Bayesian estimation of parental earnings and intergenerational income persistence

Stefan Humer†  Matthias Schnetzer†

In this article we investigate intergenerational income mobility in several European countries with EU-SILC data for 2005 and 2011. We argue that the information on the financial situation of progenitors in the data has several deficiencies which is why we pursue another approach via the Bayesian estimation of fathers’ earnings. The multiple imputation strategy is based on sociodemographic characteristics of the fathers and allows the calculation of intergenerational earnings elasticities. We show that persistence is particularly manifest at the tails of the income distribution.

KEYWORDS: Intergenerational mobility, income inequality, education
JEL Classifications: E24, I38, J63, D31

1 Introduction

The relationship between income inequality and intergenerational mobility has recently gained particular interest after economists unveiled the interconnection and called it Great Gatsby curve (Corak, 2013, p. 80). Accordingly, empirical research shows a positive correlation between income inequality and the intergenerational transmission of income advantages. However, the assessment of income mobility between generations is not trivial, neither by an empirical nor by a theoretical approach. If one single measure is to summarize the degree of intergenerational mobility, most of the studies discussed in our paper refer to the intergenerational income elasticity which is the coefficient of a linear regression between the earnings of parents and their descendants. Hence, the focus mostly lies on the respective β-coefficient of the regression, however the underlying structural determinants are often unclear.

In this respect, we regard the approach of Franzini and Raitano (2009, p. 355) as useful. The authors describe four distinguishable though interconnected channels for the correlation of income between children and their parents. a) well-off students can have access to better educational institutions which will in turn increase their future earnings; b) the positive effects of family background on certain individual features that significantly influence income prospects, e.g. health status, individual behavior (habitus), disposition, relational and cultural capital (cf. Bourdieu, 1987) c) less well-off individuals have higher opportunity costs in searching for the most appropriate job with the best long-term prospects, and consequently tend to take the first job they find; d) the role

†Department of Economics, Vienna University of Economics and Business; shumer@wu.ac.at
‡Department of Economics, Chamber of Labour Vienna; matthias.schnetzer@akwien.at
of income–dependent social networks that facilitate job search for well–off individuals whereas individuals incurring financial problems may have less access to social networks and informal relationships.

The literature considers the Nordic countries as role models with regard to the first aspect at least. Esping-Andersen and Wagner (2012) talks of Swedish exceptionalism when describing the elimination of financial constraints via welfare state redistribution and the avoidance of early tracking in the education system. Hence, Scandinavian countries provide universal early childhood care and high–quality pre–school programs that are found to be particularly effective in equalizing children’s learning abilities (Heckman, 2008). This is also a major finding of an extensive literature review by Black and Devereux (2011) who state that Nordic evidence suggests heavy influence of education policies on intergenerational persistence.

One considerable limitation for the analysis of intergenerational transmissions is data availability that complicated cross–country studies and prevented research in some countries. For the first time, the EU–SILC 2005 questionnaire provided information on two consecutive generations on a European scale and made some investigation possible (Esping-Andersen and Wagner, 2012; Causa, Dantan, and Johansson, 2009; Franzini and Raitano, 2009). Since there are no parental earnings available in EU–SILC, we pursue a new approach via Bayesian estimations of fathers’ wages in order to calculate intergenerational earnings elasticities for a number of European countries. However, our focus lies on Austria since intergenerational transmissions of socioeconomic conditions are hardly explored (exceptions are, for instance, Fessler, Mooslechner, and Schürz, 2012; Fessler and Schneebaum, 2012; Schnetzer and Altzinger, 2013).

In section 2, we start with a brief introduction into the literature on intergenerational mobility. In this part, we present the common theoretical and methodological frameworks including a critical assessment and present a review of the leading studies providing empirical evidence. Further, the data and methods we apply in this paper are discussed in section 3. Finally, section 4 provides the empirical findings for Austria and embeds the results into a European context before section 5 concludes.

2 Evidence in the literature

The commonly cited theoretical framework for the assessment of intergenerational mobility was developed by Becker and Tomes (1979) and extended by Becker and Tomes (1986). In their 1979 paper, the authors set up a utility maximizing problem for the optimal parental investments into the human capital of children. The model accounts for the relationship between nature and nurture, inasmuch as children are assigned talent by nature while parents contribute private investments to enhance the descendants’ abilities. Moreover, stochastic terms incorporate luck in the endowment “lottery” and in the labor market. In their 1986 article, the authors extend their framework by assuming that parents’ utility depends on the dynastic utility rather than solely on the lifetime income of
their offspring.

However, the model also provoked sharp critique. For instance, Daly (1982) emphasizes two interesting issues concerning the assumption of dynastic utility maximizing with regard to future generations. First,

“[o]ne’s great–great grandchildren will also be the great–great grandchildren of fifteen other people in one’s own generation, people whose identities cannot be determined before the fact. They could be almost any fifteen people. [...] Assuming that the inheritable influence (genetic and cultural, as well as monetary) exerted by the fifteen other great–great grandparents on the common descendant is as great as one’s own, then it would make little sense to assume any individual responsibility for the condition of that future person.” (Daly, 1982, p. 308)

Consequently, the justification for the focus on dynastic utility or clan responsibility dissolves. Furthermore, and certainly more crucial, the provision for the far–distant future becomes a public good, since the recognition of potential co–grandparenthood (i.e. all individuals in the present generation\(^1\)) exposes the absurdity of individual actions to fulfill the obligations for future generations.

“My great–great grandchild may also be your great–great grandchild. Therefore, to the extent that I care for my great–great grandchild, I should also care for you and for every other potential progenitor from whom my descendant will inherit, for good or for ill, as much as he or she will inherit from me.” (Daly, 1982, p. 309)

Hence, according to Daly (1982), most people do not take any individual responsibility or actions on behalf of their descendants beyond their children or grandchildren. Solon (2004) modifies the Becker–Tomes model for two generations \(c\) and \(p\) of family \(i\) and derives the (permanent or lifecycle) offspring income \(y_{ic}\) by

\[
\log y_{ic} = \mu + \psi h_{ic}, \tag{1}
\]

where \(\psi\) is the earnings return to the child’s human capital \(h_{ic}\) denoting

\[
h_{ic} = \theta \log(I_{ip} + G_{ip}) + e_{ic}. \tag{2}
\]

The semi–logarithmic equation implies positive (\(\theta > 0\)) but decreasing marginal returns for parental private investments \(I_{ip}\) and public investments \(G_{ip}\). The term \(e_{ic}\) captures

\(^1\)Daly allows for the exclusion of potential co–progenitors, since he is aware of the phenomenon of assortative mating. There are social classes and people promote marriages within the class. Nevertheless, the basic decision–making unit in the Becker–Tomes model is the individual or the single family but should be social classes according to Daly.
all factors contributing to the descendant’s human capital regardless the investments by family and government. Hence,

$$e_{ic} = \delta + \lambda e_{ip} + v_{ic}$$  \hspace{1cm} (3)

shows the relationship between the (human capital) endowments of two generations regarding genetic constitutions and abilities, social and cultural assets and skills, dynastic connections and the family habitus, etc. The connection between parental and offspring income is given by the budget constraint for the investments which is given by

$$(1 - \tau)y_{ip} = C_{ip} + I_{ip}.$$ \hspace{1cm} (4)

Accordingly, parents spend their after–tax income ($\tau$ being the tax rate) on their own consumption $C_{ip}$ and on investments $I_{ip}$ in their descendants. From a socioeconomic point of view, the disaggregated effects of $e_{ip}$ on $e_{ic}$ are of great interest, however, due to limited possibilities of measurement most scholars concentrate on the elasticity between the earnings of parents $p$ and child $c$ of family $i$, which denotes

$$\log y_{ic} = \alpha + \beta y_{ip} + \varepsilon_{ic}.$$ \hspace{1cm} (5)

Alternatively to the elasticity, another widely used measure is the intergenerational earnings correlation $\rho$. The correlation between the logarithmic earnings of progenitors and descendants equals the elasticity provided that the standard deviation of log earnings is the same for both generations (Black and Devereux, 2011). Given the standard deviation of log earnings $\sigma$, the correlation denotes

$$\rho = \beta \frac{\sigma_p}{\sigma_c}.$$ \hspace{1cm} (6)

Since we are not in possession of permanent income data $y_{ic}$ and $y_{ip}$, we have to consider a bias of OLS estimates due to transitory fluctuations resulting from the arbitrary time of observation (Solon, 1992; Dearden, Machin, and Reed, 1997). Hence, the lifecycle incomes for parents and the child equal the actual observation plus random transitory fluctuations $\omega$.

$$y_{ic} = y^*_ic + \omega_{ic}$$
$$y_{ip} = y^*_ip + \omega_{ip}$$ \hspace{1cm} (7)

Based on equation (5) the probability limit of the OLS estimator $\hat{\beta}$ is subject to errors-in-variables biases (Solon, 1992; Zimmerman, 1992) and yields
\[ plim \hat{\beta} = \frac{\text{cov}(y_{ip}, y_{ic})}{\text{var}(y_{ip})} = \frac{\beta [\text{var}(y_{ip}^* + \text{cov}(y_{ip}^*, \omega_{ip})] + \text{cov}(y_{ic}^*, \omega_{ic})/\beta + \text{cov}(\omega_{ic}, \omega_{ip})}{\text{var}(y_{ip}^*) + 2 \cdot \text{cov}(y_{ip}^*, \omega_{ip}) + \text{var}(\omega_{ip})} \] (8)

and under the assumption that the transitory components and the permanent income are uncorrelated \((\text{cov}(y_{ip}^*, \omega_{ip}) = \text{cov}(y_{ic}^*, \omega_{ic}) = \text{cov}(\omega_{ip}, \omega_{ic}) = 0)\), the common attenuation bias denotes

\[ plim \hat{\beta} = \beta \frac{\text{var}(y_{ip}^*)}{\text{var}(y_{ip}^*) + \text{var}(\omega_{ip})} < \beta. \] (9)

To reduce transitory fluctuations between current and permanent income and consequently the attenuation bias, Haider and Solon (2006) suggest to measure earnings between the early thirties and mid-forties. While the fluctuation bias acts as a lower bound, the upper bound for the true intergenerational correlation is given by an upward bias if instrumental variables are used (Solon, 1992; Dearden, Machin, and Reed, 1997; Björklund and Jäntti, 1997) and hence \(plim \hat{\beta} < \beta < plim \hat{\beta}_{IV}\).

There is a broad discussion in the literature about the optimal (or equilibrium) value of the \(\beta\)-coefficient (Ichino, Karabarbounis, and Moretti, 2011; Black and Devereux, 2011). By definition, a coefficient of 0 yields no intergenerational correlation and perfect mobility, however this is not necessarily the optimal result since it does not mean equality of opportunity. In this respect, Corak (2013, p. 83) elaborates the difference between “circumstances — for which individuals should in some sense be compensated — and personal choices, for which they should be responsible.” While equality of opportunities, meaning children from poorer families should have equal opportunities to start their lives as their well-off peers, seems to be a desirable goal for society, differences in personal effort and heritable abilities would inevitably result in a positive elasticity coefficient. However, the debate about the proportion of intergenerational persistence that is attributable to genetic characteristics is controversial and famously called nature or nurture. Björklund, Lindahl, and Plug (2006) shed light on this discussion and analyze data on Swedish–born adoptees and their biological and adoptive parents. The authors single out the importance of both pre- and postbirth factors, meaning that zero correlation between parents and their descendants is empirically implausible.

Only recently, another shortcoming of the Becker–Tomes model in assuming public policies to be exogenous was tackled by endogenizing policies (Benabou and Ok, 2001; Ichino, Karabarbounis, and Moretti, 2011). While Benabou and Ok analyze the impact of the relative income position on opinions towards redistributive policies, Ichino, Karabarbounis, and Moretti focus on the reverse channel of endogenously chosen pubic policies on intergenerational mobility. According to the latter paper, the political situation in the United Kingdom at the end of the 1970s serves as empirical evidence for the endogenous policy model. The authors claim that the electoral victory of conservative Margaret
Thatcher was caused by a slide of the electorate to the right in advance. Consequently, public expenditures for education were cut which led to a reduction of social mobility.

This is closely related to the impact of institutions on intergenerational mobility. Nolan, Esping-Andersen, Whelan, and Maitre (2010) focus on the duality of education systems and welfare state institutions in particular. However, according to the authors the education systems matter less than was assumed in the literature, since recent research singled out the importance of early child care in the pre-school years to fortify cognitive skills and improve the long-term outcomes. This does not mean that the role of educational systems is discarded but the institutional access to health, cognitive, and non-cognitive stimulation seems to be decisive.

Since the mentioned channels do not affect all families along the income distribution equally, recently some emphasis was put on non-linear patterns in intergenerational relationships (Grawe, 2004; Bratsberg et al., 2007). Most of these studies reveal strong correlations especially at the very top and bottom of the income ladder and led to further research on either tail of the distribution (Esping-Andersen and Wagner, 2012; Schnetzer and Altzinger, 2013). While Nordic countries often serve as role models for high intergenerational mobility, the non-linear development is also reflected in Sweden with considerable intergenerational persistence for top incomes (Björklund, Roine, and Waldenström, 2012). The authors state that income transmission at the extreme top (top 0.1%) is remarkable with an intergenerational elasticity of approximately 0.9.

The literature on empirical estimates of intergenerational mobility has grown considerably in the last years. Most of these studies concentrate on advanced countries as the extensive literature review by Blanden (2013) reveals. Especially European countries as well as the United States and Canada are covered, however there is growing interest in the degree of intergenerational mobility in emerging markets like China (Qubeng, Gustafsson, and Shi, 2013). Two other recommendable literature surveys on the most important recent contributions are provided by Corak (2013) and D’Addio (2007). A brief summary of the status quo in the literature could read: Cognitive skills and family finances matter most for intergenerational mobility, but there are other important determinants like non-cognitive abilities, social skills, cultural resources, motivation and, more generally, the familial “learning milieu” (Nolan, Esping-Andersen, Whelan, and Maitre, 2010). On most of these factors, the financial family background may have a decisive influence on the outcomes of children.

### 3 Data and methods

As already discussed in the section 1, there are a number of studies that used the special survey module on the “Intergenerational transmission of poverty” in the 2005 wave of the *European Union Statistics on Income and Living Conditions (EU-SILC)*. This additional part of the questionnaire collected information on the composition of the parental household, mother’s and father’s age, education & occupation and an indicator for the financial
situation of the household when the respondent was a young teenager. Besides Causa, Dantan, and Johansson (2009) who model the intergenerational transmission of income advantages via the education of the fathers, other authors analyze the relationship between the earnings of the offsprings and the financial hardship indicator (Esping-Andersen and Wagner, 2012; Franzini and Raitano, 2009; Schnetzer and Altzinger, 2013).

However, the latter approach entails several problems with the explanatory variable. First of all, there was no harmonization of the question among several European countries. While the majority of countries asked for “financial problems”, some questionnaires requested the “financial situation”. Moreover, not only the five response categories varied with respect to the question, but there were also differences in the reference period (“as a young teenager”, “between the age of 12 and 16”, etc.). This leads to the two major problems of the variable: respondents have to provide information concerning the financial situation of their parents retrospectively and are subject to reference-dependent influences. Consequently, parental income estimations that date back a long time are supposed to be less valid (Statistics Austria, 2007).

On top of these issues, there seems to be cultural and sociological phenomena, that complicate cross-country comparisons substantially. Figure 1 shows the proportion of individuals in each financial hardship category, ranging from “1: Most of the time/very bad” to “5: Never/Very good”. From Panel 1(a) it is evident, that the response behavior in the year 2005 differed significantly within Northern Europe from the other countries in our sample. In Belgium, Denmark and Island more than 50% of the respondents state that their household had never financial problems when they were young. At the other extreme, only 5% percent of the Austrians answered this questions likewise. Looking at the economic history of these countries over the last decades, such vast differences in the financial circumstances of the private household appear questionable. One explanation could be, that people of the Northern Europe share a more cheerful remembrance on their childhood. But as Panel 1(b) reveals, this pattern vanishes completely in the following data collection on intergenerational mobility issues. In 2011 there was no single country with more than 20% of the population in the upmost category. It looks like at least one of the two waves shows a hardly biased marginal distribution of households financial situation. There could be problems with the sample design of the survey, maybe the respondents suffer from a severe recall bias or they do not want to disentangle the true information. However, further analysis of the transmission of income advantages based on the EU-SILC financial hardship variable seems to be unconvincing.

All in all, the high degree of subjectiveness in the judgement on the financial situation of parental household years ago, the puzzling patterns across countries and the structural break in the response behavior between the 2005 and 2011 wave, are the reasons why our estimation strategy diverges from the former studies. We propose to make use of the other socioeconomic variables within the special survey modules in order to impute fathers’ earnings in a first step, and derive the intergenerational earnings elasticities

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2While most studies investigate father-son relationships, there are few papers concerning daughters (for instance Chadwick and Solon, 2002).
financial and occupational attributes at the age of 40 (cf. Andrews and Leigh, 2009). During the lifecycle, we impute the incomes for fathers based on their age and its square are included in order to capture the non-linear effects of experience. These predictions are used as a proxy for fathers’ incomes in a regression on sons’ actual log hourly wages.

\[ \ln y_i = \alpha_0 + \alpha_1 \cdot edu_i + \alpha_2 \cdot occ_i + \alpha_3 \cdot age_i + \alpha_4 \cdot age_i^2 + \varepsilon \]  
\hspace{1cm} (10)

This is done by regressing the logarithm of hourly wages on dummies representing different levels of educational attainment (ISCED classification) and occupational groups (ISCO–88 classification) within a subsample of males aged between 25 and 54. In addition, age and its square are included in order to capture the non-linear effects of experience during the lifecycle. In a next step, we impute the incomes for fathers based on their educational and occupational attributes at the age of 40 (cf. Andrews and Leigh, 2009, p. 1490).

\[ \ln \hat{y}_{fi} = \alpha_0 + \alpha_1 \cdot edu_{fi} + \alpha_2 \cdot occ_{fi} + \alpha_3 \cdot 40 + \alpha_4 \cdot 40^2 \]  
\hspace{1cm} (11)

Finally, we estimate the intergenerational earnings elasticity coefficient (IGE) by using these predictions as a proxy for fathers’ incomes in a regression on sons’ actual log hourly wages.

\[ \ln y = \beta_0 + \beta_1 \cdot \ln \hat{y}_f + \beta_2 \cdot age + \beta_3 \cdot age^2 + \varepsilon \]  
\hspace{1cm} (12)
As discussed by Nicoletti and Ermisch (2007), the quality of the estimate of $\beta_1$ depends on the power to explain fathers’ earnings in the first step. Therefore, the better the fit in the first regression, the smaller the bias in the estimation of the intergenerational earnings elasticity will be.

It is evident, that the imputation of fathers’ earnings add a certain level of uncertainty to the estimation of the magnitude of socioeconomic mobility. We want to improve on the existing literature by taking this uncertainty into account explicitly. Based on Rubin (2009) we calibrate our models with Bayesian methods and predict fathers’ wages $\ln y_f$ by drawing several times from the posterior distribution of the $\alpha$–parameters. Consequently, for each of these multiple imputations an estimate of the earnings elasticity coefficient is calculated. This design allows us to reflect the inherent uncertainty of imputed fathers’ incomes by building inference on the distribution of earnings elasticity coefficients obtained through multiple imputations.

Another approach for the assessment of intergenerational persistence is the Markovian process. Seminal papers by Prais (1955) and Shorrocks (1978) introduced mobility measures based on transition matrices. These matrices give the probability of a person’s transition from one social status to another. Accordingly, transition matrix $P$ contains the probabilities $p_{ij}$ for changing from state $i$ to $j$. In terms of intergenerational earnings mobility it captures the probability a descendant faces to attain a certain income level given the level of parental earnings. Similarly to the attenuation bias in the regression, this effect may also dilute the explanatory content of transition matrices. O’Neill, Sweetman, and Van de Gaer (2007) concentrate on the effects of measurement errors and state that these errors could lead to a bias in their mobility measure (average of the diagonal elements of the transition matrix) by as much as 20 percent in some cases, most severely at the tails of the distribution.

Fertig (2003) and Schnitzlein (2008) propose a multinomial probit model to obtain conditional probabilities and control for age in the transition matrix. Let $d_{ki}$ be a dummy variable for a child $i$ belonging to income quintile $k$, then the conditional transition probability given the parental income quintile $j$ denotes

$$p_{jki} = \Pr(d_{ki} = 1 | d_{ji} = 1; \text{age}_i) \quad \forall j,k \in [1, 5]. \quad (13)$$

The fundament for the comparability of different transition matrices is the derivation of indices that are able to capture the movements within the matrices in a single number. Geweke, Marshall, and Zarkin (1986) provides several propositions that mobility indices have to satisfy in order to obtain robust results. Generally, it is convenient to emphasize that a mobility measure $M$ satisfies $M(I) \leq M(P) \leq M(\bar{P})$ where $I \in P$ is the identity matrix, $P \in P$ is any transition matrix and $\bar{P} \in P$ is a row–identical matrix (Fessler, Mooslechner, and Schürz, 2012). In an identity matrix the diagonal consists only of 1, indicating that the descendants obtain the position of their progenitors which would be perfect persistence.

The index of mobility may be defined as a continuous real function $M(\cdot)$ over the set of
transition matrices $\Phi$. Thus, the normalization process yields

$$0 \leq M(P) \leq 1 \quad \forall P \in \Phi.$$  

(14)

The probability of movements between classes are naturally given by the off-diagonal elements of the matrix. If $p_{ij} \geq p'_{ij} \forall i \neq j$ and $p_{ij} > p'_{ij}$ for at least one $i \neq j$, then $M(P) > M(P')$. Since the identity matrix implies no transitions of statuses at all, this matrix is associated with the minimum value of the index $M(I) = 0$. According to Shorrocks (1978), a convenient and consistent index to measure mobility in transition matrices denotes

$$\frac{1 - p_{ii}}{1 - \frac{n}{n-1}} \cdot \frac{n}{n-1} = \frac{(1 - p_{ii})n}{n-1} = \frac{\sum_{i}(1 - p_{ii})}{n-1} = \frac{n - \text{trace}(P)}{n-1} = \hat{M}(P),$$

(15)

where $n$ is the number of states in the matrix. It is obvious that the index in equation (15) can take all values between one and zero, thus $\hat{M}(P) \in [0, 1]$. For the sake of robustness in our results, we additionally employ another mobility index called absolute average jump (AAJ). The AAJ measures the average distance an individual moves within the matrix and consequently equals

$$\text{AAJ} = \frac{\sum_{i=1}^{n} |\text{rank}_{i,c} - \text{rank}_{i,p}|}{n},$$

(16)

where $c$ and $p$ stand for child and parent respectively.

4 Main findings (to be written)

Tables 1 and 2 show the transition matrices for the Austrian 2005 and 2011 data. Each cell represents the probability of a son’s earnings quintile conditional to the position of his father. A state of perfect mobility would result in a $5 \times 5$ transition matrix with $p_{ij} = 0.2 \ \forall i, j$. In Table 1, especially the tails of the joint distribution are remarkable. The probability of a son ending up in the lowest income quintile conditional to the father also being at the bottom of the distribution is roughly 29%. On the other hand, one third of all sons of fathers at the top remain in the top quintile. The other diagonal elements exhibit rather low values implying low intergenerational persistence in the middle of the distribution.

Compared to the 2005 data, there are only slight changes in the transition matrix for 2011. The evident difference is the reversed trend at both tails. The persistence at the bottom of the distribution (33%) is now higher than at the top (28%). All in all, the transition matrices for Austria show unexpectedly mobile patterns in the middle of the distribution. The persistence at the tails can be illustrated as in Figure 2.
Table 1: Intergenerational transition matrix for 2005

<table>
<thead>
<tr>
<th>2005</th>
<th>P→1</th>
<th>P→2</th>
<th>P→3</th>
<th>P→4</th>
<th>P→5</th>
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<td>28.6</td>
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<td>19.1</td>
<td>17.7</td>
<td>14.5</td>
</tr>
<tr>
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<td>20.3</td>
<td>22.4</td>
<td>11.7</td>
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<td>20.5</td>
<td>23.5</td>
<td>20.1</td>
<td>20.4</td>
</tr>
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<td>4</td>
<td>16.4</td>
<td>17.2</td>
<td>25.2</td>
<td>19.9</td>
<td>21.2</td>
</tr>
<tr>
<td>5</td>
<td>14.7</td>
<td>20.2</td>
<td>12.6</td>
<td>19.2</td>
<td>33.3</td>
</tr>
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</table>

Table 2: Intergenerational transition matrix for 2011

<table>
<thead>
<tr>
<th>2011</th>
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<th>P→3</th>
<th>P→4</th>
<th>P→5</th>
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<tbody>
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<td>20.0</td>
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</tr>
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<td>19.2</td>
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</tr>
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<td>16.3</td>
<td>19.5</td>
<td>18.0</td>
<td>28.0</td>
</tr>
</tbody>
</table>

Figure 2: Income of sons vs. estimated fathers’ incomes 2005 & 2011

Each number represents the probability that the son of a father in a specific income quintile achieves a certain income level. Source: EU–SILC 2005 & 2011, own illustration.
Figure 3: Intergenerational Earnings Correlation: Europe

*Source: EU–SILC 2005 & 2011, own illustration*

Figure 4: Intergenerational Earnings Correlation: Europe 2011

*Source: EU–SILC 2011, own illustration*
5 Concluding remarks (to be written)

References


