more than Brawn in America circa 2003, we are to assume that the use value of Brains' human capital in the state of nature was one hundred times higher than the use value of Brawn's. That assumption has the immense virtue, for Epstein's argument, of simultaneously solving the otherwise insoluble task of fixing the relative values of people's state-of-nature assets – they were exactly what they are now (whenever now is) – and meeting the precondition for proportionate tax to achieve a *pro rata* distribution of the surplus. But it is hard to see what else recommends it.

In the end, proportionate taxation – whatever else can be said on behalf of it – seems such an implausible outcome of Epstein's own premises here that it is hard to resist the conclusion that it is the desired outcome (proportionate taxation) and not the premises (Lockean division of the pie) that grips the author's imagination here. That conclusion is if anything underscored by the host of other (benefits-based and vaguely utilitarian) arguments that Epstein has offered in support of proportionate taxation, all of which – however different their point of departure – seem to lead to the same conclusion.[17]

C. GAUTHIER'S MINIMAX RELATIVE CONCESSION

As noted above, Gauthier's argument in favor of proportionate taxation as a fair division of the social surplus, while it diverges from Epstein's in certain important respects, is structurally parallel to it. Like Epstein's, Gauthier's premises – whatever one makes of them independently – do not seem to lead, definitionally or empirically, to proportionate taxation.

[16] In fairness to Epstein, it should be noted that the problems created by imputed income in the above example are hardly unique to his version of tax fairness; they plague any tax scheme in which the taxable base is limited to explicit income or wealth. The same cannot be said of the assumption, necessary to his argument but not to most other versions of tax equity, that people's marketable assets retain roughly the same relative values in the Lockean world that they had in the SON.

[17] Epstein (1985, pp. 298–300); Epstein (2000).

1. What surplus is up for division in society?

Like Epstein, Gauthier is ultimately concerned with division of surplus measured at the macro level – that is, with the division of aggregate gains in moving from the state of nature to the organized state. But as an operational matter, Gauthier assumes (crucially) that the bulk of the (macro) social surplus available for redistribution by the state will come from gains generated by market trades at the micro level. It seems doubtful that that correspondence follows from Gauthier's own definition of micro and macro surplus.[18] But for purposes of analysis here, I will take it as given, and focus discussion on division of the gains generated at the micro level.

How then does Gauthier define surplus value in (micro) market transactions? Gauthier starts with the conventional assumption that all stable expected payoffs from cooperation must leave individuals at least as well off as they would have been in the absence of cooperation.[19] As applied to micro (market) transactions, this constraint clearly implies that each person is entitled to retain at least her reservation price in any given transaction. Thus, the just state cannot leave a given seller with less (post-tax) than the minimum price she would demand to relinquish her goods or services. It cannot force a given buyer to give up more (post-tax) than the

[18] A full explanation of the difficulties here takes us well beyond the bounds of this paper. In brief, Gauthier assumes by the time of *Morals by Agreement* that the state of nature is a full-blown, highly functional and peaceable social organization, which has somehow imported and perfectly enforced some version of Lockean property rights, which rights have in turn formed the basis for a perfectly functioning competitive market (1986, pp. 200–5, 208–10). In that view, the only value the state adds is by correcting the imperfections of the competitive market itself – externalities, inability to provide public goods, etc. The resulting (post-state) corrected market prices will reduce the market returns for some (e.g. those previously externalizing their costs on others) and increase them for others (e.g. those previously forced to bear the externalities). In neither case, however, will the aggregate welfare gains at the societal level from perfecting the competitive market have any predictable relationship to the surplus value (as Gauthier defines it) at the micro level. It may be possible to reconcile these two measures if one assumes that the Gauthierian just state somehow has the right to divide up not only the (relatively minimal) surplus value it created, but also all the gains from trade previously generated by cooperation in the peaceable Lockean state of nature. Such an argument, however, presumes that the moralized Lockean baseline entitlements that Gauthier's bargainers come to the social contractarian bargaining table with are relatively minimal – basically, just the Lockean holdings they would have in an autarchic (pre-cooperative) state of nature. From Gauthier's discussion of the moralized initial bargaining position set by the Lockean proviso, it seems doubtful that he in fact means to adopt such a minimal set of baseline entitlements. See Gauthier (1986, ch. 7).

[19] For a discussion of this 'individual rationality' constraint, see Moulin (1988, pp. 89–95).

absolute maximum she would be willing to pay for the goods or services. The question is: is the buyer or seller entitled to any more than that?[20]

The answer turns on the somewhat ambiguous notion of rent that is central to *Morals by Agreement*. As noted above, Gauthier argues that producers have no moral claim to that portion of the market value for their factor services that represents 'rents'. That feature of his argument, certainly one of the more interesting, puts him in the same broad camp as various rent theorists on the left, from Henry George to Philippe van Parijs, who have treated market rents as income that is 'unearned' and hence undeserved. Depending upon how broadly Gauthier defines rents, it may carry him a long way towards a radically egalitarian redistributive program – an at least surprising outcome of a theory that has no foundational commitment to equality in the distribution either of endowments or of wealth.

How, then, does Gauthier define rents? There are at least three different notions of rent suggested in *Morals by Agreement*. The first is the amount by which a price paid to a factor of production exceeds the next best price offered – a measure that would confiscate the incremental scarcity rents paid in moving from the second best to the first best offer, but not those inherent in the second best offer.[21] The second is any amount in excess of an individual's marginal product in a competitive market with no negative externalities – a measure that would confiscate all (extramarginal) scarcity rents in noncompetitive markets, but not inframarginal rents in a competitive market.[22] The third is any amount in excess of the minimum amount needed to induce the supply of factor services – a standard (equivalent to reservation price) that would confiscate inframarginal rents as well.[23]

Without some clearer view as to why Gauthier believes that *any* portion of the market return is sacrosanct, it is difficult to choose among these conflicting measures. Gauthier's arguments in support of each of these interpretations, which appeal to some confused blend of (Lockean)

[20] The logic of Gauthier's larger argument suggests that not only producer surplus, but also consumer surplus – the amount by which a consumer's reservation price for goods or services exceeds the actual price paid – ought to be treated as part of the social surplus. Like virtually all theorists who have targeted gains from trades for expropriation by the state, however, Gauthier limits his analysis to producer surplus.

[21] Gauthier (1986, pp. 272–3).

[22] Gauthier (1986, pp. 90, 91–2, 95–8). Inframarginal rents refer to the extent to which the market price of goods or services exceeds the costs (or reservation price) of the supplier on all but the last (that is, marginal) unit. Assuming a conventional, upward-sloping supply curve (that is, assuming that the supplier's per-unit costs increase as the quantity supplied increases), suppliers will realize inframarginal rents on all but the last unit sold.

[23] Gauthier (1986, pp. 97–8, 272–3, 276).

entitlement and efficiency concerns, don't help illuminate the matter.[24] Be that as it may, under the second, and even more the third, interpretation of 'rent', the practical distance between Gauthier's odd brand of Lockean social contractarianism and the egalitarianism of (say) Rawlsians may be very slight. If Gauthier's insistence that Wayne Gretzsky owns his own talents, in the end, gives Gretzsky (in Gauthier's view) a right to nothing more than the price he could command were his talents not scarce (that is, it gives them their value in a competitive market), and if the Rawlsians, while insisting that Gretzsky's talents are a common asset, would nonetheless (under the incentive-driven concessions to inequality built into the difference principle) protect Gretzsky's right to his reservation price for selling them, the programmatic distance between Gauthier and Rawls might be vanishingly small. At the very least, libertarians of a more conventional (Nozickean) stripe can hardly be blamed for thinking that Gauthier's social contractarianism, despite its Lockean commitments, is no friend of libertarianism.[25]

How does Gauthier, a Lockean social contractarian, arrive at the surprising conclusion that all factor rents ought to be thrown into a common pool, for division (in accordance with some formula) among all members of society? Factor rents, Gauthier reasons, arise because the coincidence of two conditions – scarce supply and intense demand – drives the market-clearing price for a factor service above the minimum reservation price its supplier would demand for it. Neither condition inheres in the factor service itself; both arise only from social interaction. As Gauthier puts it:

> Wayne Gretzsky's talents command factor rent because they are scarce, but their scarcity is not a characteristic inherent in his talents, but a function of

[24] For arguments that seem to support the second measure, valorizing the competitive market on efficiency and entitlement grounds, see Gauthier (1986, pp. 92–3, 97–8, 110–12, 272–3, 276). The principal reason Gauthier offers (273–4) for protecting the market return, however – that it leaves undistorted the supply of factor services, thereby protecting the efficiency of the market and preserving the freedom of individuals to rank order their preferences among alternative courses of action – would argue for the third, and broadest, view of rents.

[25] For Gauthier's repudiation of Rawls' position, and his Nozickean insistence on an individual's right to his natural capacities, see (1986, pp. 217–21). For his argument that, *contra* Nozick's famous Wilt Chamberlain example, this gives Gretzsky nothing more than a right to a competitive return, stripped of factor rent, see pp. 272–6. As Eric Mack (1992, pp. 180–1) has observed, this argument, pushed to its logical extreme, seems to give Gretzsky nothing more than a right to the going rate in a competitive market for the amount of Universal Labor he supplies (with the ironic Marxian overtones very much intended by Mack). Thus, whatever else may be implied by Gauthier's insistence that people own their natural capacities, it clearly does not imply that people have a right to be paid for them (except perhaps for the capacity to supply a large quantity of labor through hard work).

> the conditions of supply, and so of the relation between his talents and those of others, and a function also of the conditions of demand, and so of the relation between his talents and the interest of others in attending hockey games.[26]

It is perhaps worth noting that Gauthier's argument here would support a fourth definition of rents advanced by James Buchanan and others that is broader than any of the three discussed above: rents include the entire market return to individuals above what they could have gotten in autarchic production.[27]

The notion that market valuations, and in particular rents, are a social and not individual product is an old one, although one more typically associated with social democrats and other communitarians on the left than with individualists on the right.[28] Rent theorists on the left, however, generally assumed that since 'society' produced rents, 'society' could distribute them as it saw fit. Gauthier's argument, in contrast, clearly rests on a notion of individual rather than corporate entitlement. This is most clearly reflected in his conclusion (discussed below) that each individual, as an equal force in the creation of the market price of Gretzsky's services, has a call on an equal share of the rents thereby generated for Gretzsky. Gauthier's assumption that the economy should be viewed as a unitary private contract writ large, the gains from which are pooled and transferable among all participants – an assumption that drives all of his conclusions – seems to rest more on metaphor than logic. At the very least, it seems like an oddly sentimentalized, communitarian assumption for a Lockean individualist to make.

One would expect him, at a minimum, to insist on a more exacting division of the surplus, in accordance with the relative market value of our contributions to economic life.[29] Gauthier himself lends support to the stricter view in his parable of the purples and the greens, meant to illustrate the very limited obligations that rich societies have to poor ones. Gauthier imagines two completely isolated societies, each on its own Crusoeian island: the purples, who have maximized their economic opportunities

[26] Gauthier (1986, p. 274).

[27] Buchanan (1988, p. 88); Hausman (1989, pp. 324–36); Hardin (1988, p. 73).

[28] For an overview of the 'rent theory' justification for redistribution espoused by Fabian Socialists, New Liberals, and others on the left in the early part of the twentieth century, see Fried (1998, ch. 4).

[29] This criticism obviously goes to the *combined* decisions (1) to throw all the social surplus into a common pool (the point discussed here), and then (2) to divide it equally among all participants (discussed in Section 2, below). Gauthier could have resisted the egalitarian outcome at either point – by segregating surplus into separate accounts reflecting only that portion of social surplus that each subgroup of the population was directly responsible for, or by dividing one aggregated pool of social surplus into unequal shares in accordance with the same criterion.

through rational behavior, and the greens, who have pursued a life of Hobbesian warfare and Malthusian procreation, leaving them in relative squalor. One day, the purples set sail across the seas, and discover the greens. What is the purples' obligation to the greens? Gauthier concludes that the purples have no obligation to cooperate at all with the greens. If they do cooperate, he concludes, their obligation to the greens extends only to dividing the narrow gains from their cooperation. It does not extend to any other advantages that the purples enjoy as a result of their more advanced economic position. Thus, the existing inequalities between the societies 'will be preserved in any rational co-operative arrangement . . . [and] are not part of the co-operative surplus to be distributed between the two peoples'.[30]

That leads to the obvious question: if rich societies owe little to poor ones, because what the rich gain from cooperation with the poor is likely to be slight, why do the rich *within* a given society owe any more than that to their less fortunate fellow citizens? Shouldn't those more fortunate purples, who would have enjoyed a disparate portion of the purples' aggregate surplus had they seceded from purple society to form their more blessed union, likewise have a claim on a larger share of the surplus if they stay put? Why should it be, as Gauthier concludes, that 'no contribution [to the aggregate cooperative surplus] yields no claim; some contribution yields full claim'?[31] At a minimum, the sharp divide Gauthier's argument creates between obligations to those within one's community and obligations to those without puts enormous pressure on the definition of community, as both a positive and normative matter.

2. How should surplus be divided?

Let us assume that, starting from Lockean premises, we can somehow justify Gauthier's decision to throw the entire social surplus into a common pool on which we all have some claim. That leads to the next question: how should such surplus be divided? At various points in *Morals by Agreement*, Gauthier champions the standard libertarian 'private partnership' model for fixing the fair distribution of societal surplus, arguing (like Epstein) that the aggregate utility in society should be 'proportioned to the contributions [that is, investments] of its recipients'.[32] In an earlier work, he suggests further that the competitive market automatically reaches this result, getting him to the same conclusion that Epstein reaches in his Tale of Two Pies: a post-tax distribution that preserves the relative market incomes of

[30] Gauthier (1986, p. 283).
[31] Gauthier (1986, p. 154).
[32] Gauthier (1986, pp. 254, 140, 152). See also Gauthier (1974, p. 23). For support for that intuition in preference to Gauthier's actual solution, see Hampton (1988, pp. 334–8, 341–2).

participants will distribute surplus in accordance with contribution.[33] The formula he develops in *Morals by Agreement* for distributing such surplus, however, rejects the private partnership model entirely, in favor of an equal division of utility generated by the surplus. Here is how Gauthier gets to that surprising result.

Gauthier argues that the gains from any cooperative venture ought to be divided among all the cooperators who produced it in accordance with a principle he calls 'minimax relative concession' (MRC).[34] MRC requires that surplus be divided so as to equate the percentage of potential utility gains from cooperation that each cooperator forgoes (leaves on the table for others, as it were). Since the percentage forgone is just the complement of the percentage retained, the formula is equivalent to requiring that each cooperator get the same percentage of the potential utility gains that are available to him from cooperation.[35] As discussed in detail below, 'utility' for these purposes refers not to the absolute intensity of each person's preferences, but to so-called von Neumann/Morgenstern utilities (hereinafter referred to as 'normalized utilities'), which measure the relative intensity of each person's preferences over the range of possible outcomes.

In form, MRC dictates a 'splitting the difference' solution, in which each party gives up the same percentage (and hence retains the same percentage) of the maximum utility gains she could have claimed from cooperation. In general, the 'splitting the difference' strategy does not lead to equal division of the same pot, since people will be conceding equal percentages of *different* claimed amounts. It leads to equal division of the same pot in Gauthier's account, however, because of Gauthier's critical first assumption, outlined in section C(1) above: In any given cooperative venture, each cooperator can plausibly claim the entire amount left over after fellow cooperators' costs are covered (with costs for these purposes being compensation necessary to ensure that cooperators are left no worse off than under non-cooperation).[36] Thus, in Gauthier's account all members of a cooperative venture have a call on the whole of the social surplus generated by cooperation.[37] Note the somewhat startling (and generally unrecognized) effect of Gauthier's decision to treat all individuals as having the (same) maximal claim under MRC on the entire

[33] Gauthier (1974, p. 22).

[34] Gauthier's MRC is in substance the Kalai-Smorodinsky bargaining solution, itself a variant of the Nash bargaining solution.

[35] Gauthier (1986, pp. 136–40).

[36] Gauthier (1986, pp. 137–9).

[37] Or more precisely, nearly all, as the other cooperators will insist (at a minimum) on at least a trivial share of the surplus as an inducement to cooperate. On this point, see Narveson (1991, p. 130). That adjustment does not change the analysis that follows, and for simplicity's sake I will just treat the maximal claim each can make as a claim on all.

social surplus: *each cooperator's share of profits is completely unrelated to her investment in the venture (that is, her costs)*. Thus, Gauthier's formula for dividing the social surplus gives no weight to the *only* factor counted in more conventional libertarian/social contractarian arguments, of which Epstein's is a prime example: the assets each cooperator brings to the table.

As Gauthier ultimately acknowledges, once it is stipulated that all members of a cooperative venture have a call on the whole of the social surplus, MRC will dictate an equal division (in normalized utility terms) of the total surplus generated by cooperation among all participants in each cooperative venture. This result assumes – as Gauthier elsewhere does – that the surplus is generated in a form that is transferable among participants, and that each will make the largest plausible claim she could.[38] Treating society as just a scaled-up 'single co-operative enterprise', Gauthier concludes that 'each member of society is entitled to an equal portion of' the aggregate surplus in society.[39]

It should be noted as a threshold matter that the equal-division-of-surplus rule dictated by MRC may be much less egalitarian in practice than it appears in principle. First, at least as applied at the micro level of market trades, as Gauthier himself notes, if most of the market price paid for factor services represents the minimum payment necessary to induce those services, the surplus available for division in accordance with MRC, or indeed any other sharing rule, would have relatively little effect on societal inequalities in wealth.[40] Second, as noted above, the division Gauthier proposes is equal in (normalized) utility terms, not in terms of material resources. As discussed in detail below, what an equal division of (normalized) utilities implies about the division of material resources is indeterminate, but (I will suggest) under plausible assumptions it may well

[38] Gauthier (1986, pp. 151–4, 277); Gauthier (1985, p. 38). For an example of a bargain in which utility from surplus value is not transferable, and as a consequence MRC does NOT lead to an egalitarian division of the surplus, see Gauthier (1986, pp. 137–9). When dealing with a market economy, in which surplus value can always be transferred through side payments of money (e.g. through a tax and transfer system), the assumption of transferability seems warranted. As Russell Hardin (1988, p. 88) notes, however, such an assumption does mean that MRC, and the Raiffa-Kalai-Smorodinsky bargaining theory on which it is based, loses its distinctive quality. Under these conditions, with equal claims on all the surplus and full transferability of surplus, Gauthier's solution seems to converge with the Nash/Braithwaite solutions (parties maximize the product of their utilities): both lead to equal utility gains (over the non-agreement point), through transformation of von Neumann/Morgenstern utilities. For excellent discussions of the relationship between Gauthier's solution to division of cooperative surplus and the Nash/Braithwaite solution, see Barry (1989, ch. 1 and appendices A and B), Vallentyne (1991, pp. 7–9), and Gaertner and Klemisch-Ahlert (1991).

[39] Gauthier (1986, p. 274).

[40] Ibid.

imply that the poor obtain a *smaller* percentage of the material resources that make up the social surplus than the rich.

Notwithstanding the foregoing qualifications, Gauthier's equal-division-of-the-surplus rule embedded in MRC, like Gauthier's (and Epstein's) willingness to throw all the gains from civilization into a common pool, seems a surprising result to issue from Lockean social contractarian premises. Why should we assume that self-interested co-operators will all agree to split the pooled gains from cooperation so as to achieve an equal relative sacrifice from all?

Gauthier's answer, developed at some length in *Morals by Agreement*, is that (1) rational bargaining from a fair initial position will generate impartial rules (that is, rules that treat like cases like), because only such rules will command voluntary compliance (hence, Gauthier's famous claim that it is 'rational to be moral') and that (2) the only impartial rule for dividing up cooperative surplus is MRC. Both parts of the argument have generated much analysis and criticism.[41] For present purposes, the second is the relevant one. The central puzzle posed by MRC is: why should an equal division of the surplus (in normalized utility terms) be thought by bargainers to be impartial? Why is giving everyone the same share treating 'like' people in a 'like' fashion?

Gauthier's answer is as follows: '[S]ince [no cooperator] can gain any part of the cooperative surplus without the other, then each is equally responsible for making it available, and so is entitled to an equal share of it'.[42] Clearly, this is the same justification that supported Gauthier's decision to throw all surplus into a common pool to begin with, and is subject to the same attack from libertarian quarters for being sentimentalized, communitarian mush. It may be the case that the removal of almost any one of us would leave society slightly diminished. But it is surely not the case that it would deprive all the rest of 'any part of the cooperative surplus'. If impartiality requires us to guess what part would in fact remain, surely there are measures that will get us closer than Gauthier's, and that suggest outcomes for the social bargain over allocation of surplus that would leave the best endowed with a considerably greater share than they stand to get under the strict egalitarian sharing rule of MRC. Gauthier himself has suggested one such measure in later work, signing on to the conventional libertarian solution: each person retains

[41] Roughly, the criticism of the first part has been aimed at two assumptions: that rational parties will in fact agree only to 'fair' rules and that rational parties will voluntarily comply with what they have agreed to. On the first assumption, see Sugden (1990); Hardin (1988); Braybrooke (1982); Braybrooke (1982a); Narveson (1991, pp. 131–3). On the second, see Kraus (1993, ch. 5); Coleman and Kraus (1991).

[42] Gauthier (1986, pp. 152–3).

her marginal product, and with it whatever portion of the social surplus happens to be embedded in that value.[43]

3. What tax scheme is implied by the division of surplus in accordance with MRC?

Let us assume that Gauthier can somehow justify, either as the outcome of some idealized bargain or as an expression of impartial justice, his decisions to (1) pool all surplus value created by society and (2) then divide it equally among all members in accordance with MRC. That leads to the last question: what would such a sharing rule imply about taxation in a just state?

Gauthier asserts that a division of surplus in accordance with MRC leads to proportionate taxation, but it is impossible to make sense of this claim. Gauthier defends the claim as follows. At first cut, he argues, the equal sharing rule of MRC would seem to dictate a head tax, since such a tax extracts an equal (absolute) sacrifice from all citizens to finance the cost of the state, leaving all citizens with an equal share of the cooperative surplus.[44] That conclusion, however, assumes (erroneously) that what we are trying to distribute equally under MRC is the material wealth generated by the cooperative surplus, rather than the utility such wealth provides. Given that we are trying to equalize utility and not material wealth, Gauthier argues, a head tax will overtax the poor, since an equal-dollar tax falls (in utility terms) much more heavily on those with few resources than those with many.[45] (While Gauthier doesn't say so, this portion of his argument clearly rests on the widely shared assumption that the marginal utility of income declines as income rises.) Thus, some tax more progressive than a head tax is required. The scheme that will come closest to achieving an equal division of utility, Gauthier suggests, is a proportionate tax.[46]

Gauthier is hardly alone in supporting a proportionate tax on the ground that the equal-dollar burden of a head tax falls more heavily in

[43] Gauthier (1987, pp. 198–9); Gauthier (1988, p. 397). Gauthier repeatedly suggests in *Morals by Agreement* that MRC is meant to divide social surplus in accordance with individuals' contributions to production, measured by marginal productivity. See pp. 224, 134, 140, 152, 154. As noted above, however, as Gauthier operationalizes MRC in *Morals by Agreement* – setting the maximal claim of each co-producer equal to 100 percent of the surplus value – it does no such thing.

[44] Gauthier (1986, p. 271). As discussed below, this argument, like Gauthier's ultimate conclusion about the implications of MRC for tax rates, presupposes that surplus value is fairly distributed to begin with through factor prices. If it is not, a head tax (or any other tax judged in isolation) will not yield a fair distribution of the surplus.

[45] Ibid, p. 271.

[46] Ibid, p. 272.

utility terms on the poor than the rich. The argument has a long lineage in liberal and libertarian circles, going back at least to John Stuart Mill.[47] Unfortunately, Gauthier has gotten the implications of declining marginal utility *for a tax scheme that effects MRC* exactly backwards. Rather than implying a tax scheme that is more progressive than a head tax, it implies one that is even more regressive. To understand why, it is necessary to go back and pick up the point glossed over before: how the normalized utilities used in MRC work.

As noted above, the utility measures used in MRC – so-called von Neumann/Morgenstern utilities – measure the relative intensity of preference that a given person has among a range of possible outcomes. In the standard procedure for constructing von Neumann/Morgenstern utilities, the utility of non-agreement for each person is set equal to 0 and the utility generated by the maximum payoff such person could expect from agreement is set equal to 1. All intermediate payoffs available to each person are interpolated between 0 and 1, based on the individual's hypothetical choices among possible lottery outcomes. Thus, to use Brian Barry's example (1989), if an individual is contemplating payoffs between $0 (non-agreement) and $100 (the largest payoff she could conceivably obtain), and she is indifferent between receiving a certain payoff of $50 and having an equal chance of getting $0 and $100, the payoff of $50 is assigned (for her) a von Neumann/Morgenstern utility of 0.5. If she is indifferent between a certain payoff of $25 and having an equal chance of $0 and $100, the payoff of $25 is assigned (for her) a von Neumann/Morgenstern utility of 0.5.

Thus, von Neumann/Morgenstern utilities essentially measure what economists would refer to as an individual's relative risk aversion with respect to the range of possible outcomes – that is, the extent to which an individual weighs losses off of a given baseline more heavily than equal-dollar gains. A person's risk aversion will be influenced chiefly by the shape of her marginal utility of income curve over the relevant range – the faster the decline in marginal utility of income over the relevant range, the greater the risk aversion. The intuition behind this is relatively straightforward. The less utility an individual stands to gain by each succeeding increase in wealth, the less she will be willing to put at risk to obtain it. Risk aversion, in turn, implies a concave von Neumann/Morgenstern utility function for individuals – one, that is, where the utility gained from each increment in payoff, moving from $0 to $100, *declines*.

For purposes of illustration, consider the hypothetical set of von Neumann/Morgenstern utilities set forth in Table 2 for a hypothetical

[47] See Fried (1998, pp. 153–4, 301 nn. 261 and 262).

Payoff	Utility of payoff
$0	0
$10	0.4
$20	0.6
$30	0.7
$40	0.78
$50	0.85
$60	0.91
$70	0.96
$80	0.98
$90	0.99
$100	1.0

TABLE 2. (Poor Person)

Poor Person for whom, over the relevant range of payoffs ($0 to $100), the marginal utility of income declines dramatically.[48]

At a 50/50 split of the $100 pot, Poor Person's MRC is 0.15, representing the fraction of the total possible utility gain (set equal to 1.0) that Poor Person forgoes at a payoff of $50. (This is simply the complement of the fraction of total possible utility gain she actually obtains, 0.85.)

Now suppose that Poor Person is bargaining with Rich Person, who has so much money that she has reached the horizontal tail of the (concave) function for marginal utility of income, so that the marginal utility of income to her is no longer declining (that is to say, the next dollar she receives may be worth almost nothing, but the 100th dollar after that is worth no less). Such a person is risk neutral – she'll take a fair bet among outcomes in any bargain – with the result that she has a linear schedule of von Neumann/Morgenstern utilities (see Table 3).

If our hypothetical bargain over the $100 is between Poor Person and Rich Person, the difference in their von Neumann/Morgenstern utilities produces the following result: MRC is equated for the two if the $100 is divided so that Rich Person gets $70 and Poor Person gets $30. This result can be generalized. Whenever the range of possible outcomes in a bargain is great enough for the marginal utility of income to change over that range, any game theoretic models driven by concessions measured in von Neumann/Morgenstern utilities will give most to those who need it least. That is because the percentage gains in utility will be frontloaded

[48] I am using Brian Barry's (1989, p. 15) numbers. The rate at which Poor's von Neumann/Morgenstern utilities decline is arbitrarily chosen by Barry, but nothing for my purposes turns on the precise numbers.

Payoff	Utility of Payoff
$0	0
$10	0.1
$20	0.2
$30	0.3
$40	0.4
$50	0.5
$60	0.6
$70	0.7
$80	0.8
$90	0.9
$100	1.0

TABLE 3. (Rich Person)

for the poor, relative to the rich, on the first dollars acquired. When one thinks about what von Neumann/Morgenstern utilities are measuring, this is not a surprising result. Such utilities are in effect measuring the bargaining strength of two parties – that is, the extent to which each can afford to hold out for a greater share of the total pot. In that sense, the result produced by the use of such utilities to measure MRC just confirms the complaint against the market registered by leftist bargain theorists going all the way back to the pre-Marxian socialists: the poor will drive a bad bargain in market transactions, because they need what the other side can give them much more desperately than the other side needs them.

As a predictive theory of private bargaining behavior, MRC may or may not be apt. But as applied to the problem of taxation, it has implications that are quite different from those that Gauthier supposes. If (as Gauthier implicitly does) we ignore the background distribution of surplus value in society and apply MRC narrowly to the division of the tax costs of society,[49] MRC implies a tax even more regressive than a head tax. To see why, assume a two-person society, made up of Rich Person and Poor Person, where Rich Person's state of nature endowments are about one hundred times greater than Poor Person's. Assume there is a $100 tax cost to be divided between Rich Person and Poor Person. MRC requires that Rich Person and Poor Person each give up the same percentage (in utility terms) of the total utility gain they would get if they got the best deal imaginable in their tax bargain – avoiding the entire $100 tax. On the hypothetical von Neumann/Morgenstern utilities above, it is clear that Poor Person must pay $70 of the tax, and Rich Person must pay $30. Under that division, the

[49] The criticalness of this assumption will become clear shortly.

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utility that Poor Person forgoes in not avoiding 100 percent of the tax is 0.3 (the utility of the forgone \$70), and the utility that Rich Person forgoes in not avoiding 100 percent of the tax is likewise 0.3 (the utility of the forgone \$30). Any more equitable split of the tax burden will impose a greater MRC on Rich Person than Poor Person. A head tax, for example – which would exact \$50 from each – would exact an MRC of 0.5 from Rich Person, but only 0.15 from Poor Person.

Gauthier seems to have been misled to the contrary conclusion because he forgot what his own MRC is after. It does not require equal absolute concessions of utility. If it did, he would be correct in concluding that (given the declining marginal utility of income) a head tax under-taxes the rich and over-taxes the poor. Instead, it requires equal *percentage* concessions in the total utility gains available to each party from cooperation. For these purposes, the declining marginal utility of income has the opposite implication: it implies that the poorer the person, the (relatively) happier she should be with a relatively modest share of the surplus.

The foregoing problem is dwarfed, however, by the second difficulty with Gauthier's argument. As noted above, Gauthier's argument that MRC leads to a proportionate tax focuses solely on how we should distribute the utility loss from taxation. MRC, however, is ultimately concerned not with the distribution of tax burdens, but with the distribution of net aggregate social surplus – that is to say, social surplus generated by the state, less the tax costs of generating it.[50] Equal tax burdens (in von Neumann/Morgenstern utility terms) imposed on each individual will produce the equal relative concessions of social surplus required by MRC *only if* all individuals automatically receive through (pretax) factor prices an equal percentage (in von Neumann/Morgenstern utility terms) of the aggregate social surplus to begin with. If they do not, then there is no point in assessing the fairness of tax burdens in isolation; the tax system (coupled with transfers) must be used to fix the underlying misdistribution of surplus (as measured against MRC) that results from (pretax) factor prices.

The assumption that pretax factor prices automatically distribute an equal share of social surplus (in von Neumann/Morgenstern utility terms) to all members of society, wildly implausible on its face, is also impossible to reconcile with Gauthier's treatment of rent. As discussed above, the bulk of the social surplus – indeed, possibly all – that is to be distributed in accordance with MRC in Gauthier's scheme comes from rents built into the market prices paid to scarce factors of production. Unless scarcity value is evenly distributed (in von Neumann/Morgenstern utility terms) among all producers – a supposition we can reject out-of-hand – pretax market prices will not distribute surplus equally (in such terms). We are thus left

50 Gauthier (1986, p. 271).

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with the reality that if much of Wayne Gretzsky's enormous salary ought to be treated as 'rent' that is up for grabs as part of the social surplus, then a fair division of the surplus in accordance with MRC will require that we expropriate most of that unearned surplus from Gretzsky, and transfer it to others either in the form of remitted tax burdens or (where that would be insufficient to equalize the distribution of surplus) outright cash transfers. If we assume that scarcity rents are disproportionately commanded by those with high market incomes (a not implausible assumption), MRC would lead to a highly progressive income tax, in all likelihood coupled with some sort of progressive transfers.

It is conceivable that the steeply regressive tax implied by MRC, due to the declining marginal utility of income, would offset the progressivity required to undo the market's misdistribution of factor rents, so as to leave something approximating a proportionate tax. But it is equally conceivable that the two effects together would produce any other tax regime, from steep progressivity to steep regressivity and every possible outcome in between. We are now in the realm of such wild conjecture that one can scarcely take MRC seriously as a criterion for measuring the justice of any given tax regime.

D. CONCLUSION

The argument for proportionate taxation as the means to effect a just distribution of the social surplus is, by its nature, an empirically contingent one. In Epstein's version of just distribution, it holds only if the market-based distribution of social surplus in society happens to be proportionate to the distribution of wealth (or utility) in the state of nature. In Gauthier's version, it holds only on the assumption that the regressivity in tax rates implied by Gauthier's MRC (if we assume the declining marginal utility of money) is exactly offset by the progressivity implied by Gauthier's requirement that we expropriate rents built into market incomes. In both cases, the necessary conditions are so unlikely to be met that one can reject these arguments for proportionate taxation out of hand. From the perspective of moral philosophy, the extreme implausibility of the argument for proportionate taxation as a means to effect a fair division of the social surplus may seem to make it of only slight intellectual interest. From a broader sociological perspective, however, the opposite may be true. The very implausibility of Gauthier's and Epstein's arguments, along with the various, less well developed versions of the 'fair division of the social surplus' defense of proportionate taxation offered over the centuries, makes the argument of great interest – not in justifying proportionate taxation, but in illustrating the strength of the irrational pull that proportionality appears to exert on political philosophers across the political spectrum.

That leaves the question: what is it about proportionate taxation that is so appealing to political philosophers, in particular those with libertarian and quasi-libertarian leanings?

I have elsewhere explored a number of other theoretical arguments offered in favor of proportionality, none of which, in the end, seems more persuasive than the 'just division of surplus' argument.[51] Ultimately, the answer may be attributable less to any easily explicable moral or political theory than to the possibility that proportionate tax rates operate as a Schelling-like focal point for people: that is, they offer a solution that is psychologically prominent because of its apparent mathematical certainty and simplicity, along with its apparent properties of equality.[52] I say *apparent* mathematical certainty and simplicity, because one can achieve equal or greater simplicity through other schemes (for example, a head tax), and equal mathematical certainty through *any* mathematically determinate function that correlates the tax rates of different income groups. That logical quibble, however, is, in a sense, beside the point here – the point being that, for *whatever* psychological or historical reasons, this particular relationship among tax burdens presents itself as the psychologically salient solution.

The 'focal point' explanation may explain why people as divergent in their political commitments as Rawls, Hayek, Gauthier and Epstein have gravitated towards proportionate rates to begin with, as good-faith, unselfconscious participants in a Schelling-like convergence.[53] It may also explain why people like Epstein and Hayek, who are clearly predisposed against progressivity on libertarian or quasi-libertarian grounds, would fix on flat rates for strategic reasons, seeing it as an alternative that is both politically obtainable and politically sustainable. Hayek himself seems to concede as much, when he acknowledges that he is seeking a principle 'which has [a] prospect of being accepted and which would effectively prevent those temptations inherent in progressive taxation from getting out of hand' and rejects as an alternative solution 'setting an upper limit which progression is not to exceed'. The problem with such a solution, notes Hayek, is that '[s]uch a percentage figure would be as arbitrary as the principle of progression and would be as readily altered when the need for additional revenue seemed to require it'.[54] Of course, a flat-rate scheme could be altered at will as well to revert back to a progressive rate structure, and is arguably as arbitrary from the perspective of distributive justice as any progressive rate structure (or so this paper has argued). These cavils are in a certain sense irrelevant, however. Hayek has perhaps got

51 Fried (1999).

52 For a suggestion along these lines, see Bankman & Griffith (1987, p. 1914).

53 For Rawls' rather perplexing support for proportionate taxation, see his (1971, pp. 278–9); Fried (1999, pp. 184–6).

54 Hayek (1960, p. 323).

hold of a psychological truth here: a flat-rate structure has a psychological prominence that may make it easier to sell to voters in the first instance than many other possible rate structures that are less progressive than the current one and more likely, once enacted, to resist fundamental change.

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