# Leaving Mum Alone? The Effect of Parental Divorce on Children Leaving Home Decisions

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## (Draft)

#### ABSTRACT

There is a growing literature considering the relationship between parental divorce and children's life-course patterns. However, there is no general consensus on whether parental separation accelerates or postpones children's transition to adulthood. The aim of this paper is to add to this literature by analyzing the effect of parental divorce on the timing of nest-leaving of young adults. The analysis touches on several important issues, many of which are related to self-selection. Apart from providing descriptive findings using the recent Gender and Generations Survey (GGS) for six European countries (Bulgaria, France, Georgia, Hungary, Italy, Russia), we assess the extent to which the associations between divorce and nest-leaving timing are masked by different effects. The selection effect concerns the fact that children of divorced parents may have different socio-economic background, which would make them in any case leave the parental home at a different rate. Then, other two key questions arises in this setting: first, do children of divorced parents develop different own characteristics that affect their human capital construction and their socialization, which in turn make them leave the parental home a different rate? Secondly: do children of divorced people leave parental home at a different age also depending on the new family structure, i.e. step-family or single-parent family, because, for instance in the latter situation, the mother would be alone at home in case they leave? Our findings show that children living with a lone mother leave home at a slower rate, especially if they are only children or if their siblings already left home.

#### **KEYWORDS**:

#### Gender and Generation Survey, divorce, living home, life-course patterns, Bulgaria, France, Georgia, Hungary, Italy, Russia

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### **1. Introduction**

There is a growing literature considering the relationship between parental divorce and children's life-course patterns, although the majority considers the North American context and only very few have dealt with European countries. In the wider literature on consequences of marital dissolution for children, only few devote attention to the role that family structure – altered as consequence of family disruption – plays in the propensity for a young adult to leave home. As result, there is no general consensus on whether parental separation accelerates or postpones the children's transition to adulthood.

The aim of this paper is to add to this literature by investigating the impact of childhood family structure on the timing of home-leaving and disentangling different effects of parental divorce. Our analysis contributes to the relatively large literature on the leaving home process, but filling an important gap in this literature since little focus is given on how the family structure affects leaving home decisions.

The key motivation behind this paper is to better understand the leaving home process, since there are huge variations in timing within and across European countries (Billari *et al.* 2002; Billari and Liefbroer 2010; Corijn and Klijzing 2001). At the same time, divorce rates are increasing in many European countries, and our analysis provides insights on how increasing divorce rates may affect the way young people decide to live together with their parents or apart.

The literature has raised several hypotheses where parents' separation may have both direct and indirect effects on children's transition to adulthood. Importantly, these effects have economic, emotional and cultural motivations. Our research strategy aims to disentangle different effects of family disruption on children leaving home timing, in particular examining what happens at the time the divorce takes place, which can affect the child's development, and what is family structure at the time home leaving decision, taking into consideration the self selection issues associated with divorce. in this framework we try to assess the extent to which the overall association between divorce and leaving home is masked by various effects. The selection effect concerns the fact that children of divorced parents may have different socio-economic background, which would make them in any case leave the parental home at a different rate. Then, other two key questions arises in this setting: first, do children of divorced parents develop different own characteristics that affect their human capital construction and their socialization, which in turn make them leave the parental home at different rate? Secondly: do children of divorced people leave parental home at a different age also depending on the new family structure, i.e. step-family or single-parent family, because, for instance in the latter situation, the mother would be alone at home in case they leave?

Assessing the effect of earlier life-course and living arrangement is not only relevant for the explanation of transitions to adulthood behaviour but also because in most European countries family disruption is on the increase – including those countries where divorce and separation have traditionally been low. No doubt, spells of single parenthood will be more commonplace for young adults in the future. Among European children divorce has already replaced death as the main cause of family disruption and rising divorce rates have led to increase in the proportion of children who have experienced the breakup of their parents' marriages.

Research has only recently begun to explore the implications of these trends for the lives of the children involved, but the vast number of children so affected underscores the importance of these issues. The fact that the phenomenon of divorce is in a rapid increase also in most family traditional European countries (such as the Southern and some Eastern ones) gives not only new interest on the link with children outcome, but also contributes to provide social scientists with a sufficient number of survey sample cases to implement empirical analysis.

Here, we take advantage of the availability of longitudinal retrospective family histories data from the recent Gender and Generations Surveys (GGS) to test our hypotheses on the different contexts of six European countries (Bulgaria, France, Georgia, Hungary, Italy, and Russia). As for methodology, we study nest-leaving by means of discrete duration models (complementary log-log specification with random effects at household level), running separate regressions for each country.

# 2. The theoretical perspectives of parental divorce and leaving home

The hypothesis that parental divorce affects the timing of young adults leaving home has been tested empirically especially in North American context (McLanahan 1985 and 1988; McLanahan and Bumpass 1988; McLanahan and Garfinkel 1989; Astone and McLanahan 1994; McLanahan and Sandefur 1994; McLanahan and Percheski 2008) and much less in the European one (a part from O'Connor 2003; Bernhardt et al. 2005; Ongaro and Mazzuco 2009). Several studies have examined the relationship between home leaving and family structure, showing that individuals coming from dissolved families leave home earlier than individuals from intact families. This result is quite robust (Aquilino 1991, Tang 1996, Kiernan 1992, Goldscheider and Goldscheider 1989, 1998, 1999; Bernhardt et al 2005), although it should be seen in the context specific patterns of both transition to adulthood and family dissolution, since it refers to North American or Northern European countries, where the divorce is widely diffused and the transition out of the parental home tends to take place at a relatively early age. The broader hypothesis, that experiencing parental separation can influence directly or indirectly the events of children's transition to adulthood, has several economic, emotional and cultural motivations and it is embedded in the wider literature on the effects that parental divorce has on children and their subsequent life-course.

It seems beyond doubt that parental divorce is associated with worst children's outcomes. The majority of studies show that children of divorced couples are more likely to exhibit psychological, behavioural, social and academic problems than those children raised in continuously intact two-parent families. They are more likely to be disadvantaged on a range of outcomes (Sigle-Rushton 2009). Other studies also suggest that the gap between children from divorced and continuously intact two-parent families persists well into adulthood (Amato *et al.* 1995). The general evidence is that, compared with children who spend most of their formative lives in two-parent households, those from dissolved families are more often long-term depressed (O'Connor 2003); complete fewer years of school and are more likely to drop out of school (Astone and McLanahan 1994); have different attitudes towards sexuality (Kiernan 1997), divorce and family formation

(Amato and Booth 1991; Amato and DeBoer 2001; Aquilino 1994; Axinn and Thornton 1996; Furstenberg and Teitler 1994; Thornon 1991; Both and Amato 1994; Ongaro and Mazzuco 2009); start sexual activity earlier, earlier family formation, earlier childbearing (Kiernan 1992; McLahan and Sanderfur 1994), and also more likely to cohabit (Furstenberg and Teitler 1994) and experience themselves marital disruption (Cherlin 1995; Teachman 2002). Despite divorce having become more commonplace, and hence the social stigma lowered, the negative associations has not declined over the time and the average child of a divorce family is ubiquitously confirmed as coming from a trouble family (Sigle-Rushton 2009).

Looking for determinants and causes of different timing at nest-leaving for children of disruptive families, researchers have indicated direct and indirect effects. The indirect effects are those referring to selection effects of disruptive families and consequences on children cognitive and non-cognitive skills formation of being grown up in a disruptive family during the childhood. The direct consequences would be those linked to the changes in family structure that produce incentives or disincentives to leave home.

Moreover, is the negative association between parental divorce and poor children outcomes only (or in part) due to different unobservable characteristics which affect both divorce and children outcomes at the same time? There might be a "selection effect", i.e. children of divorce people (as well as their parents) have different characteristics compared with those of intact families. Therefore, a number of features and behaviour of children of divorced parents does not derive from the disruption itself, but from previous background differential characteristics. Kiernan (1997) sustained, for instance, that children who grow up with both biological parents may end up better off both educationally and economically - largely because they were advantaged to begin with, not necessarily because their parents stayed together. Moreover, from several other studies, there is evidence of powerful selection effects operating particularly through family hardship, so that the effect of family disruption disappears when controlling for pre-divorce circumstances, including background socio-economic characteristics of the family. The significance of selection seems, however, weaker when the demographic outcome is examined. Early partnership and parenthood are more common among the young adults whose parents divorced whilst they were children. The robustness of these findings across time and space suggests that these outcomes may well be directly linked to parental divorce in childhood.

As direct consequence of divorce of the parents during the childhood, children growing up in disrupted families may develop different characteristics (i.e. lower education), and, in turn, these characteristics are linked to different modalities and timing of the leaving home process (Cherlin 1995). First of all, as a result of divorce, the family where the child continues to live – often a female-headed single-parent family – tends to be poorer (Aassve *et al.* 2007 and 2009). Most of the effects of single parenthood are caused by economic circumstances of single mothers. The impact of childhood family structure and the negative effects of family disruption on children's educational and occupational attainment are not due to father-absence per se, but to the economic deprivation and family stress accompany a change in family structure (McLanahan 1985). There is good evidence that family socio-economic status mediates also some of the longer-term influences of family structure on adult functioning.

Economic deprivation plays an important role in the transmission of problems from single-parent families to the next generation, but the explanation is complex. Poorer families may have less money to spend on educational activities and less time available to help children with schoolwork. Economic conditions and education outcome are among the main determinants of the nest-leaving process, although the effects are contradicting. Shorter educational paths and fewer resources from the family can accelerate the process of independent life and leaving home, in order to find better conditions outside the family. On the other hand, lower education and resources are also linked to the higher likelihood to be unemployed or to find less paid and stable job and can result in the lack of resources to exit the parental home.

Even more important of the economic conditions, tough, is the parent-child relation: parental conflict, as well as the absence of one parent, interferes with the child's attachment to the parents, making it more difficult to transmit values. Research has shown that children from high conflict families – regardless of whether their parents divorced or not – have in any case more problems in school. Furthermore, there is more often a weaker parental control over the behaviour of the children, because for instance the single mothers are less authoritative and less effective disciplinarians, that leads to the fact that children (especially females) who spend part of their childhoods in one-parent families are more likely to have earlier sexual debut, and then marry and bear children earlier.

According to McLanahan and Bumpass (1988) all these results support the so-called "socialization explanation", which argues that parental role models and parental supervision are the major factors in determining offspring's future family formation behaviour (more than the hypothesis of socialisation and stress), and the "role-model explanation", which argues that children develop their own ideas of what is acceptable and "workable" behaviour from what they observe in their parents. Therefore, the extent to which differential outcomes are associated with children characteristics and to their living arrangements are mediated by parents' attitudes and behaviour (Musick 1999).

Regarding direct effects, acting as push factors on leaving home, these are linked to the family structure, which in some cases reduces the quantity and quality of contact with, at least, the non-co resident parent, in many other cases conducts to a step-family. Evidence suggests that family structure influences the timing of children's home-leaving (Aquilino 1991; Mitchell 1994). Some studies advocate that children who live with a step-parent for any time during the childhood will leave home sooner than children who live with biological parents (and the effect is stronger for girls than for boys). The effect would be reinforced by the presence of half- or step-sibling, whom would weaken parent-child bonds in stepfamilies. As result, children in step-families leave the nest sooner than children who live with both biological parents. The stepfamily effect on home-leaving is routinely attributed to more problematic parent-child relations in remarried households.

Conversely, home-leaving in single-parent families has received less attention than in stepfamilies. Youths exposed to single-parent family environments are more likely to remain at home than those exposed to stepfamilies structure, although both categories (those living in a post-divorce single-parent family and in a step-family) leave the nest sooner than children who live with both biological parents. This is heavily linked to the fact that young adults living in both step-parent and single-parent families are more likely to report leaving home due to conflictual parent-child relations.

Nevertheless, studies in this area, have not considered a full range of living situations, for instance the fact to live at home with a single-parent with or without siblings. In general the presence of siblings at home (also if not half- or step-siblings) is always linked with a higher youth mobility and earlier nest-leaving (Rainer and Siedler 2009).

As for the effect of parental divorce by gender, the pattern of interaction suggests that variations in childhood family structure exerted a greater influence on girls' than on boys' home leaving patterns, but the results are contradicting. Bernahrdt *et al.* (2005) found, for instance, that whereas family conflict seems to have a larger impact on the nest-leaving pattern for women, living with a step-parent seems to be more important for men. Aquilino 1991 found that girls with stepparent or stepsiblings were more likely to establish early residential independence than girls from intact families, and this was not true for boys.

# 3. Methodological approach, strategy of analysis and research hypotheses

Building on previous research, we assume that the leaving home decision depends on parental divorce and other characteristics of the young person and his or her family.

Leave home = 
$$f(\text{divorce}; \text{ other characteristics})$$
 (1).

Such equation captures just a gross effect of being a child of divorced parents, without telling much about why and what lead to certain behaviours in the leaving home process. Indeed we believe that the effect of parental divorce on nest-leaving timing works through different channels and at different points in time. At the time the parental divorce takes place, children face a "shock" which may influence their development and this will eventually affect their decision to leave home afterward. We call this the "development effect". On the other side, at the time children have to take the decision of whether to leave the parental home, the structure of the family they are living with\in can influence their choice. We call this the "cohabitation" effect. The aim of this paper is to understand the influence of divorce on leaving home decisions by distinguishing between these different effects.

The development effect can be thought as the effect that divorce could have on cognitive and non-cognitive skills that the children will develop during childhood. In most literature and across different contexts, divorce has always showed to have a negative effect on these skills, but it is not clear whether this leads to leave the home earlier or later. Indeed children of divorced parents are usually less educated and find it harder to achieve stable employment positions, moreover divorced family are usually poorer and may find it difficult to economically sustain a young adult who wishes to leave the family and set up a new household. Therefore children of divorced parents are often in a relative more difficult economic situation and this will delay the departure from the parental home. However, on the other hand, since their educational career is on average shorter they have access to the job market earlier and since they also tend to entry into union earlier, the net effect can be that they leave home at a younger age. Nevertheless this mechanism can in turn be influenced by contextual factors, such as the generosity of state welfare provision to single-parent families, to young couples, to low wages employee. Thanks to our cross country approach we will be able to check how different setups at the country and welfare levels influence children decisions.

The cohabitation effect plays a role at the time children have to decide when to leave the parental house. Children of divorced parents mostly cohabit with the mother and, if there are no step-parent or half-/step-siblings in the household, this may act as disincentive to leave. More specifically, we expect that children living with a lone mother, with no other siblings at home, leave the parental house at a slower rate since the cost of leaving is higher mainly for two reasons. Firstly the lone mother values more positively the child staying at home and the child himself may feel reluctant to leave the mother home alone; secondly the child may have less incentive to leave since the dwelling is less crowed and therefore there is enough privacy in the parental home and no strict need to leave it to have independence .

Finally, there can be some important interaction effects among elements of the family structure. In this framework we believe that the presence of siblings plays an important role, both for the development and cohabitation effect. At time of divorce, a bigger family composed by many siblings could mean even more poverty and straitened economic circumstances, which could negatively influence the child's development. On the other hand living in bigger family, even after the departure of one the parents, could buffer the negative effects on cognitive and non-cognitive skills for children caused by a divorce, in particular the presence of siblings could in part compensate for damage caused by the lack of one parent.

In the same way having siblings still living in the house can influence the cohabitation effect, which could be mitigated by the presence of other children. Indeed with more siblings the house is more crowed and therefore the child at some point could feel the need to leave to have more privacy and a more independent life, moreover leaving, knowing that at least one sibling is still living in the house and therefore the mother is not left alone, could furthermore incentive the departure from the parental home.

Then equation (1) becomes:

Leave home = 
$$f(development, cohabitation, siblings; other characteristics)$$
 (2).

We develop a methodological strategy in which we calculate the effect of living with a lone mother in different groups of young children.

In the first step of our empirical analysis, we compare the leaving home decisions of children of divorced and not-divorced parents, by simply including a time-varying dummy variable "divorce" in the following hazard rate equation

$$h_{it} = 1 - \exp[-\exp(\alpha + \beta X_i + \delta H_{it} + \beta_0 D_{it} + \gamma T]$$
(3).

That is, the hazard is a function of the characteristics of the child (X), of the household (H), of parental divorce (D), of the time spent at home after age 17 (T). We choose a complementary log-log hazard specification, which is consistent with a continuous time model and interval censored survival time data (Jenkins, 2005). The coefficient  $\beta_0$  gives us the gross effect of divorce not yet specified as combination of cohabitation and development effects.

To capture these two effects we need a further specification that allows us to estimate the divorce effect interacted with the age of child at divorce and with the possible presence of any sibling both at the time the divorce took place and at the time the child has to decide whether to leave the house.

$$h_{it} = 1 - \exp[-\exp(\alpha + \beta X_i + \delta H_{it} + \beta_1 D_{it} + \beta_2 A_{it} D_{it} + \beta_3 O_{it} D_{it} + \beta_4 L_{it} D_{it} + \gamma T]$$
(4).

The hazard function now depends on the variable divorce also through the interaction with other variables: the age of the child when parents divorces, expressed as a dummy variable (A) that takes value 1 if the child was younger than 18 and 0 otherwise; the presence of siblings at the time of divorce (O), again expressed as a dummy that takes value 1 if the child was an only child and parents divorced when he was younger that 18; and finally the function depends also on the presence of siblings at the time the child leaves the parental house (L), expressed as a dummy variable that takes value 1 if the child was the last (the only) one still living at home.

This specification allows us to capture the development effect which is given by the coefficient  $\beta_2$  for children who have siblings, while it is equal to the sum of  $\beta_2$  and  $\beta_3$  for only children. The co-residence effect is instead captured by the coefficient  $\beta_1$  for children who have at least one sibling still living with the mother at the time they leave the parental house, while is equal to the sum of  $\beta_1$  and  $\beta_4$  for children who are the last one to leave. Therefore with the above specification we are able to separate the gross effect of divorce into two specific effects, one affecting the child's development at the time the parents divorced and during childhood and one coming into play only once the child has grown up and has to decide whether to leave his house.

Nevertheless it is well known that divorce is not a random event: parents chose to do it, they self select into divorce, and hence all the effects we find could be driven, at least in part, by this selection. In particular there may be unobservable pre-existing characteristics which influence both the probability that parents divorce and the decision of leaving home. If this was the case we would observe the same differences between children of non-divorced and children of divorced parents even in the absence of divorce. We call this the "selection effect". This selection process into divorce probably varies across countries, being driven in turn by structural factors such as economic situation and norms concerning divorce. Thus, the impact of divorce on the leaving home process may be very different in the countries where divorce is still rare and possibly stigmatized compared to countries where it is more common and accepted by society.

The methodological challenge is then to distinguish empirically the selection effect from the development and the cohabitation effects. To solve this issue in the second step of our empirical analysis, we compare the leaving home decisions of children whose parents have been alive and together all along with the leaving home decisions of children who experienced the death of the father. The death event, in the age-range of the considered parents, may be considered much more random than the decision of divorce, and may therefore clean the development and cohabitation effect estimated by (4) from the selection effect for divorce. We are aware that experiencing a divorce or the death of a parent are two distinct events that may have different effects on the child's behaviour and on what we called the development effect, nevertheless we believe that when talking about the co-residence effect these two events can be compared, since the family structure resulting from both events is similar. Indeed children are in the situation of having more space at home, having more privacy and being concerned with leaving their only left parent home alone. Comparing results from children of divorced parents with the ones from children of widow mothers could give us an insight about how the selection effect and mechanism work. We consider therefore this different sample and include a dummy variable "death" in the following equation:

$$h_{it} = 1 - \exp[-\exp(\alpha + \beta X_i + \delta H_{it} + \lambda_0 W_{it} + \gamma T]$$
(5).

The coefficient  $\lambda_0$  gives us the gross effect of growing and residing with only the mother. The different between  $\beta_0$  and  $\lambda_0$  is then informative of the selection effect. In particular if we write as before the leaving home decision as depending also on the interaction between being the child of a widow and the structure of the family we obtain the following equation:

$$h_{it} = 1 - \exp[-\exp(\alpha + \beta X_i + \delta H_{it} + \lambda_1 W_{it} + \lambda_2 A_{it} W_{it} + \lambda_3 O_{it} W_{it} + \lambda_4 L_{it} W_{it} + \gamma T]$$
(6).

Comparing the coefficients found will tell us how strong is the selection effect and how reliable are the results.

All the specified models are estimate controlling for possible random effects at the household level. This is done in order to capture for the effect of being born and raised in the same family, since education, development and behaviour depend much on the environment children live in, therefore including these random effects is important to control for possible noises that could otherwise influence our results.

### 4. Data, sample characteristics and the contextual differences

Our analyses are based on data from recent national representative comparable surveys, in the framework of Gender and Generation Surveys, for six European countries, Bulgaria, France, Georgia, Hungary, Italy<sup>1</sup> and Russia<sup>2</sup>. This is a retrospective survey, where respondents provide information about their fertility, marriage\partnership and working histories. For our analysis we select all respondent women with at least one child older than 18 years old, since we believe that a child is to be considered at risk of leaving home starting from that age. Thanks to the answers given by the mothers we have information for all the children of each woman both still living in the parental household and already out. Due to the retrospective nature of the survey we are able to reconstruct histories also for very old women and therefore timing of leaving home for their children who are currently adults.

For each child we know whether he left the parental house and at what age. Young people enter the sample when they are at risk of leaving home (here assumed to be from age 18). We construct a duration variable, which will be our dependent variable in the models which follow, that indicates the time, expressed in years, they take to leave home

<sup>&</sup>lt;sup>1</sup> The survey analyzed for Italy is also called "Family and Social Subjects" (FSS).

<sup>&</sup>lt;sup>2</sup> We used for all countries the first wave of the longitudinal surveys, containing retrospective information.

since age 18 (e.g. if a child leaves home at 21 his duration is 3 years). The duration is censored if they do not leave home (i.e. still live in the parental home at the time of the interview). There are few children who keep living in the parental house even after their marriage making their spouses moving in their own house. This was especially true in Georgia, Hungary and Bulgaria and we decide to drop these individuals from the sample since they probably will never leave their parents' house, given that they established their own household there.

We include in our models variables related to the adult-child and his/her mother characteristics and the family roster. The main independent variables of interest for our hypotheses are parental divorce and parental death, which are built as time-varying on a yearly base. They represent the spells lived in single-motherhood (excluding never married single mothers), by mother separated\divorced or widowed without a new cohabiting partner. Most of the other independent variables used in the analyses are those known in the previous literature to influence the timing of nest-leaving: the gender of the child and other household characteristics such as mother's age, level of education, cohort of birth, opinion on leaving home, and whether there are other siblings in the household (i.e. if the child is the last or only child living home).

As outlined in the methodological framework, we employ a discrete duration model (complementary log-log specification with random effects at household level) and we run separate regressions for the six European countries (Italy, France, Hungary, Bulgaria, Russia, Georgia). Descriptive results shown in Graph 1 and similarly in Table 1 confirm the well-known gender difference at age of leaving within and across countries, indeed females are always more at risk of leaving than males. Moreover we find a systematic delay at age of leaving home for children of non-intact families (i.e. experimenting a parental separation or divorce, or the death of the father). Table 2 reports all frequencies, by country, of the variables used in our analyses. These data also provide a first insight of the different contexts characterizing different country's data samples. For the analyses that will follow, it has to be noted that the sample size of the different surveys is quite variable and low number of total cases, combined with low frequency of the relevant events. Divorce is not very frequent in Bulgaria and Georgia which has implications for the estimation.

As we can easily notice by the percentages (Table 2), the spread of marital dissolution is quite different in the contexts considered. This obviously results in different proportion of children experiencing parental divorce going from more than one out of five in Russia, to the 17% and 19% of respectively Hungary and France, to one out of ten in Bulgaria and extremely low levels in Italy (less than 4%) and Georgia (5%). These figures are consistent with the last available Eurostat data, which report a very different total divorce rate<sup>3</sup> in the countries considered: varying from very low levels of Georgia and Italy (respectively 4% and a little more than 10%), to intermediate level of Bulgaria (about 20%), to 39% of Hungary, to a high level above 30% for France, and above 40% of Russia.

<sup>&</sup>lt;sup>3</sup> The "total divorce rate" is the probability of divorce for a married person if he or she were to pass through his/her marriage years conforming to the duration-specific divorce rates of a given year. The rate refers to a synthetic marriage cohort. It is computed by the summation of divorce rates by duration of marriage (generally up to 30 years), observed in a given year.



Graph 1: Median age at leaving home for children of intact/non intact families, by sex and country<sup>4</sup> (calculated with Kaplan-Meier survival analysis estimations)

 Table 1: Age at leaving home for children in intact/non intact families, by sex and country (calculated with Kaplan-Meier survival analysis estimations)

<sup>&</sup>lt;sup>4</sup>. Sample size of children in non intact families too small for Bulgaria and Georgia

		Italy	France	Hungary	Bulgaria	Russia	Georgia
		F	EMALES				
First quartile	Intact Family	23	19	20	19	19	20
	Non intact family	24	19	23	20	21	21
Median	Intact Family	26	21	23	23	23	24
	Non intact family	28	21	25	24	27	31
		]	MALES				
First quartile	Intact Family	25	20	22	23	20	25
	Non intact family	27	20	24	25	23	32
Median	Intact Family	28	22	25	27	24	31
	Non intact family	33	23	29	47*	30	42*

\*Sample size of children in non intact families too small

## Table 2: Descriptive statistics of the surveys samples

	Italy	France	Hungary	Bulgaria	Russia	Georgia
Child is female	48.2 %	48.8 %	48.2 %	49.2 %	47.8 %	52.0 %
	45.4	43.9	42.6	41.6	43.2	43.4
Mother's age	(5.4)	(10.2)	(4.8)	(4.7)	(10.6)	(5.3)
Mother born before 1945	62.8 %	50.6 %	45.6 %	34.3 %	36.4 %	35.6 %
Mother's education: primary	64.0 %	58.9 %	45.5 %	37.3 %	21.3 %	17.3 %
Mother's education: secondary	32.7 %	27.9 %	43.3 %	45.5 %	53.9 %	62.3 %
Mother's education: tertiary	3.3 %	13.2 %	11.2 %	17.2 %	24.8 %	20.3 %
Mother agrees child should leave at 18	15.0 %	68.6 %	43.9 %	55.2 %	53.6 %	59.8 %
Mother is divorced & single-parent	2.7 %	16.9 %	13.5 %	9.7 %	18.0 %	5.2 %
Mother is widowed & single-parent	5.3 %	3.6 %	3.8 %	2.0 %	5.8 %	6.5 %
No siblings at home	14.9 %	21.4 %	24.3 %	27.1 %	33.6 %	13.7 %
Only child	9.6 %	8.4 %	13.5 %	13.5 %	19.0 %	7.0 %
Child has experienced parental divorce	3.7 %	19.2 %	16.9 %	10.3 %	21.5 %	5.4 %
Child has experienced parental divorce before 18	2.6 %	16.2 %	12.9 %	9.5 %	16.7 %	5.2 %
Child has experienced parental death	12.1 %	6.3 %	10.1 %	6.2 %	12.0 %	14.3 %
Child has experienced parental death before 18	5.2 %	3.5 %	3.7 %	1.9 %	5.3 %	6.5%
Total children	21,983	6,110	7,683	4,338	4,867	4,519
Total households	10,046	2,601	4,085	2,528	2,878	2,101
Total year – observations	202,507	31,416	56,792	28,979	32,073	34,813

Notes:

Most of descriptive statistics refer to when the child is 18 years old. Mother's age, mother is divorce/widow, siblings at home are time-varying variables.

As for the other variables we see that mean age of the mothers when the child is 18 is very similar in all the countries, it ranges between 41.6 in Bulgaria to 45.4 in Italy, nevertheless when we look at the percentage of women born before 1945 we see that the Italian and the France sample have a larger percentage of women belonging to the older cohort than the Bulgarian, Russian and Georgian ones, Hungary stays in the middle. This means that on average at the time of interview Italian and France women are older than women from other countries. A reflection of this is that mean level of education of women living in these two countries is lower compared to other, indeed in Hungary, Bulgaria, Russia and Georgia we observe a larger percentage of women with middle and high education, while in Italy and France the majority has a low level of education.

An interesting variable is the opinion of the mothers about the right time for a child to leave the parental home. Italy is really an outlier, with just the 15% of the women agreeing that a young adult should start living on his own by the age of 18, while in the other countries this percentage varies from 44% to 68%. However this is not surprising given the trends observed in the Mediterranean countries, where adult children tend to stay longer in the parents' house compared to other European countries. Definitely are not only the worse labor market conditions or the less generous welfare state provisions that cause such behavior, but also a more familist and conservative way of thinking of the society.

As for family composition we see that the percentage of only children varies substantially between the countries, indeed we see quite lower percentages in Georgia, Italy and France (around 8%), a bit higher in Hungary and Bulgaria (around 13%) and much higher in Russia (around 19%).

### 5. Estimating the effects of post-separation single-motherhood

Results of the complementary log-log models, with random effects at household's level, are reported in Tables 3, 4, 5. Table 3 reports the first results, when we estimate a gross effect of being the child of divorced parents or of a widow mother, Table 4 instead reports the results when we interact the divorce/widow variable with variables representative of the structure of the family at the time the divorce/death took place and at the time the child has to decide whether to leave the house, finally Table 5 reports the development and co-residence effects for children of both divorced and widow, divided into only children or children belonging to larger families.

In all the models, the dependent variable is the hazard of the time of leaving home starting at the age of 18. As a result, a positive coefficient indicates a positive effect of that variable on the hazard (i.e. a faster process of nest-leaving, thus at a younger age), whereas, obviously, a negative coefficient reflects a slower rate of nest-leaving at older ages.

When we estimate the gross effect of divorce on the decision of leaving home, using equation (3), we obtain different results in different countries (Table 3). The divorce seems to have a positive and significant effect in Italy, while it has a negative and significant effect in Bulgaria and Russia. The effect is not significant in the remaining countries, in particular is very close to zero in France and Hungary, while is bigger and negative in Georgia. Therefore an estimation of the effect of being a child of divorced parents estimated with a simple dummy for divorce does not lead to any general

conclusion and does not tell us what is causing certain behaviors and why we find differences between the analyzed countries.

When we do the same analysis for children of widow mothers, instead of children of divorced parents, using equation (5), we find that in all countries the death of the father has a negative effect on the risk of leaving home. The effect is significant in all countries apart from France. The fact that we find a common pattern of the effect of death in all the countries while this is not the case for divorce could be due to the selection effect coming along with the choice of divorce. Only in countries were the effect are similar (Russia, Bulgaria and Georgia) we could say that the selection effect is not very important, since the behavior of children of divorced parents and of children of widow mothers is the same regarding the leaving home decision. In all the other countries we can not really conclude that what we observe is the true effect of divorce, it may be simply the effect of other characteristics that would have lead to the same behaviors even in the absence of actual divorce of the parents.

The control variables have similar effects on all countries and the sign of the coefficients is as we expected and it confirms previous researches. Females<sup>5</sup> leave the home earlier than males and the effect is particularly big in Georgia and Hungary; obviously, older children are more at risk than younger ones to leave the house. Mothers' age has a small negative effect in all countries, while mother's cohort has a positive effect, to be interpreted as children of mothers belonging to an older cohort are more at risk of leaving the house than children of mothers belonging to a younger cohort. As for mother education we see that the higher is the education of the mother, the lower is risk of leaving the house for the children, maybe due to the fact that usually children whose parents have reached an high level of education reach themselves higher education and families are usually richer, two facts that should delay the decision to leave. A nice variable is the one catching the opinion of the parents about the right age to leave the parental home; not surprisingly, children whose parents believe that young adults should start living on their own when they turn 18 are more at risk of leaving their parents' house. When we do the analysis for children of widow, we find similar coefficients for all these variables. (For these reasons not reported in the table).

<sup>&</sup>lt;sup>5</sup> In a further specification we ran the analysis separating males from females (see Appendix 1). Since results do not differ between the two genders we decided to leave them together in the regressions and simply gender as a control variable.

	Italy	France	Hungary	Bulgaria	Russia	Georgia		
	PARENTAL DIVORCE							
Childisferrals	0.537***	0.547***	0.665***	0.944***	0.412***	1.068***		
Child is female	(0.022)	(0.038)	(0.039)	(0.063)	(0.053)	(0.065)		
	0.638***	0.587***	0.737***	0.429***	0.249***	0.227***		
Child's age	(0.016)	(0.036)	(0.033)	(0.043)	(0.041)	(0.037)		
	-0.009***	-0.009***	-0.012***	-0.006***	-0.004***	-0.003***		
Child's age square	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)		
	-0.034***	-0.016***	-0.027***	-0.017**	-0.024***	-0.017**		
Mother's age	(0.002)	(0.004)	(0.004)	(0.007)	(0.006)	(0.007)		
Mother is born	0.531***	0.112**	0.487***	0.636***	0.294***	0.579***		
before 1945	(0.034)	(0.051)	(0.048)	(0.089)	(0.071)	(0.100)		
Mother's education:	-0.369***	0.012	-0.318***	-0.414***	-0.104	-0.349***		
secondary	(0.033)	(0.056)	(0.049)	(0.091)	(0.084)	(0.109)		
Mother's education:	-0.574***	0.177**	-0.492***	-0.761***	-0.107	-0.589***		
tertiary	(0.088)	(0.074)	(0.078)	(0.123)	(0.065)	(0.133)		
Mother agrees child	0.221***	0.314***	0.121***	0.192**	0.174***	-0.055		
should leave at 18	(0.039)	(0.052)	(0.045)	(0.081)	(0.065)	(0.081)		
Mother is divorced	0.119*	0.026	-0.073	-0.290**	-0.500***	-0.200		
& single-parent β₀	(0.071)	(0.057)	(0.058)	(0.125)	(0.073)	(0.157)		
	-11.414***	-9.582***	-11.767***	-8.588***	-4.854***	-6.023***		
Constant	(0.223)	(0.469)	(0.430)	(0.591)	(0.551)	(0.532)		
DI	0.280***	0.295***	0.302***	0.527***	0.428***	0.401***		
Rho	(0.011)	(0.0189	(0.018)	(0.024)	(0.025)	(0.0271)		
Year observations	163,697	27205	45231	24807	25033	26400		
Num of households	9,230	2505	3734	2401	2597	1859		
			PARENTA	L DEATH				
Mother is widowed	-0.102***	-0.112	-0.346***	-0.383**	-0.444***	-0.180*		
& single mother $\lambda_0$	(0.036)	(0.088)	(0.072)	(0.396)	(0.097)	(0.095)		
(all controls)	Х	Х	Х	Х	Х	Х		
Year observations	195,838	24152	46235	25569	23783	33066		
Num of households	9,581	2119	3360	2247	2223	1948		

## Table 3: Gross divorce effect.

Notes: Coefficients are reported together with standard errors in brackets (\*\*\* significant at 1% level, \*\* at 5%, \* at 10%). Results from likelihood ratio test for rho equal to 0 is reported (\*\*\* significant at 1% level, \*\* at 5%, \* at 1%)

	Italy	France	Hungary	Bulgaria	Russia	Georgia	
	PARENTAL DIVORCE						
Mother is divorced &	0.124	-0.362***	-0.243**	-0.158	-0.570***	-1.535*	
single-parent: $\beta_1$	(0.124)	(0.123)	(0.116)	(0.395)	(0.157)	(0.863)	
Divorce experienced	0.237	0.636***	0.248**	0.118	0.554***	1.362	
before age 18: $\beta_2$	(0.147)	(0.132)	(0.124)	(0.407)	(0.168)	(0.864)	
Divorce experienced	0.215	-0.143	0.019	-0.888***	-0.329*	0.120	
before age 18 & only child: $\beta_3$	(0.218)	(0.162)	(0.161)	(0.314)	(0.180)	(0.413)	
Mother is divorced,	-0.433***	-0.212**	-0.044	-0.054	-0.469***	0.012	
single mother, and no siblings in the HH: $\beta_4$	(0.142)	(0.094)	(0.105)	(0.186)	(0.136	(0.324)	
	PARENTAL DEATH						
Mother is widowed &	-0.005	-0.181	-0.239**	-0.383**	-0.284*	0.084	
single mother: $\lambda_1$	(0.054)	(0.142)	(0.112)	(0.151)	(0.159)	(0.138)	
Death experienced	0.161**	0.674***	0.443***	0.604*	0.169	-0.088	
before age 18: $\lambda_2$	(0.067)	(0.166)	(0.443)	(0.320)	(0.189)	(0.182)	
Death experienced	0.115	0.058	-0.653**	-0.769	-0.998***	1.240***	
before age 18 & only child: $\lambda_3$	(0.156)	(0.470)	(0.333)	(0.745)	(0.353)	(0.375)	
Mother is widowed,	-0.382***	-0.058***	-0.447***	-1.011***	-0.234	-0.790***	
single mother, and no siblings in the HH: $\lambda_4$	(0.064)	(0.470)	(0.132)	(0.264)	(0.180)	(0.184)	

Table 4: Divorce effect: divorce timing and siblings' presence

More interesting results can be observed in Table 4, which reports the effect of divorce\widow interacted with other important variables. All the other control variables have the same effect as in the previous regressions, hence are not reported.

In the first lines there are the coefficient for the gross effect of divorce and death,  $\beta_1$  and  $\lambda_1$ . The coefficient for divorce is negative for all the countries except for Italy and it is significant only in France, Hungary, Russia and Georgia. The effect of death is significant only in Hungary, Bulgaria and Russia and it is negative in all the countries except for Georgia, where is positive although not significant. In the following lines we observe the effect of divorce before age of 18; being an only child when experiencing one of the two events; being the only child left at home at the time to decide whether to leave. The coefficients estimated suggest two main things: there exist a common pattern in all the countries for almost all interactions and the conclusions obtained with the regression for the death.

In particular we notice that having experience the divorce before age 18 has a negative effect in all the countries, and the same is true for children who experienced the death of the father ( $\beta_2$  and  $\lambda_2$ ). An exception is found in Georgia where the coefficient for the death is negative, but is very small and anyway not significant. These children tend to leave the house earlier than other since the coefficients are positive. On the other side

when children are the last one in the house with a lone mother, both a divorced and a widow, they are less at risk of leaving home ( $\beta_4$  and  $\lambda_4$  are all negative, apart from the coefficient associated to divorce in Georgia, which is positive, but very small and not significant). Since in all the countries we find similar results, we claim that there exist a common effect of divorce, not simply as gross effect, but mostly when interacted with other variables that help us capture what we previously defined as development and coresidence effects. Moreover this results are confirmed when we do the same regression using death instead of divorce, this implies that with this specification we are, at least in part, getting rid of the selection effect that was misleading the results found using the gross effect of divorce estimated with equation (3) (Results of Table 3).

The coefficients for the variable being the only child at home when parents divorced\death and being less then 18 when this happened, ( $\beta_3$  and  $\lambda_3$ ) have different results, both between different countries and between divorce and widow.

	Italy	France	Hungary	Bulgaria	Russia	Georgia	
	PARENTAL DIVORCE						
	0.119*	0.026	-0.073	-0.290**	-0.500***	-0.200	
Gross effect: $\beta_0$	(0.071)	(0.057)	(0.058)	(0.125)	(0.073)	(0.157)	
Development effect,	0.452**	0.493**	0.267	-0.770*	0.225	1.482*	
only child: $\beta_2 + \beta_3$	(0.226)	(0.191)	(0.178)	(0.469)	(0.205)	(0.859)	
Development effect,	0.237	0.636***	0.248**	0.118	0.554***	1.362	
more children: $\beta_2$	(0.147)	(0.132)	(0.123)	(0.407)	(0.168)	(0.860)	
Co-residence effect,	-0.310**	-0.575***	-0.287**	-0.211	-1.039***	-1.523*	
last child in the HH: $\beta_1 + \beta_4$	(0.151)	(0.137)	(0.126)	(0.396)	(0.165)	(0.816)	
Co-residence effect,	0.124	-0.362***	-0.243**	-0.158	-0.570***	-1.535*	
siblings in the HH: $\beta_1$	(0.124)	(0.123)	(0.116)	(0.395)	(0.157)	(0.863)	
	PARENTAL DEATH						
	-0.102***	-0.112	-0.346***	-0.383**	-0.444***	-0.180*	
Gross effect: $\lambda_0$	(0.036)	(0.088)	(0.072)	(0.151)	(0.097)	(0.095)	
Development effect,	0.275*	0.732	-0.210	-0.165	-0.828**	1.153***	
only child: $\lambda_2 + \lambda_3$	(0.153)	(0.471)	(0.323)	(0.709)	(0.335)	(0.362)	
Development effect,	0.161**	0.674)	0.443***	0.604*	0.169	-0.087	
more children: $\lambda_2$	(0.069)	(0.470)	(0.140)	(0.320)	(0.189)	(0.182)	
Co-residence effect,	-0.387***	-0.751***	-0.706***	-0.972***	-0.518***	-0.710***	
last child in the HH: $\lambda_1 + \lambda_4$	(0.059)	(0.151)	(0.113)	(0.223)	(0.150)	(0.172)	
Co-residence effect,	-0.005	-0.181	-0.239**	0.040**	-0.284*	0.084	
siblings in the HH: $\lambda_{1}$	(0.054)	(0.142)	(0.112)	(0.224)	(0.160)	(0.138)	

In table 5 we summarize the results reporting the coefficients for the development and coresidence effects for both only children and children with siblings.

The development effect is always positive, for children who have siblings in the house when the parents divorced, while is always positive except for Bulgaria for only children. These coefficients are not always significant in all the countries, and for both children with siblings and no siblings, however in most of the cases they are positive, not very small and significant. Hence divorce influences the development of children during childhood, and leads them to leave the parental home at younger ages afterwards.

The co-residence effect is negative in all the countries especially for children who are the last one in the house. The effect is always significant apart from Bulgaria, where it is anyway negative. This suggest that at the time a child has to decide whether to leave the parental home, being the last one in the house with a lone mother could delay the departure, both for the fear of leaving the mother alone and for the fact that the house is not so crowed and there is enough privacy. Moreover, when it is significant for last children, the co-residence effect is negative and significant also for children who are not the last one in the house, nevertheless the magnitude of the coefficients is smaller. This could suggest that the absence of the father, even in presence of other siblings, contribute to make the house less crowed and so there are less incentives to leave.

When looking at the same coefficients estimated for the children of widow mothers we find the same strong negative co-residence effect, and actually it is even stronger. As for the development effect, it is always positive for children who had other sibling in the house at the time of death, while it is sometime negative and sometime positive for children who were alone at the time of death.

Since the coefficients obtained with the widow specification are very similar to the ones obtained with divorce, the selection effect associate with divorce is netted off by the identification of the co-residence and development effects, that are very helpful in understanding throughout which channels and at which point in time the divorce can have an impact on the leaving home decision. Indeed if we stopped at the gross effect of divorce we would find controversial results in different countries, while when we separate this effect considering the co-residence and development effects we find much more similar results in all the countries, meaning that the pure gross effect it is not enough to explain the dynamics throughout which divorce influences a child's behaviour.

### 6. Conclusion/discussion and open issues

The purpose of our study is to look more closely the relationship between childhood family structure and young adults' nest-leaving process. Our attempt to disentangle different effects of parental divorce on the timing of the children home-leaving confirms the hypothesis that the simple association between divorce and the process of transition to adulthood can mask different effects, which can have opposite and contradicting effects on the timing of leaving home.

The "gross divorce effect" on leaving home differs in sign across. In contrast, we obtain consistent and significant results across countries for what concerns what we called the "development effect" and "co-residence effect". For the first effect, it is known in the literature that family disruption during childhood has a negative effect on children's human capital development and cognitive and non-cognitive skills formation, and this in turn, affects the timing at leaving home accelerating significantly the process. For the second effect, however, our findings show that children living with a lone mother leave the home at a slower rate. The positive association often found between divorce and timing of nest-leaving, can mask diverging effects: the opposite effect of divorce family self-selection against the own children development effect, and also the opposite effects of living in a post-divorce lone-mother family compared to that one, accelerating the process, of living in the step-family.

The general conclusion is that parental family histories have hence to be taken into great consideration when the demographic behavior of young people is analyzed. The different effects emerging from our study can help to understand the leaving home process. From previous research the effect of family disruption has always been found as decreasing the age at nest-leaving, whereas here we sustain that this is a gross composition of different effects, and that the specific effect of post-divorce family arrangement and structure cannot be neglected.

From a policy point of view, the results can also contribute to predict how increasing divorce rates may affect the time young people decide to leave parental home. This is highly context-dependent, and it is reliant not only on welfare measures (i.e. the economical help to poor lone mothers), but also on the propensity of re-partnering.

In certain contexts – such as the Italian one – where the age at leaving home is relatively late and, at the same time, divorce is spreading at high pace, but the rate of re-partnering of divorced mothers is quite low, the event of divorce can result in a further postponement of nest-leaving. This will be particularly true especially for those who are a lone child or last child at home, without cohabiting siblings. In further developments of this study we plan to add other country cases to the analysis and to exploit deeper the comparative setting.

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