

# Relevance in Economics

TILFORD C. GAINES\*

Throughout the history of economics as an identifiable discipline, economists have assumed the responsibility for identifying and appraising the influences—social and natural—that might affect the economic well-being of the public. The world's principal political systems were structured to meet the income and power distribution precepts of separate schools of economic philosophers. For better or worse, the social, political, and material condition of the world today is largely due to the abstract generalizing, or theorizing if you will, of economists.

In other words, economics has been a relevant science. There have at all times in our history, of course, been large numbers of pedantic counters of angels on heads of pins. I am old enough to recall the pre-computer days when the most elegant formulations of those who confuse the translation of concept into mathematical expression with "theory" were geometric (some three dimensional!). More recently, the computer has permitted the intellectual descendants of this group to go algebraic. (I would note, in passing, that this is not a blanket criticism of mathematical applications to economic questions; the work leading to the development and refinement of econometric models of the economy and its subsectors, for example, has been very use-

ful.) But I also recall that through the twenty-five years of my life as an economist the main thrust of economic discourse has been directly relevant to identifying, analyzing, and prescribing for the important evolving issues and events.

I judge that this is far less true today than it has been in the past, conceding that my judgment may be no more than the human tendency to put on rose-colored glasses when looking at the good old days. It seems to me that economists recently have failed to identify many major events before they became "crises" and, once circumstances have proceeded to the point where they could no longer be ignored, have failed to devote sufficient of their considerable talents to their analysis. Among important matters of recent years that I would judge to be of most critical long-run importance and to which I believe economists have not given enough attention are: the development of micro vs. macro analyses; related to that, the world-wide energy, food, and minerals situation; population trends; the environment; changing economic priorities (life style); and the implications of these matters for the future of both the developed and developing economies.

## *Micro vs. Macro and Shortages*

In just the past two years, governments and people around the world have suddenly

\* Vice President, Manufacturers Hanover Trust, New York, New York.

become aware of serious shortages relative to the demand for a number of materials vital to the growth of an industrial (or for that matter, developing) country. If my reading of the literature has been at all thorough, economists generally were at least as surprised by this development as any other group in the population. Some economists have throughout, of course, been concerned about the squandering of our finite resources and have pushed for conservation measures; but it would appear that even this perceptive group was surprised at the speed with which the present set of problems emerged.

If one is to be critical of economists for not anticipating and warning the world of the imminence of wide-ranging material shortages, he must first answer two questions. One, how did it happen that the problems were upon us before we were aware of them? Might economists legitimately have been expected to see them coming when they did? Two, are the present problems of long-run or structural significance? Or are they only temporary and in importance no different from the commonplace relative shortage of one resource that has been met at the margin by the substitution of another resource and that, throughout history, has been handled smoothly by the market pricing system?

As to why all of us were surprised, including economists, a good part of the blame has to do with our industrial capacity statistics. Either they were grossly wrong or, in showing substantial idle capacity after extensive shortages were already upon us, they were so aggregative as to disguise bottleneck capacity shortages in the critical materials industries. Of course, even if the statisticians were primarily to blame, economists may not absolve themselves. Had they been as close to ongoing developments in the real industrial world as were many of

their more illustrious forebears they would have been alerted to the emerging problems. What is at the root of this shortcoming has been economists' preoccupation with macro matters in recent years, and particularly with policies on the demand side to achieve full employment, that has led them to pay too little attention to essentially micro supply problems.

Of more importance than the assignment of responsibility for our not having seen our materials problems before they were full grown, however, is a judgment as to how important the materials shortages are. Is their importance long or only short-run? And is the problem different in kind from similar problems of the past?

In my judgment, the problem in an acute form is only short-term, but its consequences both in the short-run and for the longer-run economic development of the world are critical. The most important way in which the present shortage situation differs from earlier relative shortages is that virtually all of the materials that might be used to substitute for one another are simultaneously in short supply, so that substitution in most cases is not a feasible alternative. For example, capacity shortages have appeared in steel as well as all of the non-ferrous metals. All of the natural fibers are in short supply, and the petroleum shortage limits our capability to substitute synthetic fibers, which by and large are petrochemical-based, for the natural fibers. Similarly, the shortage of petrochemicals makes it difficult to substitute various types of plastics for the metals that are in short supply and so forth.

Because of the generalized shortages relative to demands for materials, the short-range problem is indeed critical. It will ultimately be solved world-wide by the opening of new mines and wells, the construction of new refineries, and the rest. But

the construction of these facilities in all cases will require at least two to three years. There has been considerable misunderstanding of the problem. For example, take the case of gas and oil products. Those who argue that there is no shortage since world-wide pumping capacity is adequate to meet current and prospective demands for crude oil are quite right, but a serious problem exists nonetheless. The difficulty is that this country does not have the refining capacity, large tankers, or deep harbors necessary to import sufficient amounts of crude or refined products from abroad. Considering the lead time in correcting these shortages, this past summer's gasoline shortage and this winter's fuel oil shortage (and irrational energy panic) are certain to get worse before they get better.

It is encouraging to know that the materials problem we are now confronting in minerals and petroleum are only short-run and, so far as supply capacity is concerned, will be corrected within a few years. But, there will be most important long-run implications of the process we have entered upon. First, we are confronting the fact that we (the United States) have eaten our way through the cheap resources that have historically given us a significant comparative advantage vis-à-vis other developed countries. There still are vast untapped resources in the U.S. in the form of oil, gas, coal, other mineral deposits, and so forth, but the marginal cost of bringing these resources into economic use will be far greater than has been the cost of the abundant and cheap gas, oil, and ores we have been using. The cartels in oil and other products from abroad should warn us that the costs of imported raw materials, however cheap their extraction costs, will at least equal the marginal costs of domestically produced materials.

The long-run consequences of the short-

ages, and therefore higher costs, of materials we are now recognizing will lead to permanent shifts in the trade-off between goods and services and to significant limitations upon the ability of the U.S. to achieve the "material" growth rates that it has taken for granted in the past. It is interesting and fortunate that the country appears to be going through a change in priorities toward de-emphasizing material wealth at the same time that natural pressures would, in any case, have led to such de-emphasis. One is driven to wonder which is chicken and which is egg.

While the implications of the materials shortages for the developed countries, and particularly the U.S., are indeed significant, they are far more significant for the developing countries. The brutal fact is that the supply of available materials around the world, those that have already been developed and those that are only potential, is such that the developing countries can never conceivably, as a group, achieve the material scale of living already attained by the wealthier developed countries. In the competition for limited resources in the years ahead, and in the political interplay of international politics, these circumstances may impose upon the developed countries, and particularly the U.S., the zero growth future that some social scientists have been recommending as a desirable, if not necessary, social course. It is possible that in terms of material well-being (however it is measured) the future may actually see some decline.

There are many consequences, potential or already real, of this failure by economists generally to recognize supply constraints. In the case of food products, the entire world has been brought closer to true famine conditions than at any time in at least a generation—and probably much longer. In the case of the nonfood materials.

growth potentials in the developed and developing worlds have been stunted in ways that the "most sophisticated" models did not foresee. In the case of world power alignments, there has been a permanent shift in the terms of trade toward materials exporting countries that has incalculable implications for the future of economic and political relationships among countries. The story is much longer.

All of these consequences were foreseeable by anyone who took the trouble to recognize that economics should still be a relevant discipline. The trends were visible in the data. They were not foreseeable by those economists who consider the discipline to be confined to playing games with macro concepts.

#### *Population Trends*

In the important areas referred to earlier, in which I judge that economists have not devoted sufficient attention, the deficiency is now being corrected in the study of population trends. It is interesting, however, that economists' attention to population developments did not emerge in full flower until a year or two ago as the total fertility rate approached the zero population growth level. The trend in that direction had been evident for a number of years; most economists continued to work with Bureau of Census projections that were becoming patently outmoded.

The long-run implications of zero population growth are extremely important. In particular, as the majority of the developed nations have moved toward lower fertility rates, the fears of famine expressed in many quarters, and particularly by such groups as the Club of Rome in its *Limits to Growth*, have tended to recede. Granted that fertility rates in the developing countries in most cases remain too high and continue to limit

the ability of the developing countries to improve per capita welfare, the developing countries also have shown in recent years a declining fertility rate trend.

If this recent world-wide tendency toward lower fertility rates is confirmed in the years ahead, there will be a number of other important consequences in addition to the greater assurance that food supplies will be adequate. For one, the growth of demand pressures upon all natural resources will be lessened. Most important, the demographic structure of the population for the next thirty years and longer will move toward larger over-all labor force participation because of larger contingents in the working age group. To that potential outcome should be added the likelihood that smaller families will further the existing trend toward women's participation in the labor force. Taken together, these two developments would, by increasing the quantity of labor available per person in the population, support improved per capita well-being.

#### *Environmental Issues*

It is in the area of concern over the physical environment that the failure of economists to lead the way has perhaps been the most critical. To be sure, economists have had an academic interest in external vs. internal costs throughout the history of the discipline, and over the years there have been a number of initiatives by economists toward recognizing externalities in cost functions. But one can scarcely say that the interest displayed has been overwhelming.

Yet, their training in economic theory should have caused economists to have taken the lead in insisting that external costs be borne by the generator of the costs rather than by the public at large. Pricing theory certainly would have called for this

treatment, and all of the history of what used to be called "welfare economics" (perhaps still is, although I have not happened to come across the term recently) specified as the optimum solution of the welfare equation one that minimized total costs and maximized total benefits. But when the ecologists stole a march on economists a few years ago, the reaction of most economists tended to be defensive rather than constructive. Fortunately, that initial reaction has now been replaced by the beginnings of serious research on cost-benefit trade-offs and on public policies that might most efficiently promote the optimum solution.

Meanwhile, by permitting some of the more extreme formulations of the ecologists to carry the day—formulations that threaten doomsday unless crash programs are instituted—a considerable amount of wasteful activity has resulted. The greater danger has been that of a back-lash that might replace the attitude that the job must be done at once with the conclusion that there really is no urgency to move ahead at all. What has been needed in the courts, in the Congress, in state legislatures and in regulatory authorities is the influence of rigorous cost-benefit analysis of the sort that economists, uniquely among the various disciplines, are best able to provide.

There is no point belaboring the issue, since everyone is familiar with at least a few horrible illustrations of the false directions that our lack of careful thought and guidance have led to. Clean air requirements have led to a crash program on automobile emission controls that has added immensely to our petroleum problems. Requirements for industrial emissions that have forced the substitution of low sulphur fuels for coal have further complicated the petroleum supply situation. Only partially rational fears have led to lengthy delays in construction of nuclear power plants. The

Alaska pipeline was held up for years for reasons of permafrost damage, caribou migration patterns, and all the rest that no reasonable cost-benefit analysis could have justified. The illustrations are endless.

The point is that the one group of scientists, economists, that should have been best equipped to evaluate the cost and benefit trade-offs (with the aid of data supplied by other disciplines) was looking the other way. It is too late to correct much of the damage that has been done, but one might at least expect that the economics profession by now would have begun to express a powerful, rational position. If it has, it has escaped my attention.

#### *Economic Priorities*

Of necessity, economics is a materialistic discipline. It attempts to measure the cost vs. the benefits—or in the old terminology, utility vs. dis-utility—of the many ways in which human effort, ingenuity, and material resources might be used. It is perhaps unreasonable, however, even within this concept of economics, that the emphasis should be so exclusively upon material *goods* as it has been. For example, if a family buys a \$5,000 automobile, that counts twice as much in the gross national product accounts as does the purchase by another family of a \$2,500 automobile, although the utility and satisfaction to the owners might be the same with both vehicles. If a manufacturing plant spends \$1 million on environmental investments that reduce the noxious emissions from the plant, that expenditure is counted as a contribution to gross national product. But if, as a consequence of the investment, the health of the people in the community is improved, there is no measure of that fact in the GNP accounts. In other words, the way we treat expenditures on environmental correction measures is as

though they made no contribution whatsoever to the over-all well-being of the society.

Our materialistic accounting system has far more peculiarities in it than could possibly be outlined here. At least one other, however, should be mentioned. In the case of most of the government and private service activities in the economy, the assumption is made that from one year to the next there is no improvement in productivity, unless it is possible to document clearly that there has been an improvement. Therefore, if an individual voluntarily chooses to spend some part of his income on a skiing vacation rather than to buy a piece of durable consumer equipment, the net effect is likely to be a lower reading in the productivity figures. Along the same line, income spent to get a college education contributes nothing to the national measures of productivity, which are in turn reflected in the national product accounts, while a similar expenditure for tangible goods would have an impact upon the productivity measurement.

In almost all respects our economic accounting systems are rooted in the concept that real well-being is measured by the individual's ownership of tangible goods. Perhaps this type of accounting system was justifiable in an essentially agrarian, primitive society. But the question must be raised as to whether it is still relevant in the modern, affluent United States of today. There have been many signs that a growing part of the population is consciously opting for non-material satisfactions rather than for material goods. There obviously are still large groups in the population that are under-privileged in terms of the material goods that most of us have in abundance, and this inequity must over time be corrected. But as a general proposition it is accurate to state that the United States has reached a level of affluence where emphasis upon further accumulation of material ob-

jects is no longer as important as our economic accounting system and our set of economic concepts would suggest.

What has come to be termed the shift in "life style" is widely evident. One part of it is visible in the drop in the fertility rates, already referred to. Demographers are uncertain as to whether or not this change reflects a permanent shift, but its duration and a number of background circumstances would suggest that it is. It is evident in the much more casual attire of both men and women—not to mention young people. It is evident in the reduced emphasis upon ostentatious consumption spending. It is apparent in the loss of favor of large automobiles vs. small cars. The illustrations could be extended indefinitely. What they all add up to, however, is a shift in the preference of most American consumers toward expenditures out of their budgets that require less in the way of consumption of hardgoods, less competing with "the Jones'", and more emphasis upon non-material satisfactions that has been the case in the past.

If this appraisal of a shift in the consumption preferences of the public is at all accurate, and if it is furthered by the realignment of expenditures that would automatically follow upon the higher cost of fuel and all other material resulting from current material shortages, then the consequence certainly must be a U.S. economy for the future that does not fit the patterns of the past. I have long been committed to Alfred Marshall's proposition that nature does not move by leaps, so I do not premise here that a revolutionary shift is occurring. But I do suggest that the rate of change in the circumstances with which economics must deal has been very significantly accelerated. Specifically, I would suggest that models, whether they intend to measure the performance of the entire economy or some

small segment of it, that are based upon regressions against prior relationships may not be relevant to the world of today, not to mention the world of tomorrow.

### *Concluding Remarks*

As I reread what I have written thus far, I am impressed by how much it sounds like the crotchety remarks of the older people who had drifted out of the profession, and for whom I had no respect, as I was developing as an economist. I am also impressed by the way in which it sounds like a criticism of mathematical economists by a person who flunked Algebra I. The latter conclusion would not be fully justified, although I have to admit there might be some merit in the former. But I would nonetheless press my plea for relevance in economics.

Each year millions of dollars are made available to economic researchers from the government, from universities, and from private foundations. Almost all of this money goes to academic economists. What has been the result of these efforts? My answer is almost nothing. If I never again see a portfolio management model, an investment decision model, and so forth, I would be the happiest person in the world. My impression is that various sources of funds on American campuses are working in this

very limited area, and I have yet to see a contribution to portfolio management that was worth anything. I make that remark as a man who has spent many years managing a very sizeable investment portfolio.

These harshly critical remarks are intended to energize young people on campuses around the country to take a fresh look at what is truly relevant in the discipline that I have been pursuing for most of my life. I cannot believe that the games that most of you are playing can be very satisfactory to you. As I look around at the immensely intricate problems that this country and, for that matter, all the world face, I can only hope that those of us who are out of the academic community can be bolstered by a few academicians who see economics as a living discipline rather than as a game that one plays.

My life and the life of the other senior business economists is one of continuous consultation with our own managements, the managements of major corporations, and of our own and other governments. There is very little time for reflection upon the major issues that we may perceive, but that we cannot follow through. All of us rely upon you in academia to pursue relevant courses of inquiry that will help us, that will help the world to get through the manifold problems we now face, and that I think will help the economics profession.