THE INTERACTIVE POLICY MODELING SIMULATOR (IPM-SIMULATOR)

By

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This paper is interested to find which mechanisms, methods, techniques, models and software that Artificial Intelligence (AI)[1], Econographication[2] and Computer Programming[3] can be used in the process to build an Interactive Policy Modeling Simulator (IPM-Simulator)[4]. This research has three general objectives, there are:

First objective is to study the possibility to use a form of AI in the construction of IPM-Simulator. This form of AI is called Neural Networks approach[5]. The Neural Networks provide significant potential to be applied in policy modeling simulation. Our idea to use Neural Networks is to choose into a large database, the most suitable recommendations and suggestions to solve an economic problem. These recommendations and suggestions are originated from large database of past experiences by successful economics models applied in different countries.

Second objective is to applied Econographication, at the inception of Econographication, the following new types of graphs and Cartesian Spaces are presented: Pyramid Graph (PG) and Diamond Graph (DG), Multi-Dimensional Cartesian Space (MD), Infinity Cartesian Space (I-Cartesian Space) and Multi-functional Cartesian Space (MF). These graphs and Cartesian Spaces are constructed based on the traditional 3-Dimensional space concept, but they represent 4-D, 5-D, 8-D, 9-D and Infinity-

[1] We use the term Artificial Intelligence for the science and technology of building automated decision-makers that can act effectively in an environmental consisting of both human and artificial decision makers (Binner, Kendall and Chen, 2005)

[2] Econographication is defined as an analytical tool that involves the study of the evolution of graphs applied in economics, design of new graphs and finally the application of new graphs in economics, as well as finance and business (Ruiz, 2005)

[3] It is formed by all software and solutions can be used in the process of build any simulator.

[4] This simulator will analyze four basic areas in economics in the same period of time and space (same graph), there are fiscal policy, monetary policy, trade policy and unemployment/inflation policy.

[5] Neural network is an advanced computerized system of information processing based on the same way as the human brain (Tal and Nazareth, 1995)

Dimension. The multiple-dimensional representations are to facilitate easy understanding of economic phenomena from a general view (Ruiz, 2005).

The Econographication also can offer into its theoretical framework a considerable number of methods and techniques to be used in the process to build this simulator.

Third objective is to find friendly and suitable computer programming software can be used in the process to build IPM-Simulator. We also would like to explain in general terms different possible software can be applied in the construction of this simulator.

Finally, this paper will to show a serial of flow-chats and diagrams to explain the construction and implementation of Interactive Policy Modeling Simulator (IPM-Simulator). The idea to build IPM-Simulator is to offer an alternative technical tool to policy makers, academics, international institutions to obtain a serial of possible solutions to solve economics problems.

Research Structure:

- Application of Neural Network Approach in Policy Modeling
- Application of Econographication in Policy Modeling
- Computer Programming apply to Policy Modeling
- Introduction to Interactive Policy Modeling Simulator (IPM-Simulator)