“Slavtcho Zagoroff, a forgotten forerunner of thermodynamics and energy in economics”: Exploring The Food Research Institute at Stanford University archives

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This research project is a contribution to the history of ecological economic thought. It proposes to rediscover an author probably unknown to that date, Slavcho Zagorov.

Zagorov was a Bulgarian economist, who developed a collection of works on the role of energy in economics, energy measurement of national income and the energy dimension of productivity. His main works date back to 1954 and are mainly devoted to the concept of energy flows in the economy and human metabolism explained through the prism of thermodynamics. He occupied several political functions such as: Director of the Statistic Institute of Kingdom of Bulgaria (1934); Minister of Trade, Industry and Labor (1939); in Germany for the development of German-Bulgarian economic relations (1944). After the Socialist Revolution he escaped in exile to Germany and later to California, USA working at the Food Research Institute. From 1955 till his last days he comes back to Europe, in Vienna, and was Dean of the Faculty of Law and Political Science at the university of Vienna. He never returned back to Bulgaria. His work and career are reminiscent of another Balkan economist, Nicholas Georgescu-Roegen. But while Georgescu-Roegen is extremely popular today and has taken his rightful place in the development of ecological economics and bioeconomy, Slavcho Zagorov is completely forgotten.

Zagorov wrote his two pioneering articles on the role of energy in economic activity and economic science, namely “The Concept of Energy in Economics” (1954) and “National Income and General Productivity in Terms of Energy” (1955). He also conducted empirical analyses of the energy and food balances of Balkan countries in Food-Energy Balances of the Danubian Countries before and during World War II (1953) and published the collective monograph The Agricultural Economy of the Danubian Countries, 1935-1945. Zagorov's publications appeared a decade before the pioneering work of Nicholas Georgescu-Roegen. They remained, however, beyond the attention not only of the researchers of those years, including Georgescu-Roegen himself, but also of today, when numerous attempts are being made to recover the history of ecological and energy economic thought (Vianna Franco and Missemmer, 2022).

According to Zagorov, national income is a "movement of energy," which he calculates in terms of primary energy sources. Hence, the energy approach provides a new dimension to the productivity of the national economy. But Zagorov does not stop with the definitions of national income, he develops its concrete empirical representations. First, as mentioned, national income (and any economic activity and economic good), has three dimensions, namely (i) exchange value (money), (ii) energy dimension, energy value, and (iii) utility (or use value). In the first case, national income manifests itself as the total net value of outputs,

or the sum of the value added of all phases of production, with the value expressed in money. In the second dimension, national income represents the total useful energy of the final products. In the third case of national income representation, we talk about the total utility of the final products. Questioning the traditional measurement of national income in exchange value and money, Zagorov shows its limits and shortcomings. But most of all because the boundary between consumption and production, between production and consumption goods cannot be clearly defined (here Zagorov refers to the methodological differences in the calculation of national income between capitalist and socialist countries) and because personal and domestic services are not included in national income. For Zagorov, the energy-based measure of national income is much more appropriate because it provides a more accurate and true measure of economic growth as well as of the comparative power of different countries. He examined examined the actual developments and the regional differences in the food supply in the Danubian countries during World War II.

Generally speaking, Zagorov is in line with Eastern European and Russian economists who have been interested in the question of energy in economics since the work of the Ukrainian economist S. Podolinsky (1880), who corresponded with F. Engels. Of particular interest for the transfer of ideas to other countries of Eastern Europe, including the Balkans, the agrarian theory of A. Chayanov and the Russian Narodniki, who had a strong influence on agrarian theories in Moldova and from there in Romania (e.g. V. Madgearu, C. Dobrogeanu Gerea, S. Lupasco (in France) and of course N. Georgescu Roegen (later in USA)), and subsequently in the agricultural movements of Croatia, Serbia and Bulgaria.

Due to his extraordinary life path, archives of Zarorov are to be found in three countries: Bulgaria, Austria and United States. The archives in Bulgaria have already been consulted and valuable information obtained. The consultation of the achieves in Vienna University is planned for June 2023. In that line funding from the History of Economics Society would be used to consult the records\(^\text{2}\) of Zagorov in USA, at the University, Food Research Institute, records. This final part of the project will help to complete the research and the full study of the available archives recordings of Zarogov’s legacy.

In that sense The Early-Careers Scholars Research fund would cover a flight (round trip) from Paris, France to Stanford, USA ($700-800), accommodation in Stanford for 2 weeks (700-800$), and public transportation and food during the stay, totaling $1,500.

No other funding application has been submitted for this project.

**Selected bibliography of Zagorov:**


\(^2\)Several archives identified online: https://searchworks.stanford.edu/view/3067522