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Children, happiness and taxation

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Abstract
Empirical analyses on the determinants of life satisfaction often include the impact of the number of children variable among available controls without fully discriminating between the two (socio-relational and pecuniary) components. In our empirical analysis on the German Socioeconomic Panel we show that, when introducing household income without correction for the number of members, the pecuniary effect prevails and the sign is negative while, when we equivalise income with the most commonly adopted equivalence scales, the non pecuniary (socio-relational) effect emerges and the impact of the variable is positive and significant above a minimal scale elasticity threshold. We further reject slope homogeneity and show that the positive relational effect is stronger for males, below median income households and East Germans. We interpret these subsample split results as driven by heterogeneous opportunity costs.
Our empirical results give rise to a paradox: why people have children if the aggregate effect on life satisfaction is negative? We provide in the paper some interpretations consistent with our findings. Some of them are based on motivational complexity. This implies that demographic policies and the paradox are strictly connected. Effectiveness of tax/subsidies impacting on fertility crucially depends on whether the children paradox may be solved within the self-interested rationality paradigm.

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1. Introduction

A large number of empirical papers investigating the determinants of life satisfaction include the number of children as a control variable together with (non equivalised) household income. In many cases the variable is not significant[1] whereas, in others, negative and significant[2]. These findings lead Blanchflower (2008) to declare in a recent survey that individuals without children are happier than those having it. To shed more light on this controversial issue consider that with this

[1] See results of Haller and Hadler (2006) in the WVS and those of Van Praag, Frijters and Ferrer-i-Carbonell (2003) in a 1992-1997 GSOEP estimate on West and East German workers.
[2] See, among others, Frey and Stutzer (2000), Alesina et al. (2004), Di Tella et al. (2003) and Smith (2003). Di Tella et al. (2003) and Smith (2003) also observe that children have stronger negative effect in UK and the US than in Europe or Russia.

standard specification we calculate a total effect which can be usefully decomposed into a pecuniary one (children reduce the portion of income available to each family member) and a non pecuniary one which includes a relational component (people have children because they enjoy the relational value of having them) and other likely factors among which the parents' desire to "leave their trace" beyond the current generation and to have support when they are older.

It is surprising to observe that the empirical literature, while elaborating different approaches to equivalise income and account for the effect of children as control factor, has never focused so far in depth on this specific issue. Our goal is to provide a contribution in this direction since disentangling the two (economic and relational) effects may have a series of interesting implications.

First, the decomposition between the economic and relational benefit/loss of having children may be important in cost-benefit analyses of welfare policies. The gross (non decomposed) effect (if negative) allows to calculate the monetary incentive which can, on average, trigger the decision to have children. The net non economic effect (if positive) may help to calculate the social benefit of the decision triggered by such monetary incentive and therefore be a substantial tool in analyses on how to use public money and, in particular, how much of it dedicate to support (discourage) fertility. The measurement of this social benefit will be proposed in section 7 of the paper using the compensating surplus approach.

Second, the proposed decomposition may help to calculate the upper bound of the cost of loosing part of the relational life with children for one of the two members of a divorced couple. Assume, as it often occurs, that the child is assigned to only one of the parents while the married other partner leaving the household has to pay the alimonies (or his/her part of the economic cost of the child) to the parent who is in charge. What is generally not considered is that the former looses part of the relational benefit of living with the children. In other terms, alimonies are calculated on the basis of the economic effect of rearing children but do not include the partial loss of the positive relational effect which could be in principle detracted from them (at least when the money is not

essential for the economic self-sufficiency of the parent who is in charge of the child). It may therefore be useful to calculate the shadow value of such lost benefit using life satisfaction estimates.

Third, the same non economic effects may help to evaluate the social benefit of laws which make it easier to adopt children. In such case, in presence of a willingness to adopt by a couple, the creation of an opportunity to do it will produce both the economic and the non economic effect.

Finally, the evaluation of the relational value of children is important in the quantification of non economic compensation rules in case of death accidents involving them. Consider however that, in this case, the relational value of the child, calculated as the difference in life satisfaction between those having and those not having them, is likely to be a lower bound of the cost of losing a child. The latter should entails much more since it includes the cost of an irrecoverable separation from a beloved family member.

Note that, in order to fully evaluate the effectiveness of decomposition driven policies, we need to provide an explanation for the children paradox: why people have children if the latter have negative effects on their life satisfaction? More specifically, tax/subsidies may be fully effective only if the paradox can be solved within the self-interested rationality paradigm. This is because individuals will react to pecuniary incentives only if their generating decisions are determined by self-interest. When interpreting the paradox we will however show that, among potential explanations, only some of them may be reconciled with it.

Based on the above mentioned considerations we develop in this paper different ways of decomposing the economic and relational effects of having children. To do so we use the most commonly adopted types of equivalence scales[3] and we follow two different (revealed preferences and stated level of utility) approaches. The first (*normative or demand based*) approach is commonly used in income inequality analyses and makes use of so-called expert scales, where

[3] In general, equivalence scales are intended to measure the variation in income needed to bring households of different compositions to the same welfare level. The main arguments revolve around economies of scale in household formation and increasing utility when households choose to have children.

given weights are assigned to different household members. Most of these scales depend on household size and on other household characteristics, such as age. The second (*stated level of utility*) approach is more coherent with our well being analysis because it attempts to estimate the equivalent household income by using the income satisfaction information available in the panel. In this case respondents are requested to evaluate their current income and quantify their derived utility. Hence, the equivalent household income derived via this method should correct for the size of the family as well.

With this methodological approach we look at the problem from different angles. We measure the marginal effect of having an additional child showing that such effect gets more positive when we move from non equivalised household income to equivalised income with growing scale elasticities. We finally calculate, on the basis of estimated parameters, the compensating surplus for an additional child, its actual economic cost and the economic value of its relational (non economic effect). Such values are important parameters for a cost-benefit analysis of demographic policies.

The paper is divided into eight sections (including introduction and conclusions). The second section briefly sketches the questions implicitly posed by the life satisfaction literature on the effect of children on life satisfaction. The third section presents our database, descriptive findings and the econometric specification to be estimated. The fourth section discusses econometric findings when equivalised income is calculated under the two different (revealed preferences and stated level of utility) approaches. The fifth section further analyses whether our findings are confirmed under three (gender, income and geographical) sample splits. The sixth section looks at the economic significance of our results by calculating compensating surplus and other measures for a quantitative evaluation of the economic and non economic costs of having children. The seventh section discusses results from some robustness checks of our findings. Section eight concludes.

2. Review of the literature

Findings from different papers focusing on other variables and using the number of children as control provide important pieces to recompose the puzzle of the effect of children on life satisfaction (almost always not directly explored), even though no specific contribution puts them together.

A first element of the puzzle tells us that, when using as regressor a measure of non equivalised household income in life satisfaction estimates, the number of children has often negative or insignificant effects (see footnotes 1 and 2 in the previous section). Dolan et al. (2008) in their recent happiness survey remember that the negative effect is stronger when economic and relational conditions are harsher such as in cases of single parents (Frey and Stutzer, 2000; Angeles, 2009), divorced mothers (Schoon et al., 2005), poor families (Alesina et al., 2004 for the US), when the children are over 3 years (e.g. Shields and Price, 2005) or with children who are sick and require extra care (Marks et al., 2002).

The negative effect is confirmed when moving from the more long term oriented evaluation of life satisfaction to the measurement of momentary affects, with Kahneman et al. (2004) showing that taking care of children is among the less satisfaction-enhancing activities in his daily reconstruction method.

By contrast, Easterlin (2005) documents that the desire of children is strong and does not change much around life cycle (the share of people who want one child or more is around 70 percent and the average desired number of children is around 2). The author also concludes that, in case of children, aspirations do not adjust to the level of achievement as it is usually the case for material ends.

Since it is difficult to believe that the large majority of births are undesired, the puzzle is therefore *why people desire (or do not prevent) something that is going to have negative effects on their life satisfaction*. To try to solve it we identify five possible explanations related to the share of

non married couples, the life cycle effects of children on happiness and the role of non self-interested motivations of human action.

A first easy answer is that the negative effect disappears once we rule out from the sample non married couples. Single and separated mothers may have decided to have children because they were living or hoped to live in the future a stable love relationship while unfortunately they do not.

The (life cycle related) second answer can be understood considering that first child births have a positive effect around the event date which however vanishes after the first year (Clark et al., 2008). Consider however that Stanca (2009) shows in a broader time horizon, from a cross-sectional estimate on a large number of countries, that the effect of children is positive and significant in samples of individuals above a given age threshold. Putting these pieces of evidence together we may argue that having children generates a positive effect around the event date which vanishes soon after it. Raising children is tough but individuals still decide to have them because they anticipate that they will highly value their offspring when they will be older. Still, this interpretation is not consistent with our findings if we assume a fully rational and forward looking evaluation of life satisfaction (if the discounted positive future effect when old is higher than the negative short term effect of rearing children, the effect on life satisfaction should be positive). The only possibility is that people overweight current and past circumstances when declaring their life satisfaction levels instead of (implicitly or explicitly) considering a "permanent (forward looking) life satisfaction" approach when taking decisions affecting their future lives.

A third explanation which also departs from the full rationality assumption is that individuals mainly look at the relational effect of having children and underestimate the economic effect on their income. This explanation may stand if the effect of children is significant and positive when singled out from the induced economic reduction of available household income per member.

Another way to solve the paradox is looking at motivational complexity. If we take the Sen (1979) point when he argues that individuals are not just moved by self-interest, but also by

sympathy and commitment, we might argue that the decision to have children falls into those duties which most people feel they have to comply with. In more recent times, a wide range of experimental and revealed preference results demonstrated that individual choices are not just driven by self-interest but also by motivations such as (full or partial) reciprocity, inequity aversion, strategic altruism and commitment. [4]

If we take into account the broader framework of motivational complexity we may argue that having children is lived as a commitment even though individuals are perfectly aware that this is not going to increase their life satisfaction. Fifth and final, children may be a problem of lack of self control but we find difficult to believe that such an important phenomenon in human life may be due only to this explanation.

When we discern among different explanations, an important question is whether we can solve the puzzle without abandoning rationality (as we do in explanations two, three and five) or purely self-interested preferences (as we do in explanation four). In this direction consider that, when using the number-of-children variable we are measuring the marginal effect of an additional children assuming that such effect is equal whatever the starting number of children (from the first to the second or from the third to the fourth). This is somewhat different and stronger than estimating the value of having vis-à-vis not having children. In other terms, the value of having children is underestimated when following this approach of modelling a constant linear effect of the number of children variable, if we believe that a new birth when the number of children is already large does not have the same positive effect than the birth of the first child. We will provide a robustness check in our paper to see if our results are sensitive to this problem.

For a deeper look at the above mentioned issues raised in the literature it is therefore useful to start from the point that the overall impact of children (captured with the traditional approach of using household income and the number of children) may be decomposed into a relational effect

[4] In the vast literature on non purely self-interested preferences see, among others, Fehr and Schmidt (1999) and Charness and Rabin (2002).

(presumably positive) and an economic effect by which income in the household is reduced when the number of members gets higher.

This decomposition does not imply that the overall children effect is not negative but may be useful to calculate, for instance, the subsidy or tax allowance which could tilt the balance in favour of the relational effect. Such evaluation may be an important tool for policies which aim at having impact on fertility rates in a European framework in which most countries are below the replacement rate and find increasing problems in financing the pension system. Finally, an interpretation of the children/happiness paradox may help us to understand the degree of effectiveness of the above described demographic policies.

Based on these considerations, in the empirical section which follows we: i) decompose the relational and economic effects of having children; ii) verify the differences in gross and decomposed effects when looking at the marginal effect of having an additional children vis-à-vis the difference between having and non having them; iii) explore in sample splits the different impact of the relational and economic effects on income, geographic and gender splits; iv) calculate compensating surplus of the children effect v) draw some conclusions on possible explanation of the puzzle.

3. The database, descriptive findings and the model

We select a subsample of individuals, aged from 18 years onwards, surveyed in the GSOEP[5] dataset during the period 1984 to 2007. Our unbalanced sample contains around 214,565 person–year observations with West-Germans accounting for 150,678 and East-Germans, who joined the survey from 1990, for the remaining 63,887 observations[6].

[5] Data used in this paper were extracted using the Add-On package PanelWhiz for Stata®. PanelWhiz (http://www.PanelWhiz.eu) written by Dr. John P. Haisken-DeNew (john@PanelWhiz.eu). See Haisken-DeNew and Hahn (2006) for details. The PanelWhiz generated DO file to retrieve the data used here is available upon request.

[6] For Sample C (East Germans), the first wave of data was gathered in 1990, (wave G in terms of the West German sample).

Our dependent variable is subjective overall life satisfaction. The information comes from the response to the question "How satisfied are you with your life, all things considered"? The responses are rated from 0 (completely dissatisfied) to 10 (completely satisfied). In our sample, such question is approximately recorded for 18,794 individuals (for a total of 202,200 person–year observations). The total number of observations is 103,436 for males and 111,129 for females.

Individuals with children account for 35.03 percent of the sample. Among them, 54.08 percent have 1 child (40,646 observations), 35.6 percent have two children, 8.22 percent three children and the remaining 2.1 percent from four to six children. During the survey period, the birth of a child occurred 5,658 times involving 3,762 persons (1,871 men and 1,891women).[7]

In Figures 1, 2 and 3 we sketch the distribution of declared life satisfaction comparing people with no children to people having one, two and three children (not considering the few individuals having more than 3 children). We observe that respective life satisfaction distributions are very similar. However, on average, people having children seem slightly happier than those not having them: the average life satisfaction of the latter is 6.88 versus 6.93 for those having a child and 6.97 for those having two children. If we consider separately men and women, women with no children declare on average a satisfaction of 6.87, a value slightly lower than that of those having one child (6.91) and those with two children (6.97). The same ranking is observed among men where those with no children declare an average level of life satisfaction of 6.88 vis-à-vis slightly higher levels of those who have one child (6.95) and those with two children (6.97).

These descriptive findings cannot disentangle the impact of fixed effects (time invariant characteristics) from the children effect on life satisfaction: people with more children are slightly happier because of the children or, quite to the contrary, individuals with happier characters are likely to have more children? And is the children effect significant after controlling for other concurring factors?

[7] Summary statistics of variables used in the analysis are provided in Appendix 1, Table A1.

To answer these questions we adopt the following standard panel fixed effect[8] life satisfaction estimate as a benchmark model

$$LS_{i,t} = \alpha_0 + \alpha_1 \ln(HY_{i,t}) + \alpha_2 NChildren_{i,t} + \alpha_3 NnonChildren_{i,t} + \sum_j \alpha_{4j} X_{ji,t} + \sum_k \alpha_{5k} \Delta X_{ki,t} + \eta_i + \varepsilon_{1i,t} \qquad (1)$$

where the first three regressors of our specific interest are the log of the real after tax household income (*HY*), the number of child (*NChildren*) and non child (*NnonChildren*) household members. These variables are drawn from the Cross-National Equivalent File 1980-2007[9]. More specifically, the household income is the sum of total family income from labour earnings, asset flows, private retirement income, private transfers, public transfers, and social security pensions minus total family taxes[10]. The number of children indicates the number of individuals in the household under age of 18, while the number of adults is the number of individuals minus the number of persons under age of 18 in the household at the time of the interview. Among the X-controls which follow in the specification we include, as usual, marital status, employment status, age dummies, years of education, house property as a proxy of wealth, number of days in hospital as a proxy of health status, regional and time dummies. ΔX-controls relate to changes in marital status and employment status (see Appendix, Table A5 for details).

The life satisfaction variable is reported in an ordinal scale, so that commonly an ordered probit (in the case the error term is assumed to be distributed normally) or logit (when the error term is assumed to be distributed logistically) regression model is estimated. Consider, however, that Van Praag and Ferrer–i–Carbonell (2004 and 2006) show that the simple linear models are as good as

[8] As it is well known fixed effects may eliminate the problem of reverse causality and endogeneity with regard to time invariant characteristics (i.e. sociability) which are suspect to affect both the number of children and life satisfaction. However, they cannot eliminate the problem for time varying omitted factors.

[9] The Cross-National Equivalent File is created by Cornell University, in close cooperation with DIW-Berlin, ISER Essex and StatsCan-Ottawa, consisting of variables from the German SOEP, American PSID, Canadian SLID and British BHPS, based on common definitions. For detailed information refer to the standard Equivalent File documentation in Burkhauser, Butrica, Daly, and Lillard (2001). The codebooks are available at http://www.human.cornell.edu/che/PAM/Research/Centers-Programs.

[10] The tax burdens provided here are based upon updated and modified tax calculation routines developed by Schwarze. (2003). The tax burden includes income taxes and payroll taxes (health, unemployment, retirement insurance and nursing home insurance taxes).

the Probit and Logit method[11], but computationally much easier. Moreover, the linear model allows us to control for time invariant idiosyncratic effects and may therefore fully exploit the potential information available in our panel data.[12]

After estimating the specification (1) and in order to single out the relational from the income effect we replace real household income with equivalised real household income computed using different equivalence scales (whose characteristics are summarized in Table 1 and described in the paragraph below). Equivalised income is used in most economic well-being comparison (within and across countries) studies where researchers adjust income according to the differences in material needs for families of different sizes. Actually, equivalence scales are designed to accomplish this adjustment by taking into account those household characteristics, such as differences in household size and composition, which mainly affect economies of scale and economies of scope. In practice, total household income is divided by the number of equivalent adults in order to arrive at a measure of household "equivalent" income.

As reported in Burkhauser et al. (1996), an equivalent scale is characterized by the following ratio

$$EI = \frac{DI}{fs^{e}} \tag{2}$$

where EI is the equivalent income that equals the total disposable household income (*DI*), divided by family size (*fs*) raised to the power (*e*). Scale economies can be thought of as a function of (*e*). At one extreme, where (*e*) equals 1, no economies of scale exist and a family of two members requires twice as much disposable income as a family of one member to reach the same level of equivalent income. In this way, each individual is assigned the per capita income of his/her household. At the other extreme, (*e*) equals 0 and economies of scale are perfect so that a household

[11] Van Praag (2007 p. 18) simply argues that *"All these specifications amount to different specifications of the labeling system of the underlying indifference curves, but the indifference curves themselves are unchanged and are these indifference curves which are estimated, either by Ordered Probit, Logit or what else.*"

[12] For a robustness check with random effect ordered probit see section 6.

of two, or a household of any number, can live exactly as well as a household of one with no increase in their disposable income.

In our analysis we make use of different equivalence scales, following two different (the normative and the stated utility) approaches.

4.1 Equivalence scale under the normative approach: description and econometric findings

The first approach is based on revealed preferences and it is commonly used in research on inequality. Here we include both the scales based on a consistent methodology, with adjustments for differences in scale economies determined by actual consumption patterns, and the so-called "expert scales" which are based on expert judgments or political considerations.

Germany has an official equivalence scale which is derived from the proportions of the Social Assistance benefit[13]. German welfare benefits are based on the concept of the cost of a "basket of goods" necessary to satisfy basic needs (see Table 1 for the algorithm). German public welfare benefits can be considered "poverty" thresholds and the rules governing the level of benefits for different types of families provide an implicit equivalence scale. This scale implies very low returns to scale.

Among the "expert scales" we consider the "OECD-modified equivalence scale" adopted in the late 1990s by the OECD, jointly with the Statistical Office of the European Union (EUROSTAT). This scale, first proposed by Haagenars et al. (1994), assigns a value of 1 to the household head, of 0.5 to each additional adult member and of 0.3 to each child.[14] Recently, OECD publications comparing income inequality and poverty across countries use a scale which divides household income by the

[13] The research carried out by Burkhauser et al. (1996) suggests that the official German scale is not consistent with other measures of economies of scale for Germany or other countries. We refer to these authors for details.

[14] We also estimated the model using the old Oxford scale created by OECD in 1982 (assigning a value of 1 to the first household member, of 0.7 to each additional adult and of 0.5 to each child (age below 14)) and the ELES scale, obtained from consumption or expenditure data by estimating the system of demand equation for Germany by Merz et al. (1993). Results are omitted for reasons of space and available upon request.

square root of household size. This implies that, for instance, a household of four persons has needs twice as large as one composed by a single person.

Table 2 presents the results from a linear fixed effect model on the overall (East and West) sample where children are defined as those below 18 years living in the household and the different equivalence scales are applied. As explained before, estimates with equivalised income (if the correct scale is adopted) should absorb the economic effect of having children in the income coefficient and leave out the non economic effect only. Our results suggest that the latter is positive and significant, at least for the highest scale elasticities. When elasticity is equal to 1, the equivalent income corresponds to per capita income and the estimated sign for children turns from significant and negative (in the estimate with household income in Table 2, column 1) to significant and positive (Table 2, column 2). The same does not happen for the presence of adults in the household (positive but not significant sign).[15]

Therefore, with scale elasticity equal to one (per capita household income), *satisfaction with life increases in the number of children after the introduction of the scale effect which corrects for the economic cost of one's own offspring*. As the value of the scale elasticity decreases (i.e. the economies of scale in the household consumption get larger), the coefficient of children has a decreasing impact on subjective well being (SWB). In terms of magnitude, it starts from 0.049 when we use per household member income and falls to around .030 with the official GES (Table 2, columns 1-2 respectively). It falls below 0.02 from the modified OECD scale on, becoming not significant. When we account for the real household income without correcting for the family size the coefficient for children becomes negative (Tab. 2, column 4).

If we consider that our different estimates identify discrete points in the evolution of the effect of when income moves along the 0-1 continuum of the scale elasticity segment, we find that the threshold scale elasticity which marks the border from the positive and significant to the insignificant effect of the number of children on life satisfaction is between the Official German

[15] Consider however that the positive effect of the partner may already be captured by the positive and significant effect of the marriage status, a result which is common to most empirical papers on the determinants of life satisfaction.

Equivalence Scale (GES) and the modified OECD scale, while the threshold between the positive but not significant and the negative and significant effect is between the squared and the zero elasticity scale (base, Tab.2 column 4). This suggests that the effect of having an additional child becomes positive and significant only when we take into account the negative economic effect with a scale elasticity at least above 0.5.[16]

4.2 Equivalence scale under the stated utility approach: description and econometric findings

The equivalence scales presented above try to asses the cost of children by using budget analysis or normative budgets. The approach based on the demand analysis relies on the arbitrary assumption that the level of welfare of the two families is assumed to be equal if they have the same consumption of adult goods, but the identification of commodities and services consumed by adults is based on the researchers' judgment (Van Praag, 2007)[17]. On the contrary, the normative approach depends on the opinion of nutritional experts.

The general critique of Van Praag (2007) on normative based scales is that equivalence implies equal satisfaction. The more direct way to evaluate it is therefore to ask individuals their level of satisfaction, provided that the same levels of satisfaction declared find correspondence to equivalence in satisfaction.

In accordance with this perspective we make use of a second approach based on the *stated level of utility*. Following Schwarze (2003), we estimate the equivalence scale elasticity directly from the income satisfaction question available in the panel. Satisfaction with current household income is recorded on a range from 0 (completely dissatisfied) to 10 (completely satisfied).

[16] It is important to remark that our findings cannot be directly compared with those of Clark et al. (2008) documenting positive but temporary effect of child births around the event date, because we look at a permanent and not temporary effect of children. Actually, by replicating the approach of Clark et al. (2008) to our data we find very similar results on their object of analysis.

[17] Quoting Van Praag (2007, p.19). *"First, what are adult goods: alcoholics, cigarettes, a haircut? The second point is that a couple with a child may have a completely different consumption pattern as a couple without adults without being less or more satisfied. It is probable that most parents will drink less than couples without child, but would that imply a lower level of satisfaction?"*

To develop this approach, we estimate in a first stage a linear fixed effect model from the income satisfaction equation:

$$FinSat_{it}^{*} = \beta_0 + \beta_1 \ln(EI_{it}) + \sum_j \gamma_j X_{jit} + c_i + \varepsilon_{it} \quad (2)$$

where *FinSat** is the financial satisfaction latent continuous variable of the individual i at time t, X-variables pick up socio-demographic characteristics of the individual, and *EI* is, as before, the equivalent household income. Substituting the equivalent income expression in (2) into the income satisfaction equation, we obtain:

$$FinSat_{it}^{*} = \beta_0 + \beta_1 \ln\left(\frac{DI_{it}}{fs_{it}^{e}}\right) + \sum_j \gamma_j X_{jit} + c_i + \varepsilon_{it} \quad (3)$$

where *fs* is family size. Rearranging we get

$$FinSat_{it}^{*} = \beta_0 + \beta_1 \ln(DI_{it}) + \beta_2 \ln(fs_{it}) + X_{it}\gamma_i + c_i + \varepsilon_{it} \quad (3')$$

where $\beta_2 = -e\beta_1$. Hence, the equivalence scale elasticity can be estimated as the ratio between the parameter of the current household income, declared in the survey, and the estimated parameter of the family size

$$e = -\frac{\beta_2}{\beta_1} \quad (4)$$

We then estimate equation (3') and equation (1) in which income is equivalised with the scale elasticity drawn from the financial satisfaction estimate using a fixed effect linear model. In our panel specification we include both household income, divided by the consumer price index provided by the official statistics of the CNEF which is computed differently for East and West Germany, and time dummies to capture socio economic trends for each wave of the survey.

Results from the stated level of utility approach confirm the positive and significant effect of the number of children once household income is equivalised using the elasticity of scale estimated in the financial satisfaction equation (Tab. 2, column 6). The estimated elasticity is equal to 0.28 (very close to the Official GES scale).

5. Econometric findings in subsample splits

The hypothesis of slope homogeneity implicitly assumed in our estimate on the aggregate sample is quite restrictive. It is in fact reasonable to believe that the cost/value of having children is crucially affected by gender, income and culture. Subsample splits yield indeed interesting results and provide evidence of slope heterogeneity in the number of children/life satisfaction relationship. Our discriminating variables are East/West Germany location, gender and income.

Differently from the aggregate estimates, the number of children coefficient in the East Germany subsample is never negative with the exception of the base estimate with household income. Indeed, for all the equivalised scales, the coefficient is significant and strongly positive (Table 3). In terms of magnitude, with scale elasticity 1 (per capita income), the effect is around three times larger than the estimated aggregate sample effect in Table 2. Results in the West German sample are quite different: the effect of children in the non equivalised income estimate is negative and significant while the effect of children is positive and significant only when using per member household income.

Since the results found for the two geographical locations are so different, we consider gender and income split inside the West German and East German sample, as shown in Tables 4.a and 4.b[18], respectively

The split around the median household income yields polarised results as well. In the below median income subsample, the relational effect of children is positive and significant with all the scale elasticities under both (revealed preference and stated level of utility) approaches for East Germans, while it is positive and significant up to the OECD modified scale (and in the stated level of utility approach) for West Germans. In the above median income subsample the number of children variable is negative and significant in the base estimate and never significantly positive with the reaming types of equivalised income for West Germany. In the East, the aggregate effect

[18] Tables 4.a and b contains the variable of interest: childHH (number of children below 18 years old in the household) and offspring (dummy for having children). The second variable will be the object of study in par.7.

(base estimates) is instead not significant. When we equivalise income we get a positive and significant effect up to the OECD modified scale (and in the first stated level of utility approach).

The gender split also gives interesting results. Children related life satisfaction seems to be higher for males. For men in the West the number of children coefficient is not significant in the base estimate, while positive and significant only with the highest scale elasticity (per capita income). By contrast, women in the West exhibit a negative and significant coefficient in the base (non equivalised income) estimate and never have a significantly positive effect in any of the equivalised income estimates. The gender difference is strong in East Germany as well. Men in the East have non significant aggregate effect in the base estimate and always positive and significant effect with all equivalised income estimates. On the contrary, women in the East have positive and significant non economic effects up to the modified OECD scale and with the stated level of utility approach.

A plausible general interpretation of these results is that the non economic effect of the number of children is higher when the opportunity cost of having children is lower. If household income is a good proxy of hourly wage and productivity, the opportunity cost is higher in richer than in poorer families and in the West than in the East Germany due to differences in per capita income. It is also presumably higher for the parent which is expected to spend more time with children (generally women, and all the more so when rearing babies after birth since maternity still exceeds by far paternity leaves).

Subsample splits also help us to shed some light on other interpretations of the children/happiness paradox (i.e. why individuals have children if the latter do not increase their life satisfaction ?). Omitted findings lead us to reject the hypothesis that the paradox disappears once we eliminate single, separated and divorced mothers from the sample.[19] We also observe that the total effect of children for individuals older than 55 in estimates with non equivalised income becomes positive under certain scale elasticities. This finding gives some support to the variability

[19] Results are omitted and available upon request.

of children-life satisfaction effect during the life cycle: children are a burden when parents are young but contribute to life satisfaction when they are older.[20] The problem here is that we have no elements to validate the concurring assumption needed to accept this interpretation, that is, that future life satisfaction is not correctly anticipated by parents in their early age.

We also find some evidence consistent with the commitment hypothesis. While the religious practice split does not make any difference in the life satisfaction effect of having children, we find, in a parallel fixed effect panel estimate (in which the number of children is regressed as dependent variable on socio-economic characteristics), that the religious practice dummy has positive and significant effects on the dependent variable. [21]

A plausible interpretation is that deontological motivations lead individuals to have children even though they do not add to their declared life satisfaction.

6. Calculating the non economic benefit of having children

In this section we intend to calculate the magnitude of the significant results commented so far on the aggregate sample and on the two decomposed effects of children on life satisfaction. To this purpose we calculate the compensating surplus (CS) of an additional child for the individual *i* measured as:

$$CS_{i,t} = Y_{i0}(1 - \exp\hat{(}\alpha_2 * (\alpha_1)^{-1})\Delta Pi \qquad (7)$$

where α_2 is the coefficient of the number of children variable and α_1 is the coefficient of income. The methodology we follow is common to other empirical papers in happiness studies such as those valuing air pollution (Welsch, 2002 and Luechinger, 2007), terrorist activity (Frey et al., 2009), noise nuisance (van Praag and Baarsma, 2005) and flood disasters (Luechinger and Raschky, 2009). These authors underline that the life satisfaction approach overcomes the limits of the revealed preference one (the value of some goods cannot be revealed by consumer choices) and the

[20] Results are omitted and available upon request.
[21] Results are omitted and available upon request.

contingent evaluation approach where individuals are directly asked to estimate the willingness to pay for a given good (and their declaration may be cognitively too demanding and highly suspect of interview bias due to strategic declaration).

As it is well known this approach is subject to several shortcomings. First of all, available empirical evidence shows fairly conclusively that monetary compensations have a greater effect on SWB at lower levels of income (Diener and Seligman, 2004; Fahey and Smyth, 2004). Van Praag and Baarsma (2005) point out that this has the politically problematic implication that compensation for an attribute which is detrimental to happiness will be greater for those with higher incomes. Perhaps more problematic is the fact that the coefficient on income has generally been found to be fairly small and, in some datasets, insignificant (Wildman and Jones, 2002) or even negative (Clark 2003, Clark and Oswald, 1994).

For these reasons, and in order to provide the reader with a broader view of our results, we follow two different approaches. The first is the standard compensating surplus which uses as ingredients the marginal effect of income and the marginal effect of children. The second approach compares the marginal effect of children depurated from the economic effect (captured by the selected equivalised income) with the actual economic cost of an additional children. The latter is simply calculated as the equivalised income with the current number of children minus the equivalised income under the hypothesis of an additional child.[22]

Tables 5.a and 5.b show magnitude effects for all general and subgroup splits by gender and income estimated in the West and East German samples. For simplicity we restrict the analysis to a limited number of equivalent scales between the two extremes of per capita income and household income. Calculations are provided only when coefficients are statistically significant in the original estimates.

By looking at the base estimates (those with household income) we find that in West Germany the aggregate life satisfaction effect is always negative and significant, with the exception

[22] Note that, also in the second case, the calculation of the non economic effect of children remains subject to the problem of the measurement bias in the marginal utility of income.

of individuals below the median household income (who report a negative compensating surplus of 861 (2002) Euros for an additional child). On average, an additional child requires a compensation of 5,537 Euros. The compensation is higher for females and individuals above the median income (8,006 and 8,675 Euros respectively).

When we use the highest scale elasticity (e = 1) and estimate the model with per capita income in the West German sample, we find that an additional children has a positive (non economic) effect equal to 1,739 Euros. Note that this benefit is lower than the actual income loss (3,912 Euros) and therefore the aggregate effect is negative also with this second approach, consistently with the result of the compensating surplus. However, if we compare the (income) cost and the (relational) benefit, the aggregate loss is lower (less than one half) than that arising from the compensating surplus approach (around 2,200 Euros).

As commented in previous estimates, East Germans never have a negative aggregate life satisfaction effect, while they show a positive one in the below median income subgroup. The benefit of an additional children calculated with the CS is in this case equal to 10,144 Euros. Note that, whatever the scale elasticity applied, the relational benefit of an additional children calculated with the CS (5,991 Euros for the overall East German sample with per capita income) is always larger than the actual loss of income calculated on the basis of the change in the equivalised income due to a new birth. If we combine this evidence and look only at significant results, this implies that the social returns of a small subsidy on children are remarkable in the East German sample: a small amount of money may in fact trigger a relational effect which is highly valuable (in monetary terms).

To sum up, individuals with high opportunity costs need to be subsidized in order consider the children a positive determinant of their life satisfaction. As anticipated above, this has the politically problematic implication of subsidizing the rich and not the poor (but also the more reasonable gender implication of subsidizing women who usually bear a higher burden in raising children). However, for some borderline groups (with insignificant aggregate effect and non

economic effect larger than the economic loss) our findings show that small subsidies generate high social returns.

Again, we remind here that the effectiveness of policies calculated on the basis of our results strictly depends on the solutions provided to the children-happiness paradox. Only if the latter can be solved within the self interested rationality paradigm individuals will react as expected to monetary incentives (i.e. if individuals decide to have children for purely deontological reasons they will continue to have them even though a demographic control policy would tax them). In the section which follows we will provide some indications on the plausibility of several rationales for the paradox based on our analysis.

7. Limits of our approach and robustness check

Equivalence scales try to be specific with respect to the age composition of the household, so that they weight differently children below 14 years and teenagers dependent from their parents until they reach the age of 18. Consider that, if we take into account the different cost of the latter on the household budget (as the modified and the Official GES and the modified OECD scale do), we should even test whether they generate different satisfaction in the family budget.[23] In other words, if we allow them to weight differently on the family budget, we can indentify also their different non economic effect on parents' life satisfaction. Table 6 shows the different coefficients for children below 14 and from 15 to 18 years old. The parameters are sensible to the choice of the equivalent scale. We observe that the two coefficients differ only when the computed equivalence scale weight differently their contribution. Table 6 also shows that the coefficient magnitude for 0-14 aged children is almost the same as for 15-18 aged ones. The magnitude is slightly higher for younger children in the per capita scale, while with the squared scale older children are only weakly significant.

[23] This is just an approximation as the relational effect may be different according to children age for reasons which are different from the budgetary ones considered in the economic effect.

For a second robustness check consider as well that what we did in section 4 is testing a strong version (constant marginal effect) of the hypothesis of the relational value of children. A question arising from our estimates is whether the effect of an additional child is constant independently from the number of children. It is probably unlikely to be so. It must be noted however that around 90 percent of respondents with children have less than three of them (only 1,252 individuals declared to have 3 children, 295 individuals 4 children, 81 individuals 5 children and, finally, 17 individuals 6 children). It is therefore highly likely that our linear effect is mainly based on effect of the first and the second children given the low weight in our estimate of respondents with more than two children.

In order to overcome this problem the positive relational effect of children can be tested in a different way. That is, by using a dummy which takes value of one when individuals have children and zero otherwise (we call this variable *offspring* in Tables 4a and b). Results with this different approach are similar to those of the number of children estimates even though stronger when we consider West Germany (Table 4.a). In the aggregate West German sample estimates having children is negative but not significant (as the number of children effect) in the base estimates with no equivalised income. Having children has positive and significant effect in the per capita income with a magnitude which is around three times stronger than the number of children effect in Table 2. Having versus not having children affects more positively life satisfaction than the number of children effect also in the poor West subsample where the impact is always positive and significant including the base estimate.

On the contrary, in the East German sample the effect of having versus not having children altogether is not much different than the number of children effect and, in some cases, even weaker (Tab. 4b).

In a final robustness check we verify whether our main findings are robust to alternative estimation methods. We perform a random effect ordered probit estimate on the aggregate sample

and on the West/East subsamples. Our findings are substantially unaltered (Tables A2 and A3 in Appendix).

8. Conclusions

Why individuals decide to have children if life satisfaction estimates often exhibit a negative and significant number-of- children coefficient? What is the life satisfaction effect of the economic and non economic consequences of having children and can the two effects be decomposed?

Both questions are relevant in different respects. We want to know whether the decision of having children can be framed under the standard utility maximization approach and we are interested in extracting the non economic effect of children as it may be useful in welfare policies and, more generally, in all those situations in which the social (non economic) cost of children needs to be calculated separately from the economic cost of having them. Finally, the issues of the paradox and the decomposition driven policies are strictly connected since, only if the former can be explained by rational self-interest, individuals react to monetary incentives. In our paper we try to provide evidence to answer to these two questions with an empirical analysis on the GSOEP.

First of all, we find a negative and significant effect of the number of children in the overall sample estimate which includes (non equivalised) household income among regressors. This result confirms the paradox. However, when we calculate the impact of having children vis-à-vis not having them the aggregate effect in the overall sample estimate is no more significant. Furthermore, when we equivalise income with selected equivalence scales, and, by doing so, we separate the economic from the non economic effect of children, we find that the latter becomes positive and significant under several scale elasticities closer to unity.

Moreover, the analysis of selected sample splits leads us to reject homogeneity of the slope coefficient under inquiry. The (non decomposed) number of children effect tends to be more negative for females, individuals above the median household income in the sample, for West than

for East Germans (it is indeed positive and significant for East Germans who are below the East median household income). These results suggest that opportunity costs matter.

Some additional findings help to shed light on the children-happiness paradox. In this paper we do not have the ambition to find the definite answer to it, but rather to provide some related evidence which may help to exclude or reinforce some of the potential explanations. With this respect, a first result is that excluding single, separated and divorced mothers does not change our findings. We find however that the effect of children life satisfaction is more positive in individuals above 55. If individuals do not include future expected life satisfaction in their declaration, they could have children because benefits when old overcome costs when young. Finally, some evidence of deontological behavior cannot be excluded. Some categories (such as individuals with frequent religious practice) have more children even though their life satisfaction does not seem to be positively affected by them.

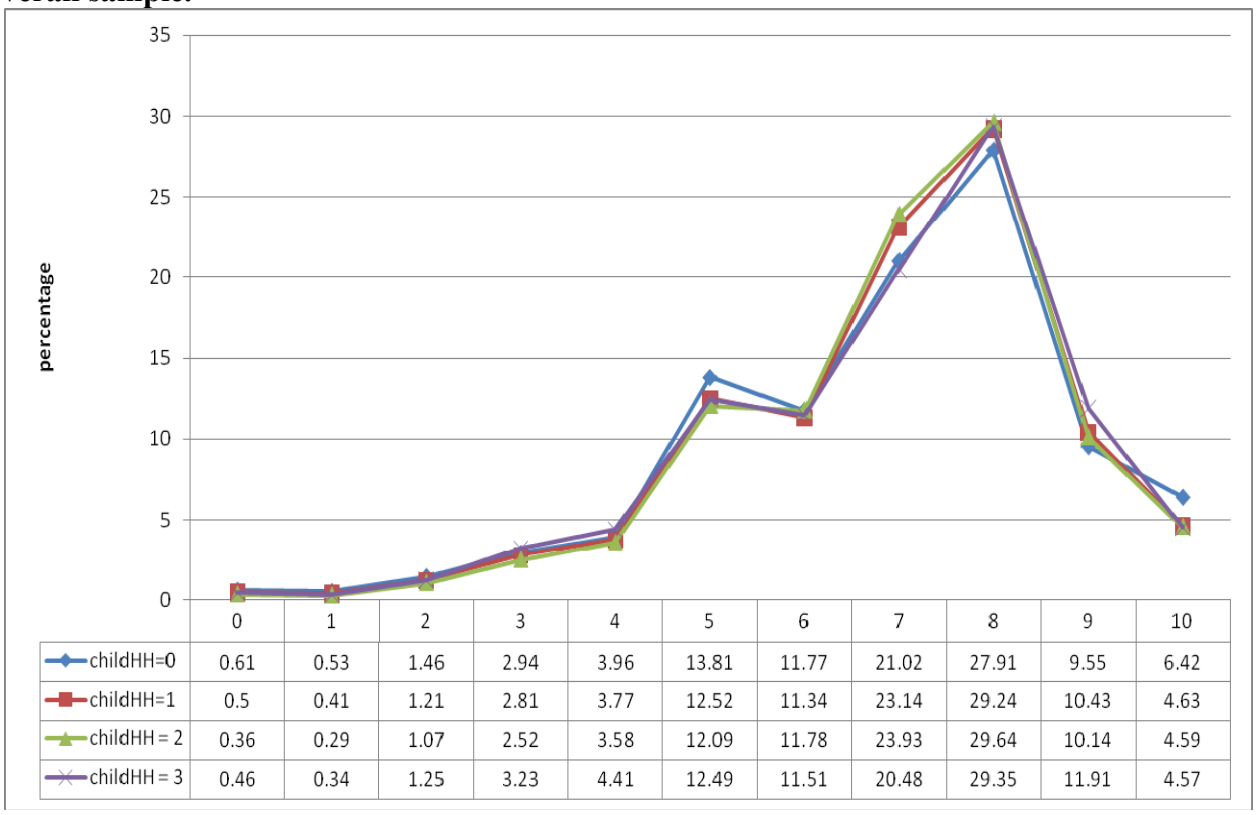
Finally, our decomposition findings would obviously not reject the hypothesis that people mainly look at the non economic effects of having children underestimating their negative impact on per member available household income.

To sum up, there are many different explanations which are compatible with the paradox. Without abandoning the hypothesis of self-interested rationality, the latter might be explained when moving from the linear effect of the number of children on that of having them versus not having altogether (but in such case it should not work for the second child effect) or, by considering that in relevant subgroups (males, below median income individuals, East Germans) the paradox tends to disappear. By enlarging the scope to motivational complexity, the paradox is perfectly compatible with forms of deontological behavior. If we finally abandon the rationality paradigm, misprediction of the future benefit of having children (or omitted inclusion of them in the life satisfaction declaration) or underestimation of the income effect of children, when comparing it with the positive non economic effect, are alternative explanations for the observed findings in the children-happiness relationship.

From the policy side, our calculations of compensating surplus and of the magnitude of the economic and non economic effects show that women subsidies could be decisive to tilt the balance in favor of child generating decisions.

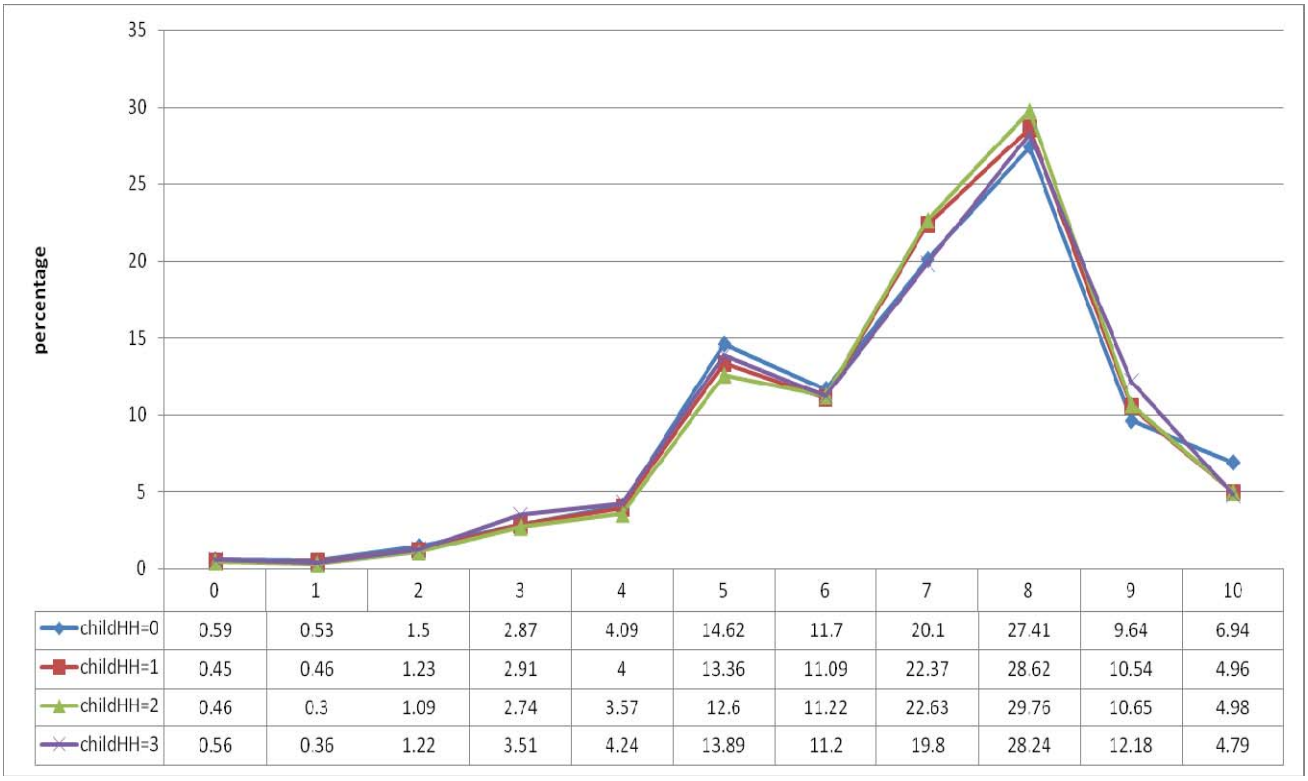
If we relate our results to the consolidated ones of the development literature on women education we find that they are the two sides of the same phenomenon. If female education (and the consequent increase in their opportunity cost of having children) was one of the most effective measures reducing explosive demographic trends in developing countries, life satisfaction evidence tells us that subsidies to women can compensate too high opportunity costs to avoid fertility dynamics below the replacement rate in developed countries.

Figure 1. Distribution of Life Satisfaction for individuals with below 18 year old offspring: overall sample.



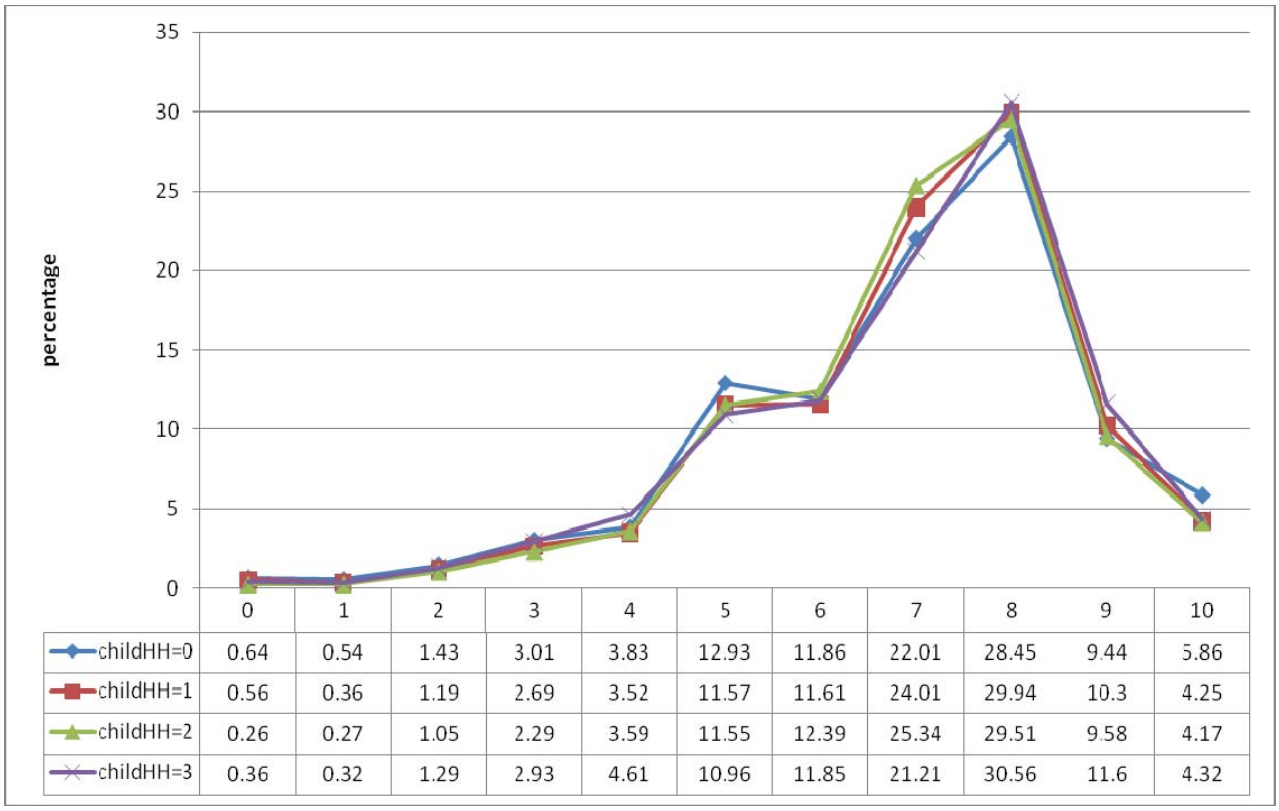
	0	1	2	3	4	5	6	7	8	9	10
childHH=0	0.61	0.53	1.46	2.94	3.96	13.81	11.77	21.02	27.91	9.55	6.42
childHH=1	0.5	0.41	1.21	2.81	3.77	12.52	11.34	23.14	29.24	10.43	4.63
childHH = 2	0.36	0.29	1.07	2.52	3.58	12.09	11.78	23.93	29.64	10.14	4.59
childHH = 3	0.46	0.34	1.25	3.23	4.41	12.49	11.51	20.48	29.35	11.91	4.57

Figure 2. Distribution of Life Satisfaction for individuals with below 18 year old offspring: women.



	0	1	2	3	4	5	6	7	8	9	10
childHH=0	0.59	0.53	1.5	2.87	4.09	14.62	11.7	20.1	27.41	9.64	6.94
childHH=1	0.45	0.46	1.23	2.91	4	13.36	11.09	22.37	28.62	10.54	4.96
childHH=2	0.46	0.3	1.09	2.74	3.57	12.6	11.22	22.63	29.76	10.65	4.98
childHH=3	0.56	0.36	1.22	3.51	4.24	13.89	11.2	19.8	28.24	12.18	4.79

Figure 3. Distribution of Life Satisfaction for individuals with below 18 year old offspring: men.



	0	1	2	3	4	5	6	7	8	9	10
childHH=0	0.64	0.54	1.43	3.01	3.83	12.93	11.86	22.01	28.45	9.44	5.86
childHH=1	0.56	0.36	1.19	2.69	3.52	11.57	11.61	24.01	29.94	10.3	4.25
childHH=2	0.26	0.27	1.05	2.29	3.59	11.55	12.39	25.34	29.51	9.58	4.17
childHH=3	0.36	0.32	1.29	2.93	4.61	10.96	11.85	21.21	30.56	11.6	4.32

Table 1. Summary of equivalence scale weights and elasticities.

Per capita Income	weight	No. household member
	description	No economies of scale exist and a family of two requires twice as much disposable income as a family of one to reach the same level of equivalent income. In this way, each person is assigned the per capita income of his or her household.
	elasticity	e= 1
Official German Equivalence Weight	weight	OffESG =1.00 *for household head + 0.50*children 0-7 in 2 parent hh + 0.55*children 0-7 in lone parent hh + 0.65*children 8-14 + 0.90*children 15-18 + 0.90*adults <18 minus one for household head
	elasticity	e = 0.71
"OECD-modified scale"	weight	OECDmodeqSc = 1.00 *for household head + 0.5*adults <14 minus one for household head + 0.3* children 0-14
	elasticity	e = 0.53
Square root scale	weight	Squeqsc = No. household member ^(1/2)
	elasticity	e = 0.50
No equivalence scale weight	weight	no correction for household size
	description	The economies of scale are assumed to be perfect so that a household of two can live exactly as well as a household of one with no increase in their disposable income. Operationally each person is assigned the income of his or her entire household
	elasticity	e = 0

Table 2. Life Satisfaction Fixed Effect Regression for different equivalent income and number of children: all samples

VARIABLES	**Base**	**PerCapita**	**Official GES**	**Modified OECD**	**Squared**	**Schwarze**
Scale elasticity	0	1	0.71	0.53	0.50	0.69
Equivalised Income	0.218***	0.213***	0.208***	0.220***	0.219***	0.217***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
childHH	-0.021*	0.049***	0.030**	0.019	0.015	0.028**
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
nonchildHH	-0.078***	0.003	0.003	-0.021**	-0.038***	-0.023**
	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Age17_19	-0.385	-0.381	-0.378	-0.381	-0.383	-0.382
	(0.283)	(0.283)	(0.283)	(0.283)	(0.283)	(0.283)
Age20_22	-0.485*	-0.481*	-0.499*	-0.482*	-0.483*	-0.482*
	(0.272)	(0.272)	(0.272)	(0.272)	(0.272)	(0.272)
Age23_25	-0.422	-0.419	-0.439*	-0.421	-0.421	-0.420
	(0.260)	(0.260)	(0.260)	(0.260)	(0.260)	(0.260)
Age26_28	-0.373	-0.371	-0.390	-0.374	-0.372	-0.372
	(0.248)	(0.248)	(0.248)	(0.248)	(0.248)	(0.248)
Age29_31	-0.299	-0.296	-0.315	-0.301	-0.298	-0.298
	(0.236)	(0.236)	(0.236)	(0.236)	(0.236)	(0.236)
Age32_34	-0.274	-0.271	-0.287	-0.276	-0.273	-0.272
	(0.224)	(0.224)	(0.224)	(0.224)	(0.224)	(0.224)
Age35_37	-0.225	-0.222	-0.233	-0.226	-0.224	-0.224
	(0.211)	(0.211)	(0.211)	(0.211)	(0.211)	(0.211)
Age38_40	-0.202	-0.200	-0.205	-0.201	-0.201	-0.201
	(0.199)	(0.199)	(0.199)	(0.199)	(0.199)	(0.199)
Age41_43	-0.171	-0.169	-0.170	-0.167	-0.170	-0.170
	(0.187)	(0.187)	(0.187)	(0.187)	(0.187)	(0.187)
Age44_46	-0.158	-0.157	-0.156	-0.154	-0.158	-0.157
	(0.175)	(0.175)	(0.175)	(0.175)	(0.175)	(0.175)
Age47_49	-0.121	-0.120	-0.122	-0.117	-0.121	-0.121
	(0.163)	(0.163)	(0.163)	(0.163)	(0.163)	(0.163)
Age50_52	-0.079	-0.078	-0.081	-0.076	-0.079	-0.078
	(0.152)	(0.152)	(0.152)	(0.152)	(0.152)	(0.152)
Age53_55	-0.037	-0.035	-0.039	-0.034	-0.037	-0.036
	(0.140)	(0.140)	(0.140)	(0.140)	(0.140)	(0.140)
Age56_58	0.098	0.101	0.096	0.100	0.099	0.099
	(0.128)	(0.128)	(0.128)	(0.128)	(0.128)	(0.128)
Age59_61	0.239**	0.241**	0.237**	0.241**	0.240**	0.240**
	(0.116)	(0.116)	(0.116)	(0.116)	(0.116)	(0.116)
Age62_64	0.355***	0.357***	0.353***	0.357***	0.356***	0.356***
	(0.105)	(0.105)	(0.105)	(0.105)	(0.105)	(0.105)
Age65_67	0.444***	0.446***	0.442***	0.446***	0.445***	0.445***
	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)
Age68_70	0.407***	0.408***	0.405***	0.408***	0.407***	0.408***
	(0.084)	(0.084)	(0.084)	(0.084)	(0.084)	(0.084)

Table 2. Life Satisfaction Fixed Effect Regression for different equivalent income and number of children: all samples (follows)

Age71_73	0.387***	0.388***	0.386***	0.388***	0.387***	0.388***
	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)
Age74_76	0.305***	0.306***	0.304***	0.306***	0.305***	0.306***
	(0.064)	(0.064)	(0.064)	(0.064)	(0.064)	(0.064)
Age77_79	0.183***	0.183***	0.182***	0.183***	0.183***	0.183***
	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)
Unemployed	-0.278***	-0.278***	-0.278***	-0.277***	-0.277***	-0.277***
	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Loss of job	-0.100***	-0.099***	-0.100***	-0.100***	-0.100***	-0.100***
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
Employed	0.112***	0.112***	0.114***	0.112***	0.111***	0.111***
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
Retired	0.080***	0.082***	0.082***	0.080***	0.081***	0.081***
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Married	0.092***	0.118***	0.104***	0.097***	0.105***	0.110***
	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)
Marriage	0.254***	0.249***	0.254***	0.255***	0.252***	0.251***
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
Separated	-0.117*	-0.115*	-0.124*	-0.122*	-0.116*	-0.116*
	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)
Separation	-0.333***	-0.334***	-0.334***	-0.333***	-0.333***	-0.333***
	(0.074)	(0.074)	(0.074)	(0.074)	(0.074)	(0.074)
Divorced	0.094*	0.099*	0.090	0.091*	0.096*	0.097*
	(0.055)	(0.055)	(0.055)	(0.055)	(0.055)	(0.055)
Divorce	-0.161***	-0.161***	-0.161***	-0.161***	-0.161***	-0.161***
	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)
Widowed	-0.263***	-0.285***	-0.290***	-0.280***	-0.274***	-0.279***
	(0.065)	(0.065)	(0.065)	(0.065)	(0.065)	(0.065)
Education years	0.017**	0.017**	0.016**	0.017**	0.017**	0.017**
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
House Owner	0.069***	0.072***	0.072***	0.070***	0.070***	0.070***
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Hosp	-0.208***	-0.208***	-0.209***	-0.208***	-0.208***	-0.208***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Constant	4.796***	4.779***	4.812***	4.753***	4.773***	4.772***
	(0.215)	(0.216)	(0.215)	(0.216)	(0.216)	(0.216)
Observations	160046	160046	160046	160046	160046	160046
Number of persnr	16170	16170	16170	16170	16170	16170
R-squared	0.041	0.040	0.040	0.041	0.041	0.041

*Notes: Variable definition: see section 3. Robust standard errors in parentheses. Level of significance: *** p<0.01, ** p<0.05, * p<0.1.*

Table 3. Life Satisfaction Fixed Effect Regression for different equivalent income and number of children: splits West and East samples.

VARIABLES	Base	Per Capita	Official GES	Modified OECD	Squared	Schw	Base	Per Capita	Official GES	Modified OECD	Squared	Schw
	West						**East**					
Equivalent Income	0.195***	0.192***	0.189***	0.197***	0.196***	0.194***	0.309***	0.305***	0.284***	0.317***	0.313***	0.312***
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.033)	(0.033)	(0.032)	(0.034)	(0.034)	(0.034)
childHH	-0.037***	0.025*	0.009	-0.002	-0.006	0.010	0.035	0.139***	0.107***	0.096***	0.087***	0.100***
	(0.013)	(0.014)	(0.014)	(0.013)	(0.013)	(0.014)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
nonchildHH	-0.074***	-0.002	-0.001	-0.023**	-0.038***	-0.020*	-0.100***	0.015	0.014	-0.020	-0.043**	-0.029
	(0.013)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.021)	(0.018)	(0.018)	(0.018)	(0.019)	(0.018)
Age17_19	-0.557*	-0.552	-0.550	-0.554	-0.555	-0.554	0.194	0.195	0.192	0.200	0.195	0.195
	(0.338)	(0.338)	(0.338)	(0.338)	(0.338)	(0.338)	(0.493)	(0.493)	(0.493)	(0.493)	(0.493)	(0.493)
Age20_22	-0.658**	-0.653**	-0.669**	-0.656**	-0.656**	-0.654**	0.107	0.107	0.077	0.113	0.108	0.108
	(0.325)	(0.325)	(0.325)	(0.325)	(0.325)	(0.325)	(0.474)	(0.474)	(0.474)	(0.474)	(0.474)	(0.474)
Age23_25	-0.592*	-0.588*	-0.606*	-0.591*	-0.590*	-0.589*	0.160	0.162	0.129	0.164	0.162	0.162
	(0.311)	(0.311)	(0.311)	(0.311)	(0.311)	(0.311)	(0.454)	(0.454)	(0.454)	(0.454)	(0.454)	(0.454)
Age26_28	-0.569*	-0.566*	-0.583**	-0.569*	-0.568*	-0.567*	0.266	0.269	0.237	0.267	0.268	0.268
	(0.296)	(0.296)	(0.296)	(0.296)	(0.296)	(0.296)	(0.434)	(0.434)	(0.434)	(0.434)	(0.434)	(0.434)
Age29_31	-0.478*	-0.475*	-0.491*	-0.479*	-0.477*	-0.476*	0.299	0.303	0.272	0.298	0.301	0.302
	(0.281)	(0.281)	(0.281)	(0.281)	(0.281)	(0.281)	(0.414)	(0.413)	(0.413)	(0.413)	(0.413)	(0.413)
Age32_34	-0.424	-0.421	-0.436	-0.426	-0.423	-0.422	0.245	0.249	0.223	0.242	0.247	0.248
	(0.267)	(0.267)	(0.267)	(0.267)	(0.267)	(0.267)	(0.394)	(0.393)	(0.394)	(0.394)	(0.394)	(0.394)
Age35_37	-0.363	-0.360	-0.371	-0.364	-0.362	-0.361	0.255	0.258	0.243	0.256	0.257	0.257
	(0.252)	(0.252)	(0.252)	(0.252)	(0.252)	(0.252)	(0.372)	(0.372)	(0.372)	(0.372)	(0.372)	(0.372)
Age38_40	-0.336	-0.333	-0.339	-0.336	-0.335	-0.334	0.263	0.264	0.260	0.269	0.264	0.264
	(0.237)	(0.237)	(0.237)	(0.237)	(0.237)	(0.237)	(0.351)	(0.351)	(0.351)	(0.351)	(0.351)	(0.351)
Age41_43	-0.294	-0.292	-0.293	-0.291	-0.293	-0.293	0.274	0.274	0.270	0.284	0.274	0.274
	(0.222)	(0.222)	(0.222)	(0.222)	(0.222)	(0.222)	(0.331)	(0.331)	(0.331)	(0.331)	(0.331)	(0.331)
Age44_46	-0.281	-0.280	-0.279	-0.278	-0.281	-0.281	0.287	0.287	0.280	0.297	0.287	0.287
	(0.208)	(0.208)	(0.208)	(0.208)	(0.208)	(0.208)	(0.311)	(0.310)	(0.310)	(0.310)	(0.311)	(0.310)
Age47_49	-0.212	-0.211	-0.211	-0.208	-0.212	-0.211	0.237	0.239	0.226	0.246	0.238	0.238
	(0.194)	(0.194)	(0.194)	(0.194)	(0.194)	(0.194)	(0.292)	(0.292)	(0.292)	(0.292)	(0.292)	(0.292)
Age50_52	-0.174	-0.172	-0.175	-0.171	-0.173	-0.173	0.276	0.278	0.263	0.283	0.277	0.277
	(0.180)	(0.180)	(0.180)	(0.180)	(0.180)	(0.180)	(0.273)	(0.273)	(0.273)	(0.273)	(0.273)	(0.273)
Age53_55	-0.134	-0.132	-0.135	-0.132	-0.134	-0.133	0.314	0.315	0.301	0.320	0.315	0.315
	(0.166)	(0.166)	(0.166)	(0.166)	(0.166)	(0.166)	(0.253)	(0.252)	(0.252)	(0.253)	(0.253)	(0.253)
Age56_58	0.034	0.037	0.033	0.036	0.035	0.036	0.361	0.364	0.350	0.367	0.363	0.363
	(0.151)	(0.151)	(0.151)	(0.151)	(0.151)	(0.151)	(0.234)	(0.234)	(0.234)	(0.234)	(0.234)	(0.234)
Age59_61	0.174	0.177	0.173	0.176	0.175	0.176	0.508**	0.511**	0.498**	0.514**	0.510**	0.510**
	(0.136)	(0.136)	(0.136)	(0.136)	(0.136)	(0.136)	(0.215)	(0.215)	(0.215)	(0.215)	(0.215)	(0.215)
Age62_64	0.252**	0.254**	0.250**	0.253**	0.252**	0.253**	0.701***	0.704***	0.692***	0.706***	0.703***	0.703***
	(0.123)	(0.123)	(0.123)	(0.123)	(0.123)	(0.123)	(0.197)	(0.197)	(0.197)	(0.197)	(0.197)	(0.197)
Age65_67	0.350***	0.351***	0.348***	0.351***	0.350***	0.350***	0.776***	0.779***	0.768***	0.781***	0.778***	0.778***
	(0.110)	(0.110)	(0.110)	(0.110)	(0.110)	(0.110)	(0.181)	(0.181)	(0.181)	(0.181)	(0.181)	(0.181)
Age68_70	0.348***	0.349***	0.347***	0.349***	0.349***	0.349***	0.656***	0.659***	0.650***	0.660***	0.658***	0.658***
	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)	(0.164)	(0.164)	(0.164)	(0.164)	(0.164)	(0.164)
Age71_73	0.326***	0.327***	0.325***	0.327***	0.326***	0.327***	0.644***	0.648***	0.641***	0.648***	0.646***	0.647***

Table 3. Life Satisfaction Fixed Effect Regression for different equivalent income and number of children: splits West and East samples (follows)

	(0.084)	(0.084)	(0.084)	(0.084)	(0.084)	(0.084)	(0.149)	(0.149)	(0.149)	(0.149)	(0.149)	(0.149)
Age74_76	0.260***	0.261***	0.260***	0.261***	0.261***	0.261***	0.511***	0.515***	0.510***	0.515***	0.514***	0.514***
	(0.072)	(0.072)	(0.072)	(0.072)	(0.072)	(0.072)	(0.143)	(0.143)	(0.143)	(0.143)	(0.143)	(0.143)
Age77_79	0.129**	0.129**	0.129**	0.130**	0.129**	0.129**	0.423***	0.424***	0.422***	0.425***	0.424***	0.424***
	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)
Unemp	-0.306***	-0.307***	-0.307***	-0.306***	-0.306***	-0.307***	-0.215***	-0.214***	-0.216***	-0.214***	-0.214***	-0.214***
	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
lossjob	-0.063	-0.062	-0.062	-0.063	-0.062	-0.062	-0.157***	-0.157***	-0.157***	-0.158***	-0.157***	-0.157***
	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)
Emp	0.074***	0.074***	0.076***	0.074***	0.074***	0.074***	0.223***	0.224***	0.227***	0.222***	0.223***	0.223***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.031)	(0.032)	(0.032)	(0.032)	(0.031)	(0.032)
Retired	0.051	0.053	0.054	0.052	0.052	0.053	0.215***	0.217***	0.217***	0.216***	0.216***	0.216***
	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)
Married	0.124***	0.150***	0.136***	0.130***	0.137***	0.143***	-0.020	0.002	-0.012	-0.018	-0.009	-0.006
	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.071)	(0.071)	(0.071)	(0.071)	(0.071)	(0.071)
getMar	0.258***	0.253***	0.258***	0.258***	0.255***	0.254***	0.241***	0.237***	0.241***	0.243***	0.239***	0.239***
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)
Separated	-0.157**	-0.153**	-0.161**	-0.161**	-0.155**	-0.154**	0.002	-0.006	-0.017	-0.009	-0.002	-0.003
	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.077)	(0.124)	(0.124)	(0.124)	(0.124)	(0.124)	(0.124)
getSep	-0.342***	-0.344***	-0.343***	-0.342***	-0.343***	-0.343***	-0.286**	-0.285**	-0.287**	-0.287**	-0.285**	-0.285**
	(0.088)	(0.088)	(0.088)	(0.088)	(0.088)	(0.088)	(0.137)	(0.137)	(0.137)	(0.137)	(0.137)	(0.137)
Divorced	0.095	0.099	0.092	0.093	0.097	0.098	0.107	0.111	0.099	0.101	0.110	0.110
	(0.064)	(0.064)	(0.064)	(0.064)	(0.064)	(0.064)	(0.104)	(0.104)	(0.104)	(0.104)	(0.104)	(0.104)
getDiv	-0.192***	-0.191***	-0.191***	-0.192***	-0.192***	-0.191***	-0.076	-0.081	-0.081	-0.078	-0.078	-0.079
	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.101)	(0.101)	(0.101)	(0.101)	(0.101)	(0.101)
Widowed	-0.298***	-0.316***	-0.322***	-0.312***	-0.307***	-0.312***	-0.089	-0.135	-0.134	-0.120	-0.112	-0.118
	(0.074)	(0.074)	(0.074)	(0.074)	(0.074)	(0.074)	(0.131)	(0.130)	(0.130)	(0.131)	(0.130)	(0.130)
nEdyear	0.016**	0.016**	0.016**	0.016**	0.016**	0.016**	0.023	0.022	0.022	0.022	0.022	0.022
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Owner2	0.066***	0.069***	0.069***	0.067***	0.067***	0.068***	0.063*	0.065*	0.068*	0.064*	0.063*	0.064*
	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)
Hosp	-0.208***	-0.208***	-0.208***	-0.208***	-0.208***	-0.208***	-0.212***	-0.211***	-0.212***	-0.212***	-0.211***	-0.211***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Time Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regional Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	4.277***	4.304***	4.314***	4.259***	4.279***	4.288***	3.754***	3.728***	3.840***	3.669***	3.714***	3.712***
	(0.330)	(0.339)	(0.339)	(0.335)	(0.334)	(0.337)	(0.367)	(0.370)	(0.366)	(0.370)	(0.369)	(0.369)
Observations	116720	116720	116720	116720	116720	116720	43326	43326	43326	43326	43326	43326
R-squared	0.043	0.043	0.043	0.043	0.043	0.043	0.040	0.040	0.039	0.040	0.040	0.040
Number of persnr	11297	11297	11297	11297	11297	11297	4873	4873	4873	4873	4873	4873

*Notes: Robust standard errors in parentheses. Level of significance: *** p<0.01, ** p<0.05, * p<0.1.*

Tab. 4.a Life satisfaction fixed effect regression, Splits into West German sample (by gender, by median income) comparing offspring and children.

VARIABLES	Base	PerCapita	Official GES	Modified OECD	Squared	Schwarze
West DT (all sub sample)						
childHH	-0.037***	0.025*	0.009	-0.002	-0.006	0.010
	(0.013)	(0.014)	(0.014)	(0.013)	(0.013)	(0.014)
offspring	-0.022	0.065***	0.042*	0.027	0.022	0.044**
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Male						
childHH	-0.026	0.036*	0.018	0.010	0.006	0.021
	(0.019)	(0.020)	(0.019)	(0.019)	(0.019)	(0.019)
offspring	-0.003	-0.003	0.061**	0.049	0.043	0.065**
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
Female						
childHH	-0.060***	0.005	-0.013	-0.024	-0.028	-0.011
	(0.019)	(0.020)	(0.019)	(0.019)	(0.019)	(0.019)
offspring	-0.055*	0.030	0.007	-0.008	-0.013	0.008
	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Rich						
childHH	-0.048***	0.016	-0.003	-0.009	-0.015	0.001
	(0.016)	(0.019)	(0.018)	(0.017)	(0.017)	(0.018)
offspring	-0.054**	0.027	0.007	-0.000	-0.010	0.010
	(0.026)	(0.029)	(0.027)	(0.027)	(0.027)	(0.028)
Poor						
childHH	0.008	0.070***	0.053**	0.042*	0.039	0.055**
	(0.025)	(0.026)	(0.025)	(0.025)	(0.025)	(0.026)
offspring	0.080*	0.172***	0.145***	0.129***	0.126***	0.149***
	(0.041)	(0.042)	(0.041)	(0.041)	(0.041)	(0.042)

*Notes: All regressions include socio demographic controls for employment status, marital status, age dummies, years of education, house owner dummy, health status, regional and time dummies as additional variables. Excluded categories: single, over 79 years old, house renter, not hospital stay previous year. Robust standard errors in parentheses. Level of significance: *** p<0.01, ** p<0.05, * p<0.1. Riches (poors) are defined as those individuals having the log real household annual income post gov. tax above (below) the median level for the sample.*

Tab 4.b Life satisfaction fixed effect regression, Splits into East German sample (by gender, by median income) comparing offspring and children

VARIABLES	Base	PerCapita	Official GES	Modified OECD	Squared	Schwarze
East DT (all sub sample)						
childHH	0.035	0.139***	0.107***	0.096***	0.087***	0.100***
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
offspring	0.026	0.144***	0.112***	0.099***	0.089***	0.103***
	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
Male						
childHH	0.038	0.166***	0.127***	0.111***	0.102***	0.117***
	(0.033)	(0.034)	(0.033)	(0.032)	(0.032)	(0.032)
offspring	0.025	0.170***	0.132***	0.114**	0.102**	0.120***
	(0.047)	(0.047)	(0.046)	(0.046)	(0.046)	(0.046)
Female						
childHH	0.015	0.104***	0.077**	0.068*	0.060	0.071*
	(0.038)	(0.038)	(0.037)	(0.038)	(0.037)	(0.038)
offspring	0.005	0.102**	0.073	0.065	0.056	0.068
	(0.050)	(0.050)	(0.049)	(0.049)	(0.049)	(0.049)
Rich						
childHH	0.023	0.131***	0.084**	0.091***	0.079**	0.092***
	(0.035)	(0.037)	(0.035)	(0.035)	(0.034)	(0.035)
offspring	0.023	0.117***	0.084*	0.093**	0.078*	0.089**
	(0.044)	(0.045)	(0.044)	(0.044)	(0.044)	(0.044)
Poor						
childHH	0.105**	0.188***	0.164***	0.152***	0.148***	0.158***
	(0.043)	(0.045)	(0.044)	(0.043)	(0.043)	(0.043)
offspring	0.068	0.164**	0.140**	0.128**	0.123*	0.134**
	(0.064)	(0.065)	(0.064)	(0.064)	(0.064)	(0.064)

*Notes: All regressions include socio demographic controls for employment status, marital status, age dummies, years of education, house owner dummy, health status, regional and time dummies as additional variables. Excluded categories: single, over 79 years old, house renter, not hospital stay previous year. Robust standard errors in parentheses. Level of significance: *** p<0.01, ** p<0.05, * p<0.1. Riches (poors) are defined as those individuals having the log real household annual income post gov. tax above (below) the median level for the sample.*

Tab 5.a Compensating variation: Western German sample

WEST Germans	PerCapita	OfficialGerScale	Modified OECD	Squared	Schwartze	Base
all sample						
income mean of (annual household income post gov tax /CPI)*100	12511.13	13514.06	17757.32	19487.23	16408.36	32042.87
compensating surplus	-1739.87					5537.93
% of mean income	-13.91					17.28
lost income due to additional child (mean for the subgroup)	3912.48	2714.07	2692.81	3097.27	3563.13	
% lost income due to additional child (mean for the subgroup)	29.37	19.11	15.15	16.19	21.42	
Male West						
income mean of (annual household income post gov tax /CPI)*100	12832.93	13871.42	18347.90	20224.27	16959.36	33565.07
Compensating surplus	-2692.68					4072.67
% of mean income	-20.98					12.13
lost income due to additional child (mean for the subgroup)	3940.78	2723.53	2745.09	3157.60	3616.71	
% lost income due to additional child (mean for the subgroup)	28.47	18.36	14.77	15.62	20.71	
Female West						
income mean of (annual household income post gov tax /CPI)*100	12211.61	13181.44	17207.63	18801.21	15895.49	30626.04
Compensating surplus						8006.36
% of mean income						26.14
lost income due to additional child (mean for the subgroup)	3886.14	2705.26	2644.14	3041.12	3513.25	
% lost income due to additional child (mean for the subgroup)	30.21	19.81	15.50	16.71	22.08	
Rich West						
income mean of (annual household income post gov tax /CPI)*100	15446.47	16878.55	23169.75	25955.54	21285.79	45336.9
Compensating surplus	non sign					8675.23
% of mean income	non sign					19.14
lost income due to additional child (mean for the subgroup)	4269.91	2934.61	3236.20	3670.11	4100.44	
% lost income due to additional child (mean for the subgroup)	25.04	15.79	13.38	13.53	18.04	
Poor West						
income mean of (annual household income post gov tax /CPI)*100	9572.132	10145.37	12338.15	13010.85	11524.83	18732.25
Compensating surplus	-4740.68	-3686.27	-3304.24			-861.10
% of mean income	-49.53	-36.33	-26.78			-4.60
lost income due to additional child (mean for the subgroup)	3554.60	2493.24	2148.73	2523.71	3025.14	
% lost income due to additional child (mean for the subgroup)	33.70	22.43	16.92	18.85	24.80	

Note: where CS is missing means that the coefficient for children is not significant.

Tab 5.b Compensating variation: East German sample

EAST Germans	PerCapita	OfficialGerScale	Modified OECD	Squared	Schwartze	Base
all subsample						
income mean of (annual household income post gov tax /CPI)*100	10377.58	11206.93	14985.94	16516.30	13810.33	27493.39
compensating surplus	-5991.36	-5127.79	-5300.48	-5292.27	-5218.01	
% of mean income	-57.73	-45.76	-35.37	-32.04	-37.78	
lost income due to additional child (mean for the subgroup)	3120.13	2146.73	2219.92	2539.08	2892.92	
% lost income due to additional child (mean for the subgroup)	28.82	18.58	14.94	15.83	20.97	
MALE East						
income mean of (annual household income post gov tax /CPI)*100	10530.77	11375.07	15310.33	16942.84	14114.61	28433.17
compensating surplus	-5962.46	-5079.61	-5257.75	-5312.29	-5184.22	
% of mean income	-56.62	-44.66	-34.34	-31.35	-36.73	
lost income due to additional child (mean for the subgroup)	3108.96	2127.92	2238.86	2561.58	2905.82	
% lost income due to additional child (mean for the subgroup)	28.15	17.99	14.65	15.41	20.44	
Women East						
income mean of (annual household income post gov tax /CPI)*100	10234.77	11050.18	14683.53	16118.65	13526.66	26617.26
compensating surplus	-4830.74	-4042.16	-4036.30		-3968.23	
% of mean income	-47.20	-36.58	-27.49		-29.34	
lost income due to additional child (mean for the subgroup)	3130.54	2164.26	2202.27	2518.10	2880.89	
% lost income due to additional child (mean for the subgroup)	29.44	19.12	15.21	16.21	21.46	
Rich East						
income mean of (annual household income post gov tax /CPI)*100	12203.88	13331.14	18744.92	21173.07	17182.84	37736.62
compensating surplus	-5303.73					
% of mean income	-43.46					
lost income due to additional child (mean for the subgroup)	3168.73	2154.13	2521.77	2842.70	3129.51	
% lost income due to additional child (mean for the subgroup)	24.28	15.14	13.08	13.05	17.44	
Poor East						
income mean of (annual household income post gov tax /CPI)*100	8551.08	9082.49	11226.57	11859.03	10437.45	17249.05
compensating surplus	-11785.41	-10532.64	-10389.90	-11034.80	-10693.89	-10144.62
% of mean income	-137.82	-115.97	-92.55	-93.05	-102.46	-58.81
lost income due to additional child (mean for the subgroup)	3071.52	2139.32	1918.04	2235.42	2656.30	
% lost income due to additional child (mean for the subgroup)	33.36	22.02	16.80	18.60	24.50	

Note: where CS is missing means that the coefficient for children is not significant.

Table 6. Impact of equivalent household income and number of children <14 and children 15 to 18 on life satisfaction.

VARIABLES	Base	Per Capita	Official GES	Modified OECD	Squared
Equivalent Income	0.223***	0.222***	0.228***	0.229***	0.228***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
nonchildHH	-0.070***	0.005	0.008	-0.017**	-0.033***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
child_0_14	-0.010	0.059***	0.041***	0.024**	0.025***
	(0.009)	(0.010)	(0.010)	(0.009)	(0.010)
child_15_18	-0.004	0.046***	0.061***	0.036***	0.022*
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Constant	4.783***	4.771***	4.733***	4.732***	4.753***
	(0.148)	(0.149)	(0.150)	(0.150)	(0.149)
Observations	153935	153935	153935	153935	153935
Number of ID	15542	15542	15542	15542	15542
R-squared	0.043	0.043	0.043	0.043	0.043

*Notes: Notes: All regressions include socio demographic controls for employment status, marital status, age dummies, years of education, house owner dummy, health status, regional and time dummies as additional variables. Excluded categories: single, over 79 years old, house renter, not hospital stay previous year. Robust standard errors in parentheses. Level of significance: *** p<0.01, ** p<0.05, * p<0.1.*

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Appendix

Table A1. Summary statistics and variable description.

Variable		Mean	Std. Dev.	Min	Max	Observations
LifeSat	overall	6.912666	1.853388	0	10	N = 205213
	between		1.48611	0	10	n = 18980
	within		1.328182	-2.24118	14.48409	T-bar = 10.8121
HHIncSat	overall	6.264239	2.283183	0	10	N = 202101
	between		1.880932	0	10	n = 18874
	within		1.574194	-2.610761	14.76424	T-bar = 10.7079
HHnumber	overall	2.840859	1.24596	1	10	N = 218133
	between		1.114703	1	10	n = 20419
	within		0.6896692	-2.559141	9.650382	T-bar = 10.6828
childnn	overall	0.574709	0.889277	0	6	N = 218133
	between		0.7470115	0	5	n = 20419
	within		0.5399156	-3.330053	5.699709	T-bar = 10.6828
Variable		Mean	Std. Dev.	Min	Max	Observations
child_0_14	overall	0.442625	0.7926851	0	6	N = 218133
	between		0.6379028	0	5	n = 20419
	within		0.5024334	-3.033566	5.164847	T-bar = 10.6828
child_0_1	overall	0.036203	0.1901513	0	3	N = 218133
	between		0.1151146	0	2	n = 20419
	within		0.173233	-0.963797	2.911203	T-bar = 10.6828
child_2_4	overall	0.088684	0.3096961	0	4	N = 218133
	between		0.1926608	0	2	n = 20419
	within		0.2631211	-1.161316	3.588684	T-bar = 10.6828
child_5_7	overall	0.089757	0.3106881	0	4	N = 218133
	between		0.186222	0	2	n = 20419
	within		0.268049	-1.310243	3.589757	T-bar = 10.6828
child_15_18	overall	0.186611	0.4542994	0	4	N = 218133
	between		0.3809656	0	3.333333	n = 20419
	within		0.3729273	-2.063389	3.586611	T-bar = 10.6828
child_16_18	overall	0.13224	0.3726613	0	4	N = 218133
	between		0.2759073	0	2.666667	n = 20419
	within		0.3209628	-1.86776	3.598907	T-bar = 10.6828
child_indp	overall	0.418547	0.7339816	0	6	N = 218133
	between		0.641763	0	5	n = 20419
	within		0.5004862	-4.181453	5.085214	T-bar = 10.6828
RHHInc	overall	308.9187	184.4344	0	4225.467	N = 209820
	between		155.174	0	2289.392	n = 19875
	within		111.2724	-1948.852	3795.859	T-bar = 10.557
SavAcc	overall	0.817647	0.3861357	0	1	N = 213844
	between		0.298775	0	1	n = 20164
	within		0.2917491	-0.140686	1.775981	T-bar = 10.6052

spouse	overall	0.808933	0.3931425	0	1	N = 218133
	between		0.3468962	0	1	n = 20419
	within		0.2231121	-0.1494	1.767266	T-bar = 10.6828
anWorkH	overall	1161.829	1111.622	0	7445	N = 217213
	between		910.9991	0	4676	n = 20019
	within		695.2938	-2745.028	5489.162	T-bar = 10.8503
Unemp	overall	0.087663	0.2828054	0	1	N = 202057
	between		0.2102597	0	1	n = 18741
	within		0.2205301	-0.849837	1.045997	T-bar = 10.7815
lossjob	overall	0.032485	0.1772842	0	1	N = 180577
	between		0.0996188	0	1	n = 16786
	within		0.1652493	-0.634182	0.989007	T-bar = 10.7576
Emp	overall	0.606174	0.4885982	0	1	N = 208902
	between		0.4109576	0	1	n = 19477
	within		0.3077888	-0.352159	1.564508	T-bar = 10.7256
Retired	overall	0.228044	0.4195723	0	1	N = 202053
	between		0.3732792	0	1	n = 18741
	within		0.2141244	-0.730289	1.186377	T-bar = 10.7813
Married	overall	0.611161	0.4874877	0	1	N = 210298
	between		0.4584234	0	1	n = 19280
	within		0.2350405	-0.347172	1.569495	T-bar = 10.9076
getMar	overall	0.016398	0.127002	0	1	N = 188068
	between		0.0690464	0	1	n = 17401
	within		0.1204354	-0.483602	0.97292	T-bar = 10.8079
Separa~d	overall	0.013771	0.1165391	0	1	N = 210298
	between		0.0773868	0	1	n = 19280
	within		0.0993114	-0.902896	0.972104	T-bar = 10.9076
getSep	overall	0.005897	0.0765641	0	1	N = 188068
	between		0.0320351	0	1	n = 17401
	within		0.0728432	-0.494103	0.962419	T-bar = 10.8079
Divorced	overall	0.064841	0.2462462	0	1	N = 210298
	between		0.2103901	0	1	n = 19280
	within		0.1324858	-0.893492	1.023175	T-bar = 10.9076
getDiv	overall	0.006083	0.0777556	0	1	N = 188068
	between		0.0385265	0	1	n = 17401
	within		0.0737633	-0.493917	0.962605	T-bar = 10.8079
Widowed	overall	0.072825	0.25985	0	1	N = 210298
	between		0.2523443	0	1	n = 19280
	within		0.1123156	-0.885508	1.031159	T-bar = 10.9076
nEdyear	overall	11.58132	2.414317	7	18	N = 204692
	between		2.256172	7	18	n = 18768
	within		0.8051404	2.146542	20.15275	T-bar = 10.9064
Owner2	overall	0.49142	0.4999275	0	1	N = 218064
	between		0.4495444	0	1	n = 20410
	within		0.2503686	-0.466913	1.449753	T-bar = 10.6842
Hosp	overall	0.120138	0.3251238	0	1	N = 184829
	between		0.1877441	0	1	n = 18673
	within		0.2928582	-0.813195	1.074684	T-bar = 9.8982
Age17_19	overall	0.049334	0.2165651	0	1	N = 217213

	between		0.2562399	0	1	n = 20019
	within		0.1611139	-0.700666	1.007667	T-bar = 10.8503
Age20_22	overall	0.04944	0.2167853	0	1	N = 217213
	between		0.1659488	0	1	n = 20019
	within		0.1848919	-0.70056	1.007773	T-bar = 10.8503
Age23_25	overall	0.052902	0.2238383	0	1	N = 217213
	between		0.1601443	0	1	n = 20019
	within		0.1967599	-0.697098	1.011235	T-bar = 10.8503
Age26_28	overall	0.057492	0.2327808	0	1	N = 217213
	between		0.1460841	0	1	n = 20019
	within		0.2089711	-0.692508	1.015825	T-bar = 10.8503
Age29_31	overall	0.061884	0.2409452	0	1	N = 217213
	between		0.1478608	0	1	n = 20019
	within		0.2181042	-0.688116	1.020217	T-bar = 10.8503
Age32_34	overall	0.062754	0.2425207	0	1	N = 217213
	between		0.1330483	0	1	n = 20019
	within		0.2222003	-0.687246	1.021087	T-bar = 10.8503
Age35_37	overall	0.062722	0.2424625	0	1	N = 217213
	between		0.1259791	0	1	n = 20019
	within		0.2233945	-0.687278	1.021055	T-bar = 10.8503
Age38_40	overall	0.05996	0.2374125	0	1	N = 217213
	between		0.1167984	0	1	n = 20019
	within		0.2195829	-0.69004	1.018293	T-bar = 10.8503
Age41_43	overall	0.057027	0.2318947	0	1	N = 217213
	between		0.1184805	0	1	n = 20019
	within		0.2143614	-0.692973	1.01536	T-bar = 10.8503
Age44_46	overall	0.054173	0.2263586	0	1	N = 217213
	between		0.1163896	0	1	n = 20019
	within		0.2092889	-0.695827	1.012506	T-bar = 10.8503
Age47_49	overall	0.05159	0.2211981	0	1	N = 217213
	between		0.1148381	0	1	n = 20019
	within		0.2041702	-0.69841	1.009923	T-bar = 10.8503
Age50_52	overall	0.048169	0.2141244	0	1	N = 217213
	between		0.1037509	0	1	n = 20019
	within		0.1979362	-0.701831	1.006503	T-bar = 10.8503
Age53_55	overall	0.045821	0.209098	0	1	N = 217213
	between		0.1040305	0	1	n = 20019
	within		0.1930696	-0.704179	1.004155	T-bar = 10.8503
Age56_58	overall	0.044537	0.2062852	0	1	N = 217213
	between		0.1032742	0	1	n = 20019
	within		0.1903232	-0.705463	1.00287	T-bar = 10.8503
Age59_61	overall	0.0423	0.201272	0	1	N = 217213
	between		0.1025706	0	1	n = 20019
	within		0.1852206	-0.707701	1.000633	T-bar = 10.8503
Age62_64	overall	0.040371	0.1968271	0	1	N = 217213
	between		0.0994792	0	1	n = 20019
	within		0.1808811	-0.70963	0.998704	T-bar = 10.8503
Age65_67	overall	0.036029	0.1863631	0	1	N = 217213
	between		0.0907262	0	1	n = 20019

	within		0.1709328	-0.713971	0.994363	T-bar = 10.8503
Age68_70	overall	0.030555	0.1721098	0	1	N = 217213
	between		0.0888155	0	1	n = 20019
	within		0.1572404	-0.719445	0.988889	T-bar = 10.8503
Age71_73	overall	0.02579	0.1585097	0	1	N = 217213
	between		0.092915	0	1	n = 20019
	within		0.142603	-0.72421	0.984124	T-bar = 10.8503
Age74_76	overall	0.021398	0.1447085	0	1	N = 217213
	between		0.0906041	0	1	n = 20019
	within		0.1291776	-0.728602	0.979732	T-bar = 10.8503
Age77_79	overall	0.016896	0.1288816	0	1	N = 217213
	between		0.0897941	0	1	n = 20019
	within		0.1136051	-0.733104	0.975229	T-bar = 10.8503
yr1	overall	0.039536	0.1948657	0	1	N = 218133
	between		0.2210373	0	1	n = 20419
	within		0.1748851	-0.460465	0.997869	T-bar = 10.6828
yr2	overall	0.036702	0.1880305	0	1	N = 218133
	between		0.1182815	0	1	n = 20419
	within		0.1773693	-0.463298	0.995036	T-bar = 10.6828
yr3	overall	0.035167	0.1842012	0	1	N = 218133
	between		0.0886937	0	1	n = 20419
	within		0.1766819	-0.464833	0.9935	T-bar = 10.6828
yr4	overall	0.034497	0.1825031	0	1	N = 218133
	between		0.0807983	0	1	n = 20419
	within		0.1761037	-0.465503	0.992831	T-bar = 10.6828
yr5	overall	0.032985	0.1785963	0	1	N = 218133
	between		0.0656611	0	1	n = 20419
	within		0.1735505	-0.467016	0.991318	T-bar = 10.6828
yr6	overall	0.031802	0.1754722	0	1	N = 218133
	between		0.0548704	0	1	n = 20419
	within		0.1713229	-0.468198	0.990135	T-bar = 10.6828
yr7	overall	0.050955	0.2199067	0	1	N = 218133
	between		0.1357887	0	1	n = 20419
	within		0.2121921	-0.449045	1.009288	T-bar = 10.6828
yr8	overall	0.049566	0.2170473	0	1	N = 218133
	between		0.0870304	0	1	n = 20419
	within		0.2118136	-0.450434	1.007899	T-bar = 10.6828
yr9	overall	0.048819	0.2154896	0	1	N = 218133
	between		0.0754655	0	1	n = 20419
	within		0.2112676	-0.451181	1.007152	T-bar = 10.6828
yr10	overall	0.048003	0.2137727	0	1	N = 218133
	between		0.0676396	0	1	n = 20419
	within		0.2102019	-0.451997	1.006336	T-bar = 10.6828
yr11	overall	0.047343	0.2123713	0	1	N = 218133
	between		0.0652377	0	1	n = 20419
	within		0.2090891	-0.452657	1.005676	T-bar = 10.6828
yr12	overall	0.046683	0.2109585	0	1	N = 218133
	between		0.0629829	0	1	n = 20419
	within		0.2078511	-0.453318	1.005016	T-bar = 10.6828

yr13	overall	0.046096	0.2096929	0	1	N = 218133
	between		0.0628415	0	1	n = 20419
	within		0.2066043	-0.453904	1.004429	T-bar = 10.6828
yr14	overall	0.045724	0.2088872	0	1	N = 218133
	between		0.064161	0	1	n = 20419
	within		0.205764	-0.454276	1.004058	T-bar = 10.6828
yr15	overall	0.044455	0.2061032	0	1	N = 218133
	between		0.0599455	0	1	n = 20419
	within		0.2030591	-0.455546	1.002788	T-bar = 10.6828
yr16	overall	0.043973	0.2050359	0	1	N = 218133
	between		0.066253	0	1	n = 20419
	within		0.2017101	-0.456027	1.002307	T-bar = 10.6828
yr17	overall	0.042974	0.2027985	0	1	N = 218133
	between		0.063546	0	1	n = 20419
	within		0.1994144	-0.457026	1.001307	T-bar = 10.6828
yr18	overall	0.041974	0.2005311	0	1	N = 218133
	between		0.0627476	0	1	n = 20419
	within		0.1970592	-0.458026	1.000308	T-bar = 10.6828
yr19	overall	0.041035	0.1983707	0	1	N = 218133
	between		0.061967	0	1	n = 20419
	within		0.1947437	-0.458965	0.999368	T-bar = 10.6828
yr20	overall	0.040498	0.1971251	0	1	N = 218133
	between		0.0680899	0	1	n = 20419
	within		0.1930451	-0.459502	0.998832	T-bar = 10.6828
yr21	overall	0.040035	0.1960423	0	1	N = 218133
	between		0.0701167	0	1	n = 20419
	within		0.1914651	-0.459965	0.998369	T-bar = 10.6828
yr22	overall	0.038536	0.192487	0	1	N = 218133
	between		0.0765418	0	1	n = 20419
	within		0.1872752	-0.461464	0.99687	T-bar = 10.6828
yr23	overall	0.036932	0.1885943	0	1	N = 218133
	between		0.0904962	0	1	n = 20419
	within		0.1822855	-0.463068	0.995265	T-bar = 10.6828
fed1	overall	0.107831	0.3101674	0	1	N = 209504
	between		0.3064354	0	1	n = 19524
	within		0.0489678	-0.848691	1.062376	T-bar = 10.7306
fed2	overall	0.132938	0.3395083	0	1	N = 209504
	between		0.3320193	0	1	n = 19524
	within		0.0580972	-0.823584	1.087483	T-bar = 10.7306
fed3	overall	0.04031	0.1966846	0	1	N = 209504
	between		0.2014087	0	1	n = 19524
	within		0.0471438	-0.914236	0.996831	T-bar = 10.7306
fed4	overall	0.049054	0.2159812	0	1	N = 209504
	between		0.2238559	0	1	n = 19524
	within		0.0457428	-0.888446	1.001435	T-bar = 10.7306
fed5	overall	0.008134	0.0898186	0	1	N = 209504
	between		0.0839469	0	1	n = 19524
	within		0.0276315	-0.948388	0.964655	T-bar = 10.7306

fed6	overall	0.012071	0.1092049	0	1	N = 209504
	between		0.1155617	0	1	n = 19524
	within		0.0340987	-0.942474	0.953248	T-bar = 10.7306
fed7	overall	0.063827	0.244445	0	1	N = 209504
	between		0.2357891	0	1	n = 19524
	within		0.0480854	-0.892695	1.020349	T-bar = 10.7306
fed8	overall	0.031546	0.1747883	0	1	N = 209504
	between		0.1826328	0	1	n = 19524
	within		0.0358213	-0.909631	0.988068	T-bar = 10.7306
fed9	overall	0.086858	0.2816268	0	1	N = 209504
	between		0.2695947	0	1	n = 19524
	within		0.0586567	-0.869664	1.043379	T-bar = 10.7306
fed10	overall	0.188016	0.3907255	0	1	N = 209504
	between		0.3773019	0	1	n = 19524
	within		0.0585048	-0.768506	1.144537	T-bar = 10.7306
fed11	overall	0.0543	0.2266086	0	1	N = 209504
	between		0.2134463	0	1	n = 19524
	within		0.0573242	-0.900246	1.010821	T-bar = 10.7306
fed12	overall	0.002831	0.0531272	0	1	N = 209504
	between		0.0404844	0	1	n = 19524
	within		0.0397897	-0.886058	0.940331	T-bar = 10.7306
fed13	overall	0.086762	0.2814867	0	1	N = 209504
	between		0.2860757	0	1	n = 19524
	within		0.0466073	-0.850738	1.031207	T-bar = 10.7306
fed14	overall	0.053837	0.2256957	0	1	N = 209504
	between		0.2303704	0	1	n = 19524
	within		0.0382855	-0.874735	0.998281	T-bar = 10.7306
fed15	Overall	0.02767	0.1640262	0	1	N = 209504
	Between		0.1610888	0	1	n = 19524
	Within		0.0467154	-0.916774	0.984192	T-bar = 10.7306

Tab A2. Life Satisfaction Ordered Probit Regression for different equivalent income and number of children, all samples.

	Base	Per Capita	Official GES	Modified OECD	Squared	Schwarze
Equivalent Income	0.245***	0.237***	0.238***	0.247***	0.245***	0.243***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
childHH	-0.024***	0.050***	0.031***	0.018**	0.014*	0.028***
	(0.008)	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)
nonchildHH	-0.099***	-0.007	-0.006	-0.033***	-0.053***	-0.036***
	(0.008)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Age17_19	0.159***	0.198***	0.213***	0.175***	0.178***	0.186***
	(0.053)	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)
Age20_22	0.081	0.116**	0.107**	0.095*	0.099**	0.106**
	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)
Age23_25	0.051	0.082*	0.070	0.061	0.067	0.073
	(0.048)	(0.048)	(0.048)	(0.048)	(0.048)	(0.048)
Age26_28	-0.009	0.020	0.006	-0.001	0.006	0.011
	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)
Age29_31	-0.049	-0.020	-0.035	-0.042	-0.034	-0.029
	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)
Age32_34	-0.122***	-0.092**	-0.107**	-0.115**	-0.107**	-0.102**
	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)
Age35_37	-0.171***	-0.142***	-0.151***	-0.163***	-0.156***	-0.151***
	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)
Age38_40	-0.224***	-0.199***	-0.200***	-0.215***	-0.212***	-0.207***
	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)	(0.047)
Age41_43	-0.280***	-0.258***	-0.254***	-0.269***	-0.269***	-0.265***
	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)
Age44_46	-0.305***	-0.287***	-0.282***	-0.295***	-0.296***	-0.293***
	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)
Age47_49	-0.312***	-0.297***	-0.294***	-0.304***	-0.305***	-0.302***
	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)
Age50_52	-0.306***	-0.292***	-0.292***	-0.299***	-0.299***	-0.297***
	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)
Age53_55	-0.311***	-0.298***	-0.299***	-0.305***	-0.305***	-0.302***
	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)
Age56_58	-0.215***	-0.203***	-0.205***	-0.210***	-0.209***	-0.207***
	(0.044)	(0.044)	(0.044)	(0.044)	(0.044)	(0.044)
Age59_61	-0.102**	-0.091**	-0.092**	-0.097**	-0.096**	-0.094**
	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
Age62_64	0.005	0.013	0.012	0.008	0.009	0.011
	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)

Age65_67	0.086**	0.093**	0.092**	0.089**	0.090**	0.091**
	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Age68_70	0.084**	0.089**	0.089**	0.086**	0.086**	0.087**
	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Age71_73	0.100**	0.104***	0.104***	0.102***	0.102***	0.103***

Tab A2. Life Satisfaction Ordered Probit Regression for different equivalent income and number of children, all samples (follows).

	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Age74_76	0.089**	0.093**	0.093**	0.091**	0.091**	0.092**
	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)
Age77_79	0.040	0.041	0.041	0.040	0.040	0.041
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)
Unemp	-0.355***	-0.357***	-0.357***	-0.355***	-0.355***	-0.356***
	(0.018)	(0.019)	(0.018)	(0.018)	(0.018)	(0.018)
lossjob	0.027	0.029	0.028	0.027	0.028	0.028
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Emp	0.036***	0.037***	0.038***	0.036***	0.035***	0.036***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Retired	-0.167***	-0.164***	-0.164***	-0.165***	-0.165***	-0.165***
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Married	0.104***	0.142***	0.132***	0.118***	0.123***	0.130***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
getMar	0.197***	0.190***	0.192***	0.195***	0.193***	0.192***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Separated	-0.138***	-0.129***	-0.132***	-0.137***	-0.133***	-0.131***
	(0.045)	(0.046)	(0.046)	(0.045)	(0.045)	(0.045)
getSep	-0.184***	-0.186***	-0.187***	-0.185***	-0.185***	-0.185***
	(0.049)	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)
Divorced	-0.073**	-0.067**	-0.071**	-0.073**	-0.070**	-0.068**
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
getDiv	-0.032	-0.026	-0.027	-0.030	-0.029	-0.028
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Widowed	0.055	0.047	0.046	0.049	0.051	0.050
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)
nEdyear	0.014***	0.014***	0.014***	0.014***	0.014***	0.014***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Owner2	0.134***	0.137***	0.136***	0.135***	0.135***	0.136***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Hosp	-0.250***	-0.250***	-0.251***	-0.250***	-0.250***	-0.250***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Time Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Regional Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	160046	160046	160046	160046	160046	160046

Notes:Robust Standard Errors clustered by individual. Cut off points available upon request.

Tab.A3. Life Satisfaction Ordered Probit Regression for different equivalent income and number of children: splits West and East samples.

	Base	Per Capita	Official GES	Modified OECD	Squared	Schw	Base	Per Capita	Official GES	Modified OECD	Squared	Schw
	West	**West**	**West**	**West**	**West**	**West**	**East**	**East**	**East**	**East**	**East**	**East**
Equivalent Income	0.215***	0.208***	0.208***	0.216***	0.215***	0.212***	0.355***	0.359***	0.359***	0.372***	0.365***	0.365***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.027)	(0.028)	(0.027)	(0.028)	(0.028)	(0.028)
childHH	-0.035***	0.028***	0.012	0.001	-0.003	0.013	-0.004	0.112***	0.083***	0.062***	0.055***	0.068***
	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)	(0.017)	(0.018)	(0.017)	(0.017)	(0.017)	(0.017)
nonchildHH	-0.092***	-0.012	-0.011	-0.035***	-0.052***	-0.032***	-0.128***	0.008	0.009	-0.034**	-0.062***	-0.046***
	(0.009)	(0.008)	(0.008)	(0.008)	(0.009)	(0.008)	(0.016)	(0.013)	(0.013)	(0.013)	(0.014)	(0.013)
Age17_19	0.190***	0.228***	0.241***	0.206***	0.209***	0.219***	0.190	0.232**	0.260**	0.209*	0.212*	0.217*
	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)	(0.116)	(0.116)	(0.116)	(0.116)	(0.116)	(0.116)
Age20_22	0.098*	0.132**	0.123**	0.111**	0.115**	0.124**	0.121	0.160	0.151	0.139	0.142	0.147
	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)	(0.111)	(0.111)	(0.111)	(0.111)	(0.111)	(0.111)
Age23_25	0.063	0.093*	0.081	0.073	0.078	0.085	0.086	0.123	0.108	0.100	0.106	0.111
	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)	(0.109)
Age26_28	-0.010	0.017	0.005	-0.002	0.004	0.011	0.043	0.081	0.061	0.054	0.064	0.068
	(0.053)	(0.053)	(0.053)	(0.053)	(0.053)	(0.053)	(0.107)	(0.107)	(0.107)	(0.107)	(0.107)	(0.107)
Age29_31	-0.038	-0.011	-0.024	-0.031	-0.024	-0.017	-0.035	0.005	-0.017	-0.026	-0.014	-0.009
	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)
Age32_34	-0.096*	-0.068	-0.081	-0.089*	-0.082	-0.075	-0.156	-0.118	-0.137	-0.150	-0.137	-0.132
	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)
Age35_37	-0.133**	-0.106**	-0.115**	-0.126**	-0.120**	-0.113**	-0.239**	-0.205*	-0.210**	-0.228**	-0.222**	-0.218**
	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)
Age38_40	-0.174***	-0.149***	-0.152***	-0.165***	-0.162***	-0.155***	-0.332***	-0.303***	-0.294***	-0.316***	-0.316***	-0.313***
	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.105)	(0.105)	(0.105)	(0.105)	(0.105)	(0.105)
Age41_43	-0.230***	-0.207***	-0.206***	-0.220***	-0.219***	-0.213***	-0.384***	-0.362***	-0.348***	-0.366***	-0.372***	-0.369***
	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.104)	(0.104)	(0.104)	(0.104)	(0.104)	(0.104)
Age44_46	-0.256***	-0.238***	-0.234***	-0.246***	-0.247***	-0.243***	-0.409***	-0.390***	-0.381***	-0.394***	-0.399***	-0.396***
	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.103)	(0.103)	(0.103)	(0.103)	(0.103)	(0.103)
Age47_49	-0.247***	-0.232***	-0.229***	-0.239***	-0.240***	-0.236***	-0.474***	-0.457***	-0.453***	-0.462***	-0.465***	-0.462***
	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.052)	(0.104)	(0.103)	(0.103)	(0.104)	(0.104)	(0.104)
Age50_52	-0.246***	-0.232***	-0.232***	-0.239***	-0.239***	-0.236***	-0.457***	-0.441***	-0.442***	-0.448***	-0.448***	-0.446***
	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)	(0.103)	(0.103)	(0.103)	(0.103)	(0.103)	(0.103)
Age53_55	-0.268***	-0.256***	-0.256***	-0.262***	-0.262***	-0.259***	-0.416***	-0.401***	-0.403***	-0.408***	-0.408***	-0.406***
	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)	(0.051)	(0.102)	(0.102)	(0.102)	(0.102)	(0.102)	(0.102)
Age56_58	-0.156***	-0.144***	-0.145***	-0.151***	-0.150***	-0.147***	-0.374***	-0.358***	-0.361***	-0.366***	-0.366***	-0.364***
	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)	(0.100)	(0.100)	(0.100)	(0.100)	(0.100)	(0.100)

Age59_61	-0.057	-0.047	-0.048	-0.053	-0.052	-0.049	-0.223**	-0.209**	-0.211**	-0.216**	-0.216**	-0.214**
	(0.048)	(0.048)	(0.048)	(0.048)	(0.048)	(0.048)	(0.098)	(0.098)	(0.098)	(0.098)	(0.098)	(0.098)
Age62_64	0.017	0.025	0.024	0.020	0.021	0.023	-0.038	-0.025	-0.027	-0.031	-0.031	-0.029
	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)
Age65_67	0.090**	0.096**	0.095**	0.092**	0.092**	0.094**	0.059	0.069	0.068	0.064	0.065	0.066

Tab.A3. Life Satisfaction Ordered Probit Regression for different equivalent income and number of children: splits West and East samples (follows)

	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)	(0.095)
Age68_70	0.091**	0.096**	0.096**	0.093**	0.093**	0.095**	0.039	0.049	0.048	0.044	0.044	0.045
	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)	(0.096)
Age71_73	0.096**	0.100**	0.100**	0.098**	0.098**	0.099**	0.090	0.098	0.097	0.094	0.094	0.095
	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)
Age74_76	0.096**	0.099**	0.099**	0.098**	0.098**	0.098**	0.042	0.048	0.048	0.045	0.046	0.046
	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)	(0.097)
Age77_79	0.038	0.039	0.040	0.039	0.039	0.039	0.041	0.043	0.043	0.042	0.042	0.042
	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.091)	(0.091)	(0.091)	(0.091)	(0.091)	(0.091)
Unemp	-0.376***	-0.378***	-0.378***	-0.376***	-0.376***	-0.377***	-0.306***	-0.304***	-0.304***	-0.303***	-0.304***	-0.303***
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
lossjob	0.050*	0.053*	0.053*	0.052*	0.052*	0.053*	-0.025	-0.024	-0.026	-0.026	-0.025	-0.025
	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
Emp	0.022	0.023	0.024	0.022	0.022	0.022	0.130***	0.131***	0.131***	0.128***	0.129***	0.129***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Retired	-0.160***	-0.157***	-0.157***	-0.158***	-0.158***	-0.158***	-0.078*	-0.076*	-0.076*	-0.076*	-0.076*	-0.076*
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
Married	0.144***	0.181***	0.171***	0.158***	0.163***	0.172***	0.019	0.060	0.049	0.032	0.038	0.043
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)
getMar	0.185***	0.178***	0.181***	0.183***	0.181***	0.180***	0.214***	0.209***	0.207***	0.213***	0.212***	0.211***
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.044)	(0.044)	(0.044)	(0.044)	(0.044)	(0.044)
Separated	-0.144***	-0.134**	-0.139**	-0.143***	-0.139**	-0.137**	-0.106	-0.100	-0.102	-0.108	-0.103	-0.102
	(0.054)	(0.055)	(0.054)	(0.054)	(0.054)	(0.054)	(0.081)	(0.083)	(0.082)	(0.081)	(0.082)	(0.082)
getSep	-0.165***	-0.167***	-0.167***	-0.166***	-0.165***	-0.166***	-0.218**	-0.221**	-0.223**	-0.220**	-0.219**	-0.219**
	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)	(0.095)	(0.096)	(0.096)	(0.095)	(0.095)	(0.095)
Divorced	-0.086**	-0.080**	-0.084**	-0.086**	-0.083**	-0.081**	-0.024	-0.020	-0.023	-0.026	-0.022	-0.021
	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.055)	(0.055)	(0.055)	(0.055)	(0.055)	(0.055)
getDiv	-0.033	-0.026	-0.027	-0.030	-0.029	-0.028	-0.014	-0.007	-0.009	-0.012	-0.011	-0.010
	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.070)	(0.070)	(0.070)	(0.070)	(0.070)	(0.070)
Widowed	0.057	0.052	0.050	0.053	0.055	0.054	0.081	0.057	0.059	0.065	0.068	0.065
	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)
nEdyear	0.015***	0.015***	0.015***	0.015***	0.015***	0.015***	0.017***	0.017***	0.017***	0.016***	0.017***	0.017***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Owner2	0.132***	0.135***	0.134***	0.133***	0.133***	0.134***	0.116***	0.117***	0.116***	0.116***	0.115***	0.116***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Hosp	-0.243***	-0.243***	-0.244***	-0.243***	-0.243***	-0.243***	-0.268***	-0.267***	-0.269***	-0.268***	-0.268***	-0.267***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Time Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Regional Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	116720	116720	116720	116720	116720	116720	43326	43326	43326	43326	43326	43326

Notes:Robust Standard Errors clustered by individual. Cut off points available upon request.