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Classicism Vs. Econometrics

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THE recent announcement that the first two Nobel Memorial prizes in economics were being awarded to two econometricians has brought that esoteric field of economics for the first time to the attention of the layman. Georgists, no doubt, have wondered if they are outside the mainstream of economic thought in their adherence to the classical approach enunciated by Henry George.

Is econometrics the wave of the future and another instance of the widening gap between Georgists and modern economics? It is hardly likely. If anything the use of mathematics probably is misapplied when it comes to economics. As a teaching device graphs and simple algebraic relationships may be helpful, and econometrics may aid in arriving at some empirical verification of economic theory. At least it may provide the best evidence available in view of the impossibility of experimentation, but as a means of elucidating fundamental truths it is probably a futile endeavor.

Actually there is nothing startlingly new in the application of mathematics to economic theory, which is what econometrics is all about. This approach is over 200 years old. In 1711 an Italian engineer, Giovanni Ceva, published a book applying mathematics to economics, although the first attempt to deal with it in a systematic way was by Augustin Cournot in *Researches Into the Mathematical Principles of the Theory of Wealth,* published in 1838. In the latter part of the nineteenth century the work of William Jevons and Alfred Marchall gave added impetus to this approach. Today, of course, the undergraduate student is assailed with graphs and algebraic equations *ad nauseam,* while graduate students must grapple with such arcane subjects as the differential calculus, matrix algebra and probability theory as applied to economics.

Generally speaking, the mathematical approach has been divided into three channels: statistical economics, mathematical economics and econometrics. Statistical economics does not involve itself with economic theory, the assumption being that there are no laws in the social sciences. Rather it presents a statistical summary of economic data—that is why it is often called measurement without theory. On the other hand, mathematical economics presents economic theory in mathematical terms. Ordinarily, economic theorems are formulated verbally and subsequently may be restated mathematically. For example, Keynes' mag-

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num opus, *The General Theory of Employment Interest and Money,* as written, has only a smattering of mathematics in it. It remained for his epigones to reformulate his concepts in mathematical equations.

Econometrics might be considered the synthesis of statistical and mathematical economics. In econometrics, models are built. A model consists of one or more equations that are supposed to express the basic relationships of the particular economic problem being studied. The economy of the United States has been specified in the form of a set of hundreds of equations — some or all of them are used to analyze effects on the economy if certain variables are changed.

The methodology pursued in econometrics is largely based on the work of R.A. Fisher and his disciples, who derived sophisticated methods of statistical analysis for use in the biological sciences. But some scholars have seriously questioned the mathematical approach to economics. Ludwig von Mises is one who has criticized this approach. He points out that mathematics can be used in the physical sciences since they contain constant relationships such as the velocity of light. But in economics we are dealing with human beings whose actions do not follow constant patterns. Just because the price of sugar drops from 7¢ to 5¢, leading a person to increase his purchase by five pounds, it does not follow that at a later period, if the price again drops from 7¢ to 5¢, the individual will automatically purchase an additional five pounds.

It is true that in economics many analogies have been adopted from the physical sciences. Modern economists speak of equilibrium points, pressures, flows, statics and dynamics. As a heuristic device it may be that such a formulation has its place, but the danger is a tendency to forget that one is studying the actions of human beings, not impersonal forces.

Based on the analogy with mechanics, two approaches, static and dynamic, predominate in economics. In the static approach different equilibrium states are compared — these are situations where presumably everything is in equilibrium, and thus there is no reason for change. The dynamic or flow approach attempts to determine the path from one equilibrium state to another, but the equations derived do not describe the path followed in every instant of time. At the most they would give clues as to the time sequence of different partial equilibrium states which it is assumed must first be reached before the final state is attained. Contrast this with the path of a projectile shot from a cannon. The equations will describe the path with a high degree of precision for every instant of time, because constants are involved.

The econometricians are handicapped also because the statistics they use are of highly questionable accuracy and validity. People do not bother to keep statistics so that econometricians can measure whatever they think they are measuring. And of course, in setting up an equation, it is impossible to put in all the variables that may affect the one being analyzed. Often it is a question of whether the variables really have anything to do with the problem at all. To determine, for example, the output of steel, an equation may be set up in which steel production is assumed to depend on such factors as the Federal Reserve Board's Index of Production, plus the disposable income of the people, plus the index of wholesale prices, plus the expenditures of the government. By means of mathematical manipulation and statistics it is possible to determine the values of co-

efficients to be attached to the various independent variables. Various techniques have been devised to test whether the variables are significant or not, whether they overlap one another, and even whether the investigator is actually studying a demand function rather than a supply one or has merely derived a mongrel equation which determines nothing.

One does not need to be a mathematician to note that steel production is not determined by any index of prices or production. It is determined by the demands of millions of people for things made by steel. One uses variables such as an index of production as a proxy, that is, as a substitute for the demands of people for steel, on the assumption that if people's demands for steel rise, that index will also rise. This is in marked contrast with an equation determining the path of a projectile, where the equation has variables which definitely do affect its path, such as the acceleration of gravity, the mass of the projectile, the angle of the cannon, etc.

It is interesting to note that if an econometric approach yields results which conflict with economic theory, the theory is rarely discarded. Instead, the equations and/or the statistics are questioned. In the physical sciences, if the empirical evidence does not confirm the theory, it is abandoned. This points up a significant difference between the physical and social sciences which can only heighten the questionable value of econometrics.

But if econometrics is of dubious value, why is it so popular with modern economists? Does it make the "dismal science" appear a bit more respectable? Mathematics is often looked upon as the pinnacle of logical reasoning and its value to the physical sciences is beyond dispute. Possibly, therefore, economists cannot help looking at it wistfully to see how it can be used in their discipline. But of course if the reason for applying mathematics to economics is merely to make it more pretentious, it can be dismissed out of hand as unworthy of further discussion.

It is more likely that econometrics owes its present popularity to the growth of a planned economy, and the tendency even in the market-oriented U.S. for more governmental interference and direction. A socialist society is a directed one, like an army. Those at the top run the economy, but they must employ devices to help them decide what to do. In a capitalist country which has embraced the Keynesian doctrine that the economy can be controlled by adjusting fiscal and monetary policies, the controllers must have some idea of what will happen. If they raise taxes 5 percent what will that do to production? If the so-called money supply is increased 4 percent annually, how will it affect investment? By devising sets of equations some answers will be obtained. If they are incorrect, which is most likely, the controllers have the excuse that they adopted policies in accordance with advanced techniques.

Where industry is geared entirely to the marketplace there is no need for econometrics. The people automatically and quite unconsciously determine what the production of steel, automobiles, etc. shall be by their buying or not buying.

The Georgists are well advised to continue to adhere rigorously to the classical approach. It should not come as a surprise if, after experimenting with many different approaches, the economists would come full circle back to the classicists. After all no amount of sophisticated econometrics can add to the simple fundamental principles enunciated by such men as Adam Smith and Henry George. For those principles rest on the bedrock of truth.

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Will Detroit Follow Southfield's Lead?

IN THE Detroit Sunday News Magazine "a hard-hitting approach" to valuing vacant lots was pictured with the president of the Chamber of Commerce "sitting alone in a vacant field." His name is Dwight Havens and he believes there are many inequities in the tax structure which the Chamber would like to correct. "If vacant property was taxed at the true value of the land," he said, "there would be fewer vacant lots." Typical of the inequities that make for higher taxes was a piece of improved land in Ann Arbor valued at $334,670 and assessed on tax rolls for only $9,950.

The Chamber of Commerce is working with Daniel R. Fusfield, professor of economics at the University of Michigan, and Joseph G. Kowalski, assistant professor in economics at Wayne State University, in an effort to reform the Michigan property tax.

These investigators claim two effects for elimination of such "favored land treatment" as was practised in Southfield. In the short run it would increase revenues because of higher taxes paid by landowners without raising tax rates in those areas in which the equalization procedure does not work effectively. And in the long run revenues would be increased because of the economic growth and development accompanying the improvement of land.

Since it was agreed that the existing pattern is starving local governments in the short run and holding back long run growth, it was deemed desirable to move toward the Southfield approach for the state as a whole, although it is at present contrary to the spirit and intent of Michigan law.

At the very least, say Messrs. Fusfeld and Kowalski, "any assessment policy should have as one of its fundamental goals the *equal treatment* of land and improvements." Even if improvements are not given favored treatment as they are in the Southfield program, elimination of the favored treatment of land would bring *some* of the benefits which Southfield enjoyed.