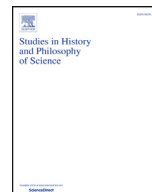




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The cultures of mathematical economics in the postwar Soviet Union: More than a method, less than a discipline[☆]

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The introduction of mathematics constituted a turning point in the history of economics in the mid-twentieth century (Weintraub, 2002; Yonay, 1998). Mathematical modeling as the main tool for theory building profoundly changed the nature of economics, separated it from other social sciences, and crowded out more 'discursive' and empirical traditions. In the United States and, somewhat later, in Western Europe mathematical economics¹ quickly became the mainstream of the discipline, and transformed the academic curricula and practice of economics (see, e.g., Morgan & Rutherford, 1998; Weintraub, 2014). The history of Western developments in this discipline has largely been written. However, historians and sociologists of economics have only recently started to consider the respective developments in the Soviet world (Bockman & Bernstein, 2008; Düppe, 2016; Leeds, 2016; Rindzevičiūtė, 2015; see also earlier, more internalist accounts in: Belykh, 1990; Ellman, 1973; and Zauberman, 1975, 1976).

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¹ By 'mathematical economics' we mean a plethora of approaches in postwar economic theory that were characterized by their reliance on formal mathematical models. In contemporary economics this characterization looks odd because it lacks specificity, despite the existence of the professional *Journal of Mathematical Economics*. In fact, the term was often deemed too diffuse and broad (as claimed, for example, by the notable mathematical economist Lionel McKenzie, quoted by Düppe & Weintraub, 2014, p. 188). However, this term is relevant to the postwar context when describing the diversity of mathematically oriented approaches to economic theorizing.

Mathematical economics was often presented, at least in the West, as universally relevant and neutral with respect to ideology. The radical version of this claim would imply that mathematization may actually overcome the dependence of economists on their ideological milieu and provide a pure and universal language to deal with such issues as the logic of choice and the theory of rational behavior. Since Pareto and market socialists (Lange, 1936), the mathematical model of general economic equilibrium was considered to be applicable to market as well as to planned economies. More recently it was convincingly claimed that both Western and Eastern European mathematical economists were working on similar problems and had an interest in each others' work, contributing to a common endeavor of mathematical (neoclassical) economics (Bockman, 2007).

The universalistic rhetoric of Cold War mathematical economics, relying on the use of presumably neutral mathematical language, could have been a strategy to assert scientific autonomy against ideological pressures and thus to overcome the cleavage normally present in other fields of social science. Mathematics would then become a way to escape the ideological biases and cultural differences between nations.

Soviet mathematical economics emerged and developed mostly in the 1960–1980s. Indeed, the field underwent an outstanding expansion during the sixties: almost nonexistent before 1960, when the first big conference on the use of mathematical methods and computers in economics and planning was held in the Soviet Union, by the end of the decade more than 200 institutions (as cited in Gerovitch, 2008, p. 337) were engaged in this kind of research. For its strategic importance as perceived by the Soviet authorities at that time, this field had an institutional development incomparably more significant than other domains of empirical social science such as sociology. The field also held great intellectual authority during the sixties and the seventies, especially given the traditionally high level of mathematical training and ingenuity for which Soviet scholars were well known. In fact, the development of Soviet mathematical economics is also significant for the history of applied mathematics, of which the Soviet part, albeit recognized as important, is largely unknown (Barrow-Green & Siegmund-Schultze, 2015).

But many of the general features of this domain of knowledge still remain unclear, and in order to produce a balanced judgment one