ECONOMIC PLANNING AND THE ROLE OF ECONOMETRICS*

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What I am going to present to you today is in all humility a frontal attack on a ghost that has been haunting all of us for the last generations, whether we want to be classified as belonging to the West or to the East or to the uncommitted countries, which, with a few exceptions, are the countries in Afro-Asia and partly in Latin-America that are now striving towards rapid economic and social development.

I can do nothing better than to begin by quoting the introductory part of the program of this Study Week. And, incidentally, this introduction is a significant indication of the profound understanding of the basic problem of our times which the organizers of this Study Week, with the blessing of His Holiness the Pope, have had. The introduction begins with these words, and I quote:

> "Modern economies are extremely complex and both theory and practice show that the free play of individual choice does not guarantee, as used to be thought, favourable results for the community.
>
> Once this is admitted it is obviously necessary to provide suitable informative and control instrument and fix the targets which the economy is aiming at."

To be a little more explicit, I may say that the free market system, has two advantages: Its simplicity and its effort-releasing effect. And it has one fundamental shortcoming: It does not assure the realization of *specific* preferences, such as a high rate of economic growth, a distribution of income and wealth based on social justice, aid to special

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social groups, economic development of special regions within the country, development of special agricultural or industrial sectors (for defence, health or humanitarian reasons) etc. The purpose of wise planning is to realize many such special goals, while retaining as much as possible of the advantages of the competitive system.

It is in our search for some better economic system to replace the timehonoured system of the free market economy, that we have encountered this ghost that has been haunting us. And it has been the same ghost we have encountered no matter in what direction we have chosen to go in our search for a better economic system.

This ghost is human nature itself. Some people are alert, full of initiative and driving force, full of active and unselfish desire to apply all their abilities to the betterment of the social and economic conditions of their country or to that of mankind taken as a whole. But, alas, the percentage of people that possess these virtues is small, very small indeed. Many people are more or less dull and selfish and can be induced to make a personal effort only if thereby they can obtain some tangible advantage to themselves or to the people close to them. And, in this connection, the economic advantages will often stand in the foreground.

Therefore, the historical challenge which we as economists and social engineers have to face, is to help the politicians work out an economic system that has built into it a set of incentives cuch that the results of the economic activity under the impact of these incentives will be satisfactory from the view point of the economy as a whole even if the behaviour of many individuals is essentially selfish. We must find a means of circumventing the human obstacle to human progress.

And it is this means that I am going to talk about to-day.

To size up the nature of the problem, let us review briefly the directions that have been explored in the search for a better economic system. Roughly speaking they may be classified into three groups.

The first direction is one that is characterized by a very mild deviation from the traditional market type of economy. It consists in admitting only monetary and fiscal instruments in the attempt at steering the economy. The behaviour types of humans at the various levels of society are such that in this mildest form of attempt to steer the economy in a desirable direction one has been facing a fundamental choice between inflation accompanied by fairly full employment and a reasonably stable price level accompanied by less than full employment of labour and other resources. A precise description of the situation would, of course, necessitate a number of specifications of details, but the choice I have mentioned indicates the essence of the matter. This choice is strikingly illustrated in the famous Samuelsen—Solow menu.[1] This menu consists, as you know, of a curve applicable to the United States economy and showing how rapid an increase in the price level we must be willing to accept in order to be able to reduce the unemployment percentage to a given level. An even more important fact is that monetary and fiscal instruments alone are not sufficient to assure the fulfilment of the highly *specialized* preferences we may have regarding the results to be obtained from the economic activity of the community. The mild form of steering which I am now talking about might perhaps be described by saying that it is a timid attempt to introduce a small amount of enlightenment in what I have on several previous occasions called the unenlightened financialism.

The second direction of search for an improvement in the economic system deviates a little more from the traditional market economy. It consists in admitting state intervention of various sorts, aiming at influencing *directly* the quantities of goods and services produced or consumed. Among the attempts in this direction fall quantity regulations of numerous sorts, in particular state control of investment in physical capital. In some cases this has been combined with nationalization of existing big enterprises and/or with the setting up of new state-owned or state-controlled enterprises that are to operate alongside with the still remaining private enterprises. A common characteristic of all these arrangements has been that they were to operate under a monetary and financial machinery which, in all essentials, were to remain of the traditional type, which means that we are still confronted with the Samuelsen—Solow menu, and are facing tremendous administrative problems including problems of loyalty and moral. These, I think, are in a nutshell the characteristics of the mixed economies which we have seen emerging in many countries today.

The ghost has performed in his typical manner in all these pursuits.

[1] Paul A. Samuelson and Robert Solow: "Analytical aspects of anti-inflation policy." *American Economic Review*, Papers and Proceedings, 1960, s. 177—194.

Quantity regulations of the prescriptive type have a tendency to kill initiative and make the activity inflexible, inefficient and stationary. And state administration, because it takes away both the stick and the carrot that function under a hard competitive system, has a tendency to eliminate a good part of the driving force for personal effort.

Finally, the third direction of search for a better economic system is represented by the more spectacular deviation from the traditional market economy which we find in the centrally steered economies of the East.

This more radical departure from the traditional market economy has produced signal results in economic development that cannot be explained away by any amount of ingenuity and mental effort on the part of conservative Western economists and statisticians. But the same ghost has acted in his typical manner also in these more determinate attempts at escaping the shortcomings of the free market system. There exists, indeed, an overwhelming amount of evidence from centrally planned economies showing that the active and positive participation of individual enterprises is not released through a system of quantity targets (gross output measured in volume indices) established from above. Nor is it possible to achieve the desired results by such a simple system of incentives as that of paying a premium to an enterprise according to its overfulfilment of the centrally established quantity targets or according to its ability to increase its volume index of actual gross output over that of the preceding year.

There are several reasons for the failing of such systems of incentives. One is that quantity targets established from above may induce the enterprise directors to conceal their true production potential. Another is that they do not induce enterprise leaders to use their imagination and effort to economize on input elements. A third reason is that they do not induce the enterprise leaders to help rationalizing production within their specific fields and to help realizing desirable investment within their specific fields. And fourth, they do not offer an inducement to improve the quality of the products because the establishing of quantitative targets of goods and services can only to a small degree cover the infinte variety of improvements in quality that constitutes a basic part of economic progress.

A few examples will suffice to indicate the nature of the experiences gained. In the Soviet Union, in the period before 1957, one worked according to what may be called the ministerial system. There was one all-Union central ministry for each group of goods. Because of frequent uncertainties of supply from other ministries each minister was tempted to set up his own ministerial factory for the component parts he needed. This led, of course, to inefficiencies of various sorts. There were also bureaucratic delays in settling questions with enterprises scattered over the whole country. This motivated the abolition in 1957 of the central ministerial system and the introduction of a territorial system. But this reform only replaced one type of difficulty by another. The wishes and plans of the different regions were difficult to reconcile and make consistent from an all-Union viewpoint. These difficulties encountered in the regional compartmentalization have recently released a desire to revert at least partly to principles of a more all-Union character.

As a final example we may mention the Soviet attempt at circumventing human shortcomings by separating the industrial steering problem from the agricultural steering problem. But this attempt has, as could have been safely predicted, been a failure because it constitutes a flagrant violation of the basic condition that a steering system must be comprehensive, i.e. that it must embrace simultaneously all facets of the economy. It is for instance obvious that agricultural production depends essentially on agricultural machinery and fertilizers, and both these means of production are industrial products.

The suggestion I have to make regarding ways and means of finally killing the ghost, or at least subduing him to some extent is, of course, not presented in a naive belief that here is an "open sesame" that will in one stroke solve all difficulties. It is rather a suggestion of *a way of thinking* which I believe is a condition sine qua non for real progress in our search for a solution.

We must begin by making a clear-cut and precise distinction between two phases of the steering work: the selection and the implementation.

The selection analysis is a study of what can be obtained or ought to be obtained if one only considers, first such basic conditions for the economic activity as the technological relations and the most deeprooted relations governing human behaviour, e.g. utility and its effects on demand, and second the preferences regarding the results to be obtained in the nation as a whole, or in the world. In the selection analysis we pay no or only very little attention to the system of economic institutions under which the economic activity of the nation or that of the world takes place or ought to take place.

The implementation analysis is a study of what kinds of national or international institutions are most helpful in bringing about *that particular constellation* of the national or world economy which has emerged as the optimal one in the selection analysis. Or at least to bring about a close approximation to that constellation.

The selection analysis must precede the implementation analysis. If we go about it the other way round we would be putting the cart before the horse. The selection analysis must be built on a quantitative *decision model* as distinct from an explanatory model or a forecasting model. This whis will, I believe, be a distinctive feature of the econometrics of the future, because our main concern in the future will be research work of how the economy can best be steered.

I must begin the technical part of my presentation by a serious warning regarding a very popular "planning procedure." It is a procedure that owes its popularity more to its simplicity than to its real relevance for true planning.

I am referring to the popular procedure which consists in starting by guessing at a "reasonable" national growth rate that "could probably be obtained", and from this assumption to draw conclusions regarding the production needed in special sectors of the economy, the size of needed investments etc. The reason why this method has become so widely used is, I think, rather to be found in its simplicity than in the fact that it is realistic and rational.

The special aspects of the economy such as production in the various sectors, the size of investments etc. are in fact *not determined* even if the national rate of economic growth is given. There may be many different development patterns that all give the same rate of growth of GNP, the Gross National Product, or of some other statistical measure which one may think of.

Nor have we any assurance that the growth rate guessed at is the *optimal* one, i.e. is the best growth rate than can be obtained when the structure of the economy as well as the special preferences which have been put up for the course of the economy, are given. The optimal growth-rate will only emerge as a consequence of a rational decision analysis which takes its starting point in the preferences and the fundamental data describing the structure of the economy. To *start* by target setting — whether it be a specific figure for the growth rate of GNP or some other specific target — is again to put the cart before the horse.

Certainly we must *end up* by formulating targets, but before we can do this there is a long way to go, namely the entire selection analysis.