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d'ARGE AND HUNT ON EXTERNALITIES AND ECONOMIC ORTHODOXY: A CRITIQUE APPRAISED

By William W. Brown and Morgan Reynolds[*]

In a recent issue of this Journal,[1] R. C. d'Arge and E. K. Hunt present a "critique" of the conventional economic analysis concerning external effects. After convincing themselves that "unless economics radically reorients its entire frame of reference" no progress is possible in "understanding and resolving the social and economic problem of environmental pollution and degradation," they unveil "a very crude road map toward reorientation." We suggest that the marketplace in economic ideas is rather like other markets—it pays to be wary of assertions by anxious sellers. A patient investigation of the sellers' claims is often rewarded, and in this spirit of *caveat emptor* we propose to subject their segments to a skeptical inquiry.

Lest our sympathies be misunderstood at the outset, we admit that we too agonize over the fact that human wants exceed the ability to satisfy them, that mother nature did not create a world of our choosing and that people do not always act with our interest in mind. However, the discrepancy between the way the world is, and the way we wish it to be, is not a generally accepted vehicle for carrying the day in matters economic. On the contrary, economics, if it is a positive science at all, concerns the development of a consistent theoretical structure designed to explain and predict an extensive class of observable behavior, not to pass on the desirability of such behavior.

The traditional method for displacing theories in the empirical sciences is to supply an alternative logical framework with a richer spectrum of refutable implications about the world. To quote a higher authority, Albert Einstein writes, "A theory is the more impressive the greater the simplicity of its premises is, the more different kinds of things it relates, and the more extended is its area of applicability."[2] Although general theories are "wholly" displaced in only the rarest of revolutionary instances, they are gradually and continuously modified through marginal extensions developed in the resolution of specific problems. Modifications of existing theory provide infinite avenues for extending our positive economic knowledge of behavior.

If this be granted as the basis for toppling or modifying a theory, how do our protagonists measure up? What are the alleged weaknesses of "orthodox" economies? Do d'Arge and Hunt provide a more powerful framework for analyzing behavior? Is there empirical evidence for the predictive success of their alternative? What is the basis of their critique?

Apparently, mundane questions about the empirical success or failure of economic analysis is of no concern for d'Arge and Hunt. Rather, economic orthodoxy is "vulnerable on psychological and ethical grounds."[3] Perhaps we are simply ignorant of the new standards for evaluating theories, but we would like to know how a theory yielding empirically refutable implications is vulnerable on psychological and ethical grounds. Can you imagine the reaction of a Newton, Galileo, Boyle, Mendel, or Leaky to the charge that their theories were vulnerable on psychological and ethical grounds? That their "entire normative framework" was partially defective? Perhaps d'Arge and Hunt are unwilling to admit to a corpus of positive economic knowledge. We do not know.

Much of their critique rests on a peculiar understanding of the results of economic theory. For example, they assert, "The conventional intellectual tradition in economic theory covering at least the last two hundred years rests squarely upon hedonistic preconceptions."[4] According to Webster's New World Dictionary, hedonism is the doctrine that pleasure is the principal good. Yet the predictive success of economics is based upon the denial of some immutable principal good. Men will substitute (or trade-off) among goods depending upon relative costs and benefits. Hence the ability to explain why much of mankind spends Saturday morning picking weeds and mowing lawns—a distinctly unpleasurable activity, at least for the authors. Similarly, the success in explaining why charity expands rapidly after catastrophes rests upon trade-offs.[5] Nowhere in contemporary economics is "hedonism" the dominant force in molding behavior—and rightly so, since the real world would quickly refute such naive assertions.

To confuse the observation that people prefer more goods to less with something termed "hedonism" is plainly wrong. Economics does not specify what things are goods, whether they may be brotherly love, your neighbor's welfare, help for the poor, a weedless lawn, or pecuniary wealth, but only that people behave in predictable ways to changes in the relative costs and benefits of goods.

Another instance of their peculiarly distorted view of economics is that external effects have received casual and/or little attention by economists. They contend that "the treatment of externalities in economics, even in many recent theoretical analyses, borders on the notion that externalities are 'freakish anomalies easily adjusted for within an otherwise perfectly functioning competitive system.' "[6] If this be true, how do they account for the flood of articles on the subject since, say, 1954 when Samuelson published "The Pure Theory of Public Expenditure."[7] Certainly since Coase's "The Problem of Social Cost"[8] in 1960, the widespread literature on externalities would seem to indicate a "pervasive" concern over these "freakish anomalies."

Perhaps economic investigations of information and transaction costs, alternative property right assignments, and uncertainty, all of which bear on the extent to which externalities are "problems," are yielding results which they do not like. Perhaps they are simply impatient with the progress to date, in which case we can only agree and join in urging further work.

Their suggestion that government (presumably economists as well) view the "pollution problem not as one of millions of firms and individuals, each requiring adjustments but as a problem of the society as a whole"[9] has a nice ring of workability about it. Nothing like seeing the big picture, especially when mere mortals like us are yet unable to precisely define the "problem." Can we expect that the "societal viewpoint" will yield useful propositions about the behavior of people in the presence of external effects, how they adjust their behavior to induce others to generate more or less of a given externality? Or explain the development of "planned" communities and how developers internalize the externalities associated with community living? Or why diverse retailers locate in the same area? Or how firms organize to mitigate external effects arising in production? Or under what conditions administrative actions are a lower cost substitute for market exchanges? Despite the best of intentions, the "society as a whole" approach falls rather short of an operational framework for analyzing externalities.

In their drive to develop the "necessity of a change in economic viewpoint," d'Arge and Hunt point out that the real world is a complicated place. Though not a new observation, they describe it with an engaging phrase—"pervasive externalities." Recognizing that the actions of an individual, in addition to having private consequences, almost always affect others, they are troubled by the lack of organized markets where trades in external effects could be consummated. In fact they offer this apparent lack of *quid-pro-quo* market exchanges as evidence of weakness in orthodox economic theory.

There is no doubt that the side effects of our actions, pervasive as they are, are intriguing and pose the difficult question of determining what institutional arrangements are low cost ways of reducing their relevance. But the absence of an organized market cannot, on its face, be considered non-economic (i.e., inefficient) nor an indictment of economic theory. In fact it should be obvious that markets are viable only when the benefits perceived by transactors outweigh the cost of organizing and operating the market. Consequently it is not surprising that there are not active markets in belching rights, nor rights to pollute the air via automobile exhaust.

What do d'Arge and Hunt propose as a means of analyzing the imagined problem of the "pervasiveness" of externalities? Do they give us a means for assessing administrative versus non-administrative modes of mitigating external effects? Do they tell us about the "external effects" of governmentally imposed solutions? Do they give us insight into how different institutional arrangements will induce different flows of information? Presumably these are questions of some concern. Unfortunately the mere recognition of the world's complicated nature is not sufficient for viable analysis.

Another matter which apparently concerns d'Arge and Hunt is the lack of correspondence between the "restrictive assumptions" of economics and the real world. We wonder if they are equally concerned about the effect of assuming a perfect vacuum upon the ability to predict the flight of a cannon ball. Do the "unrealistic" models of molecular structure prevent a chemist from predicting that combining hydrogen and oxygen yields water? Does the assumption of negatively sloped demand curves yield tolerably accurate predictions about the results of minimum wage or rent control laws?

On the matter of "restrictive assumptions" we applaud the reference to J. de V. Graaff's book, but not our protagonists' interpretation.[10] The first sentence of Graaff's chapter 10 reads: "The measure of acceptance the marginal cost pricing principle has won among professional economists would be astonishing were not its pedigree so long and respectable."[11] In their eagerness to "devastate" economic orthodoxy, d'Arge and Hunt use the quoted passage in the following fashion: "Many of them are so restrictive that one must agree with Graaff that 'the measure of acceptance . . . [which this theory] has won among professional economists would be astonishing were not its pedigree so long and respectable."[12] Note their substitution of "this theory" for "marginal cost pricing." To equate marginal cost pricing with all of economic orthodoxy and to assert that Graaff led "one of the most devastating attacks" on economic theory is a credit to their imagination but nothing more. Graaff was concerned with specifying the assumptions which are sufficient to allow an economist to *prescribe*, for a public enterprise or nationalized industry, setting price equal to marginal cost. Graaff demonstrates that economists cannot recommend or make policy statements about what allocation or prices ought to be. Such analysis leads Graaff to conclude his book:

> I do feel very strongly that the greatest contribution that economics is likely to make to human welfare, broadly conceived, is through *positive* studies—through contributing to our understanding of how the economic system actually works in practice . . . In my view the job of economists is not to reach welfare conclusions for others, but rather to make available positive knowledge—the information and the understanding—on the basis of which laymen (and economists themselves; out of office hours) can pass judgment.[13]

Graaff's message is strikingly similar to that of Milton Friedman who stresses that normative economics cannot be independent of positive economics because any policy conclusion necessarily rests upon some positive analysis about why a problem exists and therefore how the recommendation will ameliorate it. Friedman adds:

> I venture the judgment, however, that currently in the Western world, and especially in the United States, differences about economic policy among disinterested citizens derive predominantly from

> different predictions about the economic consequences of taking action—differences that in principle can be eliminated by the progress of positive economics—rather than from fundamental differences in basic values, differences about which men can ultimately only fight.[14]

d'Arge and Hunt warn that "attempts by the government to bring about 'workable competition' may result in effects diametrically opposed by those envisioned by the authors of those policies."[15] Admirable advice. To what extent does their "radical reorientation" conform to the prescription? What, in fact, are their specific proposals to "ameliorate the effect of waste emissions"? Three policies are suggested—changes in macroeconomic policy to reduce waste generation, imposition of a family expenditure limit, and finally, subsidies to encourage "environmental awareness and an encompassing conservation ethic." What will be the effects of these schemes?

Using macroeconomic policy to achieve environmental goals seems a blunt instrument at best. What they hope to achieve with particular changes seems murkier yet. We agree there are conceivable effects on waste emissions from governmental policies, but we find it somewhat unsatisfactory that the particular effects go unexplained. For example, we are puzzled by the contention that the production of investment goods does not generate wastes but consumption goods do. What possible evidence could they offer? We also are told that tax credits, depletion allowances and capital gains provisions have consequences for the generation of wastes. Was the matter ever in doubt? What these effects are in specific instances however, is not so easily discovered. The oil depletion allowance, for instance, encourages more resource use in oil production but in what alternative activity would these resources have been used? More (or less) waste may be generated in the alternative use. Again, no evidence is presented. Low depreciation allowances are claimed to reduce waste by increasing the age of the capital stock, but this relationship is doubtful, as is the relationship between depreciation rates and the age of equipment.

Among blunt instruments however, the maximum limit on family expenditure is the most ill-conceived of all. What empirical evidence supports this proposal? Are family expenditures on goods "after" the first $20,000 more pollution intensive than if the goods were purchased by the poor? There is no evidence, but it seems most improbable. Other predictable consequences of such a policy are ignored. For example, competing employers will resort to non-salary inducements to attract skilled labor. "Fringe benefits" will grow into homes and cars and country club memberships. Barter generally will expand at the expense of money exchanges, as high income units attempt to reduce reportable incomes.

Other adjustments will occur. Family units will split off and multiply to avoid the impact of an expenditure ceiling. More and more resources will be consumed on monitoring and policing these arrangements, although the authors seem less concerned here about "private freedom" than in the case of monitoring automobile emissions. Further questions arise. Could a family redistribute consumption over time in order to spend more than $20,000 this year and less than $20,000 next year? Or do not personal preferences matter? Could persons above the ceiling negotiate a mutually agreeable exchange by buying some of the "unused" consumption rights from an individual below the ceiling? The entire proposal, even if "successfully" implemented beyond the authors' fondest dreams, has an unknown impact on the total waste flow. We suspect it is proposed simply to redistribute income, but if so, let this redistributive device rise or fall on its relative distributional merits, not on its presumed "environmental consequences."

The last proposal to reduce wastes "evolves from a simple idea" but could better be termed simple-minded. d'Arge and Hunt call for a doctrine of cooperation and conservation, an encompassing conservation ethic, a less extravagant existence. Noble sentiments indeed. Organized religions have peddled such messages for centuries without notable impact on human behavior. We find it amusing that two economists place confidence in "social consciousness" but not in taxing emissions or assigning private property rights to unowned resources like air and water. Should we presume that firms struggling to show a profit will not cheat on the "conservation ethic" and pollute just a little bit? Even if all present firms in an industry "behave," what prevents some ill-intentioned, profit-seeking soul from starting a firm with no pollution control? The conservation ethic? Community disapproval? The same forces, no doubt, account for the lack of prostitutes, dope-peddlers, pornographers and napalm manufacturers. d'Arge and Hunt must recognize that resources are consumed in an "educational" effort so they must believe that preaching will reduce wastes more than using the same resources on the next best policy. We doubt it. Molding men's souls to "do good" does not promise high returns.

A previous exchange between a pair of distinguished economists, Robert Solow and John Galbraith, comes to mind.[16] Solow drew a distinction between big-thinkers and little-thinkers. Economists generally fall in the latter category, being small-minded types who keep insisting upon tight reasoning which yields empirically refutable implications. Perhaps our small-mindedness has blinded us to the moral vision of big-thinkers, but we await further revelation. Meanwhile, until contrary evidence accumulates, we shall continue to presume that an enlightened morality is not necessary for the understanding of economic behavior.

FOOTNOTES

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[1] R. C. d'Arge and E. K. Hunt, "Environmental Pollution, Externalities, and Conventional Economic Wisdom: A Critique," *Environmental Affairs*, Vol. 1 No. 2 p. 266 (June 1971).

[2] *Newsweek*, p. 68 (Aug. 9, 1971).

[3] d'Arge and Hunt, *supra* note 1 at 272.

[4] d'Arge and Hunt, *supra* note 1 at 267.

[5] See L. DeAlessi, "The Utility of Disasters," *Kyklos*, Vol. 21 Fasc. 3 (1968).

[6] d'Arge and Hunt, *supra* note 1 at 266. We have no idea what function their quotation marks serve.

[7] P. A. Samuelson, "The Pure Theory of Public Expenditure," *Review of Economics and Statistics*, Vol. 26 (1954).

[8] Coase, Ronald H. "The Problem of Social Cost," *Journal of Law and Economics*, Vol. 3 (Oct. 1960).

[9] d'Arge and Hunt, *supra* note 1 at 281.

[10] J. de V. Graaff, *Theoretical Welfare Economics*, Cambridge: The Cambridge University Press (1957).

[11] Graaff, *supra* note 10 at 270.

[12] d'Arge and Hunt, *supra* note 1 at 270.

[13] Graaff, *supra* note 10 at 170.

[14] M. Friedman, *Essays in Positive Economics*, p. 5, University of Chicago Press (1953).

[15] d'Arge and Hunt *supra* note 1 at 271.

[16] R. Solow, "The New Industrial State or Son of Affluence," *The Public Interest* (Fall 1967).