

Bischoff, Ivo; Kusa, Nataliya

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Citizens' preferences for a tax exemption for caregivers in inheritance taxation: An empirical analysis using German survey data

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Ivo Bischoff and Nataliya Kusa

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Coordination: Bernd Hayo • Philipps-University Marburg
School of Business and Economics • Universitätsstraße 24, D-35032 Marburg
Tel: +49-6421-2823091, Fax: +49-6421-2823088, e-mail: hayo@wiwi.uni-marburg.de

Citizens' preferences for a tax exemption for caregivers in inheritance taxation
– an empirical analysis using German survey data

Ivo Bischoff,

(corresponding author) Department of Economics, University of Kassel, Nora-Platiel-Strasse 4, 34109 Kassel,
E-mail: bischoff@wirtschaft.uni-kassel.de, Tel. ++49 561 8043033, Fax. ++49 561 8043088.

Nataliya Kusa

Department of Economics, University of Kassel, Nora-Platiel-Strasse 4, 34109 Kassel,
E-mail: kusa@uni-kassel.de, Tel. ++49 561 8047704, Fax. ++49 561 8043088.

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Abstract

We analyze survey data on the proposal to introduce a tax exemption for caregiving heirs to the German inheritance tax. Some 80 percent of the participants support this exemption. We explain interpersonal differences in the support for this tax exemption using a wide range of personal characteristics, beliefs and attitudes. We find self-interest to be relevant: Subjects with alive parents are more likely to support the tax exemption. The same holds for subjects who have personal experience in long-term care provision. While women are at the heart of intergenerational exchange relations, their support for the tax exemption is not found to be higher than for men. Subjects are more likely to support the tax exemption if they adhere to the social norm of indirect reciprocity or overestimate the tax burden of the German inheritance tax.

JEL-Codes: H27, D31, D72

Key words: inheritance taxation, long-term care, intergenerational transfers, citizens' preferences

1. Introduction

Since their very beginning, human societies witnessed transfers of resources between generations. In modern times, a large share of these transfers in industrialized countries is administered by the state or public social security system. Nevertheless, substantial intergenerational transfers still take place within the family. Some of these transfers are wealth transfers, especially gifts and bequests (e.g., Schupp and Szydlík, 2004; Kopczuk and Lupton, 2007). Bequests from parents to their children and transfers to surviving spouses account the biggest share of private wealth transfers (e.g., Szydlík 2004; Rowlingson and McKay, 2005). In the opposite direction, time, attention and, in particular, long-term care (hereafter LTC) are the main transfers. While some of these transfers may be altruistically motivated (e.g., Barro, 1974; Coall and Hertwig, 2010), the empirical evidence strongly supports the exchange model of intergenerational transfers (e.g., Bernheim et al., 1985 Cox and Rank, 1992). Accordingly, bequests and gifts are given in reciprocal exchange for attention, time and LTC. If the exchange motives drives intergenerational transfers, wealth transfer taxes drive a wedge between the monetary “price” the old generation pays for attention and LTC and the remuneration the middle generation receives. Other things equal, this tax wedge reduces the intensity of intra-familial exchange between generations.

Four long-term trends make this tax wedge politically relevant. First, the industrialized world witnesses unprecedented private wealth transfers flowing from the generation born after World War II. Wiktor (2010) estimates the wealth transfers per decade to exceed \$ 4 trillion until 2060. Second, the industrialized world experiences an unprecedented increase in the number of people needing LTC and in the intensity of care needed. Even though demographic change aggravates this problem, it is primarily driven by the large increase in the individual probability of needing LTC when elderly and the increase in the average time period that people require LTC services if in need (e.g., Colombo et al., 2011; Huber et al., 2012). Third, many industrialized countries

have accumulated massive public debt and face increased fiscal pressure (e.g. Ali Abbas et al., 2011). Finally, the distribution of wealth has become increasingly unequal in the last decades. The upcoming wealth transfers are likely to aggravate this problem (e.g., Piketty, 2014).

Wealth transfer taxation could be one element in a strategy to meet the latter two challenges, i.e. reduce fiscal pressure and inequality in the distribution of wealth (e.g., Atkinson, 1980; Gale and Slemrod, 2001; Bossmann et al., 2007). Given the volume of wealth transfers expected, much could be accomplished even if wealth transfers are taxed at moderate rates only. However, they come at the price of interfering with intra-familial exchange relations in times of increased need for LTC. This runs against the strong preferences of elderly people to receive LTC services in their private homes rather than in nursing homes (e.g., Eurobarometer, 2007). Given that wealth transfer taxes are highly unpopular in many countries already (e.g., Birney et al., 2006; Hammar et al., 2008; Ernst and Young, 2013), their impact on private home care arrangements is likely to reduce their popularity even further.

One way to make use of the huge tax base of wealth transfers without discouraging private caregiving is to introduce a special tax exemption for wealth transfers given to caregiving recipients. There is, of course, a number of arguments that stand against this tax exemption. For instance, administrative costs are likely to be high and this rule may open a loophole for tax evasion. In addition, it violates the principles underlying existing tax systems. On the other hand, this tax exemption has the potential to increase public support for the otherwise unpopular wealth transfer taxation. So far, however, we know very little about the public opinion on the idea to install tax exemption for caregiving heirs in wealth transfer taxation. This is where our paper comes in. We analyze data from a representative survey among German citizens in 2014 and 2015. In this survey, subjects are asked whether they support the introduction of a tax exemption for caregiving heirs. We use this survey data to learn more about the factors that make some subjects support the tax exemption and others oppose it.

Our results can be summarized as follows: Some 80 percent of the respondents support the proposal to introduce a tax exemption for caregiving heirs. We find support for the impact of self-interest: Support for the tax exemption is higher among subjects whose parents are alive and who are thus more likely to benefit from the tax exemption. Subjects who have been personally involved in providing LTC to relatives are more likely to support the tax exemption. We conclude that their personal experience makes them more aware of the severe burden caregivers often bear and want to see it gratified and/or want to improve the opportunities to organize additional help from family care assistants. We find no difference between the policy preferences of men and women, nor do we find policy preferences to depend on the valuation of the family. Subjects are more likely to support the tax exemption if they adhere to the social norm of indirect reciprocity or overestimate the tax burden of the German inheritance tax.

The remainder of the paper is organized as follows: Section 2 provides a review of the relevant literature and section 3 introduces the reader to the German institutional background. In section 4, we present the data and essential hypotheses. Section 5 presents the empirical analysis. The results are discussed in section 6. Section 7 concludes.

2. Review of Literature

There is a large body of literature on intergenerational transfers and wealth transfer taxation. These studies show that the flow of intergenerational transfers and its reaction to wealth transfer taxation crucially depends on the motives driving the transfers.¹ Some scholars argue that transfers from the older to the younger generation are motivated by altruistic motives, i.e. the

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There are numerous studies focusing on the macroeconomic consequences of wealth transfer taxation. A particular emphasis rests on the impact on efficiency (capital accumulation) and inequality in wealth and income (e.g., Gale and Slemrod, 2001; Grossmann and Poutvaara, 2009; Kaplow, 2010; Cremer and Pestieau, 2011) These studies suggest that citizens' policy preferences may be influenced by whether or not they expect wealth transfer taxation to have a timing effect (e.g., Joulfaian, 2001). However, the literature does not provide strong arguments why a tax exemption on caregiving heirs may be more or less harmful if one of the two motives – exchange or altruism – dominates intergenerational transfers.

wish to support their offspring (e.g., Barro, 1974; Coall and Hertwig, 2010). The amount transferred and its division among the children (or other heirs) does not depend on whether the latter provided long-term care in exchange. According to the exchange model of intergenerational transfers, monetary support from the older to the younger generation is given in exchange for transfers the parents themselves received from their children. These transfers comprise long-term care, attention and access to the grandchildren (e.g., Bernheim et al., 1985; Cox and Rank, 1992). In this case, bequests are the “final payment” in a reciprocal relationship between generations. Empirical studies indicate that this form of reciprocal exchange is empirically relevant. In their study on 12 European countries, Leopold et al. (2014) find that children who expect future benefits in the form of parents’ bequests and life insurance benefits are more likely to provide long-term care (see also Angelini, 2007 and Norton et al., 2013). These results do not rule out the relevance of altruistic motives. However, they strongly suggest that there is at least some nexus between the time, attention and long-term care a person provides to their parents and the wealth transfers this person receives.

Empirical studies on the division of wealth transfers between siblings inform us that there is a strong tendency to split them equally (e.g., Wilhelm, 1996; McGarry, 1999; Cox, 2003). In other words, having given long-term care to parents or other relatives does not generally lead to a reward in the form of higher postmortem wealth transfers (e.g., Norton and Taylor, 2005). On the other hand, unequal splits are quite common when it comes to inter vivos transfers. The division is found to follow both altruistic motives and the idea of reciprocal exchange (e.g., Light and McGarry, 2004; Leopold and Schneider, 2011). For instance, Norton et al. (2013) analyzes data from National Longitudinal Survey of Mature Women and find that parent are more likely to give inter vivos transfers to siblings who provided informal care than to siblings who did not care.

The question whether exchange or altruistic motives dominate intergeneration transfer relations is crucial when it comes to assessing the impact of wealth transfer taxation. In the logic of the exchange model, wealth transfer taxes place a tax wedge between the “price” parents pay for attention and long-term care and the “price” children receive for their services. This tax wedge reduces the incentives for children to provide long-term care to their parents and/or increase the wealth parents need to transfer in exchange for long-term care and attention. This effect does not emerge when wealth transfers are driven by altruistic motives.

Next to the literature on intergenerational transfers and wealth transfer taxation, our study builds on the existing studies on citizens’ policy preferences regarding taxation. These studies show that self-interest plays an important role: Subjects who expect to be burdened heavily by a certain tax tend to oppose this tax (e.g., McCaffery and Baron, 2006; Ansolabehere, 2007). In addition, fairness preferences shape citizens’ policy preferences on taxation (e.g., Sabatini et al., 2014). The number of studies that focus explicitly on wealth transfer taxation so far is limited. They support the notion that self-interest matters also when it comes to subjects’ preferences on wealth transfer taxation (e.g., Hammar et al., 2008; Page et al., 2013).² Furthermore, Slemrod (2006) shows that subjects generally expect wealth transfer taxes in the US to burden more citizens than they actually do. The acceptance of wealth transfer taxation is higher among those who have a more accurate view on the fraction of citizens actually taxed (e.g., Kuziemko et al., 2013; Sides, 2015).

²

Wrede (2013) provides a study on the role of tax planning on citizens’ policy preferences on taxing the transfer of family-owned firms in Germany. Specifically, he asks for the acceptance of a tax exemption for the transfer of family-owned firms that leaves this type of transfer largely untaxed while a comparable transfer of other assets would lead to a substantial tax burden. He shows that policy preferences strongly depend on citizens’ assumptions regarding the bequeathers’ motive. The acceptance for tax exemptions for the transfer of family-owned firms is high when the firm exists for a long time. If, however, a terminally ill person founds a family-owned firm with the aim to save taxes, the acceptance for the tax exemption is low.

There is a recent paper by Bischoff and Kusa (2016), which is of particular relevance for the current analysis. Based on German survey data, the paper asks subjects about their policy preferences regarding the inheritance tax – the form of wealth transfer taxation applied in Germany and many other European countries. It focusses on the general acceptance of inheritance taxation and asks subjects whether they agree that inheritances beyond a certain amount should generally be taxed. Almost 60 percent oppose inheritance taxation. The paper supports previous studies in showing that tax preferences are shaped by material self-interest: Opposition against inheritance taxation is lower among subjects whose parents are dead while it increases in household income. Subjects who overestimate the effective tax burden are more likely to oppose inheritance taxation. Redistributive aspects are found to matter: Believing that wealth transfers flow primarily to high-income households reduces opposition against inheritance taxation. Bischoff and Kusa (2016) find that women who are typically at the heart of intergenerational exchange relations are more likely to oppose inheritance taxation than men are. At the same time, subjects' individual experience in having witnessed LTC in the family or providing LTC services personally does not influence their policy preferences.

3. Long-term care and wealth transfer taxation in Germany

Like many other countries, Germany witnesses an unprecedented increase in wealth transfers from the old generation. For the current decade, transfers are expected to amount to €4.6 billion (e.g., Sieweck, 2011). Germany taxes wealth transfers using an inheritance tax. Here, the recipient of wealth transfers is the taxpayer and the tax is levied on the monetary value of transfers received. Tax exemptions and tax rates mainly depend upon the degree of kinship between heir and bequeather. For the latter's spouses, the tax exemption amounts to €500.000, for children €400.000, grandchildren and great grandchildren €200.000, and parents €100.000. The exemption for other beneficiaries is only €20.000. The tax rate on transfers exceeding these exempt amounts increases as the degree of kinship decreases – starting from an initial 7 percent

for children and spouses and rising up to an initial rate of 50 percent for non-relatives. The inheritance tax is accompanied by a gift tax that applies essentially the same tax schedule to inter vivos transfers in order to prevent tax avoidance through near-death transfers. The gift tax allows for additional tax-free inter vivos transfers as long as the amount received per decade does not exceed a certain limit. This tax exemption can be used every 10 years. Inter vivos transfers dating back less than 10 years are taxed together with the postmortem wealth transfers when the bequeather dies.

Simultaneous to the increase of wealth transfers, Germany witnesses a massive increase in the number of elderly people requiring long-term care (hereafter LTC). For 2007, the Federal Statistical Office counted 2.25 million citizens officially registered to require LTC (e.g., Husmann, 2010). Roughly, one third of the care recipients resides in a nursing home and receive LTC from professional care workers. The other two thirds receive LTC services in the privacy of their own home (hereafter home care). The dominant role of home care is in line with surveys reporting that the German population strongly prefers home care to care in nursing homes (Eurobarometer, 2007). Three categories of home care can be distinguished. The first category comprises all citizens who receive LTC from professional care workers at home (approx. 500.000 in 2007). The majority of citizens receive home care without noteworthy support from professional care workers (approx. 1 million in 2007). For them, home care services are provided by non-professional caregivers. We follow Kluzer et al. (2010) and distinguish between carers and family care assistants. Carers are family members who do not receive any monetary compensation on a regular basis but only occasional cash benefits or allowances.³ Carers often reduce their working hours when they start to provide home care. About 15 percent of them stop working entirely (e.g., Schmidt and Schneekloth, 2011) Thus, carers incur income losses

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Note that in some cases friends, neighbors and volunteers can be carers as well. However, there are typically family members who provide unpaid LTC on a regular basis.

during the time they provide home care to a family member. Family care assistants are non-relatives who do not work for nursing services but exclusively for the care recipients provide home care. In many cases, they work without wage contract and/or without social insurance. The category of family care assistants comprises illegal migrants from low-income countries as well as legal German residents who do not declare their salary. The empirical relevance of the latter category is difficult to assess because the arrangements are mostly based on informal contracts.⁴ Pedelabat (2012) estimates that approximately 100.000 female migrants work fulltime in providing LTC to German citizens in 2010.

Regarding the remuneration, carers may provide home care services without wanting anything in exchange, e.g. because they feel morally obliged to take care of their relatives when the latter are in need (e.g., Norton and Van Houtven, 2006; Norton et al., 2013). If a remuneration exists, carers may expect a wealth transfer that remunerates them for their services. Often, this wealth transfer is given post mortem, in the form of a bequest. This form of arrangement is attractive in cases where the care recipient owns real estate but has only insufficient liquidity to transfer inter vivos.

For family care assistants, formal wage contracts are seldom. In most cases, the arrangement is informal and the exchange of services and pay is part of the shadow economy. Theoretically, family care assistants could be remunerated through wealth transfers post mortem. However, such bequests to non-relatives are difficult to arrange. First, this form of arrangement requires a high level of trust between contractors. Second, larger (postmortem) wealth transfers are difficult to hide – especially if they involve real estate and/or foreigners are the beneficiaries. If, however, they are executed openly, the tax wedge from the inheritance tax is substantial. Thus,

⁴ The estimated numbers of family care assistants are taken from Kluzer et al. (2010).

most arrangements with family care assistants will take the form of informal wage (possibly plus board and lodging).

Given the tax schedule and the pattern of arrangements in LTC described above, three things become immanent: First, large inter vivos transfers given to caregivers are subject to the inheritance tax in the end because LTC usually becomes necessary in the final phase of life. Second, wealth transfers to close relatives – especially spouses and children – are not subject to a large tax wedge as long as the overall inheritance is moderate in size. Once the wealth transfer to caregiving relatives exceeds the limit of this exemption, however, the tax wedge becomes relevant. As income and wealth are correlated, the tax wedge is more likely to be relevant in high-income families. Third, family care assistants face a substantial tax wedge when receiving bequest. Thus, offering them part of the estate as final payment for their services is no attractive option for them under the present inheritance tax legislation – even if the bequeather can credibly commit on this form of payment. A tax exemption for caregiving heirs would change the attractiveness of bequest contracts with family care assistants substantially.

4. Data and hypotheses

4.1 Data: The GESIS survey

In the current paper, we analyze citizens' policy preferences for a reform proposal for the German inheritance tax. It proposes to introduce a tax exemption for recipients of wealth transfers who gave LTC to the person transferring the wealth. We address the question why do some citizens support the tax exemption for caregivers while others oppose it? To answer these questions, we employ the GESIS survey⁵ conducted by Leibniz Institute for social sciences in Mannheim, Germany.⁶ The survey covers individuals aged between 19 and 71 living in Germany and

⁵ Database-version: ZA5665. GESIS panel incremental codebook retrieved 10.01.2016 from www.gesis.org.

⁶ The same survey as our recent paper on the general acceptance of inheritance taxation (see section 2).

is representative for the German population. GESIS invited researchers from various fields to submit blocks of questions. The blocks of questions that successfully passed a review process were implemented in the survey. We make use of the answers to questions on intergenerational relations, LTC and inheritance taxation we successfully submitted to GESIS. In addition, we draw on the rich pool of additional variables the survey provides. When describing the data in the upcoming sections, we refer to all questions that we submitted to GESIS as our questions. All other questions are attributed to GESIS without differentiating between questions created by the GESIS team and questions submitted by other scientists.

4.2 Dependent variable

We introduced a question that asks subjects for their policy preferences regarding a possible tax exemption for caregiving heirs. It reads as follows:

[Figure 1 about here]

In this paper, we are interested in those factors that differentiate subjects who oppose the tax exemption (answer 1) from those who support the tax exemption (i.e. tick answer 2 or 3). The question what makes some respondents tick option 2 and others tick option 3 is an interesting research question of its own. It will, however, not be the focus of the current paper.

4.3 Independent variables and hypotheses

a) self-interest factors

The existing literature shows that policy preferences on taxation are driven by self-interest (see section 2). This suggests that citizens' support for a tax exemption increases in the tax burden they expect for themselves – either directly or indirectly by burdening subjects who provide LTC to them in case this is necessary. This leads to our first hypothesis.

H1 (self-interest): *Subjects who expect to make use of a tax exemption are more likely to support it.*

First, we introduce two variables that capture the wealth transfers subjects expect to receive. We ask subjects whether they expect to receive an inheritance in the near future. The dummy variable *expect_inheritance* is 1 for all subjects who do (0 else). In addition, we asked subjects whether they or their parents own a house that has been in the hand of their family in earlier generations. The corresponding dummy variable *house_dynasty* takes on the value 1 for all those who own such a house (0 else). The higher the expected wealth transfer, the more likely subjects are to support the tax exemption because it has the potential to reduce their tax burden. Second, the variable *parents_alive* takes on the value 1 for all subjects whose parents are living (0 else). Subjects whose parents are still alive are more likely to provide LTC for them and are therefore more likely to benefit from the tax exemption. Third, we account for the existence or absence of close relatives. Subjects without close relatives face a substantial tax wedge between the price they pay for receiving LTC and the price potential caregivers receive. Moreover, they miss close relatives who feel morally obliged to provide them with LTC. Thus, we expect subjects without close relatives to be more supportive of the tax exemption. *no_children* takes on the value 1 for all subjects who do not have children (0 else) and *not_married* that takes on the value 1 for the subjects who are neither married nor in civil union (0 else). Finally, the empirical literature shows that women provide by far the largest share of home LTC (e.g., (e.g., Haberkern and Szydlik, 2008; European Union, 2012; Adam and Mühling, 2014).⁷ In addition, the probability of requiring LTC is substantially higher for women than for men (e.g., BPA, 2003; Larsen

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The same holds for long-term care services in nursing homes. According to German Federal Statistical Office, some 80% of formal caregivers in nursery houses are females.

et al., 2009). Thus, women are more likely to benefit from the tax exemption. A dummy variable *female* captures subjects' sex.

b) personal experience and involvement in long-term care

We expect subjects' policy preferences regarding the tax exemption for caregiving heirs to depend on their personal experience and involvement in LTC. The variable *gave_care_personally* takes on the value 1 for all subjects who state that they have been involved in providing LTC to a relative for a period of three months or longer (0 else). Here, caregiving includes occasional assistance while the main caregiving was in the hands of others, including commercial providers. These subjects may expect an inheritance in exchange and support the tax exemption for self-interest reasons. In addition, the sociological literature informs us that many subjects who gave care to relatives report felt severely overburdened and found it difficult to organize external help or relief (e.g., McCarty et al., 2008; Schmidt and Schneekloth, 2011). Subjects who have provided LTC personally are aware of these problems and may like to see more support for caregivers and thus support the tax exemptions because it make it easier to organize support. Thus, our corresponding hypothesis reads:

***H2 (personal experience in LTC-giving):** Subjects who have been involved in long-term care are more likely to support the tax exemption.*

c) beliefs and social norms related to intergenerational transfers and their taxation

According to the theory of sociotrophic voting, voters take a general perspective when assessing policy proposals: Policies that are viewed to improve overall welfare are supported while policies that reduce welfare are not supported (e.g. Paldam, 2004; Bischoff and Siemers, 2013). In the case of the tax exemption for caregiving heirs, subjects are more likely to support the exemption if they are concerned with a negative impact of the tax wedge on intergenerational

exchange relations. This expected impact in turn is driven by subjects' economic beliefs and attitudes towards social norms.

First, the support for the tax exemption depends on subjects' view regarding the trust of the old generation in their descendants. If this trust is high, older people may give inter vivos transfers to the prospective caregiving relative even before the need LTC. This reduces the tax wedge. However, if the old generation's trust in its descendants is low, old people will refrain from transferring wealth inter vivos because they fear to lose their financial independence. In this case, the tax wedge is more likely to apply. We ask subjects whether they believe that old people refrain from giving inter vivos transfers because they fear to become dependent on their offspring. Based on the answers, we construct the variable *old_fear_dependence*. It takes on the value 1 for subjects who believe this (0 else). Subjects who believe that the old generation lacks trust in the younger generation are more likely to support the tax exemption.

Second, we elicit subjects' adherence to the norm of indirect reciprocity. Arrondel and Masson (2001) argue that the young often provide the old with attention and LTC because they observed their parents to have done the same when the latter were young. Arrondel and Masson (2001) argue that having observed intrafamilial transfers among preceding generations creates a social norm that is passed on together with the wealth, attention etc. We capture subjects' adherence to the social norm in a question on inter vivos transfers that parents give to their children. The question confronts subjects with two statements. 1) People who receive start-up support from their parents are morally obliged to support their own children in the same way. 2) Every generation has to decide for itself whether to give their children start-up support. Subjects are asked to tick the statement that more closely represents their own view. We construct a dummy variable *indirect_reciprocity* that takes on the value 1 for subjects who tick the first statement (0 else). It captures the degree to which subjects generally adhere to indirect reciprocity as a social norm. We expect that subjects who adhere to this norm are more concerned about the tax wedge

because it increases the costs of following this norm. Therefore, they are expected to be more supportive of the tax exemption.

Third, building on the results by Slemrod (2006) and Sides (2015), we expect subjects' policy preferences to depend on the perceived tax burden from inheritance taxation. The higher the perceived burden, the more likely they are to support the tax exemption. This hypothesis may be driven by sociotropic considerations because the size of the tax wedge depends on the perceived tax burden. But it may also be driven by material self-interest because subjects who overestimate the tax burden are more likely to expect to be burdened personally. We ask subjects to state the tax liability of a child inheriting a bank deposit with 100.000 €. We construct a dummy variable *tax_overestimation* that takes on the value 1 for those who overestimate the tax burden and thus the tax wedge for caregiving relatives (0 else). We expect overestimation to increase support for the tax exemption.

A substantial number of non-relatives providing home care come from other countries. In Germany, migrants from Eastern Europe are the largest group among them (Statistisches Bundesamt, 2016). The tax exemption for caregiving heirs makes home care provision in Germany more attractive and is thus likely to increase the number of migrants in Germany. Subjects adhering to rightwing ideology oppose the immigration of foreigners and are thus more likely to oppose the tax exemption. We control for this by introducing the variable *rightwing*. It takes on the value 1 for subjects who identifies themselves as right by ticking a value of 8 to 10 on a 10-point left-right scale with 0 indicating leftwing and 10 indicating rightwing (0 for all subjects ticking values between 0 and 7).

d) control variables

Finally, we introduce a number of control variables. The first control variable is the natural logarithm of subjects' age (*log_age*). We construct a dummy *high_education* that takes on the value 1 for subjects whose school education qualifies them to enter higher education (0 else).

We control for *household_income* of subjects by calculating natural log of the equivalent household income using the OECD-square-root-rule (OECD, 2008).⁸

5. Empirical Analysis

Among the 3509 respondents who answered our central question in figure 1, some 20 percent rejected the proposal to introduce a tax exemption for caregiving heirs. Almost 44 percent support the tax exemption for all caregivers regardless of their kinship status while 36 percent support the tax exemption but want to see it restricted to caregiving relatives. The way the question is presented suggests that subjects' decision process is best modelled as a simultaneous choice between three alternatives. In this case, a multinomial approach is the adequate empirical model. On the other hand, one might argue that subjects' decision process is better modelled as a two-stage process: Subjects first decide whether to support the tax exemption in general (question 1). In stage 2, those who support the tax exemption in general decide whether it should be restricted to caregiving heirs (question 2). In this case, the two decisions should be analyzed consecutively. In the current paper, we are only interested in the answer to question 1. Nevertheless, we address this question in a multinomial regression to avoid errors resulting from a possible mis-specification. The results reported below are qualitatively identical to those we obtained when using a probit-approach bundling those who ticked answer 2 and 3 to one category.⁹

[Table 1 and 2 about here]

Table 1 reports the descriptive statistics for all independent variables. The correlation matrix is reported in the appendix. In the multinomial specification presented below, we use to answer 1

⁸ It is calculated using classified income data. We assumed that household's income equals the median value of the range they reported the income to be in. The highest category [6.000 Euro or more] was excluded.

⁹ The results are not reported here but are available upon requests.

“No; there should not be a tax exemption for caregiving heirs” as a reference category (see table 2). The baseline model includes all dependent variables described in section 4.3. Given that we had to exclude subjects reporting the lowest and highest income category and given missing answers on some questions, we finally end up with a sample of slightly more than 1.400 individuals.

Among the variables capturing subjects’ self-interest (hypothesis H1) only *parents_alive* is significant with positive sign: Subjects whose parents are alive are more likely to support the unrestricted tax exemption (answer 2). *Parents_alive* does not yield a significant coefficient for the restricted type of a tax exemption. Regarding personal experience and involvement in providing LTC, we find *gave_care_personally* to be significantly positive for the unrestricted tax exemption as predicted in H2 and insignificant for the restricted tax exemption. The variables covering subjects’ general beliefs are partially significant: In line with our predictions, subjects who believe in norm of indirect reciprocity and/or overestimate the real tax burden from inheritance taxes are more likely to accept both types of tax exemption (*indirect_reciprocity*; *tax_overestimation*). *Rightwing* is significantly negative for the unrestricted tax exemption and insignificant for restricted tax exemption. *High_education* is significant with a negative sign for both types of tax exemption. All other variables are insignificant.

In model 2, we change the specification as follows: Depending on their age, subjects are likely to have distinctly different perspectives on the topic of inheritance and LTC. Thus, the impact of subjects’ age may not be monotonic. To account for the generation-specific perspective, we classify individuals as “old” (born before 1955) and “middle” (born between 1956 and 1975). The dummy variables *old_generation* and *middle_generation* capture these categories. The two dummy variables are insignificant and all other variables perform like they do in model 1.

In model 3, we accommodate a recent trend in the related literature and account for the impact of personality traits on political attitudes. Recent studies show that subjects’ personality traits

predicts their self-placement on ideological scales as well as their voting behavior (e.g., Caprara et al., 2006; Gerber et al., 2010) even though the theoretical underpinning for these findings is still ad hoc (e.g., Gerber et al., 2011). The GESIS survey uses the Big-Five-Inventory 10 proposed by Rammstedt et al. (2012) to characterize subjects' personality in the dimensions *neuroticism*, *openness to experience*, *agreeableness*, *conscientiousness*, *extraversion* on a 5-point Likert-like scale. Two questions are devoted to each personality trait and subjects' score is combined to an ordinal measure capturing the degree to which a certain trait is present within the subject. Following the standard procedure in the political psychology literature, we use the ordinal measure as exogenous variable (e.g., Müller and Schwieren, 2012). In addition, we introduce two variables to account for subjects' view on the importance of the family (e.g., Aronson and Masson, 2013). Subjects who consider the family to be very important are likely to be more concerned about the tax wedge because it may weaken intergenerational family relations. Thus, they are more likely to support the tax exemption. We expect subjects who live in the same house with their parents to value the family higher than those who do not. The variable *parents_in_same_house* captures this effect. It is 1 for subjects who live in the same house as their parents (0 else). Based on general survey questions, we also construct the variable *family_most_important*. It takes on the value 1 for those who stated their family to be important or very important to them, while at the same time stating that education and leisure – the two most popular things to evaluate – are less important (0 else). The variables capturing subjects' view on the importance of the family (*family_most_important* and *parents_in_same_house*) are insignificant. We find *extraversion* to increase the support for both types of tax exemption. The performance of all other variables remains unchanged.

[Table 3 about here]

In table 3, we report only significant marginal effects for all predicted outcomes. As we have three answer options and we are interested in what makes people support the tax exemption, we

will refer to the marginal effects of first predicted outcome (Answer: “No; there should not be a tax exemption for caregiving heirs”). The probability of supporting a tax exemption is on average about 8 percentage points lower for subjects identify themselves as *rightwing*, about 9 percentage points lower for subjects, whose school education qualifies them to enter higher education (*high_education*) and 9 percentage points higher for subjects who overestimate the tax burden. The probability of supporting a tax exemption is about 7 percentage points higher for subjects who adhere to the norm of indirect reciprocity (*indirect_reciprocity*) and 6 percentage points higher for subjects whose parents are living (*parents_alive*). The probability of voting for a tax exemption is on average about 5 percentage points higher for those who stated that they were involved in providing LTC (*gave_care_personally*).

We run a large number of sensitivity analyses to test the robustness of our results. These include the probit-regressions which combines both forms of tax exemption to one category (see above) and a number of models with additional independent variables. Among other things, we account for the place of birth and differentiate between respondents born inside and born outside German. Given the theoretical importance of Ricardian equivalence, we ask subjects whether they believe that parents in Germany neutralize the intergenerational consequences of government policies by adjusting savings. Those who believe that a large part of parents in Germany behave this way are classified as Ricardians (*ricardo* = 1, 0 for others). The *ricardo*-variable serves as an indirect measure for subjects’ belief that wealth transfers from parents to children are motivated by altruism. We also control for citizens’ trust in the (federal) government. The variable *trust_in_government* is 1 for those subjects who have much or very much trust in the German government (0 else). The lower the trust, the more reluctant citizens are to support high taxes (e.g., Bischoff and Kusa, 2016). None of these variables are found to be significant, nor do they change the results reported above. Detailed information on the sensitivity analyses is provided in the supplementary material (available upon request).

6. Discussion

In the section above, we use data from the GESIS survey to learn more about citizens' policy preferences for a tax exemption for caregiving heirs in the German inheritance tax. Our results indicate that support for the general tax exemption is in parts driven by monetary self-interest (hypothesis H1): Subjects whose parents are alive are more likely to support the tax exemption. We also find support for hypothesis H2: Subjects who gave LTC personally are more supportive of the tax exemption. The fact that this result is driven by a higher degree of acceptance for the unrestricted tax exemption, we conclude that it does not point at self-interest. Instead, it suggests that subjects who gave LTC personally want to see it gratified by society or want to make it easier by families in which home care is needed to organize support by non-relatives. In addition, subjects are more likely to support this tax exemption if they adhere to the social norm of indirect reciprocity. In line with the previous literature, we find that the perception of the effective tax burden matters: Subjects who overestimate the tax burden for moderate wealth transfers are more likely to support the tax exemption. Somewhat surprisingly, we find no support for the notion that a high valuation of the family increases support for the tax exemption. Subjects with a rightwing political orientation are more likely to oppose the tax exemption – supposedly, because they oppose the increase in immigration to be expected if the tax exemption is installed.

A number of limitations remain. Most importantly, we lack information on the number of respondents' siblings. This is important especially for the middle generation facing the possibility of having parents in need of LTC and at the same time expecting wealth transfers in the next decades. On the one hand, having siblings means that subjects can share the burden of providing LTC. On the other hand, the division of parents' wealth is reported to be one of the primary reasons for severe disputes among siblings (e.g., Titus et al., 1979).

7. Conclusion

The industrialized world is facing an unprecedented increase in wealth transfers together with a massive increase in the share of elderly people who require LTC and a massive increase in the average duration of receiving LTC services. At the same time, the public sector is under increased fiscal pressure and the distribution of wealth is becoming increasingly unequal. Wealth transfer taxation seems a straightforward possibility to mitigate the latter two developments. However, it causes a tax wedge in intrafamilial intergenerational exchange between wealth and LTC, which reduces the share of home care arrangements. One way to escape this dilemma is to introduce a tax exemption for caregiving recipients of wealth transfers. This paper analyses the support for this tax exemption using data from a representative survey among German citizens in 2014 and 2015. Some 80 percent of respondents support the exemption for caregiving heirs. Our regressions show that self-interest drives subjects' policy preferences: Having alive parents increases support for the tax exemption. We also find subjects' policy preferences to be driven by personal experience in LTC. This result supports the notion that their personal experience makes them more aware of the severe burden caregivers often bear. Being more sensitive than others about this burden, they want to see it gratified and/or want to improve the opportunities to organize additional help from family care assistants. Surprisingly, we find no support for the notion that women differ in their policy preferences from men. This result is surprising because women provide the largest part of home care services and are much more likely to require LTC. Thus, they arguably benefit from the tax exemption.

The survey results used in this paper show that about half of the subjects who support the tax exemption for caregiving heirs want to see it restricted to relatives only. In other words, they do not want to see the tax wedge removed for non-relatives giving home care. This raises an interesting question for further research: Why do some subjects want to see non-relatives to

play a greater role in home care provisions why others do not? It is beyond the scope of this paper to address this question. Thus, we leave it for future research.

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APPENDIX A: Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1 tax_exemption_multi																								
2 expect_inheritance	0.05																							
3 house_dynasty	0.03	0.10																						
4 parents_alive	0.00	0.17	0.12																					
5 not_married	0.00	-0.02	0.01	0.13																				
6 no_children	-0.04	0.01	0.06	0.19	0.44																			
7 female	-0.04	-0.02	-0.03	0.00	0.01	-0.03																		
8 tax_overestimation	0.09	-0.04	-0.03	0.15	0.12	0.07	0.06																	
9 old_fear_dependence	-0.02	0.01	-0.04	-0.05	-0.05	-0.01	0.05	-0.02																
10 indirect_reciprocity	0.05	0.03	0.07	0.04	0.04	0.01	-0.13	0.00	-0.01															
11 rightwing	-0.03	0.00	0.00	-0.09	0.00	-0.04	-0.02	-0.09	-0.01	0.00														
12 gave_care_personally	0.02	0.04	0.09	-0.23	-0.05	-0.07	0.09	-0.08	0.08	-0.01	0.04													
13 log_age	0.01	-0.02	-0.12	-0.54	-0.35	-0.45	-0.04	-0.22	0.07	-0.07	0.11	0.21												
14 household_income	-0.05	0.07	0.07	0.03	-0.21	-0.01	-0.04	-0.21	0.02	-0.03	-0.03	-0.04	0.07											
15 high_education	-0.11	0.07	0.05	0.15	0.12	0.23	-0.04	-0.04	-0.05	0.06	-0.08	-0.12	-0.27	0.19										
16 middle_generation	0.01	0.06	0.01	0.17	-0.09	-0.15	-0.02	-0.02	0.06	-0.05	-0.07	0.02	0.19	0.10	-0.10									
17 old_generation	0.01	-0.06	-0.11	-0.57	-0.18	-0.21	-0.02	-0.15	0.01	-0.02	0.14	0.16	0.63	-0.04	-0.16	-0.56								
18 neuroticism	0.01	-0.04	0.00	0.03	-0.01	0.07	0.16	0.04	0.05	0.00	0.04	-0.03	-0.08	-0.06	-0.01	-0.02	-0.05							
19 extraversion	0.05	0.02	0.01	0.05	-0.02	-0.06	0.12	0.03	-0.07	-0.01	-0.01	0.02	-0.06	0.05	-0.02	-0.04	-0.02	-0.20						
20 openness to experience	-0.03	0.04	-0.05	-0.04	0.04	0.01	0.13	0.03	-0.01	0.00	-0.04	0.02	0.04	-0.03	0.05	-0.01	0.05	-0.12	0.20					
21 agreeableness	0.00	0.02	0.03	0.00	0.02	-0.07	0.12	0.06	-0.01	0.01	-0.05	-0.01	0.05	-0.01	0.04	0.04	0.01	-0.09	0.06	0.08				
22 conscientiousness	0.01	-0.01	-0.02	-0.07	-0.14	-0.15	0.19	-0.05	0.03	-0.04	0.03	0.07	0.19	0.03	-0.13	0.06	0.09	-0.10	0.21	0.09	0.05			
23 family_most_important	-0.04	-0.03	0.02	0.00	-0.10	-0.04	0.06	-0.01	-0.02	0.02	0.03	0.01	0.05	-0.01	0.04	-0.01	0.04	0.03	-0.07	-0.04	0.03	-0.07		
24 parents_in_same_house	0.05	0.09	0.10	0.22	0.15	0.21	-0.10	0.03	-0.01	0.07	0.00	0.02	-0.26	-0.05	0.02	-0.03	-0.14	0.04	-0.03	-0.04	-0.06	-0.12	-0.03	

Figure 1: Question on policy preference regarding the tax exemption for caregiving heirs

“At present, a reform of the inheritance tax is discussed frequently. Some people demand an appreciation of home care by a tax exemption. Others are against this proposition What do you think? Should there be an inheritance tax exemption for heirs who provided long-term care to the deceased person

- No (1)
- Yes, for all caregiving heirs (2)
- Yes, but only for caregiving relatives (3)
- Don't know.”

Table 1. **Descriptive statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
tax_exemption_multi	3,509	116073	.7331047	0	2
expect_inheritance	3,239	.1213337	.3265651	0	1
house_dynasty	3,273	.2551176	.4359939	0	1
parents_alive	3,496	.7259725	.4460867	0	1
not_married	3,507	.4083262	.4915942	0	1
no_children	3,213	.2829132	.4504847	0	1
female	3,509	.5118267	.4999313	0	1
tax_overestimation	2,698	.5615271	.496292	0	1
old_fear_dependence	3,176	.8261965	.3790001	0	1
indirect_reciprocity	3,331	.2245572	.417353	0	1
rightwing	3,446	.0789321	.2696719	0	1
gave_care_personally	3,248	.2931034	.4552556	0	1
log_age	3,499	3.814792	.3380791	2.944439	4.26268
household_income	2,64	7.421853	.466686	5.991465	8.411833
high_education	3,505	.4313837	.4953401	0	1
middle_generation	3,509	.4545455	.4980006	0	1
old_generation	3,509	.246794	.4312072	0	1
neuroticism	3,324	5.723827	1.675842	2	10
extraversion	3,327	6.443943	1.77858	2	10
openness to experience	3,340	6.774551	1.733454	2	10
agreeableness	3,322	6.204997	1.422853	2	10
conscientiousness	3,317	7.850769	1.440112	2	10
family_most_important	3,504	.3818493	.4859092	0	1
parents_in_same_house	3,496	.1264302	.3323811	0	1

Table 2: **Multinomial probit model**

VARIABLES	1	2	1	2	1	2
expect_inheritance	-0.118 (0.161)	0.265* (0.159)	-0.119 (0.161)	0.263* (0.159)	-0.0676 (0.167)	0.319* (0.165)
house_dynasty	0.0295 (0.121)	0.117 (0.122)	0.0341 (0.121)	0.125 (0.122)	0.0423 (0.125)	0.108 (0.126)
parents_alive	0.432*** (0.139)	0.0569 (0.140)	0.461*** (0.146)	0.112 (0.146)	0.456*** (0.146)	0.0271 (0.146)
not_married	0.0530 (0.123)	0.00630 (0.124)	0.0592 (0.122)	0.0190 (0.124)	0.127 (0.130)	0.0629 (0.131)
no_children	-0.138 (0.137)	-0.172 (0.139)	-0.139 (0.135)	-0.164 (0.137)	-0.133 (0.143)	-0.208 (0.146)
female	0.0725 (0.105)	-0.0881 (0.107)	0.0753 (0.105)	-0.0850 (0.107)	0.0516 (0.116)	-0.135 (0.118)
tax_overestimation	0.433*** (0.108)	0.378*** (0.110)	0.438*** (0.108)	0.386*** (0.110)	0.477*** (0.113)	0.401*** (0.114)
old_fear_dependence	0.218 (0.133)	-0.0193 (0.132)	0.215 (0.133)	-0.0200 (0.133)	0.201 (0.140)	-0.0755 (0.139)
indirect_reciprocity	0.427*** (0.131)	0.312** (0.134)	0.413*** (0.131)	0.298** (0.133)	0.442*** (0.136)	0.326** (0.138)
rightwing	-0.398** (0.191)	-0.291 (0.191)	-0.399** (0.192)	-0.299 (0.191)	-0.446** (0.200)	-0.333* (0.198)
gave_care_personally	0.352*** (0.118)	0.112 (0.121)	0.357*** (0.118)	0.116 (0.120)	0.346*** (0.123)	0.104 (0.125)
log_age	0.0156 (0.230)	-0.0923 (0.233)			0.145 (0.243)	0.0647 (0.247)
household_income	-0.163 (0.122)	-0.0966 (0.124)	-0.162 (0.122)	-0.0952 (0.125)	-0.179 (0.127)	-0.102 (0.129)
high_education	-0.405*** (0.112)	-0.480*** (0.114)	-0.398*** (0.113)	-0.471*** (0.114)	-0.371*** (0.118)	-0.453*** (0.119)
middle_generation			0.00460 (0.142)	-0.0511 (0.145)		
old_generation			0.0535 (0.188)	0.0169 (0.190)		
neuroticism					-0.00335 (0.0343)	0.0260 (0.0349)
extraversion					0.0980*** (0.0321)	0.0744** (0.0327)
openness to experience					-0.0606* (0.0326)	-0.0455 (0.0333)
agreeableness					-0.0175 (0.0377)	0.00545 (0.0384)
conscientiousness					-0.0210 (0.0403)	0.000659 (0.0413)
family_most_important					-0.112 (0.111)	-0.137 (0.113)
parents_in_same_house					-0.0582 (0.193)	0.285 (0.193)
Constant	1.065 (1.302)	1.490 (1.325)	1.070 (0.950)	1.085 (0.965)	0.725 (1.429)	0.636 (1.451)
X ² -Stat						
Observations	1,632		1,633		1,527	

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 3: Significant marginal effects

	MODEL 1	MODEL 2	MODEL3
expect_inheritance			
1	-0.016 (0.029)	-0.015 (0.029)	-0.029 (0.029)
2	-0.084** (0.036)	-0.084** (0.036)	-0.082** (0.036)
3	0.100*** (0.037)	0.099*** (0.037)	0.111*** (0.038)
parents_alive			
1	-0.053* (0.028)	-0.063** (0.029)	-0.054* (0.028)
2	0.115*** (0.032)	0.114*** (0.033)	0.118*** (0.032)
3	-0.062* (0.032)	-0.051 (0.034)	-0.064* (0.033)
tax_overestimation			
1	-0.086*** (0.021)	-0.088*** (0.021)	-0.095*** (0.022)
2	0.058** (0.026)	0.058** (0.025)	0.069*** (0.026)
3	0.028 (0.025)	0.029 (0.025)	0.026 (0.026)
old_fear_dependence			
1	-0.022 (0.026)	-0.021 (0.026)	-0.017 (0.027)
2	0.067** (0.031)	0.066** (0.031)	0.073** (0.032)
3	-0.045 (0.031)	-0.045 (0.031)	-0.056* (0.032)
indirect_reciprocity			
1	-0.073*** (0.022)	-0.071*** (0.022)	-0.076*** (0.022)
2	0.066** (0.030)	0.065** (0.030)	0.066** (0.031)
3	0.007 (0.029)	0.006 (0.029)	0.009 (0.030)
rightwing			
1	0.079* (0.041)	0.080* (0.041)	0.090** (0.043)
2	-0.065 (0.045)	-0.064 (0.046)	-0.072 (0.047)
3	-0.014 (0.045)	-0.016 (0.045)	-0.017 (0.046)
gave_care_personally			
1	-0.049**	-0.050**	-0.047**

		(0.021)	(0.021)	(0.022)
	2	0.083***	0.084***	0.075***
		(0.027)	(0.027)	(0.028)
	3	-0.034	-0.034	-0.029
		(0.026)	(0.026)	(0.027)
high_education				
	1	0.094***	0.092***	0.090***
		(0.022)	(0.022)	(0.023)
	2	-0.032	-0.031	-0.026
		(0.026)	(0.026)	(0.027)
	3	-0.062**	-0.061**	-0.065**
		(0.026)	(0.026)	(0.027)
extraversion				
	1			-0.018***
				(0.006)
	2			0.015**
				(0.007)
	3			0.003
				(0.007)