

Econometrics may broadly be divided into two branches, namely theoretical econometrics and applied econometrics.

The development of appropriate methods for the measurement of economic relationships may be termed as theoretical econometrics. We know that the data which are used for the measurement of economic relationships are observations of actual life and are not derived from controlled experiments. We further know that in economics, magnitudes change contemporaneously and each influences and is influenced by all the other magnitudes. Accordingly, econometric methods have been developed for the analysis of non-experimental data.

Economic relationships are not exact as economic theory and mathematical economics assume them to be. Being influenced by unpredictable events, economic behaviour is to a certain extent erratic. The effects of such factors are taken into account by econometricians through the introduction of stochastic, a special random variable in the relationships.

We may also classify econometric methods into two groups: a) Single equation techniques that are applied to one relationship at a time and b) Simultaneous-equation techniques that are methods applied to all the relationships of a model simultaneously.

Applied econometrics includes the applications of econometric methods to specific branches of economic theory. It examines the problems encountered and the findings of applied research in the fields of demand, supply, production, investment, consumption, and other sectors of economic theory. We may fairly state that applied econometrics involves the application of the tools of theoretical econometrics for the analysis of economic phenomena and forecasting economic behavior.

## **LIMITATIONS**

All branch of knowledge which helps in making rational decisions is useful. Econometrics helps us in making rational calculations. Though it is a useful method of economic research, it is certainly not the only method to suit economic analysis.

Prof. Tintner says, "It is not impossible that the case for econometrics has sometimes been overstated by enthusiastic econometrician."

It is one method out of many possible approaches to economic analysis. Although this approach is superior, one should equally realize the limitations of the method.

The first limitation of the econometric approach is that the method is applicable only to quantifiable phenomena. It throws very little light on qualitative problems. Suppose, if we want to study how the economic development of capitalistic society took place, then econometrics fails to answer it. The reason being it cannot be transformed into a mathematical model. Only historical study in this case can help us to understand the phenomenon. Thus in some cases econometrics fails to explain the phenomena.

The main difficulties with econometrics are statistical. The statistical methods are based upon certain assumptions which are not true with economic data. Statistical methods are applicable to a universe which is homogeneous and has consistent behaviour.

Moreover, economic studies are based upon human beings. We do not expect rational and consistent behaviour from them. Thus errors are bound to inherit our observations. In the absence of true and representative data, econometricians are advised to remain cautious about their conclusions. It is of utmost importance that necessary changes should be made before generalizing and enunciating an economic law.

The other limitation is that econometric models are inadequate in moral judgment. Econometric methods study the phenomena in an abstract manner. They do not help in moral judgment which plays an important part in policy formation. Being the representative of the public, the government is expected to know what should be the consumption level, consumption structure, employment level, national income, rate of growth etc. Such questions cannot be answered properly with econometric tools.

Suppose, a country wants to lower import duty to increase the national product. Econometrics will tell us, after studying other cases, that lowering of import duty may be considered because it increases the national product. But it does not tell us whether import duty should be lowered or not. Lowering of import duty may be considered desirable because it raises the standard of living, but it is harmful because it makes our economy dependent upon some other country. Thus econometrics does not help us in moral judgment.

Lastly, econometric methods are time consuming, tedious and complex. An econometric study has to pass through different stages. Each stage requires time and skill.

Those engaged in the construction and use of econometric methods should know the limitations of these methods. The problem must be faced with full understanding. Econometric methods require continuous checks. They cannot be applied once and for all. On understanding the limitations of the methods, one can only eliminate the errors associated with econometric research.

## **ROLE OF COMPUTERS**

We live in the computer age; most of our day-to-day activities are being influenced by the use of computers. The primary purpose of using a computer is to make life easier. The computer is a fascinating machine and it is a gateway to a wonderful world of information and myriad applications for the good of humans. Be it business, academics, defence, strategy, budgeting, research, engineering, medicine or space exploration computers have established themselves as an indispensable tool. Today's business world involves the active participation of computers.

The ability to work with computers is a necessary pre-requisite for most of the present job profiles. Econometricians too can take advantage of its complex computations by using computers.

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