Efficiency

RUSSELL HARDIN

Introduction

In the vernacular, 'efficiency' typically concerns means. I can choose efficient rather than inefficient means to accomplish my ends. Or more generally, I can be efficient or inefficient in allocating my limited resources. If we could measure the aggregate utility or welfare of a society, as in Benthamite utilitarianism, we could say that a society is efficient in an analogous sense: it uses effective institutions to achieve the greatest possible welfare. But the normative notion of efficiency commonly in use in social and political theory today is about social choices without aggregative welfare measures. Efficiency is invoked as an alternative to such aggregative measures.

Without interpersonally comparable welfare measures we typically cannot say that one state of society has more welfare and is therefore better than another. But we might be able to say that in one state of society all are individually better off than they are in another state; or, more likely, we might be able to say that some are individually better off while none is worse off. Efficiency in this sense is a restricted form of welfare for contexts in which aggregative measures are impossible or meaningless.

As a welfare criterion, efficiency has taken two rough forms. The first, which we may call static efficiency, is merely the implication of subjective utility at the level of the individual in a market. Given our present holdings, we may be able to trade with each other to make both of us better off. The second form, which we may call dynamic efficiency, takes incentives for being productive into account in assessing the differentially productivity of systems of production. Vilfredo Pareto focused on static efficiency. Thomas Hobbes, Ronald Coase, and John Rawls have all been concerned with dynamic efficiency.

Heightened concern with efficiency has come into contemporary moral and political philosophy from standard economic debates over conflict between equity and efficiency and from law and economics, which arguably has become the most articulated developed area of contemporary moral, political, and legal philosophy. The potential conflict between equity and productive efficiency is central to much of the discussion of distributive justice. The experience of communist nations seems to support concern with such conflict, although their recently troubled economic experience may have been grossly overdetermined.

A brief history

We may begin the story of efficiency in moral and political philosophy with Hobbes.
measurements for the society without the additional claim that values are interpersonally comparable.

Pareto

If we had a cardinal, interpersonally aggregative value theory, we could speak of efficiency of a group or society in terms analogous to those we use for an individual. If such a theory is ruled out, we might therefore seem to have no notion of efficiency. Perhaps we could make no claims of simple utility or welfare to justify choosing one policy over another. Pareto (1927) proposed a principle that would give us some purchase on such choices. The principle is the family of what have since come to be called Pareto efficiency, Pareto superiority and Pareto improvement.

If you and I have some distribution of commodities, it may be possible for us to trade with each other to make both of us better off. Eventually we may reach a state from which it is no longer possible to enter trades without making at least one of us worse off. Each of our trades is a Pareto improvement; the result of one of our trades is to produce a state of Pareto superiority over the state before the trade; and the end result of a sequence of trades from which no further trade can produce a Pareto improvement is Pareto efficient. In figure 23.1, your evaluation of various distributions of all of our initial holdings is represented on the x-axis and mine is represented on the y-axis. Suppose we start at the distribution at the origin. The curve ab is the Pareto frontier if it represents all of the states in which we could possibly achieve Pareto efficiency. If we trade to reach point p, our Pareto frontier is reduced to the segment RS.

There are three peculiarities of this vision of our interests. First, distribution p is neither better nor worse than distribution q. To move from one of these to the other is not a Pareto improvement. The same is true of all of the points on the frontier. None of them is superior to any other and there is no way to make a Pareto improving move from one of them to another. Hence, the Pareto principle is often indeterminate in the sense that it cannot rank certain pairs of outcomes or states. Although individuals may be assumed to have complete ordinal rankings of states of affairs, groups or societies need not have. (If the range of choices is sufficiently restricted, a society might have a ranking. For example, we might all prefer not to have a major nuclear war rather than to have one.) A strong commitment to paretianism, either for epistemological or for conceptual reasons, is a commitment to indeterminacy of social welfare values.

Second, a point very close to a is Pareto superior to o, just as the point S is. We started by assuming that the values of the two parties are not interpersonally comparable. But the difference between a and S involves not only differences in your and my welfare; it also involves objective distributions of goods. I may receive large quantities of some goods while trading away only small quantities of others. If you started with very little or none of one of the goods and a lot of the other while I started with substantial quantities of both, you might trade most of your holdings for very little of the goods you are missing. You might do this independently of which of the two goods you are missing. If you have an interpersonally comparable value theory, you might think this a bad result. Hence, the Pareto principle is a meaningful and distinctive principle.

Third, all of our evaluation here is strictly from the status quo at o. You may have vast stores of our commodities and have only slight interest in getting more from trade while I have very little. Still, you may do very well in our interaction, so that we end up close to b. Your greater resources and consequent lesser needs may enable you to bargain harder. (This is not a certain claim — I may be a very hard, stoic bargainer and I may wear you down.)

Clearly, a Pareto improvement is not efficient in the simple commonsense meaning of the term. Pareto himself tried to distinguish what is now commonly called Pareto efficiency from efficiency as conceived in notions of efficient production. He spoke of optimality for his principle. Economists have tended to prefer efficiency over optimality because the latter has stronger normative connotations in economic usage while efficiency seems more nearly to be purely descriptive. Nevertheless, the Pareto principle is often invoked as though it were a normative principle, as though to say that what is Pareto superior is therefore in some sense better. For example, in his general impossibility theorem for social choice, Kenneth Arrow (1951) imposes a lesser form of the Pareto principle as a minimal moral constraint on the aggregation of collective preferences.

It is sometimes thought that it would be rational for an individual to agree to any Pareto improvement. But this conclusion does not follow. Even though we might all be better off on the frontier than inside it, I might be especially better off at one point on the frontier while others would be especially better off at other points. Hence, there may be opportunity costs to me of settling on a frontier point that, for me, is inferior to other frontier points. It is therefore not trivially obvious what it would be rational for me to agree to – other than that it would be rational for me to accept a move to a point on the frontier that is at least as good as any other for me. This problem may
PART III: SPECIAL TOPICS

seem especially acute in many contexts of interest in moral and political choice, in
which the issues before us cannot reasonably be seen or approximated as static.
They are inherently dynamic. The frontier we face in this moment will provide only
the starting point from which we make our next move. If we move to a point that
gives you a great gain and me little or no gain, we then face a new future in which
you start well ahead in the important causal sense that you have more resources
for dealing with me.

Pareto’s discussions of his principle exhibit a flaw that is evident in figure 23.1. The
discussions are generally about reallocating what we already have. For Pareto, of
course, the reallocation is to be accomplished through voluntary exchange. There
is no production of what we are to allocate in figure 23.1 or in most discussions of
the Pareto principle. In this respect, although his account is more careful and
precise, Pareto’s concern is less rich than that of Hobbes, who was overwhelmingly
concerned with making life better. Sometimes, the paretian reallocation of what
we already have is called static efficiency or allocative efficiency, while the problem
of jointly enhancing production through reallocation is called dynamic or productive
efficiency. However, the vocabulary is not uniform or even generally precise or clear.

Pareto’s objection to cardinal, interpersonally comparable utility in economics may
have been that it is philosophically meaningless. He typically argued that no one could
make sense of the comparison of a supposed unit of my welfare and a unit of yours,
although he sometimes supposed this could be done in particular cases. Hence, his
objection may primarily have been epistemological rather than conceptual. You
and I typically know too little to make comparisons because we cannot know enough
about others. His complaint against such comparison was part of his general push for
greater realism in economic assumptions, many of which were stretched beyond com-
mon sense by the urge to make them complete and to mathematize them.

An oddity of a hard common-sense complaint against interpersonal comparison is
that most people seem to labor under the common sense assumption that they do
know what it means in many contexts. I might immediately grant that the welfare
consequences of your major injury or disease are greater than those of my stubbed
toe or common cold. It takes a relatively abstruse argument to make this comparison
seem meaningless and, once the aura of splendidly refined arguments has faded, the
comparison regains its psychological hold for all but the most firmly dedicated theorists.

If we reject interpersonal comparison of utilities, we cannot make common sense
efficiency claims for a group or an aggregate population. But, Pareto argued, we
would not be completely unable to make claims about aggregate welfare. We could
still say of one state of affairs that it was better than another if everyone were at least
as well off and no one were worse off in it than they would be in the other state. As
critics have long noted, this criterion suggests that the state of affairs W in which a
great deal of new wealth is created that all goes to the tsar is better than the state
X in which the wealth is not created and the tsar is not so much better off than all
others. Some of the critics think W is more unfair than X and is therefore not better
than X. (It is important not to suppose that the tsar’s greater wealth means greater
power to abuse or exploit others; if the wealth has such a causal effect, then W is
not better than X even by the Pareto criterion.) Resolute paretians seem to think
this criticism incoherent or irrational. All that should matter to me is how well off I
am, not how relatively well off others are, so long as their greater wealth does not
give them harmful influence over my well-being. Psychologically, however, we
know that people do care about relative status and that they have strong moral views
about it. Neither the paretian nor the relativist psychology is obviously moral.

Coase

In moving from the classical utilitarian view with interpersonally comparable, addi-
tive welfare to the view of Pareto we lose the capacity to judge between many out-
comes, all of which are Pareto efficient. Although we might be able to say that we
should improve our lot collectively by moving from a status quo to the Pareto fron-
tier, we could not say that one point on that frontier would be more attractive than
another by the Pareto principle. Hence, again, the Pareto principle might yield no
determinate advice on what to do.

Hobbes had already foreseen the problem of choosing from states that might not be
preferred in the same order by all of us. In choosing a government, we could establish
a monarchy, oligarchy or democracy, and some of us might prefer one of these while
others prefer another. Even if we all agree with Hobbes that monarchy is best for our
interests, we may still disagree about who should be the monarch. Hobbes resolved
this problem with a slight cheat. He supposed we know too little about the effects of
any of these governments for us to be able to care substantially about which is estab-
lished. More realistically, he also noted that our real problem is not construction of a
government but maintenance or overthrow of the one we already have. Here,
although I may rightly suppose my interests would be better served by a different
government, I must recognize that the task of getting to it would be very destructive.
Hobbes argued that, in general, the improvements one might expect from a change
of government would be outweighed by the costs of making the change, at least for
the present generation.

Pareto’s claim differs from that of Hobbes in that it is analytic rather than explana-
tory. He was concerned with evaluating the various prospects in principle. If the pare-
tian evaluations are then to play a role in choice, they must be joined by causal
considerations. For example, if the tsar in the example above thought his keeping
all the new wealth his society created would lead to revolution, he might conclude
that this point on the frontier would be causally excluded.

Even after certain states on the frontier are causally ruled out, however, we might
find that we still face a set of many possibilities and that the Pareto principle is inde-
terminate. Ronald Coase, an economist at the University of Chicago Law School, has
proposed a resolution for many such problems (Coase, 1960). That resolution is impli-
cit in what the economist George Stigler dubbed the Coase theorem. This theorem
may be loosely characterized as bringing production coherently into the paretian vision,
thus making our problem that of dynamic efficiency. We are concerned not merely
to reallocate what we already have in some status quo to our mutual benefit. We
are also concerned to produce additional goods and services to be allocated to our
mutual benefit.
The Coase theorem can best be articulated by example. Suppose a farmer and a rancher operate as neighbours. The rancher’s cattle tend to trample the farmer’s crops. One might suppose it obvious that the rancher is *prima facie* in the wrong. But, at least since Hume, we are reluctant to read moral conclusions directly off matters of fact. We could as well say the farmer causes harm to the rancher if the rancher’s cattle are not free to roam. To resolve such a case legally requires prior legal rules that address the case, or at least prescribe how to address it through relevant institutions, such as a common law court, if there is no adequately explicit rule in effect. We might similarly suppose that a moral resolution, which might not agree with the legal resolution, would turn on a prior moral theory that we apply to the case. We cannot simply intuit what is the right and what the wrong action. The law, of course, is contingent, and it is conceivable that it could have gone either way (it has gone both ways in various jurisdictions).

The Coase theorem says that, subject to transaction costs, the production from the joint property of the farmer and the rancher will not be affected by how the law assigns the right to use the farmer’s property. Suppose the law assigns the right to the farmer, so that the farmer may legally erect a fence to keep the rancher’s cattle out. Now, if the rancher can get more profit from running cattle on the land than the farmer loses from having the cattle run, the rancher and the farmer will bargain over sharing that extra profit and the cattle will run over the farmer’s crops. Suppose the law assigns the right to the rancher. If the farmer can get more profit from not having the cattle on the land than the rancher can get from having the cattle run free, the farmer and the rancher will similarly bargain over the extra profit and the cattle will be excluded. Hence, the rule on how to use the property will not determine the property’s use. Its possibilities for production will.

In this example, we have taken one point on the Pareto frontier and traded it for another point by introducing side payments. We can do this because the case is assumed to be entirely about income in the market. And the beauty of such income is that it is cardinal and it can be added across people. We might then be able to divide the income in a way that makes both parties better off than they could have been at either of the pristine states of affairs that might be supposed to be determined by our legal rule. In principle, we can bargain around any legal rule in such market contexts. Unfortunately, we may in fact sometimes find it impossible to bargain around a rule because bargaining itself can be costly and can eat up the gains in income that might be produced by a successful bargain. But, when transaction costs are not as destructive as this, significantly different legal rules may be relatively neutral in their impact.

In Coase’s resolution of our problem of reaching the frontier, we are able to push the frontier out further to where various bargains have been made to enhance productivity, where there is therefore greater total production as valued in the market. Making these bargains depends on the cardinal, additive nature of market income. Here, out of the potentially large range of possible bargained outcomes, we should naturally choose that (or one of those) which maximizes total market income to be divided between us. Hence, we no longer face the entire frontier with indeterminacy. Our only indeterminacy is that of how to allocate between us the excess income over what either of us would have got from bullheadedly following the extant legal rule. This is the universal indeterminacy of all constant sum bargaining games.

With this remarkable move, Coase has gone further than Hobbes. Hobbes reduced the frontier set to a collection of indifferently equally desirable states of affairs by stipulating epistemological barriers to our judgement of any differences between them. Coase actually makes a choice from the somewhat expanded frontier: that state which produces greatest market income. Coase’s device might not work for various cases, such as those in which evaluations may in principle be easy enough but bargaining is hard, such as cases involving large groups rather than individual choosers, and those in which what is at stake does not have a market value. These two considerations may be brought destructively together, as in ethnic conflicts over territorial control.

Note, however, that Coase’s problem is clearly and fundamentally different from Hobbes’. Hobbes was concerned with the general arrangement of order in society, with a willfarist or self-interest justification of the state. Coase’s theorem comes to bear only against the background of such a state and its general legal structures and rules. It is inherently about marginal problems because it assumes a general framework of extant prices. Coase’s resolution could not be applied to Hobbes’ problem. Hobbes’ and Coase’s contributions to the analysis of efficiency are essentially complementary, not alternative accounts.

Contemporary political theory

Apart from law and economics, the most influential area in contemporary political philosophy is the debates over distributive justice sparked by John Rawls (1971). Rawls begins with a concern for the apparent conflict between equity and efficiency. The efficiency that bothers him is productive efficiency. He wants to put our resources and incentives into producing the largest possible set of relevant goods for distribution. That is to say, he is concerned with Hobbesian efficiency. Conflict arises if individual productivity depends heavily on incentives, as it will if the way to induce greater production is to let effective producers have larger than average shares of the society’s wealth, income or consumption.

Rawls attempts to do something roughly similar to Hobbes and Coase: he narrows the range of possible efficient outcomes that we need consider. One might suppose this is merely a move to overcome the indeterminacy of paretian efficiency. But Rawls’ narrowing of the set of outcomes is fundamentally motivated by normative considerations of, most perspicuously, fairness and, especially in his later Kantian mode, such vague concerns as respect for persons and autonomy. Hobbes fell back on epistemological ignorance to reduce the set. Coase uses market values to trade beyond the bare allocations of the law. Rawls uses his criterion of equity, that the worst off do as well as possible, to eliminate many possible political arrangements. His focus is that of Hobbes on the general structure of political-legal order and not that of Coase on the resolution of marginal interactions against the background of an established political-legal order.

Contemporary utilitarian political theory, which seems to be every other theory’s chief antagonist, cannot be grounded in a trivially Benthamite value theory. Quite
apart from metaphysical objections to making interpersonal comparisons, such as Pareto may have had, there are obvious epistemological difficulties that may be insurmountable. Utilitarians may still accept at least some interpersonal comparisons and some aggregations across persons, as the anti-utilitarian Rawls implicitly does in his account of primary goods. But for many matters in political philosophy, they must settle for either Hobbesian or Coasian efficiency rather than aggregate welfare comparisons. If utilitarians are not happy with Hobbes or Coase, they must attempt to define an alternative notion of dynamic efficiency that can lie at the core of their political theory. And if they do not improve on these, they face the perplexing problem that the Hobbesian foundationalist vision does not coherently connect with the Coasian marginalist vision.

See also 3 HISTORY; 5 ECONOMICS; 6 POLITICAL SCIENCE; 16 CONTRACT AND CONSENT; 22 DISTRIBUTIVE JUSTICE; 25 EQUALITY; 41 WELFARE

References