

The problem of dynamic consistency in economic models has played an important role in work in many fields in economics. In particular, it has appeared in recent research in such diverse topics as the theory of optimal consumption/savings, the role of liquidity constraints in dynamic asset markets, the behavioral foundations of economic choice, the role of commitment devices in dynamic models of self-control, the design of dynamic time-consistent environmental policies, models of social discounting and cost-benefit analysis, and various other papers studying the welfare implications of public policy in dynamic models. Surprisingly, only few papers analyzed temptation/self control implications on competitive equilibria. Specifically, it is interesting to study implications of temptation or self control on equilibrium existence, characterization of competitive equilibrium allocations and prices, or their comparative statics.

Taking this literature background, the aim of the project is to: identify the impact of time inconsistency and costly self control on equilibrium allocations and develop tools for its constructive (numerical) analysis.

Realization of this goals require answering few hypothesis and questions, including: 1. how does the time-inconsistency (and related self-control) influence conditions for existence of competitive equilibrium, 2. how to compute (numerically) prices in dynamic economies with consumers characterized by time-inconsistency, 3. how does the market price commitment assets, 4. how the dimensionality and strength of time-inconsistency problems affects effectiveness of equilibrium allocations, 5. how do the (risky or ambiguous) parameters measuring strength of self control or time-inconsistency affect the optimal decision of consumers over time, 6. how do they also affect equilibrium allocations and prices

Realization of our project would allow economists to better understand market mechanisms resulting from time-inconsistencies but also its numerical significance of such problems. These include a.o. retirement plans, poverty traps or environmental protection. The Polish context may include pricing assets and products allowing for voluntary retirement contributions (so called IKE or IKZE products). Project has 8 phases, each finalized with one paper (prepared for publication in leading field journals).