

## **Economics and the Problematique Report of the CACOR Project Group**

In recent years it has become fashionable, at least in certain quarters, to question the relevance of mainstream economics. For example in the 1995 Massey lectures, John Ralston Saul states that

"Economics, as a prescriptive science is actually a minor area of speculative investigation. Econometrics, the statistical, narrow, unthinking, lower form of economics is passive tinkering, less reliable and less useful than car mechanics. . . . . economics has been spectacularly unsuccessful in its attempts to apply its models and its theories to the reality of our civilization. It's not that the economists' advice hasn't been taken. It has, in great detail, with great reverence. And in general, it has failed."

This is a serious condemnation. Is it warranted? If so, can economists be made to see the error of their ways and develop a new economics -one that is less preoccupied with growth and development -one that is capable of addressing the pressing issues of the global commons? Can economists be engaged in addressing and resolving the issues of global problematique? Can economic concepts such as GDP be adapted to reflect the environmental costs of economic growth? Can prices be adjusted to accommodate social as well as private costs? Can economic instruments, such as carbon taxes, bring about sufficient changes in behaviour to resolve global issues? Or should economics be ignored and left to die a natural death in some obscure corner of academia?

From time to time, these questions have been raised by CACOR members and various courses of action suggested. To further this discussion, a half dozen distinguished economists were asked in the spring of this year to consider the following two questions:

- (1) How can economists be persuaded that the emphasis on economic growth is actually inappropriate, both for now and for the future?
- (2) How can this message best be presented to tomorrow's economists who are presently being schooled in this subject?

Four of the distinguished economists responded by giving generally pro-growth, pro-status quo, pro-innovation and technology responses, which might be summarized in the following words of one of the respondents:

"The questions which you raise are indeed interesting ones. I personally believe that it is going to be almost impossible for you to persuade economists that economic growth is inappropriate. After all, since the days of Adam Smith, economists have been trying to explain economic growth and since the days of Lord Keynes have been trying to find policies which assure that economic growth will be enhanced. Trying to turn around the entire thrust of a field is not easy.

My answer to your second question follows obviously from the first, namely, the only way

in which you will get economists to change their views markedly is to convince them that the real standard of living of most people, at least in the industrial western world, will be in the future more a function of sustainable growth than economic growth." [1]

At the same time, a group of CACOR members was asked to consider the same questions in the light of the responses received and, more generally, to consider the relevance of mainstream economics for the problematique and what, if anything, could or should be done.[2]

What follows is a summary of the points that were raised during the course of the discussion. The points do not represent a consensus, nor was one sought. It is our desire in presenting them that they will serve to stimulate and broaden further discussion.

1. Many of the issues of the global problematique may be thought of as 'problems of the commons', in this case, problems of the global commons. [Hardin 1968] In problems of the commons, the use of the commons by one individual affects their use by other individuals, or, in the language of economics, it is said that externalities exist. Market mechanisms are not appropriate for 'managing' the commons. Consider the example of a fishery: if the demand for fish exceeds the supply that can be sustained and fishing is unlimited, the fishery will collapse and the yield will approach zero to the disbenefit of all

fishermen. To the extent that the characterization of the 'problematique' as 'problems of the global commons' is true, the prescriptions of mainstream economics, based, as they are, on individual welfare maximization only exacerbate the problems.

2. Effective management of the commons means limiting their use to a level that can be sustained. In the example of the fishery, what is required to manage the fishery is an agreed upon mechanism for allocating the sustainable catch among fishermen. This raises the issue of equity -the allocation of the use of the commons is apt to be accepted only if the allocation is perceived to be equitable or just. Equity is not a concept that plays much of a role in economics, which is much more concerned with efficiency.

3. According to the theory of comparative advantage, 'exchange' or trade increases the welfare of participating parties due to the increased efficiency arising from specialization. Implicit in this theory is the assumption that participants have equal power. However, exchange can also be the instrument of a power relationship through which the welfare of one party is enhanced at the expense of the other party once a dependency has been established. It might be instructive to think of free trade or exchange as the means by which the developed nations exact a flow of resources from the less developed.

4. Much of the debate arising from the limits to growth turns on technological change.

The technological optimists, characterized by Julian Simon, argue that the price system will anticipate impending scarcity and will stimulate an appropriate technological response. What is curious is that mainstream economic theory has little to say about technology. Just as often as not, technological change is represented by the variable 'time' and is the 'unexplained' residual difference between the growth rates of outputs and inputs.

5. Essentially, mainstream economic theory is a system of deductive reasoning based on two sets of assertions or axioms, one concerning the behaviour of consumers, the other, the behaviour of producers. It is asserted that consumers are rational maximizers of welfare and, further, that individual welfare functions are separable or independent of each other and therefore additive. It is asserted that producers are profit maximizers and, further, that cost curves have the property of increasing returns. All the main elements of economic theory flow from these axioms: individual welfare functions with the properties of separability and convexity lead to a social welfare function and downward sloping demand curves; the property of increasing returns leads to upward sloping supply curves; supply and demand curves intersect to give rise to prices that reflect societal values; the values that are objectively revealed by market prices can be used to compare costs and benefits. The problem with this mainstream economics is that the axioms upon which it is based are both questionable. As noted above, externalities are important, as may be positional goods [Hirsh 1976] If so, welfare functions are not separable and hence not additive. There are also many important instances of decreasing returns: markets that are dominated by a small number of suppliers imply downward sloping supply curves.[Arthur 1994]

6. Furthermore, it has been shown that, if the first law of thermodynamics is added to the consumer and producer behavioural axioms, that is, if the sources and sinks for the materials and energy used by a society are not infinite, the price system ceases to reflect societal values and is not an optimal allocator of scarce resources.[Perrings 1986]

7. Economics purports to be a science and has taken on the trappings of a science -it borrowed the mathematics of Newtonian physics and the quantification of experimental science. Yet, unlike physical sciences, economics lacks a method that allows it to reject hypotheses. Scientific hypotheses must be stated in terms of concepts that can be observed and measured so that hypotheses can be tested. Economic concepts, such as welfare functions and supply and demand functions, are appealing abstractions, but they are not observable or measurable. Neil Postman, the well-known critic of modern culture, observes that "The status of social science methods is further reduced by the fact that there are almost no experiments that will reveal a social science theory to be false." [Postman 1992]

8. The strength of economics as a prescriptive science is based on the proposition that societal values can be objectively measured through market prices. If points 5 and 6 are

valid, values cannot be objectively measured. Values held by different groups may not be reconcilable -for example a logging company may value a forest for the present value of the net income that can be generated from harvesting the wood, some may value the forest for its recreational value, natives may value the forest because it sustains their way of life.

9. Persuading economists to modify macro-economic concepts, such as GDP, is apt to be counterproductive, because, to do so is to legitimize the use of market prices or some proxy thereof as an objective measure of societal values.

10. By and large, economists are not well trained to deal with complex systems. Economics is the only science that is based on a theory in which aggregation is legitimate. As a consequence of this theory, macro-economics need not be concerned with complex interactions among individual entities. Rather, macro economics deals with complexity by aggregation -an aggregation using value based weights -whereas most sciences deal with complex behaviour as a consequence of the dynamic interactions among relatively simple entities at a lower level.

11. Like many disciplines, economics has developed a language so arcane that none but academically trained (and indoctrinated) can understand it. The professional journals are not accessible to the informed layman, but they do serve the 'publish or perish' needs of the discipline. This language barrier makes it difficult to engage economists in real dialogue.

12. If economics lacks a method for discriminating among hypotheses, it is legitimate to ask why certain hypotheses are accepted and acted upon by governments. The answer to this question is implied by John Ralston Saul's thesis that corporatism has come to dominate democracy. Theories leading to prescriptions that coincide with powerful corporatist interests become more acceptable than those that don't.

After all is said and done, it is perhaps reasonable to conclude that economics is part of the

problem and not part of the solution: the mainstream body of economic theory, which dominates the practice of economics and which is largely unchallenged in institutions that teach economics, provides rationalizations for, and therefore legitimizes, those behaviours

that have given rise to those global problems that we characterize as the problematique.

The group consisted of Arthur Cordell, Charles Jeanneret, Robert Hoffman, George McColm, Clive Simmonds, and Drew Wilson.

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