

Wealth inequality and social mobility

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February 10, 2015

Extended Abstract

In this paper we study a model of the dynamics of wealth which we put to data with the objective of estimating the fundamental structural parameters of preferences and technology driving the cross-sectional distribution of wealth. As a consequence we can identify quantitatively the determinants of wealth inequality, including its recent rise and the effects of fiscal policies, e.g., a change in estate taxes. Our analysis of the dynamics of the wealth distribution emphasizes life-cycle wealth accumulation and bequests so as to assess the relative importance of social mobility in the wealth accumulation process.

More specifically, we study the dynamics of the wealth distribution in an overlapping generations economy with finitely lived agents and intergenerational transmission of wealth. Our model builds on Benhabib, Bisin, Zhu (2011), generalizing the formulation of preferences for bequest to allow for heterogeneous savings rates depending on wealth, as in Atkinson (1971). The model accounts for a stochastic labor income process and for a stochastic idiosyncratic rate of returns on wealth, which captures returns on entrepreneurial activity. For simplicity, we reduce the stochastic variation over the life cycle assuming that each generation draws a single realization of the labor income and the rate of return process at birth. We also impose a no-borrowing constraint, in order to generate interesting savings patterns over the life cycle.

We take the model to data by feeding the labor income process and matching the cross-sectional wealth distribution and social mobility in wealth. More precisely, our empirical analysis builds on data regarding three distinct sources: (i) labor income and its transition over generations, (2) cross-sectional wealth distribution, as measured by inter-quantile shares, and (3) social mobility in wealth over generations. With regards to labor income, we resort to individual level data directly, as reported in Chetty, Hendren, Kline and Saez (2014). We

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collapse their 100 by 100 transition matrix for individual labor income in the U.S. (1980-82 birth cohorts and their parental labor income) as well as the marginal income distributions by centile from de-identified tax records, into a coarser grid of 10 states and an associated 10 by 10 transition matrix. With regards to the cross-sectional wealth distribution, we calculate the inter-quantile shares of net worth from the 2013 wave of the Survey of Consumer Finance. The exact measure we use are shares in bottom 20%, 20-40%, 40-60%, 60-80%, 80-90%, 90-95%, 95-99%, and top 1% of net worth holdings. Finally, with regards to social mobility in wealth, we use the six-year transition matrix (from 1983 to 1989) estimated by Kennickell and Starr-McCluer (1997) using the SCF panel for the following wealth quantiles: bottom 25%, 25-49%, 50-74%, 75-89%, 90-94%, top 2-5%, and top 1%.¹

Our theoretical model of the wealth distribution can be shown to display ergodicity, that is, a unique stationary cross-sectional distribution of wealth, under reasonable restrictions on the stochastic processes governing earnings and the rate of return on wealth. Our baseline estimation procedure therefore involves matching, via the Method of Simulated Moments, the relevant moments of the simulated stationary distribution of wealth and social mobility with the corresponding data. In particular we compare two sets of moments: wealth inter-quantile shares and the inter-generational transition matrix. The sets of parameters we estimate include preferences for bequest, assuming a warm-glow bequest motive, and the mean and variance of a discretized AR(1) rate of return process. We fix (calibrate) several parameters in our estimation, including the intertemporal elasticity of substitution for consumption, the number of periods in the life-cycle, and the discount factor.²

The results we can report on are still very preliminary, though the fit of the model is very encouraging at this stage. Furthermore, though not explicitly targeted moments, our estimated model generates savings and bequests patterns that match the data, as e.g., documented in Saez and Zucman (2014). Interestingly, we show that the preferences for bequests turn out to display less curvature than preferences for consumption. As a consequence, the optimal savings rate at the estimated parameters is increasing in wealth, an element which feeds directly into wealth inequality. On the other hand this effect appears of rather limited empirical relevance. Most importantly, our preliminary estimates of the rate of return of wealth process display very small persistence across generations, which limits wealth inequality at the stationary distribution but especially induces high social mobility in wealth to match the observed intergenerational mobility in the data. Finally, as implied directly by the theoretical properties of the model, the labor income process has no effects on the stationary distribution of wealth. It affects the transition, however, after e.g., fiscal policy

¹Klevmarken et al. (2003) and Charles and Hurst (2003) have estimated similar transition matrices. Kennickell and Starr-McCluer (1997) however report states corresponding to the top 1% and 5% wealth quantiles which are important to address the fundamental issue of social mobility at the tail of the distribution.

²Of course we perform a series of robustness checks to guarantee that our results are not sensitive to the chosen parameter values.

changes. We have not yet exploited these implications in our analysis.

While this whole analysis is predicated on the assumption that the observed wealth distribution and mobility in the data represent a stationary distribution, we can exploit time series data on post-war wealth distribution and mobility to estimate our model without imposing any ergodicity assumptions, that is, without imposing that the current wealth distribution in the U.S. be stationary. This is an important issue in the current debate on the rising wealth inequality as e.g., lack of ergodicity seems to be implicitly assumed in Piketty's study of the dynamics of the wealth distribution. Of course the implications of fiscal policies, notably of a change in the estate tax, would depend dramatically on whether the wealth dynamics process is ergodic or not. Our analysis should be able to settle the issue.

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