

Title: *A Graph-Theoretical Approach to the Axiomatisation of National Accounting.*

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The idea of "eco-circ," which Ragnar Frisch, one of the most distinguished economists in the 20th century, invented some 60 or 70 years ago appears to tempt us to think that any national accounting system might be presented as a graph in a mathematical term, although Odd Aukrust, another distinguished economist in the previous century, took a different way when he axiomatised national accounting.

The starting point of the analysis in the proposed paper is one of Karl Polanyi's ideas. Economy in a substantive sense, as Karl Polanyi put it, might be defined as an INSTITUTED PROCESS of interaction between man and his environment. Polanyi's concept of process, in turn, consists of the movements of a sort, locational and/or appropriative. A network of the movements, as the interactions between economic agents as well as the environment, appears to be easily grasped as a graph (a weighted di-graph). However, as the author will show in the proposed paper, it is necessary to add a special set of arcs (flows or transaction) into the graph in order for such a graph to be one presenting an accounting system.