



FACULTAD DE
CIENCIAS ECONÓMICAS
Y DE ADMINISTRACIÓN

IECON INSTITUTO
DE ECONOMÍA



UNIVERSIDAD
DE LA REPÚBLICA
URUGUAY

Intergenerational transmission of preferences for redistribution

Martín Leites, Gonzalo Salas

INSTITUTO DE ECONOMÍA

Serie Documentos de Trabajo

Octubre, 2019

DT 20/2019

ISSN: 1510-9305 (en papel)

ISSN: 1688-5090 (en línea)

We thank Gabriel Burdin, Flavio Comin, Cesar Zucco, and participants in ALCADECA, Jornadas Académicas de FCEyA, and Congreso AUCiP for helpful comments, and the Fondo Clemente Estable (ANII) for financial support. We are very grateful to Paola Cazulo who provided excellent research assistance.

Forma de citación sugerida: Leites, M. and Salas, G. (2019). "Intergenerational transmission of preferences for redistribution". Serie Documentos de Trabajo, DT 20/2019. Instituto de Economía, Facultad de Ciencias Económicas y Administración Universidad de la República, Uruguay.

Intergenerational transmission of preferences for redistribution

Martín Leites

Gonzalo Salas*

Abstract

This paper analyses the formation of preferences for redistribution in young people residing in Uruguay. To do this, we explore whether there are heterogeneities associated with the life cycle of people, and study the transmission of preferences from parents to children with particular emphasis on the channels that enhance or mitigate it from three perspectives. Firstly, depending on the economic trajectories, secondly, considering personality traits of the parent and finally, based on the skills of the children. In the first two cases, it is assumed that differences in the reasons that parents want to transmit these preferences, and in the last case the transmission can be seen as being motivated on the basis of the expected returns.

Thanks to the Longitudinal Study of Well-being in Uruguay, there is data on parents' preferences for redistribution in the years 2011/12 and 2016/17, and for their children in the year 2016/17. The richness of this information, and the detailed group of variables available, allows us to make precise estimates of the channels that affect the formation of these preferences. It is found that, on average, the transmission of preferences for redistribution is exclusively associated with parents' learning in the recent years. However, there are significant differences depending on the different channels. The transmission from parents to children is more relevant when mobility is high, when there is greater self-control on the part of the parents, and when the children score better in terms of skills.

Keywords: preferences for redistribution, social mobility, personality traits, cultural transmission

JEL codes: D31 D64, H23

Resumen

El trabajo analiza la formación de las preferencias por la redistribución en jóvenes que residen en Uruguay. Para ello se explora si existen heterogeneidades asociadas al ciclo de vida de las personas, y se estudia la transmisión de las preferencias de padres a hijos, poniendo particular énfasis en los canales que la potencian o mitigan desde tres perspectivas. Por un lado, en función de las trayectorias económicas, en segundo lugar considerando rasgos de personalidad del padre y, finalmente, a partir de las habilidades de los hijos. En los primeros casos se asume que diferencias en la motivación de los padres pueden incidir en la transmisión de factores culturales, y en el último que la transmisión se puede ver incentivada en función de los retornos esperados.

Gracias al Estudio Longitudinal del Bienestar en Uruguay se cuenta con datos de las preferencias por la redistribución de los padres en los años 2011/12 y 2016/17, y para sus hijos en el año 2016/17. La riqueza de esta información, y el detallado grupo de variables que dispone, nos permite realizar estimaciones precisas de los canales que afectan la formación de estas preferencias. Se encuentra que, en promedio, la transmisión de preferencias por la redistribución se asocia exclusivamente al aprendizaje de los padres en los últimos años. No obstante, existen diferencias importantes en función de los distintos canales. La transmisión de padres a hijos es más relevante cuando la movilidad es alta, existe mayor autocontrol por parte de los

*M. Leites: IECON, FCEA Universidad de la República and EQUALITAS, email: mleites@iecon.ccee.edu.uy. G. Salas: IECON, FCEA Universidad de la República and EQUALITAS, email: gsalas@iecon.ccee.edu.uy

padres, y los hijos poseen mayores habilidades.

Palabras clave: preferencias por la redistribución, movilidad, rasgos de personalidad, transmisión cultural
Códigos JEL: D31 D64, H23

1 Introduction

In recent years, a certain consensus has arisen in the field of economics that people have heterogeneous social preferences, which guide their behaviour and establish what the level of tolerable inequality is in a given society. These advances have resulted in different formulations that model the formation of preferences for redistribution, and various empirical contributions that have improved the understanding of them. However, there is little evidence on how relevant the intergenerational transmission of these preferences is, as well as on what mechanisms explain it. The aim of this paper is to provide evidence or respond to both questions, based on a data panel for Uruguay, which allows to link the preferences of parents and children.

The intergenerational transmission of socio-cultural characteristics has been addressed by different social sciences. Among the first modelling of these processes are the papers of Cavalli-Sforza and Feldman (1981) and Boyd and Richerson (1985), who apply evolutionary models from biology. The contributions have been more recent in economic literature, where attempts have been made to analyse the mechanisms that underlie the transmission of attitudes, in particular taking into account the role of genetics and socialization. In this vein, Bowles (1998) states that preferences and beliefs are endogenous, and are acquired through genetic and cultural transmission. Recent studies have found that prosocial behaviour is malleable in the first years of life depending on the environment (Kosse et al., 2019), and that the type of early childhood education has very important causal impacts on social preferences (Cappelen et al., 2016). Bisin and Verdier (2000, 2001, 2011) make several contributions in this field of study, and they distinguish between socialization processes within the family (direct vertical transmission) and other processes that arise from learning and imitation (oblique and horizontal transmission), and also introduce the endogeneity of the parents' choice regarding the vertical socialization process. In these models there are costs to socialize children that depend on their own characteristics and on the corresponding distributions at the population level. This behaviour is founded on the assumption of imperfect empathy, where altruism is biased towards the cultural characteristics of the parents. In this sense, some authors point out that children reproduce the attitudes they observe in parents (Dohmen et al., 2012), and that parents can deliberately affect their children's preferences through investments made during their upbringing (Zumbühl et al., 2018).

Inglehart and Baker (2000), based on previous papers, postulate the "hypothesis of impressionable years", which reflects that adolescence and early adulthood is where people are susceptible to forming and changing their preferences and attitudes. This willingness to change decreases with age, where attitudes become more stable. In contrast Hogg and Vaughan (2008) pose "the lifelong openness hypothesis", which suggests that attitudes are malleable and could be altered in the face of certain events, even in adulthood. Borrell-Porta et al. (2018) point out that the evidence on both hypotheses is inconclusive and that the results depend on the dimensions considered.

Among the socio-cultural traits, a natural candidate to be explored is preferences for redistributive policies, however, there is little evidence on the form that their transmission takes. Some models have addressed this aspect when studying the formation of beliefs and perceptions based on their link with intergenerational social mobility. Piketty (1995), for example, highlights the importance of social origin and economic trajectories in the formation and transmission of beliefs about the opportunities available to individuals, their attitudes towards redistributive policies and, more generally, notions of fairness.¹ The model of Piketty (1998) yields similar results in relation to the effort decisions of people with different social origins, but in this case the construction of beliefs and differential stimuli come from social recognition and status. Benabou and Tirole (2006) develop a model of inter-generational transmission of beliefs where they explore how some psychological mechanisms function. In this model if people receive the signal that the world is unfair, and therefore a dissonance is generated between a priori beliefs and reality, there may be realistic or adaptive behaviour. The authors point out that, in the latter case, people seek to motivate themselves on an ongoing basis and also their children, emphasizing the role of effort and perseverance in the face of adversity, as opposed to inactivity that may generate dependence on assistance. In this context an optimistic equilibrium is reached, characterized by high levels of effort, low support for redistributive policies, and greater stigmatization of the poor.² The meritocracy discourse is seen as adequate to build resilience among young people in the face of future adverse events and involves beliefs that make people tend to have positions contrary to redistributive policies. The model also explains the pessimistic equilibrium, where more expanded welfare states that redistribute access to resources are justified on the basis of the signal received. The coexistence of these two equilibria implies differences in beliefs, levels of effort and preferences for redistribution, and is consistent with the predictions of the model of Piketty (1995), although, in this case, learning depends not only on the mobility trajectories, but is also affected by the objectives and psychological needs of each individual.

Therefore, in order to explain the existence of heterogeneous preferences and how intergenerational transmission operates, these models combine, with different intensity, the differences in a priori beliefs of parents, which are consistent with certain notions of fairness, their learning processes, and individual characteristics that affect them. In particular, parents with the same characteristics and preferences will have different degrees of intergenerational transmission based on their economic performance, their personality traits, and the changes in their own preferences. Other economic models assume that the transmission responds to the parents' optimization decision and could be interpreted in the traditional human capital investment frameworks (Becker and Tomes, 1986). In these models the beliefs about the returns on investments are key, and may vary depending on the socio-economic background and the parents' learning experiences, so family history is also relevant (Hjorth-Trolle, 2018). Consequently,

¹The model predicts that under certain conditions, those from lower social strata, if they do not achieve upward trajectories, are more willing to support redistributive policies, and believe that economic outcomes depend on circumstances and not so much on effort. On the other hand, families that have experiences of upward mobility from one generation to the next will believe that it is the result of their own merits and that effort has high returns, consequently, they will not support redistributive policies.

²With a lower level of formalization, these arguments are presented in Frank (2016), referring to the extent to which false beliefs are found, which overestimate the weight of the merits. To explain these biases, he argues based on the need of individuals to recognize their achievements, but also points out that these beliefs are based on transmission between generations.

the characteristics of the children and the expected returns are an additional source of heterogeneity in intergenerational transmission. Parents who project high returns on investments made in their children are expected to enhance the transmission of preferences based on the rewards to effort, to the detriment of support for redistributive policies.

The empirical literature has attempted to find out where differences observed in preferences for redistribution come from. The evidence is broad: some papers have focused on personal and socio-demographic characteristics, for example the role of sex, racial ancestry, religion, and socio-economic level (Linos and West, 2003; Alesina and Glaeser, 2004; Alesina and La Ferrara, 2005; Alesina and Giuliano, 2011; Pittau et al., 2013). Among these type of characteristics, one of the least explored aspects is personality traits, one of the relevant elements that Benabou and Tirole (2006) used to explain heterogeneity in the intergenerational transmission of beliefs. Psychometric instruments are often used to measure this aspect, the Big Five Inventory (BFI) being the most common. The papers of Gerber et al. (2010) and Gerber et al. (2011) give a general overview of the role of these traits in the political attitudes of individuals. The most consistent result is that which associates conscientiousness with conservative attitudes, that is, to support the traditional in the economic (hard work) and the social (family values). Consistent with this Bischoff and Kusa (2015) find that people with these traits support lower inheritance taxes. The authors associate these results with these people being more likely to adhere to norms and rules, and having greater impulse control.

Several papers have analysed the role of forecasting future income and social mobility. Alesina and La Ferrara (2005) and Alesina and Giuliano (2011) find evidence that those in a better economic situation, relative to their parents, oppose redistributive policies. This relationship is also studied in Ravallion and Lokshin (2000), Corneo and Grüner (2002), and Corneo (2001), and all of them conclude that upward mobility significantly affects the attitude towards redistribution. An unfortunate individual story may also influence these preferences, by making people more risk averse and less optimistic about their possibilities for future mobility. Alesina and Giuliano (2011) find a positive association between preferences for redistribution and traumas suffered by the individual, be it the death of a relative, divorce, hospitalization, unemployment, etc. In relation to this last point, Alesina and La Ferrara (2005) and Pittau et al. (2013) find greater support for redistributive policies from individuals who have experienced recent periods of unemployment. Some related papers emphasize the notion of fairness, based on whether the income generating process is a result of luck or effort (Fong, 2001; Alesina and Angeletos, 2005; Alesina and Giuliano, 2011). According to Alesina and La Ferrara (2005) the impact of mobility on preferences for redistribution is affected by individual perceptions of impartiality in the mobility process. People who believe that society offers equal opportunities for all are more averse to redistribution in the face of greater mobility. On the contrary, those who those who consider there to be biases in processes related to obtaining socially and economically rewarding occupations, be it due to luck, contacts, or corruption, do not see social mobility as an alternative to redistributive policies.

Another group of explanatory variables pertaining to preferences for redistribution has to do with the cultural and social characteristics of the environment. For the purposes of this article, the evidence that comes from social psychology – which indicates that certain historical experiences, especially in

youth, can leave permanent marks on the political and economic beliefs of individuals – is important. Alesina and Giuliano (2011) test whether a history of macroeconomic volatility experienced during key years of youth has a permanent effect on which factors influence preferences for redistribution, with the result being positive. In the same vein, Giuliano and Spilimbergo (2013) show evidence that recessions have a long-term effect on people’s beliefs: individuals who grow up in periods of recession tend to believe that success depends more on luck than on effort and are more supportive of redistribution.

This paper focuses on preferences of young people for redistribution. Little is known about this group and these preferences in the literature, despite it being a key stage of life for the formation of said preferences. Broadly speaking, the only evidence that exists refers to the relationship between age and preferences for redistribution. For example, Alesina and Giuliano (2011) found an inverted U-shaped relationship where young people are more favourable to such policies at an early age. These findings differ between countries. Pittau et al. (2013) found varied results when considering the US and European countries, although they do not suggest possible reasons for such differences. Therefore, although it has been explored whether there are differences in preferences of different generations for redistribution, little is known about what underlines such differences, an aspect that is addressed in this paper. Additionally, there is also little evidence on the transmission of beliefs from parents to children, and even less when it is measured by considering direct responses from both generations. There are no known papers that address this issue when considering preferences for redistributive policies. Dohmen et al. (2011) find endogeneity of several elements of the preferences and dependence of the preferences of children in relation to those of their parents, and provides evidence on the underlying process of transmission of attitudes from parents to children, finding a strong positive correlation in attitudes of both to risk and trust. Parents who are more willing to take risks, or who are more confident, raise children with similar characteristics, which is consistent with intergenerational transmission. Also, ? considered the family transmission of other attitudes. They estimated the correlation between the generosity of parents and children in adulthood, taking into account donations made. They found evidence that generosity is positively correlated within families across generations and that families play a relevant role in cultivating the sense of charity. Finally, Arrondel (2013) found evidence that attitudes such as risk aversion and the time preference of parents and children are significantly correlated.

Based on the background reviewed there are four hypotheses in this paper: (i) there is a high positive correlation between the preferences of parents and children for redistribution. (ii) the intensity of transmission from parents to children is mediated by changes in parental preferences. Those parents with more stable (or consolidated) preferences are those who transmit it with greater intensity, while, conditional on their initial preferences, individual experience introduces confirmatory (or revisionist) mechanisms that stimulate (or discourage) intergenerational transmission. (iii) the economic trajectory of the parents and the other channels that reflect, in one way or another, their assessment of the role of effort, operate as a multiplier mechanism for the transmission of preferences from parents to children. Finally, (iv) some performance and characteristics of the children operate as a multiplier mechanisms for the transmission of preferences, while allowing parents to predict the returns on their investments.

Based on the Longitudinal Welfare Study in Uruguay (ELBU, by its acronym in Spanish), we estimate the intergenerational transmission from parents to children, taking into account the contem-

poraneous preferences of the child (2016/17) and a lag of those of the responding parent (2011/12), and we add a learning component of the parent associated with changes in preferences during the period. Finally, we make new estimates with the aim of identifying heterogeneities according to different channels that we think will mitigate or enhance the transmission to children.

The results suggest that transmission between generations involves a less stable component that is associated with the parents' most recent experiences, which is consistent with hypothesis (i) and relativizes what is postulated in (ii). However, the transmission processes are not homogeneous and some channels are found that alter the persistence of preferences between generations; in several cases for specific groups it is confirmed that the transmission is due to more structural elements, in particular when we take into account mobility trajectories, some personality traits of the parents, and variables that reflect the abilities of the children. These results are consistent with hypotheses (iii) and (iv).

This research is related to different fields of the literature. First, it makes a contribution to the empirical literature on the transmission of preferences for redistribution by providing evidence on how the main channels suggested by the economic literature operate. This exploration concentrates on a sample that involves two very different age groups, but which share the same home. While the literature recognizes the relevance of age in explaining preferences, there has been little research into how the determinants change throughout the life cycle. In particular, little is known about how individuals form their preferences, before they begin their productive life, accumulate their own experience, and have active political participation. Some determinants that have been scarcely analysed empirically are explored, such as aspects of personality, which have relevance in explaining the transmission of preferences for redistribution as discussed in the work of Benabou and Tirole (2006). Second, the findings of this research are a contribution to the economic literature on the transmission of socio-cultural characteristics between parents and children. It is found that persistence of tastes has particular influence on preferences for redistributive policies, and that there are some channels that stimulate or reverse it.

These results are relevant in light of the predictions of theoretical models on intergenerational learning and preference formation. The discovery of the existence of heterogeneous preferences and the relevance of the parents' recent experiences as a key determinant of transmission suggest that learning mechanisms do not lead to stable preferences if a set of channels is not taken into account. Due to the fact that preferences for redistribution, through some aggregation mechanisms, are translated into redistributive policies, the aforementioned learning dynamics could lead to temporary inconsistencies. In fact, even if there was a set of policies that resulted in an optimum level of redistribution from the point of view of social well-being, the intergenerational transmission process hardly allows us to arrive at the expected preferences from these models. This is consistent with the predictions of Piketty (1995) where people's beliefs lead to an equilibrium that is not optimal in the sense of the Pareto principle. The article is organized as follows. Firstly, the basic conceptual framework for our analysis is considered in Section 2. In Section 3 the characteristics of the ELBU and the main variables used in the work are presented, and then the empirical strategy that will help us to contrast the different hypotheses are in Section 4. The main results are in Section 5 where we investigate the transmission from parents to children, and Section 6 explores different sources of heterogeneity in that transmission.

The conclusions are presented in Section 7.

2 Conceptual Framework

In order to analyse the transmission of preferences for redistribution of both parents and children, we start from the model developed by Piketty (1995), which proposes a learning and transmission mechanism between parents and children. This choice is based on the fact that this mechanism focuses on intra-home transmission, which allows us to consider how parents learn from their own life trajectory, and incorporates the role of mobility (one of the determinants of preferences that has received the most support empirically). These elements offer us a framework to support the hypotheses raised and to develop the respective empirical approach. Second, this model has been recognized as an unavoidable starting point for more recent modelling on the transmission of political attitudes and preferences, as in the case of Benabou and Tirole (2006), beliefs about returns to investment in human capital (Hjorth-Trolle, 2018), and is also used in other contexts to explain differences in preference by gender (Breen and García-Peñalosa, 2002). This context of more recent modelling will allow us to consider other channels that could affect the transmission process between parents and children.

The model developed by Piketty (1995) is based on two premises. The first is that people have imperfect information about the magnitude of the parameters that explain their economic outcome. That is, people do not know exactly what weight effort, θ , and circumstances (such as inheritance, social capital, or skills), ϕ , has in explaining people's income. The level of income depends positively on both determinants, but it also depends on random events that can lead to two identical people who have made the same effort obtaining a different income.

People belonging to a generation t have certain a priori beliefs $\mu_{i,t}(\theta, \phi)$, on the basis of which they choose the optimal level of effort and take positions on the desired level of redistribution. Once their decision is made, and based on the outcomes obtained, they update their beliefs and transmit them to the generation of their children (which becomes their a priori beliefs). The process of updating the beliefs of the parents' generation follows a Bayesian learning mechanism, which implies that the history of the parents (understood as their a priori beliefs and their trajectory) is important for explaining the transmission between generations. That is, the parents receive a signal, ξ , which they transmit to their children, for example having experienced $\bar{\xi}$ in the period of upward mobility. In this case, the beliefs of individual i are expressed as:

$$\mu_{i,t+1}^{\bar{\xi}}(\sigma') = Pr(\sigma' | \bar{\xi}) = \mu_{it} \cdot \frac{Pr(\sigma' | h_{t-1}^-)}{\mu_{i,t}(Pr(\sigma' | h_{t-1}^-) + (1 - \mu_{i,t}) \cdot Pr(\sigma | h_{t-1}^-))}$$

where $\mu^{\bar{\xi}}$ represents the a posteriori beliefs of the young individual whose parents had upward mobility at $t + 1$. The signal received is according to the set of previous events that summarize h_{t-1} , which leads them to have a priori beliefs $\sigma' = (\theta', \phi')$ about the possible values of $\sigma = (\theta, \phi)$. In this case, σ' and σ represent two possible states of the world that reflect the determinants of economic outcomes, for example, the relative weight of effort as a function of circumstances. Note that transmission to the next generation depends on the probability that parents maintain their a priori beliefs, given that

they experienced upward mobility. This learning is rational and responds to a priori beliefs, which are updated based on the best prediction that arises from the experience itself.

This equation describes the evolution of the beliefs of two different dynasties over time. The updated beliefs that are transmitted to the next generation will then depend on the a priori beliefs of the parents and the signal they receive about their economic trajectory. In both cases the beliefs of the children (a posteriori beliefs) are a function of the parents' a priori beliefs, multiplied by a term that amplifies or reduces them:

$$\mu_{i,t+1}^{\xi}(\sigma') = \mu_{i,t} \cdot B(\sigma', \sigma, h_{t-1'}, \xi)$$

In other words, the beliefs of the children have a direct link with the previous beliefs of the parents, generating a relationship of intergenerational inertia. That transmission is adjusted by the function $B(\cdot)$ that depends on the a priori beliefs of the parents, his history, and the recent signals he received, that is, the transmission is mediated by the trajectory of the parents which then generate heterogeneity among the families. A second implication is that throughout the life cycle, beliefs and preferences change, since the a priori beliefs are adjusted according to their own experience. This learning process reflects the relationship between mobility and preferences for redistribution, mediated by parents' beliefs about what explains the generation of income, effort or luck. These two implications are directly related to hypotheses i and ii . Likewise, the underlying weighting mechanism responds to the following process:

$$\mu_{i,t+1}^{\bar{\xi}} > \mu_{i,t} \Leftrightarrow Pr(\sigma') > Pr(\sigma) \Leftrightarrow B(\sigma, \sigma', h_{t-1'}, \xi) > 1 \text{ si } \xi = \bar{\xi}$$

The logic of the updated formulation states that if an individual experiences upward mobility and the probability of success (conditional on their previous decisions) is greater for σ' than for σ , they will assign a greater weight to the idea that σ reflects the true state of the world. For example, suppose the a priori beliefs of individual i are $\theta' > \theta$ and $\phi' < \phi$, that is to say that the individual assigns a high weight to effort in relation to inheritance. This implies that effort has high returns, redistribution is not justified and the individual makes decisions in this regard. Therefore, if the individual experiences upward mobility, they will assign a higher probability to their a priori beliefs and give weight to the idea that effort is important and that redistribution is not necessary ($\mu_{i,t+1}^{\bar{\xi}} > \mu_{i,t}$). Bayesian learning allows us to interpret why two individuals with the same a priori beliefs can transmit very different beliefs to their children based on the signals they receive. The results of this model are also consistent with the assumption of imperfect empathy, where altruism towards children is biased towards parents' own beliefs.

Benabou and Tirole (2006) develop a model that incorporates an additional intergenerational transmission channel. Like Piketty, they start from inaccurate beliefs, and assign relevance to the trajectories of parents to explain the transmission between generations. In this case, the emphasis is placed on the way in which some psychological aspects and personality characteristics operate. First, they incorporate the possibility that individuals have imperfect willpower. This leads to parents facing incentives

to convey motivational beliefs, so that their children are resilient to adversity and prioritize effort, thereby reducing the risk of dependence.³ On the other hand, people tend to have a need to believe in a fair world, and when their experience leads to results in the opposite direction, in order to avoid the cost of cognitive dissonance, they tend to reinterpret them to preserve their initial beliefs. In these circumstances, optimistic people believe that the world is fair and that every effort will receive its reward, and therefore they have more incentives to convey to their children that effort is important. This is also stimulated if they anticipate that redistribution will be low, as most trust meritocracy. This vision of fairness and optimism leads to a balance with low preferences for redistribution. On the contrary, a more pessimistic vision will lead to support for a wider welfare state and greater redistribution. In these circumstances, people anticipate the lower net return to effort, and if they receive contrary signals they do not have sufficient stimuli to change their initial beliefs, which is reinforced by the costs of cognitive dissonance. In this case, a pessimistic equilibrium is reached with a relatively higher level of redistribution .

As a result, the predictions of this model suggest that, when parents believe that effort is relevant and anticipate that redistribution will be low, they have greater stimuli to transmit those same beliefs to their children. This could even happen when their own experience suggests that effort is not enough, introducing a source of additional heterogeneity in the intergenerational transmission process that could be associated with aspects of the personality of parents and children, and in particular with the problems of self-control (or if they perceive that they are the masters of their own fate). These arguments support some dimensions present in hypothesis *iii*.

Finally, other models explain the transmission of tastes between parents and children as an investment decision, where parents are optimizing the utility of two generations (Becker and Tomes, 1986). These models assign relevance to investment costs (generally associated with the skills of the child and competitive socialization channels) and expected returns. These aspects are left to one side in the models of Benabou and Tirole (2006) and Piketty (1995), as the transmission responds to a learning process and not to a choice based on optimization. However, these models come into contact in the extension of Hjorth-Trolle (2018) who incorporates imperfect information into returns to education via a Bayesian intrafamily learning process similar to that of Piketty. This channel is an additional source of heterogeneity in intergenerational transmission, and offers a framework to support hypothesis *iv*. In order to consider the variation proposed by Benabou and Tirole (2006) the personality of the parents is considered (π). Also, a set of characteristics of the young person is incorporated, which could be relevant for the investment decisions of the parents and at the same time alter their belief formation process (ψ). These two are additional sources of heterogeneity in the transmission and learning process, and are considered in the model, which leads rewriting the previous equation as follows:

$$\mu_{i,t+1}^{\xi}(\sigma') = \mu_{i,t} \cdot B(\sigma', \sigma, h_{t-1}', \xi, \pi, \psi)$$

³The authors incorporate the tendency to overestimate the relevance of willpower in the model, which is consistent with some behavioural biases that suggest that people tend to think that they themselves are responsible for the outcome they obtain.

3 Data and descriptive statistics

3.1 The ELBU

The data source used is the ELBU. This is longitudinal information, with the sample frame being the households that in 2004 had children attending the first year of public school in the departmental capitals of Uruguay. This accounts for 85% of the cohort. As a result, households with children that at that time were located on the high tail of the distribution are underrepresented, since there is no information on those who attended private schools in that year. However, in the 2016/17 wave there are homes that had moved up to the top decile of the income distribution.

After the first wave, carried out in 2004, two more waves were applied throughout the country in 2011/12 and 2016/17. In 2006 another wave was carried out but only in the metropolitan area. These last waves are the ones that contain relevant information for this article. In particular, in the last one, information on the same adult as in the previous waves, in general the mother of the child, and of the children themselves who by that time were between 17 and 19 years old, is presented. Therefore, the data has low variability in the age of the children and in the sex of the parents. Table 1 shows the number of cases of parents in each wave, and of children in the last. The last column refers to cases where information is available in 2016/17 for both parents and children, which is the relevant group for this paper.

Table 1: Number of observations in each ELBU wave. Parents and children

	Parents			Children	Parents and children
	2004	2011-12	2016-17	2016-17	2016-17
N	3187	2138	1525	1562	1425

In order to verify that the information released in the last wave does not contain biases by observable characteristics of the household, estimates were made of the probability of finding the young person and/or the adult of the first wave also in 2016/17. As shown in Table A1 of the Annex, there is less probability of a return visit to parents and children residing in Montevideo, and of adults when the boss's educational level is low. However, when the estimates identify the probability of finding both the young person and the adult, none of the variables studied are significant.

3.2 Main variables and descriptive statistics

3.2.1 Preference for redistribution

Preferences for redistribution are measured by a variable very similar to that used in the *General Social Survey* and is used in several papers (e.g. Alesina and Giuliano, 2011; Alesina and La Ferrara,

2005). The specific formulation of the question is: *Some people believe that the State must solve all the problems of society while others think that it should not solve any. Using a scale from 1 to 10, where 10 means 'the State must solve all problems' and 1 'none', where are you located?* In other words, higher values in this question are associated with greater preferences for redistribution. This question is normative in nature (Clark and D'Ambrosio, 2015) and requires a certain degree of abstraction; it does not refer to a specific public policy and, therefore, does not imply a self-centred evaluation of the economic situation of the interviewee.

The question is present in the 2011/12 and 2016/17 waves for the case of parents, and 2016/17 for children, so it is possible to clearly observe the dynamics of the preferences. Table A2 in the Annex shows the parents' transitions between the two waves (Panel a), and between parents and children considering the 2016/17 wave (Panel b). In order to construct these transitions, the responses are grouped into Low (values from 1 to 4), Intermediate (values of 5 and 6), and High (values from 7 to 10). Among both parents and children, the intermediate range accounts for around 50% of the answers, the low range close to 30%, and the high range is 20%. In the intra and intergenerational transitions some inertia is confirmed but no clear pattern is observed in the changes of this variable. The persistence of responses between generations is more pronounced than in the intragenerational case, mainly at the lowest levels, which suggests the relevance of studying intergenerational transmission mechanisms, whereas, when there are deviations, it is important to contrast empirically which channels amplify or reduce said transmission.

The estimate presented in Table 2 allows us to identify whether there are systematic differences between parents and children in preferences for redistribution, with the intention of having a first impression of the relevance of the life cycle in the formation of these preferences. By including fixed household effects, a very relevant set of unobservables are controlled for that could be simultaneously affecting the tastes for redistributive policies of parents and children, in particular some behavioural primitives such as risk aversion or altruism. The specification includes some controls that have variability: years of education, if they are unemployed, and if they are married. The relevant variable is a dummy that identifies whether the respondent is the parent. Systematic differences are found between parents and children, with parents showing lower preferences than their children. The differences are almost half a point at the mean value of preferences for redistribution is 6.27, approximately 7%.

Table 2: Preferences for redistribution. Differences between parents and children

Parents	-0.436** (0.169)
Years of education	-0.045 (0.030)
Unemployed	0.013 (0.197)
Married	0.257 (0.203)
Constant	6.810*** (0.314)
Obs.	1775
Dependent variable mean	
Total	6.270
Parents	6.202
Children	6.330

Source: ELBU. Standard deviation in brackets.
 * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. OLS estimation
 with fixed effects per household.

These differences are relevant and put the role of the life cycle in the formation of preferences for redistribution at the center of the matter. Not being exposed, for example, to paying taxes, not having experienced a career in the labour market, or having little experience of political participation (due to their age, most of these young people have not participated in any national or regional election), may lead to some mechanisms not being relevant when explaining the responses of the children. The scarce evidence found in the literature on the role of traditional channels to explain the preferences of young people raises the question about what the determinants for people who are in this age group are, and reveals the pertinence of exploring the relevance of intergenerational transmission. It should be noted that the relevant channels to explain the preferences of the parent can indirectly impact the children through the intergenerational transmission of these beliefs. The following section details some of these possible channels.

3.2.2 Channels

This section details how the channels identified in the theoretical models will be empirically addressed, and which will be considered in this paper: economic mobility, parents' personality, and characteristics of the child. The hypotheses suggest that several of these channels could operate by affecting intergenerational transmission. Unless stated otherwise, the variables considered for the parent were collected in the 2011/12 wave, so they are not contemporaneous with the preferences of the child for the redistribution. Table 3 details the average values of these variables and their temporal reference.

Mobility is one of the main mechanisms used in the literature to explain preferences for redistribution, and is a central element in the Piketty model to explain the transmission from parents to children. Mobility is identified as a key mechanism for learning and forming preferences. Based on

these fundamentals, in this paper the role of inter and intragenerational mobility of parents is explored, and both objective and subjective measures are considered.

To approximate objective mobility, from an intragenerational perspective, the change in household income decile observed between 2011/12 and 2016/17 is used, and upward mobility is identified for cases of a two decile change. For intergenerational mobility, whether or not the educational level of the parent is higher than that of the grandparent was taken into account. When observing the data, it is found that in the period considered, half of the households had upward intergenerational mobility (51.2%), and almost a quarter had it in intragenerational terms (24%).

In the case of intergenerational subjective mobility, two questions are considered for the parent. In the first one they are asked to *"Imagine a scale from 1 to 10 where 1 is the poorest people and 10 the richest: Where are you?"*, and the difference is calculated relative to the answer to the question *"And what would be the situation of the home where you lived during your childhood?"*, 37.4% indicates a positive difference. In the case of subjective intragenerational mobility, the same question about the current situation is used, and the difference between the 2011/12 and 2016/17 waves was calculated. The results are very similar to the previous indicator, in this case 35.5% indicating that their mobility was upward.

The personality traits of parents are a much less studied aspect in this literature. Mondak (2010) and Fowler et al. (2008) argue that biological factors, which are usually recognized as determinants of political attitudes, operate, at least to some extent, through personality. The model of Benabou and Tirole (2006) combines aspects of personality with perceptions regarding the fairness of the income generating process to infer how the transmission of parents to children operates. On the one hand, the locus of control (*LoC*) of the parent is considered to approximate his personality traits. This indicator approximates how the individual perceives the causal connection between his actions (and individual characteristics) and the achievements he obtains (Rotter, 1966; Levenson, 1981; Lefcourt, 1991). An individual with an external *LoC* thinks that many aspects of his life are beyond his control, and the opposite happens with the internal *LoC*.⁴ Under this interpretation the *LoC* has a direct correlation with notions of fairness. Moreover, as mentioned in the theoretical structure, heterogeneity in intergenerational transmission may be associated with problems of self-control. In this sense, it is expected that those who have internal *LoC* perceive that they have a greater capacity to influence their children when transmitting their beliefs. In this case, the *LoC* would be closely capturing personality characteristics identified as key in the model of Benabou and Tirole (2006).

To approximate this dimension, two questions were asked to the parent in 2011/12: *"Who do you think will contribute more to any change in your life?"* (*Change*) and *"Some people believe that individuals can build their destiny ... you believe that ...?"* (*Destiny*). Dichotomous variables were constructed and the internal locus is represented by a value of 1, in the first case from the extreme response "You" and in the second in the case of indicating "We make our destiny" or "Mostly self". More than half of the interviewees have internal *LoC*, with the levels being similar between questions,

⁴Budria et al. (2012), relate the *LoC* with tolerance of inequality, finding that the external *LoC* ones are more averse redistribution. They interpret this result as meaning that the most external *LoC* individuals perceive that the results depend on circumstances beyond their control (luck or the actions of others), while the internal *LoC* individuals believe they are responsible for their achievements (they depend on their effort and decisions).

so when considering the variable *Change* the result is 50.7% and for *Destiny* it is 59.5% among the parents.

Another, less direct, alternative to address people’s perceptions of the role of effort and circumstances is to resort to very unfavourable external events that have affected income. These events constitute a signal, in terms of Bayesian models, similar to what would happen if there was downward mobility. It is possible to identify if, when the economic crisis occurred in Uruguay in 2002, the mother was between 18 and 25 years of age. As mentioned, this age bracket is key to the formation of beliefs (Inglehart and Baker, 2000), while involves the child’s age in the 2016/17 wave. This variable tries to incorporate the role of macroeconomic volatility, based on the idea that those who grew up in these periods may believe that success depends more on luck than effort. ELBU parents who were that age in 2002 are 22.6% of the sample.

These phenomena can also be approximated by the Big Five Inventory (*BFI*), in particular the Conscientiousness (*Conscient.*) and Openness to Experience (*Open.*) dimensions are relevant for this paper. The first dimension describes impulse control, such as thinking before acting, delaying gratification, following rules and regulations, and also planning, organizing and prioritizing tasks; the second dimension pertains to the breadth, depth, originality and complexity of mental and experiential life (John and Srivastava, 1999). Based on the evidence reviewed, we know that *Conscient.* is linked to political attitudes, and those who have high scores are expected to have more conservative attitudes, and therefore lower preferences for redistributive policies. On the other hand, the evidence on the level of preferences for redistribution is scarce when considering *Open.* Information on the *BFI* is available for the 2016/17 wave, and the scores are identified as high when they are above the 75th percentile, which is the case of 61.3% of parents for Conscientiousness and 25.8% for Openness to Experience.

These channels could give rise to heterogeneous transmissions of preferences, based on the two equilibria that Piketty (1995) and Benabou and Tirole (2006) identify as “European pessimism” as opposed to “American optimism”. A priori we expect that parents with greater Openness to Experience give more freedom to their children and therefore that intergenerational transmission is more intense among those who obtain low scores. However, in the cases of *Conscient.* and *Crisis* we are not a priori certain which equilibrium will prevail in the transmission, whether those whose personality profile is associated with a higher valuation of the effort or of circumstances.

In relation to the characteristics of the child, firstly, aspects that are strongly exogenous were considered: sex, the presence of siblings and the order of birth, which the literature identifies as potential sources of heterogeneity in the transmission of beliefs. Regarding the first, the relevance of intergenerational transmission mechanisms of social norms and gender identity has been documented in the literature, which has been found in terms of the preferences on gender roles and the link between women and the labour market. (Johnston et al., 2013; Bütikofer, 2013; Farré and Vella, 2013; Morrill and Morrill, 2013; Fernandez and Fogli, 2009; Fernández et al., 2004). Some papers conclude that parents tend to invest more in children of the same sex, which would lead to a greater correlation in achievements in the labour market (for example Lundberg, 2005). However, the evidence on this point is inconclusive and it is generally found that the achievements of the sons and daughters are correlated with the abilities of both the father and the mother (Gronqvist et al., 2017). A priori, we do not expect

significant differences.

Table 3: Channel description

		N	Mean	Wave
(a) Parents				
Objective	inter.	961	0.512	2011/12
Mobility	intra.	1131	0.240	Both
Subjective	inter.	1145	0.374	2011/12
Mobility	intra.	1239	0.355	Both
LoC	Change	1144	0.507	2011/12
	Destiny	1126	0.595	
Crisis		1239	0.226	2011/12
BFI	Conscient.	1176	0.613	2016/17
	Open.	1155	0.258	
(b) Children				
Male		1228	0.493	--
Sibling		1229	0.739	--
Firstborn		1229	0.293	--
SDQ	Extern.	1239	0.194	2016/17
	Intern.	1239	0.236	
BFI	Neurot.	1232	0.302	2016/17
WAIS	Analog.	1239	0.235	2016/17

Source: ELBU.

The number of children could also condition the transmission mechanism. A first argument is associated with the model of Becker et al. (1974) that predicts a trade-off between quality and the number of children. This could indicate that the transmission will be weaker when the number of children is greater. However, the number of children could affect transmission through different mechanisms (and with opposite signs). For example, previous paternity / maternity experiences could improve parenting practices, while also generating an additional demand for time and resources, altering the household's budget constraint. On the other hand, the number of children could also reflect the religious practices of the parents and preferences on the size of the household, and be correlated with the ideological identification of the parents and their attitudes towards public policies (Fernandez and

Fogli, 2009; Borrell-Porta et al., 2018; Alesina and Giuliano, 2011). In the ELBU 73.9% of the children have siblings, and 29.3% were the first child among the parents considered in this paper.

Regarding the abilities of the child, they are expected to play a role in the transmission of beliefs, either in relation to the parents' time investment decisions, or the capacity of reception of the children. In this paper different instruments are considered. On the one hand, the Neuroticism (*Neurot.*) dimension of the *BFI* is used, which implies that the child feels anxious, nervous, sad and tense (John and Srivastava, 1999). This is a dimension that could account for the characteristics of the child that are more closely associated with their abilities (or an absence of them), when referring to the degree of emotional instability, due to which lower investments of the parent could be expected, resulting in less transmission of their beliefs. Using the same criteria as in *Conscient.* and *Open.* for the parent, it is found that 30% of young people have a high score in this dimension, that is, low skills. In addition to the *BFI*, another instrument is used that approximates the non-cognitive abilities of children. This is the case in the Strengths and Difficulties Questionnaire (*SDQ*), proposed in Goodman (1997). In this instrument, information about the child is provided by the parent in the 2016/17 wave. Although five components can be identified in the original version, this paper follows the proposal of Goodman et al. (2010) to group behaviour and hyperactivity problems in the category of externalized problems, and problems with peers and emotional symptoms in the category of internalized problems. To identify high and low problems, the median score is established as a threshold. Between 20% and 25% of children have high scores in these problems.

The child's cognitive abilities are captured in 2016/17 by another psychometric instrument, the Analogies component of the WAIS. This variable has values ranging from 0 to 38, and the criterion for identifying high and low skills is again the median test score (23.5% had a high score). To apply it, the interviewee is asked to identify the analogies between two figures, with increasing complexity as the test progresses. In all these latter cases, the transmission is expected to be greater when the abilities of the children are higher (higher score in WAIS, or lower score in SDQ and BFI).

4 Empirical strategy

This paper aims to identify intergenerational dynamics, by considering the transmission of preferences for redistribution ($u_{i,t}$) between parents and children. There are studies that indirectly estimate mechanisms of socio-cultural transmission from parents to children, but there is no evidence, to the authors' knowledge, of estimates of the transmission of preferences from parents to children, in terms of redistributive policies. The equation to estimate is as follows:

$$u_{ch,t} = \beta_1 \cdot u_{p,t-1} + \beta_2 \cdot 1(u_{p,t} - u_{p,t-1} > 0) + \beta_3 \cdot 1(u_{p,t} - u_{p,t-1} < 0) + \alpha_p \cdot x_{p,t} + \alpha_{ch} \cdot x_{ch,t} + \epsilon_{ch,t}$$

This specification is estimated by ordinary least squares, where the subindex *ch* refers to the child and the subindex *p* to the parent, while *t* and *t* - 1 refer to the time when the information is collected, respectively, in 2016/17 and 2011/12. The transmission from parents to children is identified by the parameter β_1 and takes into account how the lag of the parents' preferences affect the contem-

poraneous preferences of the children. This parameter allows to test hypothesis *i*. Additionally, to test hypothesis *ii*, two parameters are estimated by which we intend to capture asymmetries in this transmission, β_2 and β_3 , which take into account whether there is a specific effect in cases where the parents' preferences increased (or fell) between 2011/12 and 2016/17. Taking Piketty's model as a reference, these parameters can be interpreted as intergenerational learning mechanisms: the parents learned "something" during the period, alter their preferences and transmitted it to their children. If $\beta_1 = 1$ and $\beta_2 = \beta_3 = 0$, we would be in a world where the learning process was exhausted, the inertia between generations being complete and there being no more room to update beliefs.

This estimate is complemented by others that aim to incorporate another source of heterogeneity through the channels discussed in the previous section, and which are expected to enhance or mitigate the transmission from parents to children. The aim is to contrast the results predicted by the models of Piketty (1995) and Benabou and Tirole (2006), where intergenerational transmission depends both on priori beliefs, and on economic results of each generation and on certain characteristics of parents and children, which can reinforce these beliefs or weaken them. This prediction is what underlies hypotheses *iii* and *iv*. In order to analyse these relationships, specific estimates were made for different groups of variables that could be associated with: (a) the arguments of the $B(\cdot)$ function of the theoretical model $(\sigma, h_t - 1, \pi)$, or (b) channels that enhance or mitigate the transmission of preferences, but that take into account the characteristics of the children, and can be associated with the ψ argument of the same function.

The proposed strategy will allow us to explain the origin of the variability of the responses of young people, as well as the variables that have greater predictive capacity, with special emphasis on intergenerational persistence. The estimated model does not have a causal interpretation, so it may face endogeneity problems, either due to problems of measurement errors in the parents' preferences and/or the omission of relevant variables. Considering the theoretical models cited, we expect parents' preferences to influence the formation of their children's preferences, and reverse causality is not expected to be a problem.⁵ In order to mitigate potential effects caused by problems of reverse causality and contemporaneous measurement errors, the longitudinal nature of the ELBU is exploited, which makes it possible to reconstruct the parent-child bond, and evaluate how preferences are affected by the redistribution preferences of the latter in 2016/17, compared to what was expressed by their parents in 2011/12. Additionally, for the case of parents, this information is available for two points of time (2011/12 and 2016/17), which allows us to explore whether changes in parental preferences have a specific effect on transmission.⁶ When identifying the channels that can enhance or mitigate

⁵It is pertinent to mention that there is evidence that leads to being cautious with this assumption. Some papers consider gender to explain changes in parents' attitudes and find, for example, that having a daughter (assumed as exogenous) leads to US congressmen being more open to liberal policies (Washington, 2008; Iacus et al., 2011), parents voting for more left-wing parties (Oswald and Powdthavee, 2010), and adopting more liberal attitudes about gender roles (Borrell-Porta et al., 2018). There is some controversy on this point, as some papers have found effects in the opposite direction (Conley and Rauscher, 2013) or that the sex of the child has no effect on the ideological identification of the parents (Lee and Conley, 2016)

⁶Changes in preferences for redistribution between periods can respond to a measurement error problem. Table A3 in the Annex shows estimates of the inertia of the parents' responses between 2011/12 and 2016/17, and we can observe a temporal correlation between these preferences. This result generates confidence that the measurement error problems are not significant.

the transmission of these beliefs, lagged data of the parent is also used, which gives more support for a potential causal interpretation. The information on the channels of the child is only available for 2016/17. In this case we have to be even more cautious about the implications of this relationship.

5 Transmission of preferences for redistribution from parents to children

This section presents evidence on the dynamics of the transmission from parents to children of preferences for redistribution (Table 4). Results of four specifications are considered, where the first one explains the preference for redistribution (PR) of the child from their own characteristics, those of the household, and those of the parent, without incorporating the PR of the parents. The variables that allow us to contrast the first two hypotheses of this paper are added to this first specification. The second and third specifications include the parent's PR , in the first case contemporaneously with the son (Column 2) and in the second with some years of lag (Column 3). The last specification is our preferred one, since it incorporates the dynamics of the parent's PR , that is, the lessons learned in response to his recent experience (Column 4).

When incorporating the level of PR , a significant correlation is only found when this variable is contemporaneous with the PR of the child. In order to interpret the magnitude of the coefficient, it should be taken into account that the range of the dependent variable is from 1 to 10, and that the average value of the child's preferences is 6.33. Each additional point of support for redistribution by the parents, on average explain nearly 3% of the response of the children. By incorporating the role of the changes in the parent's PR , it is found that a relevant association is observed when the parent had an increase in preferences. In those cases, preferences of children for redistribution are 12% above the average value.

Intergenerational transmission seems to be the most relevant factor in explaining the PR of young people, with highly significant relationship with recent dynamics. When parents have more volatile preferences the transmission is mediated by their recent experience. Specifically, if they increase their preferences for redistribution, their higher valuation is transmitted to their children. Contrary to what we expected, among parents who have more stable preferences over time, an aspect that could reflect more consolidated preferences, the correlation with the children does not exist. In fact, we confirmed that transmission is larger with stable preferences when we estimate the intergenerational transmission of other related variables (their view on the magnitude of taxes, scale of power) or primitive variables of preferences for redistribution (risk aversion), as shown in Table A4 of the Annex. These results are favourable evidence for the first hypothesis of this paper, while relativizing what the second postulates.

Table 4: Dynamics of the transmission of preferences for redistribution

	(1)	(2)	(3)	(4)
PR ^P 16/17		0.186*** (0.043)		
PR ^P 11/12			-0.060 (0.042)	0.052 (0.049)
Upward PR ^P (1=Yes)				0.783*** (0.237)
Downward PR ^P (1=Yes)				-0.291 (0.202)
Parental characteristics				
Age	-0.002 (0.012)	-0.001 (0.011)	-0.002 (0.012)	-0.001 (0.011)
White	0.228 (0.287)	0.182 (0.292)	0.219 (0.287)	0.157 (0.288)
Married	-0.146 (0.185)	-0.150 (0.183)	-0.145 (0.185)	-0.163 (0.183)
Years of education	-0.024 (0.030)	-0.020 (0.029)	-0.027 (0.030)	-0.026 (0.030)
Children characteristics				
Male	0.008 (0.168)	0.027 (0.166)	0.027 (0.168)	0.062 (0.167)
Years of education	-0.083* (0.047)	-0.083* (0.046)	-0.085* (0.047)	-0.091* (0.047)
Married	0.500 (0.392)	0.540 (0.384)	0.485 (0.391)	0.482 (0.394)
Unemployed	0.208 (0.195)	0.224 (0.190)	0.215 (0.195)	0.212 (0.192)
Household characteristics				
Family income	-0.299 (0.285)	-0.155 (0.281)	-0.301 (0.286)	-0.171 (0.284)
Family Income ²	0.010* (0.006)	0.007 (0.006)	0.010* (0.006)	0.008 (0.006)
Montevideo	-0.527*** (0.182)	-0.378** (0.179)	-0.551*** (0.182)	-0.399** (0.185)
Constant	7.680*** (0.793)	6.328*** (0.845)	8.122*** (0.853)	7.191*** (0.876)
Observations	760	760	760	760
R ²	0.035	0.066	0.038	0.064

Source: ELBU. Standard deviation in brackets. *p<0.10, **p<0.05, ***p<0.01.

Note: Family income divided by 10000 and Family income² divided 10000000

It should be noted that few control variables are significant: only the region of residence (Montevideo) and years of education affect the child's preferences for redistribution. These results indicate that most of the variables usually considered in the literature cannot be concluded as relevant at this stage of the life cycle. This is to be expected, to the extent that young people are just entering the

labour market, since they are receiving their first pay checks (with expectations that they will improve in the future), and surely they do not have much experience on how State transfers affect them. This does not imply that these variables are not relevant at later stages in the life cycle, where the effects associated with the rationality implicit in economic models begin to come into play. In fact, when we estimate the same models for adults (without considering the incidence of the previous generation in this case), relationships are found that are consistent with what the economic literature states (see Table A3 in the Annex). For example, the household's per capita income is shown to have a negative relationship and a parabola shape.

These differences observed between generations support the exploration of the mechanisms by which preferences are formed during adolescence and early adulthood for redistribution, which for some authors plays a key role in the formation of preferences for the rest of people's lives (Inglehart and Baker, 2000). This starting point may determine the trend around which the preferences of young people will fluctuate throughout their life cycle, depending on their specific connection with labour market institutions and the system of social protection. On the other hand, it is relevant to explore whether the transmission of these preferences presents heterogeneities, which leads us to inquire if there are specific characteristics of parents and children that result in some being more persistent between generations. These aspects are addressed in hypotheses *iii* and *iv*, and the results are presented in the next section.

6 Channels of intergenerational transmission of preferences for redistribution

6.1 The relevance of parental mobility and the hypotheses of the Piketty model

As stated in Section 2, and in line with Piketty (1995), the way in which parents transmit PR to their children can be heterogeneous and be mediated by their own experience and learning, as a result of their mobility trajectories. The result found in the previous section on the specific effect of changes in parents' PR is evidence consistent with this idea. This section discusses whether there are mechanisms, associated with the economic trajectory of the parent that enhance the transmission of preferences for redistribution, or others that mitigate it.

Mechanisms associated with mobility (inter or intragenerational) were considered, both objective or subjective, which, according to the theoretical reference model and empirical literature, could play a key role in the formation of preferences of the parent and the transmission to his children. The results indicate that the dynamics are different among those with high and low mobility, especially when the indicator is objective. In particular, it was found that the lag of the parents' preferences for redistribution (β_1) is significant when mobility is upward (Table 5), and has no effect for parents who did not have mobility or when it was downward. The differences between the inertia coefficients for each group are significant, as shown in Table 6.

However, the differences by parent's mobility status are no longer significant when considering the β_2 and β_3 effects, which reflect increases and reductions between periods in the parents' perceptions

of mobility. These results suggest that more stable and consolidated preferences are transmitted when parents have upward mobility trajectories. Among parents with changed preferences, their mobility trajectories do not seem to have a specific effect and the transmission to the children follows the same logic discussed in the previous section. That is, the preferences of the children are very sensitive to recent increases of those of the parents.

As commented in the section where the relevant variables were presented, on average, children had greater preferences for redistribution than parents. When the average values of these groups are observed (mean PR^{ch} and mean PR^p in Table 5) it was found that said difference operates in all cases, except in households with high objective inter and intragenerational mobility, that is, where there is greater intensity in the transmission from parents to children. In these cases, preferences of parents and children for redistribution have similar levels.

Table 5: Channels of transmission of preferences for redistribution: parental mobility

	Subj. inter.		Subj. intra.		Obj. inter.		Obj. intra.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Low	High	Low	High	Low	High	Low	High
PR^P 11/12	0.097*	-0.023	0.036	0.087	-0.024	0.195**	-0.070	0.147**
	(0.059)	(0.083)	(0.059)	(0.079)	(0.054)	(0.094)	(0.077)	(0.071)
Upward	0.797**	0.740**	0.575**	1.191***	0.811***	0.591	0.703*	0.933***
PR^P (1=Yes)	(0.320)	(0.360)	(0.277)	(0.440)	(0.272)	(0.495)	(0.376)	(0.348)
Downward	-0.215	-0.396	-0.387	-0.159	-0.326	-0.353	0.070	-0.332
PR^P (1=Yes)	(0.283)	(0.325)	(0.256)	(0.362)	(0.233)	(0.483)	(0.334)	(0.304)
Obs.	454	292	455	305	573	178	306	345
Mean PR^{ch}	6.310	6.178	6.338	6.307	6.267	6.272	6.367	6.116
Mean PR^p	6.172	6.000	6.148	6.245	6.053	6.305	6.131	6.019
R2	0.073	0.092	0.083	0.068	0.088	0.096	0.098	0.080

Source: ELBU. Standard deviation in brackets. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Parental controls: age, education, race, and marital status. Children controls: sex, education, marital status, and unemployment. Other controls: family income and region of residence

Table 6: Differences in preferences for redistribution, by parental mobility

	β_1		$\beta_1 + \beta_2$		$\beta_1 + \beta_3$	
	χ^2	p-value	χ^2	p-value	χ^2	p-value
Subjective inter.	1.335	0.248	0.122	0.727	0.565	0.452
Subjective intra.	0.260	0.610	1.570	0.210	0.436	0.509
Objective inter.	4.289	0.038	0.651	0.420	0.194	0.659
Objective intra.	3.704	0.054	0.001	0.999	0.157	0.692

Source: ELBU.

6.2 The Benabou and Tirole hypothesis and the role of parental personality traits

The personality traits of the parents are a central aspect in the model of Benabou and Tirole (2006), where there is express reference to the role of self-control that will be empirically approximated from the *LoC*. From this model it is expected that parents who have the highest internal *LoC* and who perceive themselves as agents of their own destiny, that is to say who have greater self-control, transmit beliefs to their children that stimulate effort. Parents with internal *LoC* show marked average differences in their preferences for redistribution compared to those with external *LoC*, the lower values being in the first group (mean PR^{ch} and mean PR^p in Table 7). It is precisely that group, when the *LoC* is measured by the *Change* variable, which transmits its preferences with greater intensity, as predicted by the model. In this case the variable $PR^p_{11/12}$ is significant and positive with internal *LoC* and essentially zero when the *LoC* is external (see Table 7). On the other hand, this relationship is higher when the changes in the preferences of the parent are considered, where the increases in preferences are transferred to the children. The relationship with the preferences for redistribution is very similar to that observed in the case of parents with high objective intragenerational mobility, however, the results should be taken with caution because the coefficient differences have significance values of slightly higher than 10% (see Table 8)

Table 7: Channels of transmission of preferences for redistribution: *LoC*

	Destiny		Change	
	(1) External	(2) Internal	(3) External	(4) Internal
$PR^p_{11/12}$	0.031 (0.078)	0.066 (0.063)	0.001 (0.069)	0.151** (0.068)
Upward	0.779*	0.714**	0.643*	0.928***
PR^p (1=Yes)	(0.410)	(0.309)	(0.356)	(0.326)
Downward	-0.413	-0.274	-0.504	-0.047
PR^p (1=Yes)	(0.371)	(0.266)	(0.311)	(0.290)
Obs.	307	423	370	376
Mean PR^{ch}	6.268	6.242	6.388	6.140
Mean PR^p	6.362	5.904	6.287	5.925
R2	0.074	0.066	0.082	0.072

Source: ELBU. Standard deviation in brackets. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Parental controls: age, education, race, and marital status. Children controls: sex, education, marital status, and unemployment. Other controls: family income and region of residence

Table 8: Differences in preferences for redistribution by parents' *LoC*

	β_1		$\beta_1 + \beta_2$		$\beta_1 + \beta_3$	
	χ^2	p-value	χ^2	p-value	χ^2	p-value
Destiny	0.111	0.739	0.003	0.956	0.164	0.685
Change	2.274	0.132	0.683	0.408	2.358	0.124

Source: ELBU.

The results just presented could explain why people with internal *LoC* have lower preferences, and it can be inferred that those who transmit their preferences more intensely are those with lower preferences for redistributive policies, because they believe that effort pays. The model of Benabou and Tirole (2006) is based on the fact that differences in personality traits alter beliefs and perceptions of fairness. It is these traits that give rise to the transmission to their children. A priori, the model does not conclude which equilibrium is more likely to prevail, that is, if the transmission is more intense in parents with high or low valuation of effort.

In Table 9 we show evidence in this regard, where estimates are presented by identifying parents according to two criteria: whether they have high or low score in the *BFI* in the Conscientiousness and Openness to Experience dimensions, and whether the parent was between 18 and 25 years old when Uruguay suffered the greatest macroeconomic crisis in its history in 2002. The literature is quite conclusive regarding the fact that it is expected that people with low scores in conscientiousness and those who lived through the crisis have greater preferences for redistribution. When observing the average values of the parents' preferences for redistribution, these results are verified, with no relevant differences between the children being identified. Regarding the openness to experience dimension, there is less evidence, and in this case it is found that those who have less openness to experience have a greater preference for redistributive policies among both parents and children. However, as already mentioned, it is expected that intergenerational transmission will be more intense among people with low openness, and there is no expected link in the estimates for groups with different scores in conscientiousness and for those who did or did not experience the 2002 crisis.

When observing the estimates, there are marked differences, where the transmission occurs with greater force in cases where parents have greater preferences for redistribution, both when conscientiousness and openness to experience is low, and also among those who were between 18 and 25 years old at the time of the 2002 crisis. This result differs from that found for the *LoC* where the transmission was more intense among those who placed a greater value on the actions for which they are responsible. In particular, significant differences are found in $PR^P_{11/12}$ and when preferences are ascending. Again, in these cases the average values of the preferences of the children for redistribution converge toward that of the parents.

Table 9: Channels of transmission of preferences for redistribution: parental personality traits

	BFI					
	Conscient.		Openness		Crisis	
	(1) Low	(2) High	(3) Low	(4) High	(5) No	(6) Yes
PR ^P 11/12	0.155** (0.078)	0.004 (0.060)	0.114** (0.052)	-0.173 (0.111)	0.000 (0.054)	0.193** (0.089)
Upward PR ^P (1=Yes)	1.459*** (0.375)	0.369 (0.311)	1.014*** (0.276)	0.176 (0.483)	0.523* (0.272)	1.446*** (0.495)
Downward PR ^P (1=Yes)	0.061 (0.338)	-0.485* (0.273)	-0.269 (0.244)	-0.391 (0.423)	-0.195 (0.233)	-0.791* (0.461)
Obs.	288	463	548	191	598	162
Mean PR ^{ch}	6.374	6.295	6.515	5.933	6.312	6.379
Mean PR ^p	6.331	6.061	6.264	5.863	6.121	6.404
R2	0.129	0.052	0.083	0.103	0.064	0.185

Source: ELBU. Standard deviation in brackets. *p<0.10, ** p<0.05, *** p<0.01. Parental controls: age, education, race, and marital status. Children controls: sex, education, marital status, and unemployment. Other controls: family income and region of residence

Table 10: Differences in preferences for redistribution by parental personality traits

	β_1		$\beta_1 + \beta_2$		$\beta_1 + \beta_3$	
	χ^2	p-value	χ^2	p-value	χ^2	p-value
Crisis	4.000	0.045	4.108	0.042	0.686	0.407
Conscient.	2.134	0.144	5.539	0.018	2.956	0.086
Openness	5.59	0.018	3.45	0.063	0.910	0.341

Source: ELBU.

6.3 Characteristics of the children: effects on the assimilation of the preferences of the parents and the decisions of the parents

With the intention of contrasting hypothesis *iv*, estimates were made that attempt to capture heterogeneity in intergenerational transmission according to objective characteristics of the child or perceptions of the parent about their characteristics. First, some strongly exogenous channels were explored: the sex of the young person, if they have siblings, and if he/she is the first child of the parents considered in this paper. The results are presented in Table 11, which shows that the transmission is more intense when the child is male. In this case the differences between men and women are significant only in PR^P11/12, although in the case of female children the increase in the preferences of the parent is a significant variable. A priori, the transmission was expected to operate for both sexes but with varying degrees of intensity. Some papers postulate and demonstrate that the transmission should be greater when the sex of the parent and child is the same. In our case, this effect would not be in effect, because most of the parents who respond are mothers. This difference could be associated with

gender roles, where males already assimilate their role as workers and adopt similar views to their parents. It could also reflect some kind of discrimination inside the home, although we do not believe this is relevant for the Uruguayan case. A final hypothesis could be associated with women having greater preferences, which could lead to daughters and mothers having less variability on the scale used, thereby reducing the correlation between generations. However, the average values of sons and daughters are very similar. It is, therefore, a result that requires further analysis to allow for a clearer theoretical interpretation.

Unlike the sex variable, when considering the presence of siblings or being the first child in the home, no significant results were observed in PR^P 11/12. In this case, the starting hypothesis was that the greatest transmission from the parents would occur when the number of children is low or to the extent that the child was the first in the family, while the literature indicates that in these cases the investments of the parents are greater. What is observed is that the coefficient associated with ascending preferences for redistribution is higher when the young person does not have a sibling or is the first child, however, as seen in Table 12, the differences are not significant.

Table 11: Channels of transmission of preferences for redistribution: Sex, sibling, and firstborn

	Sex		Sibling		Firstborn	
	(1) Female	(2) Male	(3) No	(4) Yes	(5) No	(6) Yes
PR^P 11/12	-0.028 (0.065)	0.144** (0.067)	0.063 (0.088)	0.032 (0.056)	0.030 (0.056)	0.068 (0.088)
Upward PR^P (1=Yes)	0.956*** (0.322)	0.558 (0.350)	1.118** (0.497)	0.685** (0.270)	0.688** (0.271)	1.078** (0.494)
Downward PR^P (1=Yes)	-0.177 (0.295)	-0.439 (0.296)	-0.048 (0.432)	-0.357 (0.238)	-0.342 (0.239)	-0.117 (0.429)
Obs.	386	374	215	545	543	217
Mean PR^{ch}	6.307	6.343	6.480	6.268	6.293	6.394
Mean PR^p	6.197	6.170	6.384	6.103	6.141	6.275
R2	0.101	0.068	0.075	0.081	0.081	0.075

Source: ELBU. Standard deviation in brackets. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Parental controls: age, education, race, and marital status. Children controls: sex, education, marital status, and unemployment. Other controls: family income and region of residence

Table 12: Differences in preferences for redistribution by sex of the child and presence of siblings

	β_1		$\beta_1 + \beta_2$		$\beta_1 + \beta_3$	
	χ^2	p-value	χ^2	p-value	χ^2	p-value
Sex	3.284	0.069	0.198	0.655	0.054	0.816
Sibling	0.091	0.763	0.626	0.429	0.528	0.445
Firstborn	0.141	0.707	0.544	0.461	0.553	0.445

Source: ELBU.

Some psychometric tests, from the 2016/17 wave, were considered to approximate the abilities of the children: the *Neurot.* component of the *BFI*, the externalized and internalized problems of the *SDQ* to measure non-cognitive aspects, and the analogy component of the *WAIS* that provides an approximation of the cognitive dimension.

The results with the three variables on non-cognitive skills are consistent: the transmission operates more intensely when problems with these instruments are not identified. The differences are significant among those with high and low scores, and the magnitude of the transmission is similar, although slightly more intense among those with low internalized problems measured with the *SDQ* (see Table 13). The *WAIS* result is also consistent, given that the differences are significant in the $PR^P_{11/12}$, and the transmission is greater in cases where the young person is scored highly on this instrument.

This would indicate that the degree of intergenerational transmission operates with greater intensity among children with greater cognitive and non-cognitive abilities, whether real or as perceived by their parents. This could be consistent with the fact that these children are more receptive to assimilating preferences or that their parents make greater investments in them. Consequently, it would be consistent with the predictions that arise from transmission models based on parental human capital investment decisions.

Table 13: Channels of transmission of preferences for redistribution: children's skills

	BFI - Neurot.		SDQ int.		SDQ ext.		WAIS	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Low	High	Low	High	Low	High	Low	High
$PR^P_{11/12}$	0.109** (0.055)	-0.048 (0.091)	0.106** (0.053)	-0.104 (0.098)	0.106** (0.051)	-0.151 (0.111)	-0.010 (0.055)	0.188** (0.090)
Upward PR^P (1=Yes)	0.680** (0.267)	1.074** (0.508)	0.934*** (0.265)	0.546 (0.529)	0.696*** (0.259)	1.118* (0.579)	0.728*** (0.280)	0.684 (0.462)
Downward PR^P (1=Yes)	-0.455* (0.243)	-0.048 (0.405)	-0.376 (0.235)	-0.078 (0.453)	-0.540** (0.229)	0.636 (0.518)	-0.235 (0.247)	-0.622 (0.414)
Obs.	541	217	578	182	616	144	555	205
Mean PR^{ch}	6.338	6.282	6.372	6.181	6.345	6.250	6.283	6.471
Mean PR^P	6.228	6.099	6.198	6.138	6.190	6.153	6.160	6.249
R2	0.082	0.121	0.078	0.098	0.079	0.113	0.069	0.136

Source: ELBU. Standard deviation in brackets. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Parental controls: age, education, race, and marital status. Children controls: sex, education, marital status, and unemployment. Other controls: family income and region of residence

Table 14: Differences in preferences for redistribution by children’s skills

	β_1		$\beta_1 + \beta_2$		$\beta_1 + \beta_3$	
	χ^2	p-value	χ^2	p-value	χ^2	p-value
BFI - Neurot.	2.126	0.145	0.144	0.704	0.324	0.569
SDQ int.	3.473	0.062	0.767	0.381	0.035	0.851
SDQ ext.	4.539	0.033	0.062	0.803	3.024	0.082
WAIS	3.652	0.056	0.075	0.784	0.172	0.676

Source: ELBU.

6.4 Magnitude of intergenerational transmission of preferences for redistribution

In order to quantify and compare the effect of the different mechanisms that affect preferences of the children for redistribution, and the transmission from the parents, two simulation exercises are carried out in this section. On the one hand, a counterfactual distribution is constructed assuming that there is no intergenerational transmission, that is, $\beta_1 = \beta_2 = \beta_3 = 0$. Contrasting this counterfactual with the real preferences of the child for redistribution allows us to quantify how the transmission from the parents operates in the different channels. On the other hand, we investigated the magnitude of the transmission associated with the different transmission channels from parents to children. For this, a new simulation was carried out that involves substituting the coefficients associated with the intergenerational transmission mechanisms with those of the complementary channel. Thus, for example, in the case of the internal *LoC* (channel j) the parameters of the external *LoC* are imputed (channel $-j$). With this objective, the following counterfactual was built:

$$u_{ch,t}^j = \hat{\beta}_1^{-j} \cdot u_{p,t-1}^j + \hat{\beta}_2^{-j} \cdot 1(u_{p,t}^j - u_{p,t-1}^j > 0) + \hat{\beta}_3^{-j} \cdot 1(u_{p,t}^j - u_{p,t-1}^j < 0) + \hat{\alpha}_p^j \cdot x_{p,t} + \hat{\alpha}_{ch}^j \cdot x_{ch,t} + \epsilon_{ch,t}^j$$

where the counterfactual preference of the child for redistribution with the characteristic j is constructed by imputing the parameters β_1 , β_2 , and β_3 estimated for the complementary channel $-j$.

These results are presented in Table 15. Column (1) refers to the average value of the child’s preferences for redistribution for each of the channels. Column (2) shows the average value of the counterfactual that assumes there is no transmission from parents to children, and Column (3) has the counterfactual where the transmission parameters are modified by the complementary channel. Columns (4) and (5) show the difference of counterfactuals with respect to the real value of preferences for redistribution.

The most important effects of intergenerational transmission (Column 4) are naturally associated with the channels where the parameter β_1 , and in some cases β_2 , discussed in the previous sections, were significant. Due to their magnitude, three channels of their parents greater than 25% stand out. These are: those who have high intragenerational mobility (objective), low conscientiousness, and parents who were between 18 and 25 years old in the 2002 crisis. One step below, with impacts greater than 20%, is high intergenerational mobility, the internal *LoC* (*Change*), and those cases in which the child has a high WAIS score. This last channel is the only characteristic of the child that has relatively high

changes, so although the three groups of channels are relevant, this one is shown as having the least effects. Finally, it should be noted that although the intergenerational transmission coefficients among parents with a high openness to experience score are not significant, the counterfactual distribution shows that as a consequence of the transmission, the child's preferences are reduced by more than 15%.

The counterfactuals that arise from changing the parameters of intergenerational transmission between channels show some expected regularities (Column 5). When parameters involving significant levels of transmission are replaced by others that do not, for example if the parameters of low intragenerational (objective) mobility among children whose parents had high mobility are considered, the variations are very close to those found for the counterfactual of absence of transmission. On the contrary, by imposing the parameters that include some degree of transmission in the groups where it did not exist, the result for child's preferences are substantially higher. These are groups where, in general, the starting point (without the transmission from parents to children) is higher in terms of preferences, and imposing this additional mechanism amplifies that level. The case of intragenerational (objective) mobility is quite evident. Without intergenerational transmission of preferences, children of parents with low mobility have stronger preferences for redistribution than those who have high mobility (6.39 vs. 5.10). Intergenerational transmission (which applies when mobility is high) makes preferences converge (6.35 vs. 6.47). However, if the mechanism of transmission of high mobility had been imposed on those of low mobility, the preferences of the latter group would have been higher, at 7.66.

The mechanism indicated in the previous paragraph applies for all channels with the exception of the *BFI* Openness to Experience dimension and, to a lesser extent, the internalized problems of the *SDQ*. In the first case, it is observed that imposing high score parameters among children whose parents have low scores generates a significant drop in preferences of the child for redistribution, causing the values to be lower than those simulated in the absence of transmission (4.39 vs. 5.63). The same applies to children who have low internalized problems, although in this case the changes are minor. While the absence of transmission implied a preference score of 5.61, by incorporating the parameters of high problems the preferences are reduced to 5.07.

Table 15: Preferences of children for redistribution. Effect of channel changes

		Real	Counterfactual		Variation	
			$\hat{\beta}_1 = \hat{\beta}_2 = \hat{\beta}_3 = 0$	$\hat{\beta}_1^{-j}, \hat{\beta}_2^{-j}, \hat{\beta}_3^{-j}$	(1)/(2)	(1)/(3)
		(1)	(2)	(3)		
(a) Mobility						
Subjective inter.	Low	6.394	5.608	5.502	1.14	1.16
	High	6.320	6.396	7.160	0.99	0.88
Subjective intra.	Low	6.334	6.084	6.939	1.04	0.91
	High	6.387	5.543	5.765	1.15	1.11
Objective inter	Low	6.439	6.658	7.754	0.97	0.83
	High	6.223	5.158	4.941	1.21	1.26
Objective intra.	Low	6.353	6.398	7.660	0.99	0.83
	High	6.471	5.104	5.049	1.27	1.28
(b) Personality						
Destiny	External	6.385	6.117	6.665	1.04	0.96
	Internal	6.340	5.837	6.091	1.09	1.04
Change	External	6.415	6.447	7.741	1.00	0.83
	Internal	6.316	5.140	5.147	1.23	1.23
BFI - Conscient.	Low	6.435	4.950	4.904	1.30	1.31
	High	6.310	6.391	7.841	0.99	0.80
BFI - Openness	Low	6.570	5.633	4.399	1.17	1.49
	High	5.903	7.114	8.024	0.83	0.74
Crisis	No	6.325	6.261	7.565	1.01	0.84
	Yes	6.481	4.991	5.109	1.30	1.27
(c) Children's characteristics						
Sex	Female	6.346	6.278	7.196	1.01	0.88
	Male	6.374	5.472	5.463	1.16	1.17
Sibling	No	6.536	5.802	6.061	1.13	1.08
	Yes	6.289	6.026	6.744	1.04	0.93
Firstborn	No	6.329	6.073	6.786	1.04	0.93
	Yes	6.426	5.704	5.955	1.13	1.08
BFI - Neurot.	Low	6.375	5.644	5.641	1.13	1.13
	High	6.306	6.323	7.019	1.00	0.90
SDQ - int.	Low	6.427	5.618	5.076	1.14	1.27
	High	6.146	6.684	7.480	0.92	0.82
SDQ - ext.	Low	6.366	5.704	5.335	1.12	1.19
	High	6.333	6.729	7.405	0.94	0.86
WAIS	Low	6.321	6.259	7.410	1.01	0.85
	Alto	6.468	5.282	5.311	1.22	1.22

Source: ELBU.

7 Conclusions

The paper explores the transmission of redistribution preferences from parents to children. It is a relatively new field of study, with no previous papers that attempt to explain these preferences among young people whose age is close to 20 years. This aspect is central, since it is a key stage of life, where beliefs are formed that will vary only to minor degrees in later stages. The findings presented in this article thus constitute a relevant contribution in the field of political economics.

It is found that the recent learning process of parents is relevant for the average young person, in a way that those who have increased their preferences in recent years are those who most strongly transmit their beliefs. This result was not expected by the authors, as it was hypothesized that the transmission would be stronger from parents with more stable preferences.

We investigated different channels that can make the transmission from parents to children heterogeneous based on the Bayesian models proposed by Piketty and in Benabou and Tirole. The former emphasizes the role of social mobility, while the latter focus on the personality traits of the parents. A third channel involves the intergenerational transition mechanisms based on the returns expected by the parents, that is, based on the abilities of the children. It is found that the three groups of channels are all involved, making the transmission from parents to children more intense.

These findings are consistent with the predictions of theoretical reference models and the coexistence of very heterogeneous beliefs and preferences for redistribution. They also highlight the role of intrafamily transmissions in the formation of tastes, preferences, and attitudes, which could be relevant in other areas that transcend preferences for redistribution. Finally, while it confirms that at the family level there is a certain persistence in preferences, the experiences and events that parents face are key to their long-term stability, and there is a preference component that seems much more volatile.

These results are robust to different specifications and in particular as shown by exploiting the longitudinal nature of the data to mitigate potential endogeneity problems associated with measurement errors and omitted variables. However, they cannot be interpreted in causal terms, and other strategies need to be explored to advance in this regard. Future research has the challenge of advancing the causal interpretations of these links.

8 Annex

Table A1: Probability of being interviewed in 2016/17. Wave 1. Parents and children

	Parents	Children	Parents and children
Sex (1=Female)	0.005 [0.003]	0.001 [0.021]	0.004 [0.021]
Size of household	0.009 [0.005]	0.004 [0.006]	0.004 [0.006]
Years of education	0.008** [0.004]	0.004 [0.003]	0.0054 [0.003]
Family Income/1000 Montevideo	0.002 [0.004]	0.001 [0.004]	0.003 [0.004]
	-0.056*** [0.027]	-0.047** [0.021]	-0.022 [0.021]
Constant	0.368*** [0.034]	0.431*** [0.050]	0.370*** [0.049]
N	2778	2778	2778
R ²	0.006	0.003	0.002

Source: ELBU. Standard deviation in brackets. *p<0.10, **p<0.05, ***p<0.01.

Table A2: Transition matrix

	Low	Intermediate	High	Total
(a) Intragenerational[†]				
Low (11/12)	36.4	45.9	17.8	100.0
Intermediate (11/12)	23.5	55.3	21.2	100.0
High (11/12)	28.3	49.1	22.6	100.0
Total	28.6	51.2	20.2	100.0
(b) Intergenerational[‡]				
Low (parent)	50.0	33.5	16.5	100.0
Intermediate (parents)	28.8	55.2	16.0	100.0
High (parents)	28.0	50.0	22.0	100.0
Total	34.8	47.8	17.3	100.0

Source: ELBU.[†] Columns correspond to parental preferences for redistribution (2016/17). [‡] Columns correspond to children preferences for redistribution

Table A3: Parent's preference for redistribution: Inertia and individual characteristics

	2011/12	2016/17
	(1)	(2)
PR ^P 11/12		0.070*
		(0.036)
Family Income	0.036	-0.211
	(0.148)	(0.129)
Var. Family Income	-0.173	
	(0.182)	
Montevideo	-0.875***	-0.810***
	(0.162)	(0.158)
Age	-0.003	-0.005
	(0.010)	(0.010)
White	0.373**	0.347**
	(0.172)	(0.166)
Married	0.209	0.158
	(0.158)	(0.154)
Years of education	-0.049*	-0.030
	(0.025)	(0.025)
Family Income ²		0.001*
		(0.001)
Constant	6.667***	6.290***
	(0.545)	(0.599)
Obs.	939	971
R ²	0.046	0.049

Source: ELBU. Standard deviation in brackets. *p<0.10, **p<0.05, ***p<0.01. Note: Family income divided 10000 and Family income² divided 10000000

Table A4: Intergenerational dynamics of beliefs

	(1)	(2)	(3)
	Tax	Power	Risk
Beliefs 11/12	0.341***	0.177***	0.167***
	(0.086)	(0.037)	(0.044)
Upward beliefs (1=Yes)	0.337***	0.641***	0.149***
	(0.064)	(0.200)	(0.042)
Downward beliefs (1=Yes)	-0.239**	-0.695***	-0.155***
	(0.093)	(0.211)	(0.048)
Dep. var. mean	0.171	5.129	0.357
R ²	0.087	0.099	0.044
Obs.	801	940	1009

Source: ELBU. Standard deviation in brackets *p<0.10, **p<0.05, ***p<0.01. Parental controls: age, education, race, and marital status. Children controls: sex, education, marital status, and unemployment. Other controls: family income and region of residence

References

- Alesina, A. and Angeletos, G. M. (2005). Fairness and redistribution. *American Economic Review*, 95(4):960–980.
- Alesina, A. and Giuliano, P. (2011). Preferences for redistribution. In *Handbook of Social Economics*, pages 93–131. North-Holland.
- Alesina, A. and Glaeser, E. (2004). *Fighting Poverty in the US and Europe: A World of Difference*. Oxford University Press.
- Alesina, A. and La Ferrara, E. (2005). Preferences for redistribution in the land of opportunities. *Journal of Public Economics*, 89(5-6):897–931.
- Arrondel, L. (2013). Are "daddy's boys" just as rich as daddy? The transmission of values between generations. *Journal of Economic Inequality*, 11(4):439–471.
- Becker, G., Lewis, G., and Schultz, T. (1974). *Economics of the family: Marriage, children, and human capital*. University of Chicago Press, Chicago.
- Becker, G. S. and Tomes, N. (1986). Human Capital and the Rise and Fall of Families. *Journal of Labor Economics*, 4(3, Part. 2):S1–S39.
- Benabou, R. and Tirole, J. (2006). Belief in a Just World and Redistributive Politics. *The Quarterly Journal of Economics*, 121(2):699–746.
- Bischoff, I. and Kusa, N. (2015). Policy preferences for inheritance taxation. *Joint Discussion Paper Series in Economics*, 31.
- Bisin, A. and Verdier, T. (2000). "Beyond the Melting Pot": Cultural Transmission, Marriage, and the Evolution of Ethnic and Religious Traits. *Quarterly Journal of Economics*, 115(3):955–988.
- Bisin, A. and Verdier, T. (2001). The Economics of Cultural Transmission and the Dynamics of Preferences. *Journal of Economic Theory*, 97(2):298–319.
- Bisin, A. and Verdier, T. (2011). The economics of cultural transmission and socialization. In Benhabib, J., Bisin, A., and Jackson, M., editors, *Handbook of social economics*, chapter 9, pages 339–416. North-holl edition.
- Borrell-Porta, M., Costa-Font, J., and Philipp, J. (2018). The 'mighty girl' effect: Does parenting daughters alter attitudes towards gender norms? *Oxford Economic Papers*, 71(1):25–46.
- Bowles, S. (1998). Endogenous preferences: The cultural consequences of markets and other economic institutions. *Journal of Economic Literature*, 36(1):75–111.
- Boyd, R. and Richerson, P. J. (1985). *Culture and the Evolutionary Process*. University of Chicago Press.
- Breen, R. and García-Peñalosa, C. (2002). Bayesian Learning and Gender Segregation. *Journal of Labor Economics*, 20(4):899–922.
- Budria, S., Ferrer-i Carbonell, A., and Ramos, X. (2012). Personality and dislike for inequality: Typifying inequality aversion with respect to locus of control. *Mimeo*.

- Bütikofer, A. (2013). Revisiting 'mothers and sons' preference formation and the female labor force in Switzerland. *Labour Economics*, 20:82–91.
- Cappelen, A., List, J., Samek, A., and Tungodden, B. (2016). The Effect of Early Education on Social Preferences. *National Bureau of Economic Research*, w22898.
- Cavalli-Sforza, L. L. and Feldman, M. W. (1981). *Cultural transmission and evolution: a quantitative approach*. Princeton University Press.
- Clark, A. and D'Ambrosio, C. (2015). Attitudes to income inequality: Experimental and survey evidence. In *Handbook of Income Distribution. Vol. 2*, pages 1147–1208. Elsevier.
- Conley, D. and Rauscher, E. (2013). The Effect of Daughters on Partisanship and Social Attitudes Toward Women. *Sociological Forum*, 28(4):700–718.
- Corneo, G. (2001). Inequality and the State: Comparing US and German Preferences. *Annales d'Économie et de Statistique*, pages 283–296.
- Corneo, G. and Grüner, H. P. (2002). Individual preferences for political redistribution. *Journal of Public Economics*, 83(1):83–107.
- Dohmen, T., Falk, A., Huffman, D., and Sunde, U. (2012). The intergenerational transmission of risk and trust attitudes. *Review of Economic Studies*, 79(2):645–677.
- Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., and Wagner, G. G. (2011). Individual risk attitudes: Measurement, determinants, and behavioral consequences. *Journal of the European Economic Association*, 9(3):522–550.
- Farré, L. and Vella, F. (2013). The Intergenerational Transmission of Gender Role Attitudes and its Implications for Female Labour Force Participation. *Economica*, 80(318):219–247.
- Fernandez, R. and Fogli, A. (2009). Culture: An empirical investigation of beliefs, work, and fertility. *American Economic Journal: Macroeconomics*, 1(1):146–77.
- Fernández, R., Fogli, A., and Olivetti, C. (2004). Mothers and sons: Preference formation and female labor force dynamics. *Quarterly Journal of Economics*, 119(4):1249–1299.
- Fong, C. (2001). Social preferences, self-interest, and the demand for redistribution. *Journal of Public Economics*, 82(2):225–246.
- Fowler, J. H., Baker, L. A., and Dawes, C. T. (2008). Genetic variation in political participation. *American Political Science Review*, 102(2):233–248.
- Frank, R. H. (2016). *Success and luck: Good fortune and the myth of meritocracy*. Princeton University Press.
- Gerber, A., Huber, G., Doherty, D., and Dowling, C. (2011). The Big Five Personality Traits in the Political Arena. *Annual Review of Political Science*, 14:265–287.
- Gerber, A. S., Huber, G. A., Doherty, D., Dowling, C. M., and Ha, S. E. (2010). Personality and political attitudes: Relationships across issue domains and political contexts. *American Political Science Review*, 104(1):111–133.
- Giuliano, P. and Spilimbergo, A. (2013). Growing up in a recession. *Review of Economic Studies*, 81(2):787–817.

- Goodman, A., Lamping, D. L., and Ploubidis, G. B. (2010). When to use broader internalising and externalising subscales instead of the hypothesised five subscales on the strengths and difficulties questionnaire (SDQ): Data from british parents, teachers and children. *Journal of Abnormal Child Psychology*, 38(8):1179–1191.
- Goodman, R. (1997). The strengths and difficulties questionnaire: A research note. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 38(5):581–586.
- Gronqvist, E., Öckert, B., and Vlachos, J. (2017). The Intergenerational Transmission of Cognitive and Non-Cognitive Abilities. *Journal of Human Resources*, 52(4):887–918.
- Hjorth-Trolle, A. (2018). Beliefs, parental investments, and intergenerational persistence: A formal model. *Rationality and Society*, 30(1):108–154.
- Hogg, M. and Vaughan, G. (2008). *Social Psychology*. Pearson/Prentice Hal.
- Iacus, S. M., King, G., and Porro, G. (2011). Multivariate matching methods that are monotonic imbalance bounding. *Journal of the American Statistical Association*, 106(493):345–361.
- Inglehart, R. and Baker, W. E. (2000). Modernization, Cultural Change, and the Persistence of Traditional Values. *American Sociological Review*, pages 19–51.
- John, O. and Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In Pervin, L. and John, O., editors, *Handbook of personality: Theory and research*, pages 102–138. Guilford Publications.
- Johnston, D. W., Schurer, S., and Shields, M. A. (2013). Maternal gender role attitudes, human capital investment, and labour supply of sons and daughters. *Oxford Economic Papers*, 66(3):631–659.
- Kosse, F., Deckers, T., Pinger, P., Schildberg-Hoerisch, H., and Falk, A. (2019). The Formation of Prosociality: Causal Evidence on the Role of Social Environment. *Journal of Political Economy*.
- Lee, B. and Conley, D. (2016). Does the gender of offspring affect parental political orientation? *Social Forces*, 94(3):1103–1127.
- Lefcourt, H. M. (1991). Locus of control. In J. P. Robinson, P. R. Shaver, . L. S. W., editor, *Measures of social psychological attitudes, Vol. 1. Measures of personality and social psychological attitude*, pages 413–499. Academic Press, San Diego, CA, US.
- Levenson, H. (1981). Differentiating among internality, powerful others, and chance. In Lefcourt, H., editor, *Research with the Locus of Control Construct*, pages 15–63. Academic Press, New York.
- Linos, K. and West, M. (2003). Self-interest, Social Beliefs, and Attitudes to Redistribution: Re-addressing the Issue of Cross-national Variation. *European Sociological Review*, 19(4):393–409.
- Lundberg, S. (2005). The Division of Labor by New Parents: Does Child Gender Matter? *IZA Discussion Papers*, 1787.
- Mondak, J. J. (2010). *Personality and the foundations of political behavior*. Cambridge University Press.
- Morrill, M. S. and Morrill, T. (2013). Intergenerational links in female labor force participation. *Labour Economics*, 20:38–47.

- Oswald, A. J. and Powdthavee, N. (2010). Daughters and left-wing voting. *Review of Economics and Statistics*, 92(2):213–227.
- Piketty, T. (1995). Social Mobility and Redistributive Politics. *The Quarterly Journal of Economics*, 110(3):551–584.
- Piketty, T. (1998). Self-fulfilling beliefs about social status. *Journal of Public Economics*, 70(1):115–132.
- Pittau, M. G., Massari, R., and Zelli, R. (2013). Hierarchical modelling of disparities in preferences for redistribution*. *Oxford Bulletin of Economics and Statistics*, 75(4):556–584.
- Ravallion, M. and Lokshin, M. (2000). Who wants to redistribute?: The tunnel effect in 1990s Russia. *Journal of Public Economics*, 76(1):87–104.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological monographs*, 80(1):1.
- Washington, E. L. (2008). Female socialization: How daughters affect their legislator fathers' voting on women's issues. *American Economic Review*, 98(1):311–32.
- Zumbühl, M., Dohmen, T. J., and Pfann, G. A. (2018). Parental Investment and the Intergenerational Transmission of Economic Preferences and Attitudes. *Economics of Education Working Paper, Series 0148*, IBW.