Intergenerational Disagreements in Labor Supply and Optimal Bequest Taxation

Hakki Yazici*
Sabanci University

August 17, 2017

Abstract

This paper studies optimal taxation of bequests in a model where altruistic parents and their offspring disagree on the offspring's labor supply decision. I show that whenever offspring is too lazy from the parent's perspective and there are income effects on labor supply, optimal policy involves a subsidy on bequests.

Keywords: Intergenerational disagreement, bequests, optimal taxation

JEL Classification: E21, H21, D91.

*Contact: Faculty of Arts and Social Sciences, Office 2093, Orhanli, Tuzla, 34956 Istanbul, Turkey. Email: hakkiyazici@sabanciuniv.edu

1 Introduction

The most widely analyzed model of bequest taxation is the altruistic model, where the motive for bequests comes from the assumption that parents care about their children's welfare. A standard assumption in the altruistic model is that different generations agree about economic trade-offs. The implication of the standard altruistic model for bequests is simple. The altruistic parent knows that the offspring will behave according what is optimal from the parent's point of view. As a result, parents do not have any paternalistic concerns regarding the economic behavior of the offspring and the whole dynasty acts as if it is a single individual (e.g., Bernheim (1989)). In such a setting, unless society puts a direct social welfare weight on the welfare of the offspring, it is optimal not to bequeathing decision.

However, disagreements are common to many parent-offspring relationships. In a survey study that investigates a wide range of disagreement patterns between older parents and adult children, Clarke, Preston, Raksin, and Bengtson (1999) consider a random sample of 496 parents (average age 62) and 641 children (average age 39) and ask about possible sources of disagreement.[1] More than 70% of the respondents report disagreements (about the same percentage among children and parents). The largest category of responses about conflict (38% among parents and 30% among children) is labeled as "Habits and Lifestyle Choices," and it includes sexual activity/orientation, living arrangements, quality of life, and allocation of resources and/or education.

In this paper, I analyze optimal taxation of bequests in an environment in which parents and offspring disagree on a specific economic behavior, that is the labor supply choice of the offspring. I show that, under the assumption that as a society we agree with the parent regarding the offspring's labor supply decision and there are income effects on labor supply, there is a reason for government intervention in the market in the presence of intergenerational disagreement. In particular, I find that, whenever offspring is too lazy from his parent's perspective, optimal intervention involves a subsidy on bequests.

The key principle behind the optimality of bequest subsidies can be fully grasped in a simple

[1] The exact question they ask is: *"No matter how well two people get along, there are times they disagree or get annoyed about something. In the last few years, what are some things on which you have differed, disagreed, or been disappointed about (even if not openly discussed) with your child (or parent)?"*

model where the economy lasts for two periods. In the first period, a parent is alive and makes consumption-bequest decision. In the second period, the parent is replaced with an offspring who chooses how much to work and consume. I model disagreement in a way that minimally departs from the standard intergenerational model: a parent and an offspring agree on everything except for how hard the offspring should work.

Using this simple environment, I show that, if children prefer to work less than what their parents would like them to, then it is optimal for the government to correct parents' bequest decisions through a subsidy. The intuition for this result is as follows. Because of disagreement, the offspring supplies less labor than what their parents prefer. In particular, the parental welfare goes up if the parent can make the offspring work more, which is possible by decreasing bequests as long as the offspring's optimal labor supply choice is decreasing in the amount of bequests received. As a result, bequeathing has an additional marginal cost for the parents relative to the social planner. This is why it is optimal to distort parent's bequest decision.

The efficient allocation in this economy can be implemented as follows. In order to make children work the amount dictated by the efficient allocation, the government uses labor income subsidies on the offspring and uses lump-sum taxes to finance these subsidies. However, from the perspective of the parents, who take the labor income subsidy as given, their offspring are still working too little under the new - subsidized - wage rate. In other words, since parents take the lump-sum tax as given, they do not internalize the fact that the subsidy is there to discipline the labor supply behavior of the offspring and does not actually change the gross return to their offsprings' labor supply. As a result, parents bequeath too little to their offspring, and hence, bequests should be subsidized. Even though I find the case in which are too lazy from their parents' perspective more natural, I also analyze the case in which they are too diligent and find that bequests should be taxed in that case.

The rest of the paper is organized as follows. Section 2 discusses related literature. Section 3 introduces the baseline model. Section 4 characterizes the laissez-faire equilibrium bequest behavior of parents and establishes the main bequest subsidy result. Section 5 concludes.

2 Related Literature

The paper that is closest to my paper is Pavoni and Yazici (2017). To my knowledge, that is the first paper to analyze the implications of intergenerational disagreements for parental transfer taxation. The authors focus on intergeneration disagreements regarding intertemporal decisions and find that, when children are too impatient from their parents' perspective, it is optimal to tax bequests. The main distinction of the current paper is that I focus on disagreements regarding intratemporal (labor supply) decisions.

This paper is also related to the literature on optimal taxation of bequests and inter vivos transfers. Cremer and Pestieau (2011), Kaplow (2001), and Kopczuk (2009) provide excellent surveys of the literature on optimal transfer taxation. The most widely analyzed model of bequest taxation is the altruistic model with the assumption that different generations agree about economic trade-offs. Using this model, Kaplow (1995) and Farhi and Werning (2010) show that, if the society cares only about the parent's welfare directly, this would imply that parental transfers are socially optimal and should remain undistorted, given that there are no other reasons for taxation such as redistribution or financing government expenditures. Following the same arguments, whenever society attaches direct welfare weight to future generations, parental transfers should actually be subsidized according to the altruistic model with intergenerational agreement. In addition to the altruistic model that is already discussed, a widely used model of bequests is the warm-glow (or "joy of giving") model. In this model too, the optimal bequest tax is zero or negative (i.e., a subsidy), depending on whether society cares about the offspring directly (e.g., Kopczuk (2009)). Piketty and Saez (2013) show that it is possible to justify taxation of parental transfers based on equality grounds when other instruments of horizontal redistribution are limited. My contribution to this literature is to provide a novel argument for subsidizing parental transfers.

3 Model

The model economy lasts for two periods. There is a parent and a child in the model. The parent is alive in the first period, and in the second period he is replaced by the offspring. The parent

is altruistic toward his offspring and leaves bequests. The parent and the offspring disagree on how much the offspring should work. I model this disagreement in preferences as follows:

The offspring's preferences for consumption and labor are given by:

$$\max_{c,y} u(c) - v(y/w), \tag{1}$$

where c and y denote offspring's consumption and income, respectively. w denotes the wage rate that the offspring faces in the labor market. The functions $u(\cdot)$ and $v(\cdot)$ represent utility from consuming c units and disutility from working y/w hours, respectively. I assume $u', -u'' > 0$ and $v', v'' > 0$.

The parent's preference regarding the child's consumption and labor allocations on the other hand is given by the following:

$$\max_{c,y} u(c) - \eta v(y/w). \tag{2}$$

A comparison of (1) with (2) reveals that the only difference between the two preferences is the term η. The term η refers to the disagreement between the child and the parent regarding the child's work behavior. When $\eta < 1$, this means that the parent cares less about disutility of work relative to the child. The parent would like the child to work more than the child would like to. In other words, the child is lazy from the parent's perspective. On the other hand, when $\eta > 1$, the parent would like the child to work less than the child would on his own: the child is too diligent. When $\eta = 1$, there are no disagreements regarding the work behavior of the child and we are back at the standard intergenerational model.

3.1 Problem of the Offspring

The offspring chooses consumption and labor allocations taking the level of bequest as given, i.e., the offspring solves:

$$\max_{c,y} u(c) - v(y/w) \tag{3}$$

such that

$$c \leq y + b,$$

where b denotes the amount of bequests received by the offspring. For simplicity, the interest rate on the bequests is set to 1. All the results go through if instead the bequests earn a positive net return as well.

The optimal income choice of the offspring satisfies the following first-order intratemporal optimality condition:

$$u'(y + b) = v'(y/w)/w. \tag{4}$$

Under the assumptions on the functions $u(\cdot)$ and $v(\cdot)$, it is straightforward to show that there is a unique solution this equation. We can write this optimal income choice of the offspring as a function of the bequests received as $y(b)$. We now show a result which will be useful later in Section 4.

Lemma 1. *$y(b)$ is decreasing in b.*

Proof. Write $F(y, b) = u'(y + b) - v'(y/w)/w$. The, using the implicit function theorem,

$$y'(b) = -\frac{F_b}{F_y} = -\frac{u''(y + b)}{u''(y + b) - v''(y/w)/w} < 0, \tag{5}$$

since $u'' < 0$ and $v'' > 0$. □

3.2 Problem of the Parent

For simplicity, we do not model the labor supply decision of the parent. Instead, the parent begins life with θ units of resources. Let $\gamma \in (0, 1]$ denote the altruism factor of the parent. The parent chooses the amount of bequests to be left in order to solve the following problem:

$$\max_{b,c,y} u(\theta - b) + \gamma[u(c) - \eta v(y/w)] \tag{6}$$

such that c, y solves offspring's problem. We can rewrite the problem of the parent using $y(b)$ as follows:

$$\max_b u(\theta - b) + \gamma[u(y(b) + b) - \eta v(y(b)/w)]. \tag{7}$$

Parent's solution satisfies the following first-order optimality condition regarding bequests:

$$u'(\theta - b) = \gamma[u'(c)\{1 + y'(b)\} - \eta v'(y(b)/w)y'(b)/w].$$

This implies

$$u'(\theta - b) = \gamma[u'(c) + y'(b)\{u'(c) - \eta v'(y(b)/w)/w\}]. \tag{8}$$

4 Optimal Taxation

In this section, we first define what we mean by the efficient level of bequests. Then, we show that the laissez-faire equilibrium level of bequests is different from the efficient level. Finally, we characterize optimal bequest taxes that implement the efficient allocation.

4.1 Efficient Level of Bequests

Now we define the efficient level of bequests. We assume in this paper that as a society we agree with the parent's preferences. Thus, the true preference for the child's consumption-labor decision is given by (2). Under this assumption, define the efficient level of bequests as the bequest level that a planner would choose if he could control the labor supply decision of the offspring. The efficient level of bequests satisfy:

$$u'(\theta - b^*) = \gamma u'(y^* + b^*), \tag{9}$$

where y^* satisfies

$$u'(y^* + b^*) = v'(y^*/w)/w. \tag{10}$$

4.2 Equilibrium Level of Bequests

The proposition below characterizes the laissez-faire equilibrium level of bequests.

Proposition 1. *Suppose* $\eta < 1$. *Then,* $u'(w-b) < \gamma u'(y+b)$. *If* $\eta > 1$, *then the reverse relationship holds. If* $\eta = 1$, *then* $u'(w-b) = \gamma u'(y+b)$.

Proof. Plugging (4) in (8), we get:

$$u'(\theta - b) = \gamma u'(c) - \gamma y'(b)(\eta - 1)v'(y(b)/w)/w. \tag{11}$$

The proposition then follows from $y'(b) < 0$. □

The proposition shows that, in the case of $\eta < 1$, compared to the efficient level of bequests characterized by (9), a parent has a tendency to bequeath too little in equilibrium. Intuitively, when the child is too lazy from the parent's perspective ($\eta < 1$), the parent wants the child to work harder. Since $y'(b) < 0$, the parent can elicit this by decreasing the child's resources, i.e., by decreasing transfers to the child. This implies that it may be optimal to subsidize parental bequests in equilibrium. We formalize this idea in the next section. Of course, when $\eta > 1$, the parent bequeaths too much in equilibrium following the same logic, and it may be optimal to tax bequests.

4.3 Optimal Bequest Tax

In this section, I characterize the optimal tax on bequests. To do so, I introduce a government to the simple model. The government uses linear taxes on child's labor income and parent's bequests. The proceeds of these taxes are rebated in a lump-sum fashion. Formally, let (τ_b, τ_y, T) be the linear tax rate on bequests, linear tax rate on child's labor income, and the lump-sum rebate to the child. I define as the optimal tax system the tax system that implements the efficient allocation defined by $(9) - (10)$. I denote optimal tax system with $(\tau_b^*, \tau_y^*, T^*)$.

The problem of the offspring under taxes becomes:

$$\max_{c,y} u(c) - v(y/w) \tag{12}$$

such that

$$c \leq y(1-\tau_y) + (1-\tau_b)b + T.$$

The optimal income choice of the offspring satisfies the following first-order intratemporal optimality condition:

$$(1-\tau_c)u'(y+b) = v'(y/w)/w. \tag{13}$$

The problem of the parent under taxes becomes:

$$\max_{b,c,y} u(\theta - b) + \gamma[u(c) - \eta v(y/w)] \tag{14}$$

such that c, y solves offspring's problem given by (12). We can rewrite the problem of the parent using $y(b)$ as follows:

$$\max_{b} u(\theta - b) + \gamma[u(y(b)(1-\tau_y) + (1-\tau_b)b + T) - \eta v(y(b)/w)]. \tag{15}$$

Proposition 2. *The optimal taxes on bequests is given by the following formula:*

$$(1-\tau_b^*) = \frac{u'(\theta - b^*) + \gamma y'(b^*)(\eta - 1)v'(y(b^*)/w)/w}{\gamma u'(c^*)}. \tag{16}$$

The tax is negative if $\eta < 1$ and it is positive if $\eta > 1$. Whenever $\eta = 1$, it is optimal not to distort bequests.

Proof. Taking the first-order optimality condition of the parent with respect to bequest decision and plugging in (13) gives:

$$u'(\theta - b) = \gamma u'(c)(1-\tau_b) - \gamma y'(b)(\eta - 1)v'(y(b)/w)/w. \tag{17}$$

Implementing the efficient choice of bequests requires that the efficient allocation as described by (9) satisfies (17). Let τ_b^* denote the optimal tax on bequests. Plugging the efficient allocation in (17) and rewriting it to leave $1 - \tau_b^*$ alone, we get:

$$(1-\tau_b^*) = \frac{u'(\theta - b^*) + \gamma y'(b^*)(\eta - 1)v'(y(b^*)/w)/w}{\gamma u'(c^*)}. \tag{18}$$

Recall that $u'(\theta - b^*) = \gamma u'(c^*)$ in the efficient allocation. Thus, we get $\gamma y'(b^*)(\eta - 1)v'(y(b^*)/w)/w < 0$ when $\eta < 1$, and hence, $1 - \tau_b^* > 1$, meaning $\tau_b^* < 0$.

Similarly, when $\eta > 1$, we get $\tau_b^* > 0$, and when $\eta = 1$, we get $\tau_b^* = 0$. □

A glance at the optimal bequest tax formula given by (16) reveals that optimal subsidies are increasing as the degree of disagreement between parents and offspring increases. The proposition below formalizes this.

Proposition 3. *Suppose $\eta < 1$. The optimal bequest subsidy, $-\tau_b^*$, increases as η decreases. Similarly, if $\eta > 1$, then the optimal bequest tax, τ_b^*, increases as η increases.*

5 Conclusion

In this paper, I study the optimal taxation of parental transfers in a model where altruistic parents and their offspring disagree on the labor supply behavior of the offspring. I focus on a specific social welfare structure that puts all the weight on the parent's welfare: that is, the social planner completely agrees with the parent regarding how much the offspring should work. I show that, even though the objectives of the social planner and the parent agree, the parental bequeathing behavior is not socially optimal, and, hence, it is optimal to distort the bequest decision. Specifically, when children are too lazy from their parents' perspective - that is, when the marginal disutility of work for children is higher than what parents think it should be, parents have a motive for bequeathing too little compared to the socially optimal level of bequests.

I also provide a tax implementation of the socially optimal allocation. Under the assumption that children are too lazy from their parents' perspective, it is optimal to subsidize the labor supply behavior of the offspring and subsidize the bequest behavior of parents in this implementation.

References

Bernheim, B. D. (1989): "Intergenerational Altruism, Dynastic Equilibria and Social Welfare," *The Review of Economic Studies*, 56(1), pp. 119–128.

Clarke, E. J., M. Preston, J. Raksin, and V. L. Bengtson (1999): "Types of Conflicts and Tensions Between Older Parents and Adult Children," *The Gerontologist*, 39(3), pp. 261–270.

Cremer, H., and P. Pestieau (2011): "Wealth and Wealth Transfer Taxation: A Survey," in *The Elgar Guide to Tax Systems*, ed. by E. Albi, and J. Martinez-Vasquez, pp. 183–217. Northampton, MA: Edward Elgar.

Farhi, E., and I. Werning (2010): "Progressive Estate Taxation," *The Quarterly Journal of Economics*, 125(2), 635–673.

Kaplow, L. (1995): "A Note on Subsidizing Gifts," *Journal of Public Economics*, 58(3), 469–477.

——— (2001): "A Framework for Assessing Estate and Gift Taxation," in *Rethinking Estate and Gift Taxation*, ed. by W. Gale, J. Hines, and J. Slemrod. Brookings Institution Press.

Kopczuk, W. (2009): "Economics of Estate Taxation: A Brief Review of Theory and Evidence," *Tax Law Review*, 63(1), 139–157.

Pavoni, N., and H. Yazici (2017): "Intergenerational Disagreements and Optimal Taxation of Parental Transfers," *Review of Economic Studies*, 84(3), 1264–1305.

Piketty, T., and E. Saez (2013): "A Theory of Optimal Inheritance Taxation," *Econometrica*, 81(5), 1851–1886.