

Intra-Household Inequality and the Optimal Progressivity of the Income Tax

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Extended Abstract

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A recent literature documents that the allocation of resources within the household can be relatively unequal.¹ There is typically substantial dispersion in relative private consumption and leisure within households, as well as in relative earnings and the share of private consumption has been rising considerably over time (Salcedo, Schoellman, and Tertilt (2012)). In addition, spouses may sometimes have conflicting preferences - for example, one spouse might want to save more than the other - and such conflicts of interests may further increase the importance of decision power within the household for individual welfare.

The goal of this paper is to quantitatively assess the relative importance of inequality within and between households and whether it affects the optimal progressivity of the income tax. Progressivity is a potential policy instrument to address intra-household inequality because differences in decision power reflect the outside options of spouses and a more progressive tax system contributes to making outside options more equal. As a result, progressivity may decrease intra-household inequality in addition to its effects on inequality between households.

To address these questions, the paper builds a dynamic model of marriage and divorce, private and public consumption and labor supply and savings. Individuals start their life single, differ in their initial endowment of productivity and search for spouses on the marriage market, while facing the risk of idiosyncratic productivity shocks. At the time of marriage, individuals bargain over the decision power in marriage, which may be adjusted over time (Mazzocco, Ruiz, and Yamaguchi (2017)). In this model, intra-household inequality is important both from a redistribution and an insurance perspective, since individuals

¹See e.g. Lise and Seitz (2011) for a study of consumption inequality in the UK, Lise and Yamada (2017) for Japan or Chiappori and Meghir (2015) for a survey.

at the beginning of life face uncertainty about their future bargaining position at the time of marriage.

The model is then calibrated to a Dutch panel dataset on time use, expenditures and wages. Since consumption is typically not observed on an individual level, it is important to base comparisons of within and between household inequality on a model. In addition, the calibrated model allows to assess the welfare consequences of shifts in decision power more broadly as well as numerically solving for the optimal tax schedule, within a class of standard tax functions.

The current (preliminary) results indicate that the within-household component accounts for up to 1/3 of overall inequality in *utility* from consumption and leisure. There are important differences between measures, since the importance of intra-household inequality is lower when only considering the variance of (log) consumption expenditure, which is often done in empirical studies. In addition, a utilitarian planner chooses a relatively high degree of progressivity (0.39, using the specification from [Heathcote, Storesletten, and Violante \(2017\)](#)), in a system of individual taxation as is in place in the Netherlands. To assess the extent to which this is driven by the endogenous reactions of bargaining weights, I also solve the planner problem for the case where bargaining weights are exogenously determined as under a benchmark schedule and do not react to the tax schedule. In this case, the planner would choose quite a bit less progressivity (0.20). These results indicate that taking intra-household allocations into account may have quantitatively important implications for the optimal degree of progressivity.

References

- Chiappori, Pierre-André and Costas Meghir. 2015. "Intrahousehold inequality." In *Handbook of income distribution*, vol. 2. Elsevier, 1369–1418.
- Heathcote, Jonathan, Kjetil Storesletten, and Giovanni L Violante. 2017. "Optimal tax progressivity: An analytical framework." *The Quarterly Journal of Economics* 132 (4):1693–1754.
- Lise, Jeremy and Shannon Seitz. 2011. "Consumption inequality and intra-household allocations." *The Review of Economic Studies* 78 (1):328–355.
- Lise, Jeremy and Ken Yamada. 2017. "Household sharing and commitment: Evidence from panel data on individual expenditures and time use." Tech. rep.
- Mazzocco, Maurizio, Claudia Ruiz, and Shintaro Yamaguchi. 2017. "Labor supply, wealth dynamics, and marriage decisions." *UCLA CCPR Population Working Papers* .
- Salcedo, Alejandrina, Todd Schoellman, and Michèle Tertilt. 2012. "Families as roommates: Changes in US household size from 1850 to 2000." *Quantitative Economics* 3 (1):133–175.