In the U. S., in the mid-19th century, almost 70 percent of persons age 65 or older resided with their adult children, while by the end of the 20th century, fewer than 15 percent did. Fertility decreased from 6 or 7 children per women to 2 on average. Educational investments in children, mostly covered by parents went from roughly zero to 12 years on average. While many scholars have attributed the change in living arrangements to increased resources of the old (e.g., higher returns on savings, better access to financial markets, public pensions,...), Ruggles (2007) argues that increased opportunities of the young (e.g., ever improving labor market conditions since industrialization) played a major role. The role of various policies (e.g., compulsory education, child labor laws,...) is still controversial.

Surprisingly little has been done to model these choices jointly in dynamic general equilibrium models (DGEM). For example, Doepke (2004) analyzes education and child-labor policies in an endogenous fertility model. However, in his model people live only for one period as adults (no old age). Hence, the effects of these policies on extended family living arrangements and intergenerational wealth flows cannot be analyzed. Similarly, intergenerational policies such as PAYG pensions cannot be analyzed, either. The DGEM methodology allows us to analyze and quantify the contribution of technological change as well as various policies in explaining observed changes. In addition, it allows us to use the model as a laboratory to run counterfactual policies in order to predict future paths of fertility, living arrangements and wealth flows in developing countries.

In Schoonbroodt and Tertilt (2010), we analyze the effects of various degrees of parental control over children’s labor income in an overlapping generations model with fertility choice. We show that when children own themselves, the costs and benefits of having children are not aligned, which can lead to inefficiently low fertility. Furthermore, we show that property rights are relevant in reconciling results from models with and without altruism, and with and without endogenous fertility. Finally, we show how property rights over children interact with other intergenerational policies such as pay-as-you-go pensions. The focus of our work so far has been theoretical. That is, Schoonbroodt and Tertilt (2010) has a few shortcomings as a quantitative model capable of accounting for the observed changes over time.

First, we take property rights as given and explore their consequences. Yet, a big
open question is why parents lost control over their (adult) children’s labor income. The reason behind changes in de-facto control may have been driven by technological changes which increased children’s outside options. Parental control is much easier to exercise in a setting where multiple generations live together in the same household, compared to a setting where young couples live away from their parents (Folbre, 1994). Taking children’s outside options into account requires us to enter the literature on dynamic contracts. Second, we abstract from educational choices. The latter are a large part of wealth flows from parents to children. Introducing educational choice makes the dynamic contracting problem more complicated because the outside option is now partly chosen by the parent. Finally, we do not explicitly model the distinction between transfers from minor vs. adult children to parents. Introducing this distinction will shed further light on the relative importance of various policies, especially if we incorporate educational choices.

The model we propose allows us to disentangle the quantitative contribution of changes in technology versus other policies such as compulsory education and PAYG pensions. Here is an outline of how historical changes in fertility, intergenerational transfers and living arrangements may have come about. At first, children live at (or close to) home, in order to work on their parent’s farm and enjoy the communal house (public good). First, technological progress creates market opportunities which allow children to leave the extended family and the parental home in order to avoid parental control and “taxes”. But it also creates other sources of income for the old (e.g. higher returns to savings). This leaves the parent constrained since children away from home are out of their control but gives them the opportunity to invest in other sources of income when old. Second, compulsory education laws may also increase children’s outside opportunities. Third, PAYG pensions shift wealth from young generations to the old and tend to increase the desired transfer altruistic parents want to give to their children. This transfer may come in the form of education which tends to be more productive in industrialized settings rather than on the farm. Hence, we can test Ruggles’s proposition in our framework.

Further, a combination of shifts in children’s market opportunities and the introduction of PAYG social security may help account for fertility patterns, living arrangements and intergenerational wealth flows over the past two centuries. The theoretical model we have in mind shows that the optimal living arrangement until the beginning of the 19th century may have been the farm and community based extended family in which parents had full control over their adult children, high fertility would follow
naturally. During the 19th and early 20th century, child labor and compulsory education policies were introduced while adult children’s outside options (in emerging labor markets) increased significantly, which coincided with the fertility decline and an initial increase in education levels. The model also replicates this pattern. Given young adults’ increasing opportunities, parents and children may then have agreed to separate, the parent thereby foregoing transfers from the children which are no longer enforceable. In 1937 the U.S. government introduced a PAYG social security system. Such a system tends to decrease the desire of parents to take from their children. Hence, desired transfers to children increase. These may come in the form of educational investments, which were increasingly profitable. Hence, this combination may have generated Caldwell (1978)’s reversal of net transfers between parents and children. Whether these channels indeed played a quantitatively important role in U.S. fertility history is an additional question here.
References


