The balance of intergenerational family transfers: a life-cycle perspective

Stipica Mudrazija

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Abstract The aim of this study is to determine the likelihood and net amount of parent–child transfers over the adult life cycle across European welfare regimes. The study introduces an economic life-cycle model of family transfers to describe the evolution of family exchanges across generations over time, which reveals a nonlinear relationship of age and net family transfers. Furthermore, it refines the method of estimating parent–child net transfers. Data come from the Survey of Health, Ageing, and Retirement in Europe, and include 36,095 parent–child dyads from 11 European countries representing social democratic, conservative, and traditional welfare-state regimes. The findings reveal net value of family intergenerational support follows a nonlinear pattern across the adult life cycle, with positive transfers from parents to adult children decreasing modestly until advanced old age when the decrease intensifies. Net family support benefits individuals and generations with larger relative need. The transition in the net family support pattern starts later and is less pronounced across social democratic welfare-regime countries while the opposite is true in traditional welfare-regime countries. These findings might be interpreted as being linked to differences in the public policies guaranteeing different levels of provision for dependent populations across different welfare regimes. They are consistent with a comparatively smaller role of family support in the intergenerational

redistribution of resources in societies with larger public intergenerational support to dependent populations.

Keywords Intergenerational transfers · Life cycle · Welfare regimes · SHARE

Introduction

The exchange of support between family generations is a key area of research in family economics, gerontology, social policy, and related disciplines. Yet, knowledge on the overall flow of transfers between family generations across the life cycle and their link with welfare regime is still limited. In an era of population aging, when governments find it increasingly difficult to maintain current levels of support to both younger and older populations, uncovering the mechanisms that link public and private streams of intergenerational support becomes particularly important. The core objective of this study, therefore, is to determine the likelihood and the net amount of transfers between older parents and their adult children over the adult life across different welfare regimes in Europe.

Prior research has mostly examined different types of transfers separately. Attias-Donfut et al. (2005) found that the likelihood of making family intergenerational financial transfers decreases with age while the likelihood of receiving practical support, especially after age 75, substantially increases. Albertini et al. (2007) found parents more likely to give financial support to children than to receive it from them, irrespective of age. However, parents aged 70 and older were more likely to receive than to provide practical support, not counting grandchild care. Prior studies have also focused on the geographical pattern of family transfers. They discovered financial family

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S. Mudrazija (✉)
Edward R. Roybal Institute on Aging, School of Social Work,
University of Southern California, 1150 South Olive Street,
Suite 1400, Los Angeles, CA 90015-2211, USA
e-mail: stipica.mudrazija@usc.edu

transfers to be the least frequent and most intensive in Southern Europe in contrast to the most frequent and least intensive in Northern Europe (e.g., Albertini and Kohli 2012; Kohli and Albertini 2007). A similar geographic pattern was found for the exchange of nonfinancial family help and care as well (e.g., Brandt and Deindl 2013; Brandt et al. 2009; Deindl and Brandt 2011; Haberkern and Szydlik 2010; Igel and Szydlik 2011).

The literature on intergenerational transfers has given less attention to the overall balance of giving between family generations. The concept of net transfers between parents and children is defined as the monetary value of the sum of private transfers (e.g., money, care and help, and grandchild care) given minus the sum value of transfers received. Bonsang (2007) found that time and money transfers can act as substitutes. Attias-Donfut and Ogg (2009) suggest that age is associated with a gradual change in the pattern of transfer exchanges. One study calculated a net transfer measure in Germany and Israel and found that older individuals are net providers of family support until quite late in life (Litwin et al. 2008).

The lack of consideration of the net flow of family intergenerational support may obscure the nature of the relationship of family transfers with age. That is, while individual transfer flows may be roughly approximated with a linear relationship (e.g., Albertini et al. 2007; Deindl and Brandt 2011), the resulting total flow of support does not necessarily follow a linear pattern over the adult life cycle. In fact, to the extent that family transfers can be considered a consumption item (Hurd et al. 2007), they are more likely to exhibit a nonlinear pattern (Friedman 1957; Modigliani and Brumberg 1954). Consequently, the current study proposes an analytic framework that uses a novel and flexible modeling approach—piecewise linear spline regression to describe the relationship between net intergenerational family transfers and age.

A framework of intergenerational family transfers

Intergenerational transfers first became an issue of interest for economists studying the life-cycle model of consumption and saving mainly in their role as a possible source of savings (e.g., Modigliani 1988; Kotlikoff 1989). Yet, over time, recognition of a more prominent role of intergenerational transfers for family members emerged. For example, Rosenzweig and Wolpin (1993) found parental support to be significant for young-adult male children's consumption smoothing during periods of education or unemployment. Cox et al. (1998) found that private financial transfers over the life cycle flow mostly to both young and old from the middle-aged. Consistent with the pattern of life-cycle consumption smoothing, this

suggests a nonlinearity of transfers over the life cycle. Given this evidence, Hurd et al. (2007) explicitly incorporated family money transfers into the life-cycle model of consumption and saving, treating them as a consumption item and acknowledging their likely nonlinear relationship with age. Interest in studying intergenerational transfers over the life cycle has further increased in recent years as rapid population aging challenges the sustainability of present levels of public spending on behalf of the older population (Mason et al. 2006). Current research efforts in this realm focus on applying a uniform methodology to measure income, consumption, saving, and public and private intergenerational transfers over the life cycle in societies with different demographic profiles, at different stages of economic development, and pursuing different social policy models (Lee and Mason 2011; Mason et al. 2006).

Intergenerational family transfers have also received substantial attention in the sociological literature. For example, Cooney and Uhlenberg (1992) examined the age pattern of transfers from parents to children. Their findings emphasized the nonlinear character of giving over the life cycle, unlike previous literature that assumed a linear relationship (e.g., Eggebeen and Hogan 1990). Silverstein et al. (2002) studied the long-term exchange of support between parents and children and found it to be governed by an implicit social contract that requires some level of long-run reciprocal behavior. The sociological literature offers a more expansive view of intergenerational family transfers, one that includes nonfinancial transfers in addition to financial transfers.

Building on this tradition, it is possible to formulate a life-cycle overlapping-generations (OLG) model of family transfers (Fig. 1). The two underlying assumptions of the model are that intergenerational family transfers are a consumption item, as proposed by Hurd et al. (2007), and that differences in relative needs of family members are the key determinant of transfers. The latter assumption is consistent with need-based theories of giving like altruism (Becker 1974; Barro 1974) and with reciprocity perspectives [in cases where repayment can occur with a time lag, without symmetry in value, and can be nominally made to a third party, characteristics particularly salient for the family context (Kohli and Künemund 2003)]. Similar life-cycle OLG models have been used to describe parental financial transfers to and co-residence with adult children (Rosenzweig and Wolpin 1993) and to explain households' aggregate consumption and saving patterns (Heijdra and Romp 2008).

The life-cycle OLG model presented in Fig. 1 focuses primarily on the relationship between parents age 50 and older and their younger and older adult children (boxes P, YA, and OA, respectively). An arrow with a full line

Fig. 1 Stylized representation of the typical flow of family intergenerational transfers over the adult (age 50 and older) life cycle of parents

depicts a higher likelihood of transfers, while a dashed arrow describes a lower likelihood of transfers. The thickness of an arrow represents the magnitude of a transfer.

During Phase 1, middle-aged parents (P) act as the pivotal generation (Attias-Donfut 1995) with respect to transfers for their children's (YA) education-related expenditures or transition to independent living (e.g., house or apartment down payment). In addition, parents often take care of grandchildren (GC). Simultaneously, the pivotal generation has frail older parents (GP) who might need support, but who can also be a source of wealth transfers as a part of the estate planning.

As the pivotal generation ages (Phase 2), their health-related needs start increasing while most of their frail older parents die. Their children transition from young to older adulthood (OA) and experience growth in earnings. Simultaneously, grandchildren transition to early adulthood. With further passage of time (Phase 3), adult children become the next pivotal generation. In this stage of the life cycle, grandchildren reach young adulthood, start creating families and having children of their own (GGC), while parents face increasing health problems and frailty.

The empirical evidence on family transfer behavior across European countries and the United States is broadly consistent with this model (e.g., Albertini et al. 2007; Attias-Donfut et al. 2005; Kohli et al. 2005; McGarry and Schoeni 1995; Zissimopoulos and Smith 2009). However, the OLG model presented in Fig. 1 does not account for public redistribution of resources, which may have an important impact on the level and timing of family intergenerational transfers. To incorporate this aspect in the analytic framework, the current research assumes that broad-based macro-level factors, particularly as they refer to institutional, structural and cultural differences, do not vary independently between countries (Kohli and Albertini 2007). It employs a welfare-regime typology (Esping-

Fig. 2 Stylized representation of the relationship of net family transfers and age across welfare regimes

Andersen 1990) to account for the impact of public intergenerational redistribution of resources on the patterns of private giving, grouping the countries into three welfare regimes: social democratic (e.g., Sweden), conservative (e.g., Germany), and traditional (e.g., Italy). Figure 2 displays the expected effects of welfare regime on the net family intergenerational transfer over the life cycle.

Based on the OLG model of family transfers and prior empirical findings, this study offers the following research hypotheses:

1. The likelihood of parent–child transfers decreases with age.
2. Net value of parent–child transfers decreases over the adult life cycle following a nonlinear pattern of moderate decline for middle-aged parents and young-adult children, followed by a sharp decline as parents and children age, moderating again as parents reach advanced old age and children transition into middle age.

3. The absolute net value of transfers from parents to adult children and the magnitude of the negative relationship of net parent–child transfers with age are the largest in traditional, followed by conservative and social democratic welfare-regime countries.
4. The transition from moderate to rapid decline in net transfers from parents to children first begins in traditional, followed by conservative and social democratic welfare-regime countries.

Data and methods

The estimate of net transfers from parents to adult children in the present study builds on the methodology of Litwin et al. (2008), but introduces several modifications. First, the analytic unit is the parent–child dyad as opposed to the respondent (i.e., parent). The advantage of conducting dyad-level analysis is that it allows accounting for the specific characteristics of each child participating in the exchange of support with parents as well as the characteristics unique to that child’s relationship with the parents (e.g., Berry 2008; Brandt and Deindl 2013; Deindl and Brandt 2011; Kohli and Albertini 2007; Leopold and Raab 2011). Second, the estimates of nonfinancial transfers in this analysis are more conservative, as non-intensive grandchild care is not included in the net transfer measure and monetization of nonfinancial transfers is done using national and sectoral minimum wages. Third, missing information on time transfers for co-resident parent–child dyads and other variables of interest is imputed using a multiple imputation procedure.

Data for this study come from the Survey of Health, Ageing, and Retirement in Europe (SHARE), a cross-national panel study of individuals aged 50 or over. The sample includes 39,031 parent–child dyads from the second wave of SHARE (2006–2007) and is limited to 11 countries representing social democratic (Denmark and Sweden), conservative (Austria, Belgium France, Germany, the Netherlands, and Switzerland) and traditional (Greece, Italy, and Spain) welfare regimes. Because the analyses focus on parents and adult children, all dyads in which children were younger than 18 ($N = 1,880$) were excluded. Moreover, as SHARE collects detailed information on child characteristics for up to four children only, the sample was limited to parent–child pairs for which the detailed information on children was collected. This results in the further exclusion of 984 dyads. The study sample also excludes 72 cases with unreliable values (i.e., age difference between parents and children is 12 years or less) following similar exclusion criteria used in previous research (e.g., Bonsang 2007). Thus, the final sample is restricted to 36,095 dyads.

Variables

Dependent variables

There are two outcomes of interest: the likelihood of family support for each parent–child dyad and, conditional on the exchange of support between parents and children, the net value of transfers. While the first dependent variable is a binary outcome equal to one for each dyad where parents and children gave/received any transfer, the net family transfer measure is substantially more complex. The major challenge in estimating net family transfers is to determine the types of nonfinancial transfers with economic value for recipients that should be included in the outcome measure. Following Litwin et al. (2008), the outcome measures in this analysis include financial transfers and all types of practical support, but limit grandchild care to intensive care only, defined as 500 h or more of care per year provided weekly or more frequently, to capture only such grandchild care that can be plausibly considered a substitute for formal childcare services. Financial transfers, following SHARE definition, include financial/material gifts valued at least at €250 and given/received during the prior 12 months.

Time transfers include three types of support: personal care, practical household help, and administrative paperwork. The intensity is recorded in hours. Full information is only available for non-co-resident dyads, while in the case of co-resident dyads only information on personal care is collected. Given systematic differences in the prevalence of co-residence across Europe, limiting the sample to non-co-resident children could seriously affect the analysis. For this reason, missing information (approximately 18 % of time-transfer values) is imputed following the multiple imputation approach of Leopold and Raab (2011). Multiple imputation is also used to impute other missing data in the sample, although the only variable with a substantial nonresponse rate is “making ends meet” (10 %).

Another important issue is how to monetize the value of time transfers for recipients. Litwin et al. (2008) use the midpoint between low and regular gross hourly wage rates. However, given that currently available data preclude making accurate estimates of the true economic value of practical support, this analysis uses the national (or, in its absence, the appropriate sectoral) legal minimum hourly wage rate in each country to provide a conservative estimate of nonfinancial transfers.

Finally, due to a skewed distribution, net transfers (and annual income and gross financial wealth predictors) are transformed using the inverse hyperbolic sine (IHS) transformation. It is a useful alternative to the more common logarithmic transformation when a substantial proportion of observations have zero or negative values, which is the case with 22.3 % of net transfers observations (as

well as 12.2 % of wealth and 1.1 % of income observations) in the sample. IHS is defined as $\text{asinh}(t) = \ln(\sqrt{t^2 + 1} + t)$, where $\text{asinh}(t)$ is approximately $\ln(2t)$ for large positive values of net transfers, t , $-\ln(2t)$ for large negative values of t , and linear around the origin. Interpreting results is akin to log-transformed variables (Burbidge et al. 1988), except for a narrow band of values around the origin.¹ The economic literature has successfully used IHS transformation in the context of measuring net wealth, income, and other concepts likely to assume nonpositive values (e.g., Georgarakos and Pasini 2011; Kapteyn and Panis 2003; Pence 2006).

Independent variables

The independent variables include parental, child, dyad, and welfare-regime variables. Parental predictors include demographic, socioeconomic, and health variables. Demographic predictors are age, gender, years of education, marital status (married and living with spouse, registered partnership, separated, never married, divorced, and widowed), and number of children. Socioeconomic predictors include annual income, gross financial wealth, and a self-rated indicator of the ability to make ends meet (with great difficulty, some difficulty, fairly easily, or easily). Finally, health predictors include an indicator of limitation in usual activities over the past 6 months, which largely captures acute conditions, difficulties with activities of daily living (ADL) and instrumental activities of daily living (IADL) that reflect chronic health issues, and receipt of professional homecare.

Children's predictors include one socioeconomic predictor—full-time employment. Given that SHARE does not track children's income, this indicator may serve as a crude proxy for their earnings. Children's demographic characteristics include gender, marital status (married/in registered partnership, separated/divorced/widowed, and never married), and presence of any grandchildren. Children's marital status collapses multiple categories—most notably separated, divorced, and widowed—because comparatively to parents few children have experienced such transitions. Children's age is not included as a control variable given its high correlation—close to 0.9—with parents' age and because the focus is on the simultaneous change in the age of parents and children, or the dyad's "age."

¹ While there are no firm guidelines as to what constitutes small or large values for the purposes of IHS interpretation, documentation on wealth imputations for the Health and Retirement Study shows that IHS transformation differs from logarithmic transformation only for values between $-\$10$ and $+\$10$ (Chien et al. 2013).

The frequency of contact between parents and adult children is the key dyad characteristic. Categories include: co-resident (reference category), daily or several times a week, between once a week and once a month, and rarely or never. Finally, the welfare-regime predictor has three categories: social democratic (reference category), conservative, and traditional.

Analytic strategy

The analysis focuses on fitting two models: (1) a logistic regression of the likelihood of transfers between parents and children and (2) a piecewise linear spline regression of net transfers from parents to children. The major advantage of using piecewise linear spline regression is that it does not impose a linear relationship on the data over the whole range of the predictor's values, but rather approximates nonlinearity by specifying a series of threshold points (i.e., knots) that join together linear line segments with different slopes. The interpretation of model estimates for the predictor assumed to have a nonlinear relationship with the outcome variable is the same as for the standard linear regression, but limited to a particular line segment: the estimated coefficient indicates the slope of the line from the knot joining it with the preceding line segment, which determines the starting point of the line segment, to the knot indicating a new change in slope.² The estimated model for the full sample in this study has knots at ages 70 and 80 as preliminary analysis suggested this decade to be the critical period when the decrease in net transfers accelerates.³

Results

Table 1 presents sample characteristics. An average parent in the sample of parent–child dyads is 67 years old and the share of mothers is somewhat higher than the share of fathers. An overwhelming majority of parents are either married or widowed. Parents in traditional welfare states on average have the lowest educational attainment, face the most challenges making ends meet, and have the lowest incomes and the least financial wealth. They also suffer from more ADL and IADL disabilities, yet they are less likely to receive professional homecare.

² For detailed information on spline regression, see Ahlberg et al. (1967), De Boor (2001), and Hansen (2000).

³ Sensitivity analysis results (not shown here) support the choice of spline regression over regression models with higher order polynomials. Furthermore, likelihood-ratio tests suggest the linear spline model specification with two knots describes the age–net transfers relationship better than the alternatives.

Table 1 Sample means, full sample and stratified by welfare regime

	Full sample	Social democratic	Conservative	Traditional
Parents' characteristics				
Age (years)	66.60	65.80	66.40	67.20***
Female	0.58	0.55	0.57*	0.60***
Education (years)	9.90	11.80	11.30***	7.20***
Marital status				
Married	0.66	0.61	0.64**	0.70***
Partnered	0.01	0.06	0.00***	0.00***
Separated	0.01	0.01	0.01***	0.01***
Never married	0.01	0.02	0.02***	0.01***
Divorced	0.07	0.12	0.09***	0.02***
Widowed	0.24	0.18	0.24***	0.26***
Making ends meet				
Great difficulty	0.12	0.04	0.07***	0.20***
Some difficulty	0.29	0.15	0.24***	0.41***
Fairly easily	0.36	0.36	0.40*	0.30***
Easily	0.23	0.46	0.29***	0.10***
Annual income (€)	30,265	32,195	33,851***	23,681***
Gross financial wealth (€)	46,664	93,699	56,294***	22,761***
Number of children	2.90	2.88	2.90**	2.90***
Number of ADLs	0.25	0.19	0.23	0.31***
Number of IADLs	0.23	0.19	0.19*	0.30***
Recent health limitation	0.63	0.56	0.65***	0.59**
Professional homecare	0.09	0.07	0.11***	0.06***
Child's characteristics				
Female	0.49	0.50	0.49	0.48*
Marital status				
Married or partnered	0.56	0.59	0.54	0.59
Separated, divorced or widowed	0.08	0.08	0.09	0.05***
Never married	0.36	0.33	0.37***	0.37***
Working full-time	0.67	0.71	0.65***	0.69***
Any grandchildren	0.56	0.61	0.57***	0.53***
Dyad contact				
Co-resident	0.16	0.05	0.10***	0.28***
Daily or several times a week	0.51	0.53	0.48***	0.56***
Once a week to once a month	0.28	0.38	0.35***	0.14***
Rarely or never	0.06	0.05	0.07***	0.02***
<i>N</i>	36,095	7,467	18,538	10,090

Source SHARE (2006)

*** $p < 0.001$; ** $p < 0.01$;* $p < 0.05$

The majority of grown children in the sample are either currently married or have never been married. Children in traditional welfare states are less likely to have experienced separation, divorce, or widowhood than their counterparts from social democratic and traditional welfare states. They are also the most likely to have frequent contacts with parents. Conversely, grown children in social democratic countries are the most likely to have an offspring, followed by children in conservative and traditional countries, respectively. Similarly, they are the most likely to work full-time.

Table 2 depicts the value of net transfers by age.⁴ While net transfers of money from parents to children decrease only modestly with age and remain positive even for the oldest parents, net transfers of time—help, care, and grandchild care exchanged between parents and grown children—decrease sharply with age and become negative for the oldest age group. The resulting net value of financial and nonfinancial transfers follows the similar pattern of

⁴ Net values of transfers across countries are adjusted for purchasing power parity (PPP).

Table 2 Net value of money and time transfers, by welfare regime and age

	50–69	70–79	80+
Transfers of money (€, PPP)			
Social democratic	2,609	4,055	3,940
Conservative	5,100	4,569	3,903
Traditional	4,394	1,724	1,405
N	5,002	1,056	480
Transfers of time (h)			
Social democratic	230	16	–144
Conservative	731	338	–625
Traditional	995	320	–599
N	4,192	1,499	962
Transfers of money and time (€, PPP)			
Social democratic	2,837	2,436	1,019
Conservative	6,490	4,130	–2,667
Traditional	5,560	1,885	–1,825
N	7,737	2,202	1,295

Source SHARE (2006)

decreasing net transfers with age, with the value becoming negative (i.e., benefiting parents more than children) for the oldest parents in conservative and traditional welfare-regime countries, while remaining positive in social democratic countries. Although the absolute net value of transfers is the largest in conservative, followed by traditional and social democratic countries, relative to the average income and wealth of parents (Table 1), the largest transfer value is observed in traditional countries.

Table 3 presents the results of a logistic regression of the likelihood of parent–child transfers and a linear spline regression of the net value of transfers. The results show that older parents and their adult children are less likely to provide support to each other than younger parents and adult children. Furthermore, participating in family transfers is positively associated with the educational level and economic wellbeing of parents. It is also higher for widowed parents and those in poor health, while it decreases with the number of children. Among children, participating in family transfers is somewhat higher for daughters as well as never married, separated, divorced, and widowed children. It is substantially higher for children with children of their own, and lower for children with full-time jobs. The less contact parents and children have, the less likely they are to support each other. The likelihood of participating in the transfer of money, time, and/or grandchild care is significantly lower in countries with conservative or traditional welfare regimes.

Net transfers over the adult life cycle are negatively correlated with age. The slope of the age–net transfers relationship is particularly steep for parent–child dyads

where parents are age 70–79, somewhat less steep for the age group 80 and older, and relatively moderate for the age group 50–69.⁵ While the exact interpretation of the coefficient estimates depends on the level of net transfers, it is generally similar to interpreting log-transformed coefficients. Therefore, to retransform the IHS estimates back into euro amounts and estimate the marginal effect of age (or other predictors) on net transfers, one can calculate $\frac{1}{2}(e^y + e^{-y})\beta_x$ where y is the value of the transformed variable (i.e., $y = \text{asinh}(t)$) and β_x is the estimated coefficient for the predictor of interest (e.g., age). Estimated, for example, at the 50th percentile of the net transfers distribution (€1082), this implies that, holding all else constant, each additional year of age is associated with a decrease of €130 in net transfers for ages 50–69, €433 for ages 70–79, and €216 for ages 80 and older.⁶

Results for other predictors show, for instance, a negative association of net transfers with female headship status of parental household, consistent with lower wellbeing of female-headed than couple-headed parental households. More educated and wealthier parents give more to children. Poor parental health as well as divorce and widowhood are negatively associated with net transfers. Conversely, a positive association with net transfers is found for adult children with children of their own, while no difference is observed between net transfers to daughters and net transfers to sons. Interestingly, while parent–child dyads with rare contacts are the least likely to exchange support, their net transfers value is comparatively the largest. Finally, net transfers in conservative welfare-regime countries are not significantly different from those in social democratic countries, whereas in traditional countries they are substantially higher.

Table 4 presents model results stratified by welfare regimes. While the likelihood of making transfers uniformly decreases with age across welfare regimes, the estimates for the age–net transfers relationship substantially differ. For conservative welfare-regime countries, net transfers follow the pattern described for the full sample, with the steepest decline for the age group 70–79. In social

⁵ The results of spline regression using non-imputed data (not shown in the tables) are similar: while the coefficient for the first age group (50–69) has about half the magnitude of the coefficient presented in Table 3, no difference is observed for either of the other two age groups. Therefore, the imputations do not change the nonlinear shape of the age–net transfers relationship.

⁶ Supplementary analysis estimates the untransformed net transfers values, censoring the sample to the middle 98 % of observations to limit the impact of influential observations (for a similar approach, see Zissimopoulos and Smith 2009). The results provide further evidence that the age–net transfers relationship is decisively nonlinear: the estimated coefficient for the age group 50–69 is negative €24 and is not statistically significant, for the age group 70–79 is negative €249, and for the age group 80 and older is negative €177.

Table 3 Likelihood and net value of transfers

	Transfers of money, time, and grandchild care			
	Likelihood (odds ratio)	95 % confidence interval	Net value	95 % confidence interval
Parents' characteristics				
Age	0.98***	[0.98–0.99]		
Age < 70			−0.12***	[−0.17 to −0.08]
70 ≤ age < 80			−0.40***	[−0.53 to −0.28]
Age ≥ 80			−0.20*	[−0.35 to −0.05]
Female	1.04	[0.94–1.16]	−1.01***	[−1.47 to −0.54]
Years of education	1.02***	[1.01–1.04]	0.13***	[0.08 to 0.19]
Marital status (ref. married, living with spouse)				
Partnered	0.78	[0.56–1.08]	−0.18	[−1.81 to 1.44]
Separated	1.10	[0.70–1.74]	1.16	[−1.44 to 3.76]
Never married	0.88	[0.51–1.50]	−0.99	[−3.17 to 1.18]
Divorced	1.09	[0.88–1.34]	−0.89 ⁺	[−1.87 to 0.08]
Widowed	1.33***	[1.15–1.53]	−1.34***	[−2.15 to −0.53]
Making ends meet (ref. great difficulty)				
Some difficulty	0.99	[0.85–1.15]	−0.10	[−1.30 to 1.11]
Fairly easily	0.96	[0.82–1.13]	0.49	[−0.60 to 1.58]
Easily	1.23*	[1.04–1.48]	1.27*	[0.14 to 2.40]
IHS (annual income)	1.06*	[1.01–1.10]	0.09	[−0.12 to 0.29]
IHS (gross financial wealth)	1.04***	[1.02–1.05]	0.21***	[0.12 to 0.29]
Number of children	0.75***	[0.72–0.78]	−0.18	[−0.41 to −0.05]
Number of ADLs	1.07	[0.98–1.16]	−0.60*	[−1.10 to −0.10]
Number of IADLs	1.09*	[1.00–1.19]	−0.53*	[−0.98 to −0.08]
Recent health limitation	1.20***	[1.11–1.30]	−1.11***	[−1.48 to −0.73]
Professional homecare	0.96	[0.81–1.14]	−1.06*	[−1.98 to −0.14]
Child's characteristics				
Female	1.08 ⁺	[0.99–1.17]	−0.09	[−0.48 to 0.30]
Marital status (ref. married or partnered)				
Separated, divorced or widowed	1.15 ⁺	[0.98–1.34]	0.11	[−0.63 to 0.85]
Never married	1.12 ⁺	[1.00–1.27]	0.32	[−0.25 to −0.89]
Working full-time	0.83***	[0.75–0.91]	0.12	[−0.33 to 0.57]
Any grandchildren	1.42***	[1.27–1.59]	1.91***	[1.25 to 2.56]
Dyad contact (ref. co-residing)				
Daily or several times a week	1.16	[0.88–1.53]	0.79	[−0.24 to 1.81]
Once a week to once a month	0.60**	[0.45–0.81]	0.96 ⁺	[−0.12 to 2.04]
Rarely or never	0.24***	[0.16–0.37]	2.40***	[0.95 to 3.84]
Welfare regime (ref. social democratic)				
Conservative	0.76***	[0.69–0.84]	0.05	[−0.33 to 0.43]
Traditional	0.76***	[0.67–0.87]	1.46***	[0.84 to 2.07]
F value	23.77		48.35	
N	36,095		11,234	

Source SHARE (2006)

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$, ⁺ $p < 0.1$

Table 4 Likelihood and net value of transfers, by welfare regime

	Transfers of money, time, and grandchild care			
	Likelihood (odds ratio)	95 % confidence interval	Net value	95 % confidence interval
Social democratic				
Age	0.98***	[0.97–0.99]		
Age < 80			−0.06**	[−0.10 to −0.02]
Age ≥ 80			−0.27**	[−0.46 to −0.08]
<i>F</i> value	11.78		11.77	
<i>N</i>	7,467		2,741	
Conservative				
Age	0.98***	[0.98–0.99]		
Age < 70			−0.09***	[−0.15 to −0.04]
70 ≤ age < 80			−0.47***	[−0.62 to −0.31]
Age ≥ 80			−0.24**	[−0.41 to −0.06]
<i>F</i> value	14.05		41.42	
<i>N</i>	18,538		5,475	
Traditional				
Age	0.98***	[0.97–0.99]		
Age < 65			−0.18***	[−0.28 to −0.07]
65 ≤ age < 75			−0.30***	[−0.45 to −0.15]
Age ≥ 75			−0.21*	[−0.40 to −0.02]
<i>F</i> value	11.17		21.09	
<i>N</i>	10,090		3,018	

Models show results for age only. The results for other covariates are similar across welfare regimes and comparable to the results for the full sample; they are available on request.

Source SHARE (2006)

*** $p < 0.001$; ** $p < 0.01$;

* $p < 0.05$

democratic countries, however, age is associated with a very modest decrease in net transfers until parents reach advanced old age, falling more rapidly only after age 80. Finally, in traditional countries, net transfers between younger parents (age 50–64) and adult children exhibit a substantially steeper decline with age than in other welfare regimes, and the transition from relatively high to low, and ultimately negative, net transfers starts earlier.

Discussion

In recent years, research on intergenerational family transfers has become a burgeoning field. Yet, the majority of studies thus far have focused on individual types of transfers. Building on the work of Litwin et al. (2008), this study introduced a family transfer framework appropriate for the analysis of the total flow of intergenerational support over the adult life cycle, modified the methodology for calculating its net value, and estimated the likelihood of transfers between parents and adult children across welfare regimes in Europe. It also employed a novel approach to model the nonlinear relationship of net transfers with age.

The results for the model of likelihood of family transfers provide support for the first hypothesis that the likelihood of parent–child transfers decreases with age.

This is consistent with prior findings that parents are more likely to provide support to adult children than to receive it (e.g., Albertini et al. 2007), especially given the greater needs of younger compared to older adult children as well as the greater ability of middle-aged compared to older parents to provide support.

The association of age and net transfers from parents to children over the adult life cycle follows an inverted-S-pattern with a fairly moderate decline for parent–child dyads in which parents are younger than 70, followed by a steep decline for the age group 70–79, and continuing with a decline, albeit more moderate, for dyads in which parents are age 80 or older. This finding is consistent with the second hypothesis that parent–child net transfers follow a nonlinear life-cycle pattern. Coupled with the estimates of the association of parental and children's socioeconomic, demographic, and health characteristics with net transfers value, it also provides strong empirical support to the proposed OLG life-cycle framework of family intergenerational transfers given that the exchange of support consistently benefits more those family members with greater relative needs.

As hypothesized, the analysis demonstrated significant differences in the age–net transfers pattern across welfare regimes. While conservative countries follow the pattern described for the full sample, in traditional countries net

transfers decrease faster with age and in social democratic countries more slowly. Moreover, the intensity of net transfers is substantially larger in traditional compared to social democratic countries. In addition, the transition from moderate to rapid decline in net transfers follows a gradient from around age 65 in traditional and age 70 in conservative to approximately age 80 in social democratic welfare-regime countries.

Given that population structures are broadly similar across these countries (U.S. Census Bureau 2013), it is plausible that these differences reflect the impact of welfare-regime characteristics on family transfer behavior. It appears that the magnitude of welfare regime redistribution of resources from working-age to dependent populations is negatively associated with the magnitude of intergenerational family redistribution. Therefore, while public transfers do not displace family intergenerational giving, they may decrease the relative importance of family giving for life-cycle consumption smoothing. This suggests that assessments of the impact of public policies on the redistribution of resources across generations have to account for the secondary redistribution of resources (i.e., at the family level) that follows public redistribution. This is particularly relevant for policymakers who want to assess better the implications of policy intervention and the full effects of these policies on the wellbeing of intended and unintended beneficiaries. While the lack of long-term individual-level panel data on public transfers, taxes, and family support currently precludes making precise estimates of these effects, this study introduces a theoretical framework and a modeling strategy that will facilitate such research in the future.

A major limitation of the current study is the use of cross-sectional data. Since information on the same group of parents and adult children over their entire adult life is not available in SHARE, the estimated age effect may be at least partly confounded with the cohort effect. Indeed, the SHARE database spans only a fraction of the time period necessary to address lifelong issues. Another source of concern, common to all survey-based research on private transfers, is the possibility of systematic bias in the self-reported transfer measures. The literature (e.g., Brown and Weisbenner 2002; Mason et al. 2006) suggests that survey respondents systematically under-report transfers received and over-report transfers made, which suggests that estimates of the age–net transfers relationship could be biased upward. This implies that the exchange of support between parents and adult children may be more balanced and may start benefitting parents earlier than survey data suggest.

Furthermore, cross-national differences in family transfer behavior and family norms governing it do not always follow the same pattern as structural and institutional differences captured by the welfare regime typology (Dykstra

and Fokkema 2011). An alternative typology, then, would incorporate elements like shared values, experiences, and identity (Castles 1993) to describe more accurately the macro-level factors associated with family transfers. However, the lack of data necessary to operationalize these concepts currently prevents the implementation of such alternative typology that would better describe the cross-national differences in the public–private nexus of intergenerational transfers.

Notwithstanding these limitations, the present study advances the research on intergenerational family transfers by demonstrating both the theoretical and empirical merits of adopting the life-cycle perspective. It also provides further evidence on the importance of using cross-national data to examine the interplay of public and private intergenerational support. These lessons seem particularly salient in the context of rapidly aging societies where public intergenerational support may be reaching the limits of its capacity, prompting researchers and policymakers to look increasingly at the family as the source of intergenerational support.

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