The Culture of Mathematical Economics in the Post-War Soviet Union

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Questions

- Was mathematical economics the same discipline on both sides of the Iron Curtain?
- Was it a marginal sub-discipline or a part of mainstream of the Soviet economic science?
- What were the theoretical and ideological backgrounds of the Soviet mathematical economics?

Socio-historical analysis

- Institutionalization
- Epistemic culture (Knorr Cetina 1991)
- Disciplinary identity (Lamont & Molnar 2002)
- Comparison East-West

Institutions

- Delay in institutionalization in the USSR for ideological reasons (mathematical methods applied to economics to develop from the late 1950s; Cf.: *Kantorovich*);
- Departments of "Economic Cybernetics" (*term coined by Lange, Nemchinov*) are established at State Universities during the 1960s;
- Specialized research centers (*Central Economic and Mathematical Institutes and others*) are created during the same period

Similarities between US and USSR

- Math. Econ. was a part of larger planning and cybernetics movement inspired by a Cold war context (State funding, military);
- Heterogenous field (operations research, game theory, management science, etc.);
- Strong tension within a discipline (US: institutionalists and Chicago school; USSR: Marxist political economy)

Anti-Semitism as an important 'omitted variable'

- Academic Anti-Semitism in the US universities explaining the rise of MIT (Weintraub 2012);
- Soviet case: Anti-Semitism at the math department of Moscow University, special unsolvable problems etc. (Frenkel 2012);
- A lot of mathematicians coming into Math. Econ. (and applied math) with a lot of new jobs;
- The story of one 'Polterovich' and two 'Ivanovs'

Particularities of the Soviet case

- Unlike in US, Math. Econ. remained a subfield separated from the general economic science and having only limited influence in universities;
- The "Big Other" of the Soviet Marxist-Leninist Ideology;
- Very few developments in economic theorizing, *why*?

Two (Epistemic) Cultures

A theoretical, ideological and institutional continuum between the poles of the official "Economic Cybernetics" and a more Western-style mathematical economics

Math. Econ. as Economic Cybernetics

- *Theory of optimal planning,* in accordance with the Political Economy of Socialism (labour theory of value, harmonious and planned development, etc.);
- Technocratic modeling, emphasis on the supply side; balance, optimization (Dorfman 1976);
- Linear models;
- Problem: lack of reliable statistical data (classified)

Math. Econ. (latent neoclassics) I

- Developed mostly outside of the universities and economic institutes (*Institute of mathematics of the Siberian branch of the Academy of Science; Institute of Control Sciences; Chief Computer Center of the Academy of Sciences; lab of Math. Econ. at the CEMI; etc.*);
- General Equilibrium Theory (and Disequilibrium), Game Theory, Social Choice, Theory of Optimal Growth, etc.;
- More advanced tools: convex analysis, topology, ...

Math. Econ. (latent neoclassics) II

- Political orientations:
  - decentralization, socialist market (reformist discourse); OR
  - apolitical position of "pure mathematician";
- Ideological fragility: impossibility to overtly use the Western economic theory, though they shared the same analytical tools

Hiatus in Theory

- One needed to develop a theory without a theoretical canon comparable to Samuelson (1947) or Debreu (1959)
- Between the 'grand narrative' of cybernetics (with an outspoken interdisciplinarity) and the glimpses towards neoclassicism
- General ambiguity: theoretical void, but a possible practical relevance!

Conclusions I: similarities and contrasts

- Both US and USSR cases reveal internal tensions within economics profession, Cold War sources (state funding, role of the military), anti-Semitism;
- However: Soviet Math. Econ. developed with a delay for ideological reasons, and didn't integrate the core of the economic discipline;
- In the 1970s, while Economic Cybernetics was in its peak in the USSR, a decline of interest to this type of analytical and practical tools in the West

Conclusions II: culture and identity of Math. Econ.

- Professional fragmentation and lack of identity;
- Soviet Math. Econ. lacked autonomous economic (theoretical) discourse beyond Marxist political economy;
- Math. Econ. was mostly reduced to applied math; political economy stayed away from the data; applied economists did not dare theoretical generalizations;
- Problem of theoretical parity with the West, inescapable 'catching-up' strategy;

Thank you!