Money or brains?
The role of inheritance and its taxation in OLG analysis

Due to the large increase in wealth and income inequality since 1970s, there is a worldwide political consensus that tackling inequality is one of the most important modern economic challenges. In order to properly address this issue, there is not only a vast empirical literature on the historic evolution of the inequality, but also a whole collection of theoretical approaches to understand its source and components. Moreover, ever since Thomas Piketty put his idea of a universal wealth and intensively progressive income taxation out, various policy instruments aiming at reducing inequalities have become hotly debated topics. While Piketty's idea might have been too controversial for some, there exists a wide set of already implemented policy instruments, that are not yet thoroughly studied in different model setups. On the one hand, those model setups are widely employed by the academics in the ongoing research on explaining the inequality distribution and its behavior observed in the data. On the other hand, the range of topics to cover with those models in the context of the inequality is still wide and far from being run out.

In the context of the inequality, there was also a heated debate on the recent trends in intergenerational mobility. So called "birth lottery" seems to gain in importance since the 1970s, which suggests that the consequences of a transmission of human and physical capital from parents to their children is a crucial factor for their future wealth. Since Becker and Barro, there is also a growing strand of the literature suggesting, that not only decisions made by individuals, but also joint decisions made within the household have important macroeconomics implications. Those decisions concern among others fertility choices that affect population growth or human capital accumulation – the essential factors driving economic growth. Most importantly, the cost of children that are borne by the parents – the cost of education and schooling or health expenditures directly affect the fertility decisions. Needless to say, those costs are directly linked with the future productivity of the labor force. However, despite of apparent theoretical and empirical link between family economics and inequality, there is no model so far to account for those features. Not only, one should account for jointly-made economic decisions on consumption, savings and labor, but also, in order to address the inequality, the heterogeneity within the cohort. The reason for this overlooking in the literature may have been computational limitations or data availability. The aim of the proposed study is to fill this gap in the literature. By developing an overlapping generations (OLG) model, widely used for analyses of policy instruments, with fertility and family structure, wealth and human capital transmission and by incorporating to the OLG framework newly released data on the mortality rates with respect to wealth and productivity, we will be able to provide a vital instrument analysis and policy recommendations.

To address above-mentioned challenges, the aim of the proposed study is to understand the mechanism behind the inheritance tax and its role in decreasing the inequality in the model with *ex ante* heterogeneity and rich family structure. We want to determine to what extent the inheritance tax is a sufficient tool to tackle the inequality problem within family-based model. Also, we want to verify the relationship between the effects of the taxation with different social security schemes, namely the pension system and public education.

The proposed study provides an innovative way to analyze the effects of the policy instrument aiming to decrease the inequality, which still remains a scientific challenge. From the academic perspective, it addresses policy relevant problems and builds on previous findings in the field. Furthermore, the aim of the proposed study is to develop a tool than can be later on utilized to address further research questions. Moreover, we hope to provide, as a project result, besides policy recommendations, a systematic overview of the fertility choice models and the validity of their utilization in the social policies analysis.