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INFLATION AND HETEROGENEITY

Abstract:

We build a simple model with heterogeneous population in which monetary policy is shown to have different effects on different groups of population. The only difference between agents in the economy is their productivity. We demonstrate that a central bank that cares about heterogeneous groups of agents according to their fractions in population, would choose a level of inflation that is higher than when population is homogeneous. The resulting allocation is shown to be below the Pareto frontier. This outcome arises because such a central bank would be to a certain extent preoccupied with the redistribution effect of its policy. This classic trade-off between efficiency and equity arises in the model only due to heterogeneity -- it disappears once heterogeneity is removed.

We next study the problem of optimal delegation of monetary policy pioneered by Rogoff (1985). A benevolent social planner chooses the weights on the utilities of the two types of agents that guides the behavior of the central bank. And the central bank than chooses optimal monetary policy. We consider two alternative social planners. The first has access to lump-sum redistribution applied to an equilibrium allocation and seeks to maximize social welfare. We show that the optimal delegation leads to an inflation rate lower than the one without delegation but higher than the efficiency level. The second social planner uses a criterion of Pareto unimprovability. Namely, a monetary policy is called Pareto improvable when its allocation is Pareto dominated by the allocation of another policy when some lump-sum redistribution to the latter can be applied. This social planner's goal is to achieve the allocation of a Pareto unimprovable policy. We demonstrate that the optimal delegation in this case leads to a Pareto efficient allocation. We calibrate the model using data for the OECD and other European counties and calculate optimal inflation rates for these countries.

Keywords:

inflation, heterogeneity, monetary policy, efficiency

JEL Classification: E31, E52, E58