

*For immediate release*

Recommended IFAC Activities concerning Socio-Economic Systems

Preamble

On the first day of the 6th Triennial World Congress of IFAC in Boston/Cambridge, Mass. USA, August 1975, *J. W. Forrester* presented a provocative paper on the Dynamics of Socio-Economic Systems.

In view of present important social issues, he made a strong plea for the world of feedback control to connect with and communicate with the world of public affairs, in order to merge the theoretical stream from the field of feedback control with the practical stream from operating management and politics and the facility stream represented by the electronic computer and system simulation. In his picture the streams from the social and economic sciences were not incorporated.

No doubt Forrester's paper very much stimulated the interest in the Round Table discussion on Aspects of World Dynamics later in the program. *J. F. Coales* was the chairman, *M. Athans*, *J. W. Forrester* and *L. R. Klein* were the panel members. The Round Table discussion showed a general concern about the problems of how to meet growing human demands from the world's limited resources. Views expressed by panel members and audience differed, however, with regard to the validity of present-day dynamic world models. In particular, both *Klein* and *Athans*, representing the fields of economics and of stochastic control respectively, questioned the methodology of world-model builders from various angles, and stressed that the uncertainties in the models and the data necessarily result in embarrassingly wide confidence intervals beyond even one decade.

At the end it was generally agreed that IFAC's activities in this field should be strengthened, and nearly unanimously the following recommendation proposed by *T. Stout* was accepted. It is worth noting that the participants appreciated that joint efforts will be needed of IFAC members, social scientists, economists and others.

Although Stout's recommendation was not adopted by IFAC as such, but only by the participants of this Round Table discussion, it does support the joint efforts in the socio-economic field initiated by EMSCOM, IFAC's Technical Committee on Economic and Management

Recommendation

Whereas, limitations on supplies of food, energy, mineral and other resources will at some time have serious effects on the life, health, and general well-being of all peoples of the world;

Whereas, the world is a complex dynamic system characterized by so many variables, interactions, feedbacks, time delays, and nonlinearities that individuals have great difficulty in reasoning about its operation, establishing policies and plans, and making decisions which affect its future path;

Whereas, members of IFAC deal with the dynamic performance of complex systems and are experienced in the use of techniques which can contribute to a better understanding of the world as a dynamic system;

Whereas, initial applications of system analysis and simulation techniques - although differing in their scope, assumptions, procedures, and results - have called attention in a dramatic way to the urgent need for greater understanding of the forces which are determining our future path;

Therefore, the International Federation of Automatic Control, as a world-wide federation of engineers and scientists concerned with the technology of dynamic systems, meeting in Cambridge, Massachusetts, on August 29, 1975, hereby resolves that:

- (1) Efforts by IFAC members, social scientists, economists, and others to develop a greater understanding of the world as a dynamic system should be encouraged;
- (2) IFAC programs, publications and other facilities are available for presentation, evaluation, comparison and advancement of techniques for understanding the world as a dynamic system;
- (3) Individual IFAC members are invited to participate in this activity to the extent of their interests, capabilities and resources;
- (4) IFAC and the general public should engage in a broad and concerted effort to insure the widest possible appreciation of the capabilities and limitations of the concepts and tools of dynamic system analysis and simulation as applied to the