Optimal Dynamic Taxation of Households: Insurance, Incentives and Commitment

Stefania Albanesi
Columbia University and NBER*

February 2007

Extended Abstract

The recent literature on optimal dynamic taxation has embraced a paradigm in which idiosyncratic skill shocks are the main source of risk in life, and skills and work effort are privately observed, following the seminal work of Mirrlees (1971). The optimal taxes implement the constrained-efficient allocation as a competitive equilibrium in a particular market structure, which defines the set of admissible trades among agents. All of the literature has focussed on market trades as the only form of decentralized interaction. This implies that the households one of the principal institutions for economic interaction, has been excluded from the analysis. Yet, most individuals belong to households and many tax systems consider households as units of taxation. Abstracting from households is inconsequential if household preferences can be represented by a unique ordering, as in the "unitary" household model. However, empirical evidence running contrary to the unitary model renders the distinction between households and individuals necessary.

This paper introduces households in a dynamic Mirrleesian economy and explores the resulting implications for optimal taxes. Households are modelled as a long run relationships between two individuals. Each agent also in a long term relationship with the government, whose preferences are defined over individual utilities. Household members can pool income or be engaged in joint production of home goods. The fact that individuals are linked via the household structure introduces externalities in the relation between the government and each individual. The nature of these externalities depends on the process intra-household allocation.

We analyze two settings. First, we assume that households are exogenously given and last indefinitely. Partners have commitment, household decisions are Pareto efficient and the government can observe household composition. Each individual is subject to an idiosyncratic privately observed skill shock. Partners do not have an informational advantage relative to the government, but they can pool income after the realization of their idiosyncratic shock. This implies that the government cannot influence the distribution of consumption across individuals within a household, which alters the structure of incentive compatibility constraints. We derive the implications for the wedges that characterize the constrained-optimal allocation. First, the intertemporal wedge and the wedge between the marginal rate of substitution between consumption and leisure and productivity are greater than in the model without households. Moreover, there is a new wedge in the marginal rate of substitution between consumption and leisure across ex post identical individuals who belong to different households. We show that this implies a greater rate of divergence over time in consumption across households than for individuals in the model without households. An immediate implication for optimal taxes is that they should be formulated at the household level and the state contingent marginal taxes will be greater than the ones in the individual model.

*Contact Information: 420 West 118th Street, Suite 1022, New York, NY 10027. E-mail: sa2310@columbia.edu.
In the second setting, we assume that partners do not have commitment. Their outside option is the value of the allocation they would obtain as individuals from the government. As in the previous example, partners can pool income after the realization of their idiosyncratic shock. Their share of household consumption depends on their outside option which depends on their realized history of idiosyncratic shock. As in the previous case, the intertemporal wedge is greater than in the individual model and there are additional distortions. We show that over time there is less divergence in household utilities but more divergence in individual utilities, relative to the first setting.

We conclude that the optimal taxes and the limiting properties of the consumption distribution are sensitive to the internal structure and organization of the household. We plan to explore the robustness of these findings to the introduction of joint production of home goods and endogenous household formation in future work.