THE MORAL STATUS OF PROFITS AND OTHER REWARDS:
A PERSPECTIVE FROM MODERN WELFARE ECONOMICS

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ABSTRACT

Standard neoclassical welfare economics justifies competitive profit maximization as the appropriate objective of a firm. Yet when income is being redistributed by lump-sum transfers in order to achieve distributive justice, the firm's owners and managers are not entitled to keep anything beyond those "normal" profits which are payments for services rendered. With private information, however, profit maximization need not be so desirable even at prices reflecting social values. Indeed, even inefficient production can often be justified. And the appropriate distribution of profits is more complicated, since some of it is deserved by the firm's owners as a form of incentive payment. The last part of the paper considers how these arguments change in intertemporal economies. It is also argued that valuing freedom for its own sake may make profits more acceptable than would otherwise be the case. Even so, not all the limitations discussed previously are removed.

50. Sed incidunt, ut supra dixi, saepe causae, cum repugnare utilitas honestati videatur, ut animadvertendum sit, repugnetne plane an possit cum honestate coniungi. Eius generis hae sunt quaestiones: si exempli gratia vir bonus Alexandrea Rhodum magnum frumenti numerum advexerit in Rhodiorum inopia et fame summaque annonae caritate, si idem sciat complures mercatores Alexandrea solvisse navesque in cursu frumento onustas petentes Rhodum viderit, dicturusne sit id Rhodiis an silentio suum quam plurimo venditurus....

54. Vendat aedes vir bonus propter aliqua vitia, quae ipse norit, ceteri ignorent, pestilentes sint et habeantur salubres, ignoretur in omnibus cubiculis apparere serpentes, male materiatae sint, ruinosae, sed hoc praeter dominum nemo sciat; quaero, si haec emptoribus venditor non dixerit aedesque vendiderit pluris multo, quam se venditurum putarit, num id iniuste aut improbe fecerit.

57. . . . Non igitur videtur nec frumentarius ille Rhodios nec hic aedium venditor celare emptores debuisse. Neque enim id est celare, quicquid reticeas, sed cum, quod tu scias, id ignorare emolumenti tui causa velis eos, quorum intersit id scire. . . .

<div align="right">From: M. Tulli Ciceronis (Cicero), De Officiis (Book III)</div>

50. But, as I said above, cases often arise in which expediency may seem to clash with moral rectitude; and so we should examine carefully and see whether their conflict is inevitable or whether they may be reconciled. The following are problems of this sort: suppose, for example, a time of dearth and famine at Rhodes, with provisions at fabulous prices; and suppose that an honest man has imported a large cargo of grain from Alexandria and that to his certain knowledge also several other importers have set sail from Alexandria, and that on the voyage he has sighted their vessels laden with grain and bound for Rhodes; is he to report the fact to the Rhodians or is he to keep his own counsel and sell his own stock at the highest market price?....

54. Suppose again that an honest man is offering a house for sale on account of certain undesirable features of which he himself is aware but which nobody else knows; suppose it is unsanitary, but has the reputation of being healthful; suppose it is not generally known that vermin are to be found in all the bedrooms; suppose, finally, that it is built of unsound timber and likely to collapse, but that no one knows about it except the owner; if the vendor does not tell the purchaser these facts but sells him the house for far more than he could reasonably have expected to get for it, I ask whether his transaction is unjust or dishonourable.

57. I think, then, that it was the duty of that grain-dealer not to keep back the facts from the Rhodians, and of this vendor of the house to deal in the same way with his purchaser. The fact is that merely holding one's peace about a thing does not constitute concealment, but concealment consists in trying for your own profit to keep others from finding out something that you know, when it is for their interest to know it. ....

1. Introduction and Outline

The conference organizers had originally suggested that I should discuss the moral status of profits which arise because of asymmetric information. Actually Cicero had already discussed this issue more than two thousand years ago (at some time during the period 46–43 B.C.) in his essay on "The Conflict between the Right and the Expedient." He makes it clear that there had been an earlier debate between Diogenes of Babylonia and his pupil Antipater. I shall return to this old topic, but only in connection with some very general issues concerning the role of profits and other rewards in an economic system — especially a system that can succeed even when there is asymmetric information in the economy. This is the subject of the "modern welfare economics" which appears in the title I have chosen. Before getting to that, however, I shall say something about how I shall interpret both "morality" and "profits."

1.1. Morality in Economics

Ethics seems to be a peculiarly difficult branch of philosophy. On the whole it is easy to understand why most economists would prefer to stay well clear of it. Yet ethics is important to welfare economics because obviously there is no way of avoiding it if we are to give our evaluations of economic systems and policies or our recommendations for improvements any ethical force or content. Without ethics, welfare economics is reduced to, at most, propositions about how to give people more of what they seem to want, without any presumption that this would actually be ethically desirable. For example, this leaves the economist unable to say that it would be wrong to provide what drug-addicts or alcoholics appear to want.

Economic welfarism is a particular and very special ethical value judgement. It judges economic systems solely on the basis of what goods and services individuals are able to enjoy, and of what labour services and resources they are required to supply. Indeed, it assumes that: (a) in the end, it is only the allocations of goods, services, and tasks to individual consumers and workers which is ethically relevant; (b) individuals behave in a way which maximizes their own welfare — in the sense that they choose what it is right for them to have, provided that nobody else is deprived as a result. Part (b) involves what is often called "consumer sovereignty" — it is assumed that consumers behave in a way that reveals their preferences, and also that they prefer what it is better for them to have. Denying this is a form of paternalism, of course.

This particular value judgement of economic welfarism has become standard in welfare economics and in most discussions of economic policy. What is being left out are many ethical

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considerations which may be important even in economics, such as the understandable desire of most people to be free of tax gatherers, customs officers, (potentially) corrupt bureaucrats, and tax systems which are far too complicated for even most intelligent and well trained people to be able to understand fully. This desire to have freedom for its own sake will be discussed later in Section 10. Meanwhile, I am willing to accept at least provisionally the ethics of economic welfarism on the grounds that, in connection with economic policy reform and the design of economic systems, there are so many other pressing issues worth discussing which may be more important. Also, economists obviously have a much greater claim to expertise about the effects of policy changes upon economic welfare than about their effects upon any more general ethical values.

A particular form of economic welfarism which I shall not be using, however, is total wealth maximization. This is a commonly used criterion for making the interpersonal comparisons which are usually required in order to be able to compare different economic policies. The criterion involves simply adding up different individuals' indices of real wealth, or some alternative monetary measures of well-being. Then that policy is recommended which would make total wealth as large as possible. In this way different individuals' gains and losses are simply reduced to monetary values, and then get added up in order to determine the total net gain, which must be equal to the (net) increase in total wealth. No attempt at all is made to see how gains and losses are distributed between rich and poor, or between individuals who are less or more deserving. This procedure therefore amounts to "one dollar, one vote" instead of "one person, one vote." It is a very particular way of making interpersonal comparisons on the basis of wealth alone. It equates the extra money which a rich man wants to spend on a superior bottle of wine to the same sum of money which a poor mother needs in order to buy medicine which will save the life of her child. For this reason, most people would clearly find it ethically unacceptable. You may notice that I have carefully avoided calling it an "ethical" criterion. Yet too many economists in the past have become accustomed to making interpersonal comparisons in this way. Indeed, it is precisely this kind of value judgement which lies behind the usual comparisons of economic performance simply on the basis of GNP or national income statistics.

Actually, a rather weak form of economic welfarism will suffice for most of the arguments contained in this paper. All that they require is the usual Pareto criterion based on consumers' own preferences (i.e., consumer sovereignty) but supplemented by some concern for distributive justice. In particular, the ethical claims that I shall make will apply whenever there is a social welfare ordering which both respects individuals' preferences and seeks to avoid extremes of poverty and degradation, even among a minority of the population. No specific social welfare ordering is assumed, however.

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1.2 Profits and Other Rewards

Before proceeding further, I should now say something about what "profit" will mean throughout this paper. It will not necessarily be one of those measures of profit which accountants are expected to report and which governments tax, adulterated as they are by somewhat arbitrary provisions for depreciation and for valuing a firm's capital equipment. Indeed, as Griffiths (1986) for one has pointed out, accountancy standards are extremely lax over how to treat many important components of firms' profits, and about what to include in measures of profit and earnings. Nor will "profit" be the usual economists' ideal of "supernormal" or "abnormal" profit, which is what is left over after excluding those "normal" profits which accountants would include, even though they actually represent payments for some of the firm's inputs such as its financial resources and (the efforts and skills of) its management.

All such attempts to define profit as some kind of residual, or to give it some justification, are rather *too* subtle for the points I want to make, however. In fact, on grounds of relative easy observability, profit in each single time period will here be regarded as simply net cash flow — or the difference between income received and expenditure incurred within that time period. Of the normal profits discussed above, this only excludes actual payments for services rendered. This cash-flow measure of profit also excludes the payment of taxes, but includes dividends. Then, however, intertemporal models still present serious problems in defining profits, because cash flows in different periods and in different events have to be weighed against each other in order to determine the total contribution of a firm to its shareholders and to the economy as a whole. This will be discussed in Section 7 below.

In fact, as was discussed previously, in economics it is natural to make judgements on the basis of allocations of goods and services. Profits, therefore, matter to the extent that they affect such allocations. Profits' effects can be direct, such as when a producer who sells at a higher price earns a higher profit which is then really a transfer of resources from buyer to seller. Profits can also have indirect effects, as they do when opportunities to create profit get exploited by profit seeking individuals and firms who take labour and other resources which others are willing to supply, and then convert them into goods which others wish to buy. Even the indirect effects, however, arise because profit seekers anticipate the transfers which constitute the direct effects of profits.

It follows that profits matter because they are transfers. So it is really the dividends that are actually paid to the owners of the company which should be counted as profits, and not any retained earnings which are used to finance investments intended to generate profits — or

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dividends — in the future. Moreover, the distinction between normal and supernormal profits is not after all so important. Either is a form of payment, or transfer. It is true that one is a payment in exchange for a specific service, whereas the other is a residual after all inputs have been paid for. Yet it will turn out that the arguments to be advanced below do not need this distinction to be maintained at all. They suggest instead that payments generally are right if and only if they improve the allocation of resources. Such improvements may occur because there is more distributive justice. Or, as is more in accord with traditional neoclassical economic theory, the payments or transfers associated with profits may have favourable incentive effects. They can make the allocation of resources more efficient by encouraging resource owners and producers to increase their supplies, and by encouraging consumers and firms to limit their demands.

What this suggests is that profits do not need to be regarded as morally different from many other kinds of payment. The right way to judge profits is essentially the same as the right way to judge royalties, professional earnings and salary payments, rents, interest payments, even wages. Either they do or do not improve the allocation of resources, both directly and also indirectly through incentive effects. That is why I have chosen to add, "and Other Rewards," to the title. And why "profits" will mean "profits and other rewards" for most of the rest of the paper.

There are important implications which follow from this simple observation. It matters how profits are earned because the activities that earned them may or may not have been morally desirable. The profits earned from producing penicillin have a different moral status from those earned by producing cocaine. It matters who earns the profits, since profits earned by the deserving poor are not the same as those received by the wealthy owner of a large company who has inherited it all and never contributed anything to its management. It even matters how profits are spent — profits which some of the rich use to found institutions like the Liberty Fund or Stanford University seem much more acceptable than those which are spent on excessive amounts of alcohol, even by somebody who is otherwise poor and deserving.

1.3. Issues

After these preliminary remarks, I would like to distinguish between two important and separate ethical questions: (a) should firms be encouraged to make as much profit as possible? (b) should firms and their owners be allowed to keep those profits which do result from their production and trading activities? There are, however, a number of important subsidiary questions which would also have to be settled in the course of a complete discussion. Of these, two which relate to (b) are: (c) who should be responsible for making the firm's production and financial decisions? And (d) should the people who control the firm, or somebody else, be the ones to

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receive its profits? When the firm is small and is run by a worker/owner who is responsible for all its capital and labour, the answer is quite different from when the firm has become a large enough organization to have agency problems in its own administration. Then profit sharing schemes can have important incentive properties in encouraging managers, workers, even customers, to ensure that the firm is being well run. Those who supply the firm with capital would seem to have no special claim to the firm's profits, over and above the usual return to suppliers of financial resources such as loans. When the firm risks failure, and the financiers' stakes are therefore also at risk, this should certainly be taken into account. But so should the limited liability of shareholders — and even the limited exposure of those who are partners in a firm with unlimited liability, since they also receive some protection from bankruptcy laws.

Another subsidiary question is considerably more subtle. Of course, for profits to be maximized in any reasonable sense, a necessary condition is that the firm must be making efficient use of its inputs in producing its outputs. And it is easy to show that, if all firms are maximizing profits taking as given the same set of "producer prices," all of which are positive, then there is aggregate production efficiency. That is, the production sector as a whole is using its inputs and organizing its outputs in a way which implies that it would be impossible to increase the total output of any good or service without decreasing some other output or else increasing total inputs, and it would also be impossible to reduce the total input of any good without substituting more of some other input or else producing a smaller total amount of some output. It turns out that the following question needs to be considered: (e) is it desirable that the production sector as whole, or at least the typical firm, should organize its production efficiently? For even this question may have a much more subtle answer than has yet been widely recognized within the economics profession.

Having posed these five questions, they will be discussed eventually in their logical order, which is first (a), then (e), and finally (b), (c), (d) as a group. That is, I shall begin with the desirability of profit maximization, or at least the weaker property of production efficiency. The distributional issue of who should receive the profits earned by a firm is left until last, following the usual (and usually mistaken) separation of efficiency and distributional issues in public economics.

Before these main questions can be considered properly, however, it is necessary first to introduce the reader to some of the subtleties involved in what I have chosen to call "modern welfare economics". This label is used to describe recent work on the theoretical principles of economic policy, taking into account the reality that policy makers will naturally be ill-informed

about the relevant tastes, endowments, and opportunity sets of economic agents — information that is really essential in bringing about any allocation of resources which is optimal in the traditional sense. Particularly because this work is being addressed to readers whose first specialization may not be economics, a non-technical summary of recent ideas seems in order. Let me comfort those who wonder if their economic background may be inadequate by pointing out that such a background may not always be helpful, since it has been my experience that most members of the economics profession have yet to adjust their thinking to the new insights which it seems to me that this work can provide. Let me also freely admit that to a large extent I shall merely summarize ideas already expounded more extensively elsewhere (see Hammond, 1979, 1985, 1987, 1989a, 1990a, b, c, d).

1.4. Outline

For this reason, Sections 2 and 3 below begin by reviewing the two neo-classical "fundamental efficiency theorems of welfare economics." These are what lie behind the usual justification for the rôle of profits in the economic system which is provided in most textbooks and most courses in microeconomics, even at the graduate level, not excluding some that I have taught myself.

Thereafter Section 4 considers how limited information gives rise to additional "incentive constraints" restricting the set of possible economic systems which can be used to allocate resources. As many economists have remarked following the work of Samuelson (1954, 1955), such constraints arise in connection with public goods because of the "free-rider" problem. But they also seriously limit the policy instruments that can be used to move the economy around what is usually thought to be its Pareto frontier — instruments that are certainly needed in order to remedy excess poverty or other instances of distributive injustice. Indeed, incentive constraints even change the proper notion of Pareto efficiency and so shrink the Pareto frontier, except at those few points (actually only one, if competitive equilibrium happens to be unique) where no attempt is made to redistribute resources. Once this becomes recognized, it seems at first that almost all links between perfect competitive markets and Pareto efficient allocations become severed.

Section 5 goes on to argue that markets generally exert a negative influence on the economic system. This is because they put further constraints upon those schemes of quantitative controls, rationing, price control, taxation, etc. which are likely to be typical of an incentive constrained Pareto efficient economic system. Really one needs to expand the set of incentive constraints, and so shrink the relevant Pareto frontier even further. This is in order to allow for the

difficulty or expense in preventing individuals using tax evasion, black markets, etc. in order to subvert controls on their trading behaviour.

These theoretical preliminaries would seem to suggest that the usual neo-classical case for having firms maximize their profits and then pass them onto their capitalist owners rests on extremely shaky foundations. The incentive constraints due to private information force us into a kind of second-best world — or even third-best, bearing in mind the constraints which markets themselves can create. Because of negative results such as those due to Little (1957) which were later formalized by Lipsey and Lancaster (1957), it might therefore be thought that nothing at all would remain of the standard argument for profit maximization, or even for production efficiency. Nevertheless, Diamond and Mirrlees (1971) were able to produce a very powerful argument for the desirability of production efficiency, and also for profit maximization at suitable producer prices. A generalized version of this argument is considered in Section 6. A condition for it to work in any great generality is that all of a firm's (supernormal) profits must be taxed away — or, perhaps somewhat less restrictively, that any extra profits which result from increased efficiency must be confiscated, so that dividend payments after tax remain unchanged. This leads to the paradox that (increases in) supernormal profits can only be justified as a desirable target for a firm if those who create them are not allowed to keep any of them.

Up to now, the discussion has been concerned solely with a static economy. This severe restriction has been all too common even in modern welfare economics for the simple reason that sequence economies seem only too likely to add to the vast complications without yielding many new insights beyond those of some rather special models. Yet some general ideas may finally be beginning to emerge, of which a few are briefly considered in Section 7. Unfortunately the attempt to extend the discussion to intertemporal economies raises one last particularly vexing question: (f) what exactly is the definition of the profits which we may be wanting firms to maximize?

Another important restriction is the almost exclusive use of equilibrium models. This is another rather questionable feature of modern welfare economics. It can only be justified by the continuing lack of suitable disequilibrium models which are general enough to allow the effects of policy changes to be analysed comprehensively. Section 8 attempts to consider the extent to which the rôle of profits may be stronger in economies which do not adjust quickly and automatically to equilibrium. Section 9 recapitulates the mainly negative results that precede it concerning the rôle of profits in helping to ensure a truly efficient allocation of resources, bearing in mind all the restrictions upon an economic system which arise because of asymmetric information.

Section 10 finally considers an entirely different case for a profit-driven economic system allowing a considerable degree of laissez faire. This is that the direct costs of interfering in the economic system with an army of tax collectors, customs officers, inspectors, and other kinds of bureaucrat, may well exceed any benefits from an improved allocation of resources. This is particularly true if we heed the natural desire of most individuals to lead their own lives without undue interference from state officialdom. This accords profits a very low moral status, however. They are only justified to the extent that we find it impossible to devise a better economic system which relies much less on profits.

Finally, a brief concluding summary appears as Section 11.

2. The First Efficiency Theorem

> And so it is back to profit —that virtue in itself —and the quest for profit, which knows no bounds and grabs wherever there is something to be had, with the law of the market economy allowing crimes committed in the name of the profit motive to receive absolution.
>
> Günter Grass (1990)

2.1. Market Success

The efficiency theorems of welfare economics set out the logical connections between perfect competitive equilibrium allocations on the one hand, and Pareto efficient allocations on the other. Here "perfect competitive equilibrium" signifies an allocation resulting from complete markets for all the goods and services which individuals are interested in. Producers take market prices as given; then they carry out production and trading plans which maximize their profits. Consumers take market prices and their shares of producers' profits as given; then they carry out consumption and trading plans which maximize their preference orderings. Also, there must be equilibrium prices which balance consumers' and producers' demands and supplies of each good. Note especially how consumers and producers must neglect whatever monopoly power they may actually have to influence market prices.

"Pareto efficient" allocations of goods and services in the economy are defined as those having the property that there is no way to make all individuals better off simultaneously. Actually, this is the weak concept of Pareto efficiency; it is more customary to use a slightly stronger definition requiring that nobody can be made better off unless somebody else is made worse off.

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The first of the two efficiency theorems appears to be extremely powerful. It demonstrates that perfect competitive markets produce (at least weakly) Pareto efficient allocations in all circumstances when they achieve a general equilibrium of demand and supply. No other qualifications are needed. The result is strong because the hypothesis that markets have reached perfect competitive equilibrium is so strong. In addition, in order to guarantee that the stronger concept of Pareto efficiency is always fulfilled, it is necessary to make one assumption regarding individuals' preferences. They must be "locally non-satiated" in the sense that, no matter what consumption bundle a consumer has, there is always a small change which takes the consumer to a preferred bundle. It is this powerful result which is often associated with Adam Smith's notion of the "invisible hand." It also appears to justify the pursuit of non-monopoly profits, since that is what competitive behaviour on the part of firms amounts to. Moreover, there is no reason to deprive individuals who own firms from enjoying their full share of any profits which the firm succeeds in making.

2.2. Market Failure

Although logically it is certainly very powerful, from an ethical point of view the first efficiency theorem by itself is neither interesting nor attractive. For suppose first that all individuals were identical and had the same wealth. Then there would certainly be no distributional concerns to worry about. Even so, the ethical accept-ability of a perfect competitive market allocation would still rest on the important value judgement that individuals' preferences correspond to what it would be desirable for them to have. Denying this value judgement, of course, smacks of paternalism and suggests that suppressing individual liberties may be justified. Yet in fact most people I know could cite many instances where they thought it would be better if individuals' preferences did not have to be accepted as sovereign.

The first efficiency theorem carries even less ethical weight when it is recognized that individuals are actually quite diverse. This is because the distribution of wealth and power may be ethically inappropriate or even quite obnoxious. Bergstrom (1971), for instance, showed how perfect competitive markets with slavery can be Pareto efficient. The same is true of dictatorship, or of a distribution of wealth so unequal that most individuals are unable to survive for more than a short period —see Coles and Hammond (1986). Not even perfect markets can remedy distributive injustice by themselves.

So far, nothing specific has been said about public goods and externalities. These are commonly described as "market failures" because perfect competitive markets need not bring about an efficient allocation when they are present. It is true that in theory markets could be

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supplemented by similar Lindahl pricing schemes for determining the quality of the environment, including the provision of public goods. Rather more plausibly, there could also be Pigovian taxes and transfers to determine the extent to which each producer and consumer is allowed to affect the quality of the environment, either adversely or beneficially. In a sense, such arrangements amount to making sure that markets really are complete. Pigovian taxes amount to charges for the right to create pollution or to behave in other ways that affect other people adversely. Lindahl prices amount to specific charges for all individuals according to what they are willing to pay at the margin for the public goods from which they benefit. Measures of profit, and dividends paid out, should be decreased to allow for such charges, or increased to account for any benefits which the firm may create. In this way the economy will function as if there were perfect markets even for public goods and externalities, so Pareto efficiency is restored.

Another kind of market failure arises in connection with monopoly. This creates inefficiency in two ways. One, which has been well understood for many years, is that monopolists who seek higher profits can do so by restricting their output in order to drive up the prices of their products. Such inefficiencies can be overcome by encouraging effective competition, or by putting ceilings on monopoly prices so that the price is lowered and the output increased to that which would occur in a competitive market, or even by *subsidizing* the monopolist's output in a way that encourages it to produce the competitive output. A second source of inefficiency may be more important, however. Because monopoly power brings in additional profits, firms and individuals are encouraged to devote resources to establishing or maintaining their monopoly power. These resources are worse than merely wasted, since they are used up in a way that actually worsens the allocation of the goods and services that remain. Obvious examples include much advertising expenditure, and some research and development that is designed not to improve the firm's product so much as to make it more difficult for other firms to compete. Less obvious but equally important examples include some barriers to entry into professions protected by various forms of legislation — for example, the need to qualify by passing examinations based on knowledge which will probably never be used. Really these inefficiencies arise from "rent-seeking" behaviour such as that described by Tullock (1967), Krueger (1974) and Bhagwati (1982).

Notice that the monopoly profits themselves do not create inefficiencies. Rather, the waste arises from the way in which monopoly power leads to distorted markets and "directly unproductive" or wasteful behaviour. Monopoly profits often add to distributive injustice, of course, but need not always do so. Many companies with monopoly power are actually largely owned by pension funds, with many beneficiaries who are not especially well off.

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Some profits from externalities and monopolies, however, are so monstrous that they can surely be described quite properly as "obscene". In the quotation above, Günter Grass was describing as "crimes" the profits earned by some (erstwhile West) German firms from selling equipment for producing poison gas to Saddam Hussein's regime in Iraq. Indeed, companies all over the world continue to make profits from selling arms which are used to terrorize populations or wage totally immoral wars. Others grossly mistreat their workers. Another extreme example concerns the "calculation table for value in terms of profitability of concentration camp slaves, which 'assuming an average life-span of nine months,' gave a profit of '270×5.30 Reichsmarks, a profit increased by rational utilisation of the corpses'."[1]

3. The Second Efficiency Theorem

3.1. Market Success

From an ethical point of view, the second efficiency theorem appears much more interesting. It assures us that (almost) *any* Pareto efficient allocation can be achieved through perfect competitive markets — *provided* that wealth is redistributed suitably by "lump-sum" transfers which are, by definition, entirely independent of individuals' market transactions or other decisions. In particular, an ethically optimal allocation that combines efficiency with distributive justice may well be achievable in this way. Moreover, this second efficiency theorem is what really lies behind the view of many economists that efficiency and distributive justice can be separated and even pursued with quite different policy instruments. General policy tools can be used to promote efficiency; lump-sum transfers to promote distributive justice.

Actually, unlike the first efficiency theorem, the second is only true under some rather stringent technical conditions which ought to be discussed carefully. I shall not do so here, however, but ask the interested reader to consult one of the many technical works which set out the assumptions under which the result is true. Very briefly, the additional conditions require local non-satiation, continuity and convexity of preferences, and also convexity of production possibilities. Even then, some extra assumptions are needed to rule out problematic examples in

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[1] Quoted from Veronica Horwell's review of Potts (1990) in the (*Manchester*) *Guardian Weekly*, February 3rd, 1991. See p. 139 of Potts' book which is based on Kogon's (1948, pp. 349 ff.) description of Nazi policy, and makes clear that such calculations were explicitly made by those responsible for administering the camps, whose purpose was "extermination through work" (p. 140).

which some consumers are on the boundaries of their feasible sets — see Arrow (1951) and the many later discussions of what has come to be known as "Arrow's exceptional case," including Hammond (1989c).

3.2. The Benefits of Profits . . .

Where the second efficiency theorem is valid, it clearly allows us still to justify competitive profit maximization as the proper goal of a firm, since that is part of what lies behind a competitive equilibrium. A direct argument is also possible, in some cases at least. Suppose that the economy has reached an allocation resulting from an equilibrium of demand and supply in which one or more firms are not maximizing their profits, taking prices as given. Then, in the absence of public goods, it would be possible to arrange a Pareto improvement as follows.

First, improve the "supply side" of the economy by having firms announce new demand and supply functions of prices for which the resulting profit is never lower than what they could earn by sticking to their original production plan, and in some cases is actually higher. Assume in fact that no matter what the price vector may be, there is always at least one firm making more profit than at the original allocation. This is true at the equilibrium prices because of the assumption that originally at least one firm was not maximizing its profits at those prices. At other prices, however, it is not automatically true, so there is an additional assumption here.

Second, specify a lump-sum transfer to each consumer as a function of prices so that, together with any profits received from firms, every consumer always has more income than is needed to purchase what he was previously consuming. This is also possible, given that firms must be earning more profits in the aggregate.

Third, have consumers announce their preference-maximizing demands and supplies as functions of prices, taking these transfer functions as given.

Finally, find new equilibrium prices, assuming they exist, and then allow firms and consumers to carry out their announced demands and supplies at these prices. Because of the way the transfer functions have been constructed, at any price vector all consumers can afford something which they strictly prefer to the original allocation, and so the resulting equilibrium allocation makes all consumers better off.

This argument is very similar to one which Grandmont and McFadden (1972) used to establish rigorously for the first time the validity of the classical propositions concerning the gains from international trade. The existence issue is taken care of by the standard technical

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assumptions. For the issues being discussed in this paper, the most crucial part of the argument is the second step. Consumers must be compensated so that nobody is made worse off from the comparative static effects of having producers increase their profits. The benefits of more profitable production cannot be assumed to "trickle down" automatically in the absence of some such compensation. The Luddites may not have been justified in trying to resist the Industrial Revolution in England, but they surely had some legitimate grievances. Too many economists in the past have been willing to consider only "potential" Pareto improvements, which occur when there are potential lump-sum transfers by which the gainers could compensate the losers. This is in contrast with the much stricter test of an *actual* Pareto improvement involving *actual* lump-sum transfers.

Notice the need to consider new demand and supply *functions* for all producers and transfer *functions* for all individuals. This is because compensating consumers for price changes affects the income distribution and so typically alters equilibrium prices even further. Seeing this, as well as the need to consider whether there would exist a new equilibrium which the economy could reach after the change, was really the main contribution of Grandmont and McFadden's work on the gains from international trade.

3.3. . . . to Society as a Whole

As in Section 2, competitive profit maximization therefore remains a desirable goal. The difference from Section 2 is that the owners of a firm are no longer necessarily entitled to its profits. Suitable lump-sum redistribution may well involve taking away most of these profits, and giving them to those most in need. In addition, public goods may well have to be financed by levies on all individuals including the owners of profitable corporations. Now that efficiency and distributional issues have been so successfully separated, there is no particular reason to allow shareholders to keep their dividend income. Nor is there any reason either why workers will keep the full fruits of their labour, or resource owners the full value of what they own. Indeed, there is no reason to respect any form of private property; adapting a famous quotation from Karl Marx, it is as though private income is first collected from each according to their ability to pay, and then given out to each according to their needs.

4. Private Information and Incentive Constraints

Although the second efficiency theorem can only be proved under rather restrictive assumptions, this is not the main problem with it. Rather, the trouble arises from the crucial proviso that wealth should be suitably redistributed by means of lump-sum transfers. This is

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obviously essential if the second efficiency theorem is to have more ethical significance than the first. Yet the requisite transfers should typically be from those who have sufficient skill and good fortune to prosper on their own, toward those for whom life in the absence of transfer payments would be at best a miserable struggle. This creates obvious grave problems when individuals' true needs and abilities are unknown, because then the transfer payments could only depend on appearances of need or of skill. Individuals who understand this would be provided with every incentive to manipulate the transfer system by altering their apparent needs or skills. There would be little incentive to work hard, acquire useful skills, or be productive, but every incentive to appear needy.

Another problem when there is private information arises in connection with the environment, including public goods. In order to determine how clean the air should be, or what level of public schooling or health care facilities to provide, the relevant preferences of different individuals have to be discovered, as well as the true costs of keeping the air cleaner, or of providing the chosen outputs of public goods. As Samuelson (1954, 1955) was probably the first to point out, the standard Lindahl pricing scheme is unlikely to work well because it charges people their stated marginal willingness to pay. This provides an obvious incentive for individuals to "free-ride" by understating how much they value public goods. Indeed, at any equilibrium of the usual Lindahl pricing scheme, one individual offering to pay one dollar less toward the cost of a public good would save himself a dollar, but the *total* loss to *all* individuals from a reduction in the public good would be only one dollar. This leaves the individual who pays one dollar less with a very much smaller loss from the reduced provision of the public good, and so a net benefit not much less than a whole dollar.

Previously it was often assumed, at least implicitly, that an economic system would have to respect only the physical feasibility constraints concerning both what individuals and firms can supply or produce, and the need to balance demand and supply. Now it can be seen that there are additional and equally important "incentive constraints" due to ignorance concerning the relevant characteristics of consumers and producers in the economy. The latter constraints require that, whenever an individual has some private information which is not monitored directly, the economic system must function in a way that does not encourage the individual to conceal or misrepresent it. No matter what economic system we think we may be designing, it turns out that by the time individuals have manipulated it as they wish, the final result must inevitably be a system that respects these incentive constraints. This fundamental property of mechanisms which work in the presence of incomplete information has come to be known as the "revelation principle";

the economy must function as it would if individuals were revealing their private information willingly because they had no disincentive to do so.

Taking these incentive constraints into account, the second efficiency theorem fails spectacularly. It must be admitted that the relevant incentive constraints may be satisfied by some very particular Pareto efficient allocations — namely, those which could result from perfect competitive markets if no attempt whatsoever were made to redress distributive injustice, and if public goods were entirely financed by means of uniform poll taxes which were not so high that some individuals would lack the means to pay them (Hammond, 1979). Otherwise, all other "incentive constrained" Pareto efficient allocations require interference in and "distortions" of markets in order to achieve even a limited amount of redistribution of resources, or some more acceptable source of public finance than a pure poll tax. With very rare exceptions likely to be met only in theoretical writings, incentive constraints really do bind.

5. Markets as Constraints

The previous section considered incentive constraints due to private information concerning needs, abilities, and willingness to pay for public goods. In the insurance literature, such private information is often known as "adverse selection." As Akerlof (1970) pointed out, "lemons" are likely to feature more prominently among second-hand cars offered for sale than they do among those on the roads. The old, infirm, and people with parental responsibilities are more ready to buy private health insurance (if they can afford it) than the young, healthy, and childless. Bankers are more willing to lend to those who already have plenty of liquid assets. Cities, states, and nations which are generous in providing public goods and public assistance to the poor will tend to attract those most in need of such assistance.

Such incentive constraints are by no means the only ones, however. Others can arise because of "moral hazard" or "hidden action." Lenders may find it difficult to get their borrowers to repay, and so demand collateral. Fire insurance companies must worry not only about negligence but also arson. Tax inspectors face evasion. And deposit insurance corporations are having to face the consequences of having insured excessively risky lending practices during the last decade.

When we consider general economic systems, a particular form of moral hazard arises. If market transactions could be perfectly monitored and controlled, an incentive constrained Pareto

efficient economic system would typically involve non-linear taxation and pricing, possibly some forms of rationing, and a large range of similar forms of intervention in the allocation process. In practice, however, market transactions can only be monitored and controlled very imperfectly. Rationing schemes usually lead to black markets, income taxes to evasion, customs duties to smuggling, excessive regulation to corruption. Market forces are powerful, and suppressing them is difficult. Accordingly, any description of an economic system remains seriously incomplete until it spells out how rationing schemes and other kinds of regulation will be enforced, how taxes and duties will be collected, and what will happen to defaulters, evaders, and non-payers. The almost inevitable failure of markets to achieve distributive justice or to determine a proper quality of the environment or allocation of public goods creates a need for non-market remedies; these imply that markets can make things worse rather than better by adding to the incentive constraints that need to be respected. Markets emerge as constraints upon the economic system rather than as desirable instruments for achieving Pareto efficiency.

6. Profits as Constraints?

6.1. The Second-Best Case for Profits. . .

Despite all these limitations upon markets as efficient allocators of resources when there is private information, there are still cases when it is useful to ask producers to maximize profits taking as given some particular "producer" prices. Of course, these will typically not be the same prices as consumers face. As in real mixed economies, for goods which producers sell to consumers, producer prices will be net of tax, while consumer prices will include taxes. For goods like labour which consumers sell to producers, it is the other way around — producers have to pay wages which include taxes, but workers only receive wages after tax. Anyway, the issue is whether there exists a single vector of producer prices which all firms should be asked to use in valuing their inputs and outputs and then to maximize profits. And, as pointed out in the introduction, if such uniform producer prices are to exist at all, then it must be desirable to have the production sector as a whole produce efficiently. Indeed, the desirability of aggregate production efficiency is not only necessary; at least when the aggregate production possibility set is convex, being at a point of its efficiency frontier is also sufficient for the existence of a "supporting hyperplane" at that point, and then the (geometric) normal to that hyperplane will be a price vector having components that are appropriate producer prices for all firms to use. This is merely a

generalization of the "marginal rates of transformation" to be found in most elementary economics textbooks.

So, is aggregate production efficiency in fact desirable? Suppose that the economy finds itself with an allocation which is not on the efficiency frontier of the aggregate production possibility set, but is actually in the interior of this set. Can some Pareto improvement be arranged? To see whether it can, try adapting the argument for profit maximization presented in Section 3 above. Start by assigning all firms new demand and supply vectors so that the aggregate net output of every good is higher than it was for the original production plan. This must be possible because of the assumption that the original production plan is in the interior of the aggregate production possibility set. This first step of the improvement process is actually simpler than before, since no demand or supply functions have to be specified for firms. The reason is the stronger hypothesis that one can produce more of every good in aggregate, rather than just make more profit overall.

The other steps of the process are not nearly as simple, and there will be many cases where they do not work at all. In fact, before the remaining steps can be described, it is first necessary to specify what prices or alternative market signals will be used to overcome any imbalances between demand and supply. Notice that this is *not* presuming any equilibrating process in the usual sense; in order to reach a feasible allocation, every economic system must ultimately balance demand and supply, if only by an unsystematic rationing scheme that leaves many economic agents frustrated. What I have in mind here are rather general signalling schemes like those described by Drèze and Stern (1987, 1990). So I will speak of demands and supplies as being functions of *market signals*; indeed, I will even have to do the same for tax rates and other policy instruments.

Then the second step of the move toward a Pareto improvement requires that compensating policy instruments should be specified as functions of market signals, ensuring that any change in market signals needed to re-establish balance between demands and supplies never makes any consumer worse off. In section 3 these policy instruments were lump-sum transfers as functions of market prices. In Diamond and Mirrlees (1971), Mirrlees (1972), and Hahn (1973), as well as in later work on the gains from trade and from customs unions by Dixit and Norman (1980, 1986) and Dixit (1987) — the market signals were both producer and consumer prices. These differed from each other because of commodity taxes, which served as the policy instruments. As no restrictions were placed on the rates of commodity taxation for different goods, a possible compensating policy would adjust these rates in order to hold consumer prices constant, even while producer prices were varying. This is equivalent to putting a total freeze on consumer prices

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and wage rates, but then setting taxes and subsidies in order to clear markets. It has the effect of leaving each consumer with exactly the same budget constraint as originally, so there is no way any consumer could become worse off.

The third step of the adjustment process involves making some small change to the functions determining how those policy instruments which directly affect consumers depend upon market signals, doing so in a way which guarantees a Pareto improvement. One can virtually always find an instrument which will work, such as a uniform poll subsidy paid to all consumers. One alternative would be reduced taxes which lower the consumer prices of some goods which everybody consumes; another would be reduced taxes which *raise* the consumer prices of some goods such as different types of labour that everybody supplies. After Diamond and Mirrlees (1971), a more thorough investigation of the possibilities for Pareto improving tax changes can be found in Weymark (1978). Or, instead of tax changes, it may be possible to use the increased outputs of the production sector in order to expand the provision of some public good which benefits everybody.

Of course, after all these three prior steps, there is still market balance to worry about. One possibility is that market signals can be relied upon to remove all imbalances, as in Section 3 and as assumed by Diamond, Hahn and Mirrlees in the articles cited above. But even if not, provided that aggregate demand for each commodity is a continuous function of market signals, then a small enough change in policy instruments will produce a change in aggregate demand small enough to ensure that the extra output of every commodity, arranged in step one described above, does not get exhausted. The surplus of any good can then be disposed of, if necessary, by giving it away to some people who value it.

6.2. . . . and Its Limitations

Although it is certainly a very powerful generalization of the "managed trickle down" argument of Section 3, there are many cases where it will not work. The second step can create severe difficulties. Obviously, the set of policy instruments may not be powerful enough to allow *every* consumer to be fully compensated for any damage suffered because the aggregate efficiency of production has been improved. The model of Diamond and Mirrlees (1971) allows different taxes to be levied on any pair of different commodities. Bearing in mind that commodities should be distinguished by location, this implies that tax rates are allowed to be entirely different in different localities. Yet most fiscal systems allow very few different rates of sales or value-added tax on different consumption goods. The European Community, having already virtually outlawed tax discrimination between different regions of the same nation, is now strenuously seeking to

"harmonize" value-added tax rates by abolishing many of those international differentials that have been allowed to remain. As the Regional Program expands, perhaps its direction of specific Community expenditure towards poorer areas is becoming more of an acceptable substitute.

Even in the Diamond-Mirrlees model with unrestricted commodity taxation, however, there is still a difficulty in arranging suitable compensation at step two. So far nothing has been said about what happens to the increased profits which firms will make from being more efficient. In the original Diamond-Mirrlees model there were either constant returns to scale in private production, implying that there were no profits anyway. As an alternative, it could be assumed that profits would be taxed away at a rate of 100%. In reality, however, some profits at least typically pass into the hands of shareholders, even after the company has paid corporation tax, and possibly special taxes on distributed profits, while each shareholder has also paid income tax on dividends received. As Mirrlees (1972) showed by means of a simple example, these additional profits could make it impossible to generate a Pareto improvement after all. What can happen is that those who receive the extra profits then bid up the price of some commodity that absorbs a large share of some poor individuals' budgets, and there may not be enough tax instruments to compensate them. It would seem that there also has to be unrestricted profits taxation — with different rates on different firms, moreover, unless the common rate is 100%. In this case there is the paradox that profits can only be justified as a desirable target for a firm if those who cause them to increase are not allowed to keep any extra!

Perhaps the Mirrlees example is somewhat far-fetched in practice. Even so, there are certainly cases when even just making production more efficient in aggregate by having more of every output and less of every input will also involve changes that disrupt the livelihoods and the lives of some individuals — e.g., by abolishing their jobs. There is far too much evidence that the range of tax and other instruments that the world's governments are able and willing to use in such cases is insufficient always to provide full compensation to all. Making production more efficient may benefit most individuals, but often some inevitably lose as well. Then only interpersonal comparisons can establish whether or not the gains outweigh the losses. The same is true, *a fortiori,* of any change which increases producers' profits. Indeed, there are often small gains to virtually all consumers. These have to be set against the large losses of the workers, managers, and others who may have specialized in selling services to an inefficient or protected firm which is forced to close or to reorganize drastically.

Profit maximization is therefore much harder to justify after all when incentive constraints and other limitations on the instruments of redistributive policy are taken into account. But not

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quite so much harder as first thoughts might have led one to expect. Once profits have been earned, incentive constraints make it rather easier to claim that capitalists deserve at least some share of them than was the case without incentive constraints. Suppliers of capital, entrepreneurs and inventors are all affected by incentives no less than suppliers of labour, and all have private information about their willingness to supply, their capabilities, their technical knowledge. But what the optimal incentive payment to a capitalist should be is highly complicated. There seem to be plenty of good reasons for allowing managers, workers and even consumers to receive a significant share of a company's profits along with its owners and, as recipients of profits taxes, the tax authorities. After all, workers who share in the firm's profits have some incentive to be more productive. If consumers also have a share in those profits, they may be more willing to offer suggestions which help make the firm more responsive to their requirements. But if shareholders receive too large a proportion of the firm's profits, the firm may be at the mercy of professional investors whose only concern is with short-run returns. The firm will find it difficult to pursue in secrecy long-run projects of research and development whose costs depress earnings in the short-run, but whose long-run expected benefits, to both the firm itself and to society as a whole, may be enormous. For these and other reasons, both microeconomic and macroeconomic schemes of profit sharing have long been advocated — the works by Weitzman (1984), Drèze (1989), Wadhwani and Wall (1990), Smith (1990) form a not necessarily very representative sample of the fairly recent literature.

7. Intertemporal Issues

The last five sections have not explicitly considered either time or uncertainty about exogenous events. In principle, both can be handled by introducing sufficient contingent commodities as in Debreu (1959). That is, the commodity space must be extended to distinguish between goods for delivery at different times or in different uncertain events or "states of the world". Not surprisingly, however, there are a number of additional complications which this ingenious apparatus does not entirely resolve. For one thing, as Tesfatsion (1986) has demonstrated, there are new problems surrounding the second efficiency theorem of welfare economics that was discussed in Section 3 above. Typically, in any period the optimal transfers to every individual will be depend upon their different needs, which in turn depend upon their previous personal histories. Such histories, however, are affected by individuals' past decisions, such as what assets to accumulate, or what skills and habits to acquire. Understanding this, individuals will in part choose their personal histories in order to improve the transfers to which

they are entitled. This being so, the transfers lose their lump-sum character, and instead become taxes and subsidies on history which will typically create Pareto inefficiencies in the resulting intertemporal market allocation. Hammond (1990d) presents a specific example of this phenomenon.

Of rather more interest, perhaps, is what happens to incentive constraints in intertemporal economies. In fact, new ones emerge in connection with all kinds of loan contract, securities and futures markets, etc. The problem is that borrowers engage in contracts which pose a risk of default. Attempting to enforce such contracts requires real resources to be devoted to tracking down the assets of a defaulter. Even if this process were perfect, there would still remain some instances where the defaulter really is unable to repay. So loan contracts always include, at least implicitly, some escape clause allowing the borrower not to repay. Usually, of course, the default option is made sufficiently unattractive to prevent it being used, but plenty of defaults do actually occur. The need for loan contracts to take such default possibilities into account imposes yet more incentive constraints upon a feasible economic system, as I explain more fully in Hammond (1989b).

But what of the desirability of profit maximization, or even of production efficiency? And of the desirability having a firm's owners keep a significant share of any profit? The rather vague conclusions of Section 6 for static economies are likely to hold *a fortiori* for intertemporal economies. There are additional reasons for lump-sum redistribution to be infeasible, and additional incentive constraints to take into account.

Yet more problematic are the extra difficulties in even defining profits for a firm in an intertemporal economy. Economists have become used to considering the total present discounted value of an entire stream of future profits. What rate of discount to use, however, is not always a question with a straightforward answer. Even if it were, there would still be the issue of how to allow for uncertainty. This reflects the fact that profits are not well defined, in general, unless there is a market price or rate of discount attached to the future returns of the firm at each future date and for each future event or contingency. There would be such prices if there were "complete markets" in the sense which has become familiar to many economists following the important work of Arrow (1953, 1964) and Debreu (1959). When markets fail to be complete in this way, however, each firm has to decide how to trade off its profits at different dates and in different possible contingencies without clear market signals concerning how to do so. It is true that the stock market's valuation of the firm's prospects could, in theory, provide some useful indication of how its shareholders are willing to make this trade off. Accordingly, the firm may try to set itself the

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goal of maximizing its stock market valuation. Yet there are rather obvious problems with this because the firm is very likely to have considerable influence over the relative implicit prices of its profits at different dates and in different contingencies. In other words, the usual competitive price-taking hypothesis makes little sense unless there are very many firms producing similar patterns of financial returns in different times and in different states of the world. This is the implicit hypothesis, it seems, behind Diamond's (1967) pioneering article and Makowski's (1983) particularly interesting contribution. But by now there is an extensive literature on this vexed topic, of which Duffie (1988, ch. 13), Drèze (1989), and DeMarzo (1987) are just a few of the most recent works which have struck me as the most important.

This and other difficulties in extending our usual theories to intertemporal economies suggest that a new and less ambitious approach may be desirable. One possibility is to follow Allais' (1943, 1947, 1953) example in treating the same individual at different dates or in different events as many different dated contingent individuals, though each inherits many of the characteristics of some remarkably similar predecessors. And also to do the same for firms. Then the intertemporal economy has essentially been reduced to a linked series of dated contingent static economies, as in Hammond (1990d). The rather negative conclusions of Section 6 would appear to retain their validity within each of these static economies; now they concern the profits which each firm makes at a single date and in a single contingency, with the associated concepts of "temporary" or "Allais" efficiency of production and consumption in the economy as a whole.

8. Some Omitted Considerations

8.1 Disequilibrium and Austrian Economics

Those "Austrian" economists who follow the ideas of von Mises, Hayek and others may legitimately object that the arguments presented above rely too heavily upon some kind of equilibrium analysis. In Section 6, I did try to be careful not to presume anything like a standard equilibrium concept, recognizing instead that the inevitable ultimate balance between demand and supply may come about through rather unsystematic procedures. Even so, it probably is correct that we need to consider the allocation mechanism in the economy as a form of trading process in continuous time which never converges to an equilibrium. Indeed, as Fisher (1983) and others have argued, if convergence to equilibrium were to occur, it may well be because the pursuit of profit has actually played an important rôle in the adjustment process. But even if such

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convergence does eventually occur, the effects of trading at "false prices" certainly deserve the attention of welfare economists.

Nevertheless, unlike (to my knowledge) most of the "Austrians," I still think that a benevolent government may have a key role to play in redistributing income, providing public goods, controlling externalities, and combating monopoly power. In our models, government agencies should not be excluded *a priori* from making a positive contribution to the economic process just because in reality they inevitably lack the information needed to make the consequences of their actions fully predictable. A proper model of an economic system, it seems to me, should have the potential for both public and private agents to interact. Otherwise, of course, it becomes far too easy simply to dismiss any kind of policy intervention in the economy as at best irrelevant and generally harmful. All the earlier conclusions of Section 6 regarding the moral status of profit in economies with limited information then appear to remain valid. Profit maximization can only be justified at the "right" prices, if at all. Yet such prices may never be known unless and until the economic process has converged to some kind of equilibrium or more general balance between demand and supply. One could well argue that it is better for firms to use some price information than none at all, and that the price information which they are most likely to have concerns the prices at which they can actually buy and sell. Yet this does not make these prices the right ones, nor does it even justify profit maximization at any prices. And, of course, there are still only incentive reasons for profit makers to be allowed to keep (part of) their actual profits, rather than having them all be taxed away in order to use the proceeds to benefit the population of all economic agents as a whole.

8.2. Directly Unproductive Activities

The preceding analysis also presumes that governments and their agents are both fairly benevolent and also moderately competent. If they were not, it could be argued that, even though policy intervention by federal, state, or local governments could in theory do much to promote distributive justice and enhance economic welfare, in practice it only serves to make things worse. This seems to lie behind the claims of such "conservative" writers as Gilder (1981) and Murray (1984), which may well have influenced the Reagan administration's apparent lack of concern for the increase in poverty within the United States.

In fact it seems to me that specifying models which assume purely self-serving and/or hopelessly incompetent bureaucrats and politicians may do us all a serious disservice by encouraging exactly that kind of contemptible behaviour which they describe. And perhaps the failures in America's anti-poverty programs have more to do with a lack of political will to see

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them working properly. Indeed, it is possible that an efficiently functioning program of poverty relief would do too much to undermine the apparent convictions of many Americans that free markets are the best way of dealing with virtually any economic problem — with the notable exceptions, that is, of immigration and drug abuse. If such attitudes were to change, one might see more sympathetic consideration given to negative income taxes or other sensible reforms such as those advocated by Ellwood (1988) and others. One might also ask whether the programs of poverty relief in the U.S. seem to perform so badly simply because so few resources are devoted to them in comparison with other countries, especially those in Western Europe. Esping-Anderson and Micklewright's (1990) recent comparative study is careful *not* to suggest this explicitly. Yet they cite statistics (published by the International Labour Organisation in 1988) for the total of private and public expenditure, for all income classes, on all items of social security — medical care, all kinds of benefit for sickness, invalidity, employment injury, unemployment, old-age, survivors, family, and maternity, as well as public assistance. These figures point to how small a fraction (13.8%) of G.D.P. in 1983 was devoted to all forms of such expenditure in the U.S. compared to West Germany (24.3%) or Sweden (33.3%). Since private health care makes up quite a large fraction of the U.S. figure, the true discrepancy has presumably been understated by a considerable amount. One could argue, I suppose, that the U.S. economy makes many more low-wage employment opportunities open to the poor, thus making some forms of social security expenditure less necessary. Yet many obvious and well-documented gaps remain to be filled before the U.S. becomes anything like a "welfare state," or even one which can take any pride in the way it treats many of its poorest citizens.

In the end, however, it clearly is naïve merely to assume away the corruption, rent-seeking, and other forms of directly unproductive activity (Bhagwati, 1982) which certainly bedevil many real polities. Such activities function like external diseconomies, in effect. While I cannot (yet) present a full analysis of their implications, one is tempted to suggest that their costs could be greatly reduced by leaving fewer profits around in uncontrolled hands, where they create both a source of temptation and also the wherewithal to finance undesirable lobbying and other political activities.

9. Profits: a Necessary Evil?

This is about as far as I can go in discussing the rôle of profits in ensuring an efficient and just allocation of resources. The case for profits appears very weak indeed. My answer to question

(a), regarding the desirability of maximizing profits, has been an extremely guarded "Yes, but really only in rather special circumstances, depending on what will happen to the profits, how they are measured, what price system is used, etc." The reservations will be fairly familiar to most economists. They are generally seen as arising because of possible divergences between social and private (marginal) costs and benefits. The divergences due to market failures such as unwarranted monopoly power or externalities are widely acknowledged and understood. But there are also important divergences due to the lack of sufficiently powerful ways to redistribute income in order to abate poverty and promote an ethically acceptable level of distributive justice. These have been much less widely recognized. Yet they also imply that an ethically appropriate measure of social profit may differ considerably from the private profit which is more likely to be the goal of actual firms.

The answer to (b), however, concerning whether a firm's owners are entitled to a significant share of the profits, is rather more subtle. In the unrealistic world of unlimited information which still fills too large a fraction of economics textbooks, the answer has to be, "No, not at all, except as payments for services rendered, which are really part of normal rather than supernormal profits." This was the unambiguous conclusion of Section 3. Real economies, however, do have limited or asymmetric information. Then, in considering the rôle of profits in allocating resources efficiently, the *only* reason for firms and their owners to be allowed to keep their (supernormal) profits is precisely the need to provide incentives, especially when there is asymmetric information. Cicero's Alexandrian merchant who first reached the island of Rhodes with some urgently needed wheat probably deserves much of the high price which the inhabitants are willing to pay while they still do not know whether other ships are coming (though they are surely likely to guess that there may be). But he does so only to the extent that the expectation of such a higher price encouraged him to buy and load his wheat as quickly as possible, in order to arrive in Rhodes before anybody else. Even then, he should share his profits with the crew who have no doubt made exceptional efforts to speed his voyage. As for Cicero's house seller, if he could get away with selling at full price a house whose maintenance he has neglected, not only is he being dishonest. Perhaps even worse, the reward he reaps for his dishonesty provides all sorts of inappropriate incentives for other people who hold and eventually plan to sell their houses.

At this point, the reader may be willing to concede much of the above argument, but still question whether the issue is quantitatively important. Specifically, are there really significant welfare gains to be had from redistributing profit income? Especially as Sah's work (1983) suggests that using feasible redistributive instruments like commodity taxes will generate rather small gains in distributive justice, even when tailored to suit the worst off participants in an

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economy? A full answer to this question would obviously involve a huge empirical study which I do not have either the qualifications, the resources, or the time to carry out. So I can only report on some work which bears on the question, but without providing anything like a complete answer.

First, Sah's paper actually has a rather serious limitation. An obvious way of improving the lot of the worst off would be to institute some kind of "unconditional basic income" such as that suggested by Meade (1989) and van Parijs (1991). Somewhat similar is the "negative income tax" considered some years ago by Friedman, Tobin and others. Yet Sah's paper allows *only* commodity taxes and subsidies which thereby relate subsidies to the quantities of subsidized goods that are consumed. So somebody whose income is zero and who spends nothing at all receives a zero subsidy. Accordingly, Sah excludes what may be the most powerful redistributive tool available.

Second, even if first best optimal redistribution of income were feasible, one may argue whether it could have a sizeable effect on welfare. Obviously, this depends on value judgements concerning what may be expressed in rather crude terms as the trade-off between equality and total wealth. At one extreme, if there is no willingness at all to exchange any total wealth in order to enhance equality, then first best redistribution would make no difference to total wealth, and attempts to redistribute by feasible taxation schemes could only lower it. At another extreme one may make assumptions like those in Jorgenson's (1990) 1987 Presidential Address to the Econometric Society. There he argues (pp. 1031–2) that, while real consumption per head in the United States grew at an average rate of 2.51% *per annum* for the period 1947–1985, an equity corrected welfare based measure of the standard of living in the United States grew at 2.92% over the same period. In other words, it can be argued that even the rather limited measures that various governments in the United States have undertaken to enhance distributive justice have succeeded in adding 0.41% to the annual average growth rate of equity adusted consumption per head over a period of almost forty years. In fact, consumption expenditure per capita, in 1982 dollars, rose from $3750.81 in 1947 to $9724.02 in 1985 or by a factor of 259%. Jorgenson's equity index, however, also rose from 0.5800 to 0.6782 (where 1.00 would indicate a fully equitable distribution). This equity index is defined so that the welfare-based measure of the standard of living is obtained by multiplying real consumption expenditure per capita by the equity index. Accordingly, this standard of living, again measured in 1982 dollars, rose from $2175.62 in 1947 to $6594.94 in 1985, or by a factor of 303%. It may be worth noting finally that almost all the increase in Jorgenson's equity index occurred during the years 1958-78, during which time it rose from 0.5678 in 1957 to 0.6737 in 1978.

While there are very many special and even highly implausible assumptions that lie behind these calculations by Jorgenson, they do make the point that the effect of good redistributive policies on welfare could turn out to be significant. After all, there are ways of doing the calculations which show that the welfare effects of actual redistributive policies are equivalent to an increase in the annual growth rate from 2.51% to 2.92% sustained over a period of four decades.

10. Liberty as an Objective

"Humanity has not yet developed anything more efficient than a market economy. . . The prerequisite to ensure the effective functioning of the market [includes] de jure equality of all types of property, including private property . . . revenue from property should be recognised as lawful profit."

From the Shatalin Plan for reforming the Soviet economy, quoted in The Economist, September 15th, 1990.

Shatalin may have been right. Democracy has been described as the least bad political system yet devised. So might a market economy yet be the least bad economic system, despite the many faults described in this paper. Economists of Eastern Europe especially seem eager to assign profits a very much larger rôle in their economic systems. When it is suggested that markets have also many disadvantages, they may display some impatience with which one can well sympathize. It seems that they are looking for freedom, and have come to associate economic controls with other kinds of interference with personal liberties many of which may be much less justifiable. They want to try market economies, at least, and to enjoy even the freedom to learn from being wrong — if that is how things turn out.

So far, my discussion has not paid special attention to individual freedom as a value in itself. In line with the work of virtually all economics, I have concentrated solely on the allocation of resources. This may be leaving out some things which are very important. For one thing, much of what is best in life cannot easily be bought and sold, or is devalued by being traded. A specific example of this which aroused some interest twenty years ago was blood donation — see Titmuss' (1970) book and Arrow's (1972) review article. In addition, Hahn (1983) points out that it may not be legitimate to judge economic systems only on the basis of the allocations they produce. Earlier, Rowley and Peacock (1975) provided an extensive discussion of the implications for welfare economics of valuing freedom for its own sake. Similar ideas are discussed in Sen (1987, especially p. 50, fn. 22 and pp. 60–65) and also emerge in the group of papers presented to the 1987 Conference of the European Economic Association by Kornai (1988),

Lindbeck (1988), and Sen (1988). Earlier Sen tended to think of such concern for rights as "non-welfarist" ethics, but I would disagree and prefer to speak instead of "extended welfarism." Otherwise we would be in danger of joining those libertarians who always want all individuals' rights to be valued positively, even in a society where it was demonstrably better for individuals to have some of their liberty limited. It seems to me that we should value liberty to the extent that individuals themselves value it and are also made better off when they experience it. For this reason, I prefer to regard desirable liberties as components of individual welfare, along with the commodities needed for a good life, and any ethically relevant concept of desert, etc.

If liberty is an important part of individual welfare, this makes a considerable difference to the way we think of profits. Indeed, suppose that we follow the extreme libertarians, or even Rawls, in making liberty a primary value, "lexically prior" to a good allocation of resources in our scale of priorities. In this case, on one popular interpetation of liberty, a *laissez faire* economic system becomes an end in itself. Profits become justified as an essential part of such a system, with those who earn them being entitled to keep them. This, however, seems to me a strange sort of morality. Many thoughtful moral philosophers and economists may be willing to give considerable weight to individual liberty in a social welfare function, but surely not to pursue liberty at all costs, regardless of how much distributive injustice there is in the economic allocation which results. If there is a trade off between liberty and distributive justice, the objections to profits raised above may be significantly weakened, but not entirely removed.[2] Moreover, other concepts of liberty may be much more inimical to profit. Did Robin Hood not have the right, or even the duty, to help the poor by robbing those whose wealth resulted from undeserved profits?

Indeed, incentive constraints imply that some respect has to be given to individual rights anyway. Limiting the extent of tax evasion, black marketeering, and other illegal activities in the economy requires a costly tax inspectorate, police force, etc. If official controls are too tight, they will either fall into disuse, or will have to be backed up by an expensive, intrusive and objectionable bureaucracy. Such constraints are already covered, at least implicitly, in our earlier discussion based upon the allocation of resources. Nevertheless, I am willing to concede that liberty can be a value in its own right, so that the earlier objections to profit may be somewhat overstated. In the end, therefore, another reason for firms and their owners to be allowed to keep at least some of their (supernormal) profits is the desire to promote freedom from interference *for its*

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[2] Lukes (1990) argues that one cannot really talk about such a trade-off. But his argument does not totally exclude the possibility that there are some policies which promote some meaningful concept of liberty, and that some of these are also incompatible with other policies that would help promote distributive justice.

own sake, rather than because such freedom improves the allocations of resources, or because of the more plausible concern to reduce the costs of collecting taxes, etc. The case should certainly not be overstated, however.

11. Conclusions

There are perhaps two kinds of freedom. Libertarians emphasize one kind, which is freedom to choose, without interference by tax gatherers, police officers, etc. Others may want to emphasize a different kind of freedom — freedom from poverty, hunger, disease, ignorance, homelessness — in other words, the freedom to have the basic necessities of modern life. Such freedom is enhanced by a proper allocation of resources, both privately and publicly provided. Studying such allocations is the subject of economic science, in general, and of welfare economics in particular. And greater freedom to choose has to be set against possible — even likely — decreases in people's freedom to have their basic needs for food, shelter, clothing, health care, etc. all met.

This paper has examined of the role of profits and similar rewards in helping to bring about an acceptable allocation of resources. It has argued that this role is very much weaker than most economists have claimed in the past. Indeed, most of their earlier arguments turn out to be hopelessly inadequate in the face of realistic considerations like private information and the consequent need to provide adequate incentives to workers and capitalists. It is no wonder that most ordinary people know better than to trust what most economists have been telling them. And no wonder that many thoughtful people I know regard the profit motive as at best suspicious and at worst even obscene.

On grounds of economic efficiency alone, and bearing in mind incentive constraints caused by asymmetric information, the best that can be said about profit seeking behaviour is that it may provide benefits which trickle down to the general population. Such trickling down is by no means assured, however. Increasing profits often means shutting down inefficient enterprises, throwing people out of work and causing real hardship. In theory it may be possible to compensate those who are adversely effected, but this will generally require a great deal of intervention in the economic system. In any case, after the necessary incentives for managers, workers and financiers have been provided, there is no good reason why they should be allowed to retain any additional surplus profit.

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In anything like a well functioning economic system, therefore, the ethical case for pure profit, as opposed to incentive payments, seems to be exceedingly weak. Of course, libertarians may object that I am judging economic systems only by the allocations of goods and services which they generate, with no special consideration for individual rights. Yet only the most extreme libertarians can claim that my arguments have no relevance.

Others may argue that some economic systems have been misperforming so abysmally that almost any move toward *laissez faire* system would be an improvement, even though it may create widespread suffering for those who are already poor. Yet this seems like a counsel of despair, and it is time that those designing economic reforms came up with some less obnoxious recommendations. I also suspect that even they would want to emphasize the role of incentive payments rather than of profits.

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