



Tough love for lazy kids: Dynamic insurance and equal bequests



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ABSTRACT

This paper develops a dynamic insurance model to explain a central puzzle in intergenerational transfers: gifts partially compensate children for negative income shocks, but bequests are typically divided equally. In the model, parents use gifts (early in life) and bequests (later in life) to provide insurance against income shocks, but take into account that children would shirk if offered large transfers. We show in a simple model that parents can provide better incentives later in life by giving equal bequests. In a quantitative model, gifts are compensatory while bequests are nearly uncorrelated with income and approximately equal in most families.

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1. Introduction

Understanding the transfers from parents to their children plays an important role in understanding the distribution of wealth, consumption inequality, and the effects of government redistribution policies. Yet the evidence about the ways parents distribute their money has defied explanation. In empirical studies, bequests are typically found to be divided equally among children, independently of their income. By contrast, parents give more to their poorer children in inter vivos transfers, or gifts, but not enough to fully compensate the differences in child income within the family.

Why are gifts to poorer children larger, while bequests are divided equally? This paper explains this behavior as a result of the timing of gifts and bequests in a dynamic moral hazard problem. In the model, children's income is a combination of exogenous productivity, and endogenous labor effort. Parents know their children's income but not their productivity or labor effort. An altruistic parent wants to help her unlucky low-productivity children, but she cannot distinguish between

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hardworking low-productivity children and lazy high-productivity children. If the parent gives too much money to low-income children, she encourages high-productivity children to slack off, earn a low income, and receive the transfer. The parent's best option is to provide partial insurance (i.e., give more money to her lower-income children), but not enough to fully compensate differences in income.

A parent could simply hand out the same gift and bequest to a given child. By the logic outlined above, poorer children would receive both a higher gift and a higher bequest than their richer siblings. However, the parent can do better by thinking about gifts and bequests separately. In the model, gifts are received early in a child's life, whereas bequests are received later in life. Children face uncertainty about their future productivity. The parent can take advantage of these two features when deciding about gifts and bequests.

The relative sizes of gifts and bequests are determined by productivity persistence. In our model, no productivity persistence corresponds to full mean reversion: all children face the same probability of becoming high- or low-productive in the future. In this case, the currently high-productive children are concerned about becoming low-productive in the future. Therefore, they care relatively more about bequests, which transfer resources to the future. In contrast, the currently low-productive children care relatively more about the gift. The parent takes advantage of these differences in time preferences and uses bequests to provide incentives and gifts to provide insurance: the bequest to the high types is larger than the bequest to the low types while the opposite is true for gifts.

On the other hand, with perfect persistence there is no mean reversion and no uncertainty: both types know that they will be of the same type in the future as they are today. In this case, both types care as much about the current transfer (gift) as they care about the future transfer (bequest). Therefore, both gifts and bequests are higher for the low types. For intermediate levels of persistence, bequests are about equal, and for some level they are exactly equal. Partial insurance implies that if bequests are equal, gifts are higher for the low types.

To summarize, transfers are weakly progressive in the sense that poorer children are given a higher transfer, but differences in income between siblings are not fully compensated. Gifts are distributed more progressively than bequests. Bequests are progressive when income is highly persistent, regressive when income is very impermanent, and equal or nearly equal for intermediate values. In a simple model with two productivity types, we demonstrate that there is a level of persistence at which bequests are exactly equal and gifts are weakly progressive, which is qualitatively what we observe in the data. This pattern cannot occur in the public information version of the model, in which the parent observes child productivity and effort and thus does not need to provide incentives.

To compare the performance of the model to the data, we build a richer version with many productivity types. We then pin down the children's productivity persistence in the model with U.S. data, solve the model numerically, and compute a number of transfer statistics. Certain features of the U.S. economy, such as the fact that equal bequest division is the default legal option, remain unmodeled. However, considering its simplicity, the model approximates the data reasonably well. In the benchmark parameterization, bequests are nearly uncorrelated with child income. As in the data, gifts are weakly progressive (albeit more progressive than in the data). Importantly, both gifts and bequests are substantially more progressive in the public information version of the model. Siblings' bequests are approximately equal (i.e., within 25% of the intrafamily mean) in a large number of families, as in the data. A rule of thumb in which parents divide their bequests equally results in a minimal loss in welfare compared to the optimal allocation. This welfare loss is more than 20 times smaller than the equivalent loss in the public information version of the model. Adding private information thus helps to bring the pattern of intergenerational transfers closer to the data.

We also examine the sensitivity of these results to alternative parameterizations and alternative specifications of the model. In all cases, gifts are weakly progressive but more progressive than bequests. Bequests are nearly uncorrelated with income and concentrated around equal division for a large number of families.

The rest of the paper is organized as follows. The next section provides a more detailed summary of the puzzle in the empirical literature. Section 3 then reviews papers that have tried to explain this puzzle, and discusses the place of this paper in the dynamic insurance literature. Section 4 introduces a simple version of the model, derives the main analytical results, highlights the forces at work in the model, and considers the model's robustness to a number of extensions. Section 5 evaluates the benchmark quantitative model with respect to the data on intergenerational transfers, compares it to a version of the model without incentive problems, and conducts sensitivity analysis. Section 6 concludes.²

2. Empirical evidence

This section first summarizes the evidence on the size of intergenerational transfers present in the Panel Study of Income Dynamics (PSID). Both bequests and gifts are substantial for those households that report a nonnegative bequest/gift. In a given year, approximately 2% of households report a bequest. The ratio of the average bequest relative to average annual labor earnings of households that report a positive bequest is 98.7% between 1988–2011. Taking all households in the sample, including those that report no bequest, the ratio of the average bequest relative to average annual labor earnings is 2.22% between 1988 and 2013. On average, 8.23% of households report a gift in a given year and this number has

² The appendix contains the details of our empirical work and the sensitivity results. A separate online appendix contains the proofs and analyzes a version of our model with signals.

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