

2020

36th IARIW General Conference

Paper Prepared for the 36th IARIW General Conference, Oslo, Norway, August 24-28, 2020

Alternative Approaches to the Axiomatisation of National Accounting: As a Tribute to the Two Great Norwegian Figures in the World of National Accounting

Itsuo Sakuma

Hiroshi Deguchi

Akira Omori

As is well known, Odd Aukrust made the axiomatisation study a field of research in national accounting. Actually, his approach to the axiomatisation was preceded by that of Ragnar Frisch. Although Frisch did not explicitly make an axiomatisation for his “ecocirc” system, his approach may be deemed to be a pioneering work of graph-theoretical type of axiomatisation of national accounting, while Aukrust’s approach may be deemed to be a set-theoretical type of axiomatisation, which was followed by many researchers in this field. Further, it is worthy of notice that his work stimulated axiomatisation of business accountings pioneered by Richard Mattessich. The work done by the two great Norwegian figures in national accounting also influenced two Japanese researchers, Itsuo Sakuma and Hiroshi Deguchi. Sakuma made a formulation by means of graph-theoretical framework following Frisch and Deguchi replaced the set-theoretical approach by an algebraic approach. In the proposed paper, after a brief survey on the axiomatisation, the two approaches, graphical and algebraic, will be described and their relations will be discussed.