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

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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 makes 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 the home at a slower rate, although they develop, as consequence of family disruption, individual features that, on the contrary, accelerate the process.

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

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; 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 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, touching on several important issues, many of which are related to self selection.

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 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?

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, by sex, 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 diminishes children's chances for well-being. 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.
The essence of the "selection effect" is that 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. 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 – tend 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 sons). 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 Siedeler 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

The aim of this paper is to understand the influence of divorce on leaving home decisions by distinguishing different effects. 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(divorce; other characteristics) (1).

Nevertheless, the effect of parental divorce on nest-leaving timing works through different channels. Here we hypothesize three channels. First, there may be unobservable pre-existing characteristics which influence both the probability that parents divorce and the decision of leaving home. 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. Secondly, parental divorce may influence the development of children and this will eventually affect their decision to leave home. We call this the "development effect". In most of literature, and across different contexts, divorce has always negative effects on cognitive and non-cognitive skills for the children. They are usually less educated and find it harder to find stable employment. So on the one hand, if the economic situation is relatively more difficult, this will delay the departure from the parental home. However, since the educational career is on average shorter and the entry into union often earlier, the net effect can be that they leave home earlier. Again this can in turn be influenced by contextual factors, such as the generosity of state welfare provision to single-parent families. Third, 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 home. We call this the "cohabitation effect". More specifically, we expect that children - living with a lone mother – leave the parental house at a slower rate since the cost of leaving is higher because the lone mother values more positively the child staying at home. The the cost of staying at home may also be lower since the dwelling is less crowed, and consequently there is more privacy for the young adult.

The equation (1) becomes:

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

Finally, there can be some important interaction effects among elements of the family structure. The effect of cohabitation with the parents may be mitigated by the presence of other siblings, which should accelerate the exit from the parental house, by decreasing the privacy and the value of staying at home given by the mother. The methodological challenge is to distinguish empirically the selection effect from the development and the cohabitation effects.

We develop a methodological strategy in which we calculate the effect of living with a lone mother in different groups of young children: those with separated/divorced parents; those with the father died during childhood and those with the father died after childhood. Comparing the effect of living with the lone mother among these different groups, we try to identify the three net effects of our hypotheses. Our investigation requires, therefore, the estimation on three successive models. 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

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

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 λ gives us the gross effect of divorce without telling us what is causing what.

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. These latter children, as the children of divorced parents, grow up with only one parent, and because of this, they may develop some determined characteristics. 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 gross divorce effect estimated by (3) from the selection effect for divorce. We consider therefore this different sample and include a dummy variable "death" in the following equation:

$$h_{it} = 1 - \exp[-\exp(\alpha + \beta X_i + \delta H_{it} + \varphi W_{it} + \gamma T] \quad (4).$$

The coefficient φ gives us the effect of growing and residing with only the mother. The different between λ and φ is then informative of the selection effect.

Finally, to distinguish the development effect from the cohabitation effect, we compare the leaving home decisions of children whose parents have been alive and together all the time children were staying at home with the decisions of children who experience the death of one parent, but only after age 18. The latter group of children grow up with both parents but, at the time when the child is eligible to leave home, the home leaving decision involves leaving the mother alone. We therefore consider this sub-sample and include a time-varying dummy variable "death" in the following equation:

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

The coefficient ς gives an estimate of the cohabitation effect, and allows us to clean the effect estimated by (4). The difference between φ and ς is then informative of the development effect.

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[1] and Russia[2]. We select all women with at least one child older than 18 years old and at risk of leaving home starting from age 18. We have information for all the children of each woman, still in the parental household and already out.

We include in our models variables related to the adult-child and his/her mother characteristics and the family roster. For each child we know whether the child left the parental house or not. This information is based on the fertility and partnership histories. 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 – our dependent variable in the models which follow – that indicates the time they take to leave home. The duration is censored if they do not leave home (i.e. still live in the parental home at the time of the interview).

Most of the independent variables used in the analyses are those known in the previous research to influence the timing of nest-leaving. The main independent variables of interest for our hypotheses are parental divorce and parental death, which are built as time-varying. They represent the spells lived in single-motherhood (excluding never married single mothers), by mother separated, divorced or widowed without a new cohabiting partner.

As control variables, we include, the gender of the child and other household characteristics which includes 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). We run separate regressions, by sex, for the six European countries (Italy, France, Hungary, Bulgaria, Russia, Georgia).

Descriptive results shown in Table 1 (and similarly in graph 1) shows – apart from the well-known gender difference at age of leaving within and across countries – 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 sex and country, of the variables use in our analyses. These data also provide a first insight of the different contexts characterizing different country's data samples. For the analyses 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,

[1] The survey analyzed for Italy is also called "Family and Social Subjects"(FSS).

[2] We used for all countries the first wave of the longitudinal surveys, containing retrospective information.

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[3] 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.

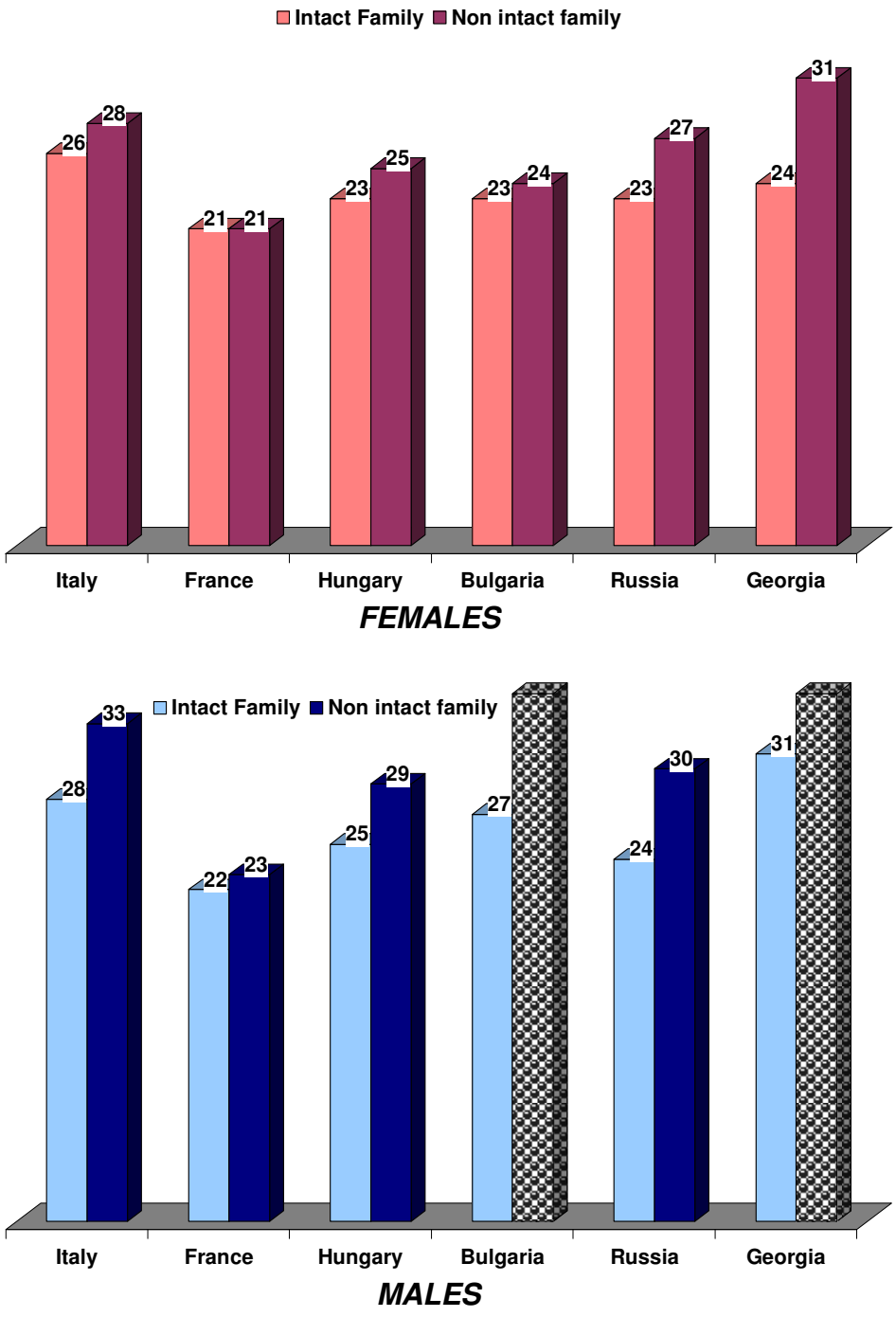
Table 1: Age at leaving home for children in intact/non intact families, by sex and country[4]

		Italy	**France**	**Hungary**	**Bulgaria**	**Russia**	**Georgia**
			FEMALES				
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*

[3] 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.
[4] Quantiles calculated with Kaplan-Meier survival analysis estimations.

Graph 1: Median age at leaving home for children of intact/non intact families, by sex and country[5]



**Sample size of children in non intact families too small for Bulgaria and Georgia*

[5] Quantiles calculated with Kaplan-Meier survival analysis estimations.

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 %
Mother's age	45.4 (5.4)	43.9 (10.2)	42.6 (4.8)	41.6 (4.7)	43.2 (10.6)	43.4 (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 divorce & single-parent	2.7 %	16.9 %	13.5 %	9.7 %	18.0 %	5.2 %
Mother is widow & 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 after 18	1.1 %	3.2 %	4.0 %	0.8 %	4.8 %	0.2 %
Child has experienced parental death	12.1 %	6.3 %	10.1 %	6.2 %	12.0 %	14.3 %
Child has experienced parental death after 18	6.9 %	2.8 %	6.6 %	4.3 %	6.7 %	7.8 %
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.

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

Results of our successive complementary log-log models, with random effects at household's level, are reported in Tables 3, 4 and 5. Finally, Table 6 summaries the results calculated from the coefficients of the previous tables, according to our research strategy. In all the models, the dependent variable is the hazard of the time or leaving home starting at the age of 18. As a result, the 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.

Our strategy of analysis, as explained in the methodological section, is composed by three steps through which we aim to get closer to establishing the "selection effect", "development effect" and the "cohabitation effect". In the first step, represented by the first model (table 3)[6], we model the hazard of leaving home, by sex and country, for all children who have (or not) experienced a parental separation or divorce, and therefore have lived spells of their lives with only the mother, without a new step-parent or step-family. In this first model, children who experienced parental death are excluded. The effect of interest is presented in the table by the variable termed "mother is divorced & single-mother". This gives us the gross effect of divorce, without distinguishing any other separate effects.

We then assess whether these results are driven by unobservable characteristics inherent to children of divorced parents. We therefore repeat the analyses using widowhood instead of divorce, under the plausible hypothesis that the latter is more random. In order to estimate the selection effect, we implement a model (table 4) where we limit the sample to children who have (or not) lost the father – and therefore the mother have experienced spells of single parenthood due to widowhood. We consider those that did not have a new partner and we exclude children who experienced separation or divorce of their parents. The coefficient of interest is termed "mother is widowed &single-parent". The variable is time-varying and measures the spells she lives without a new partner, thus the effect for the child of growing and residing with only the mother. It gives a parameter estimate of the joint "development" and "cohabitation" effect.

The effect of the interaction between lone mother and having no siblings at home is now negative and significant for all countries (including Hungary, where the effect was positive, and Bulgaria and Georgia where the effect was null). The effect of "mum alone", because of the selection, is no longer positive and significant – for instance – in Italy.

The depurated "selection effect", reported in the summary table 6, is calculated *ex-post*, by sex and country, as the simple difference between the divorce effect – the parameter (a) in the table 3 – and mother widowhood – the parameter (b) in Table 4..The results can still be driven by unobservable characteristics, which children of divorced can have developed because of the divorce of the parents. In the third step, thus, in order to single

[6] We report the estimation of all background and control independent variables on mother and children's characteristics only in this table 3. These variables are included also in the models of tables 4 and 5, but the coefficients are not reported here.

out the cohabitation effect, we run a model (table 5) on a sample limited to children who have (or not) experienced the loss of the father – and cohabited with a widowed single-mother – after age 18. We exclude all children who experienced parental separation or divorce, or parental death before the age 18. In this reduced sample, the effect of living with the mother, who is widowed and single-parent, can be interpreted as the pure "cohabitation" effect, due to the absence of the father or a new partner of the mother, and not to any characteristics of the children caused by divorce.
The single development effect can be therefore computed as the difference between the joint development and cohabitation effect – i.e. the parameter (b) in the table 4 – and the pure cohabitation – i.e. the parameter (c) in the table 5 –.

Table 3: Gross post-divorce single-motherhood effect.
Complementary log-log model with random effects at household's level, by sex and country, for children who have (not) experienced parental separation or divorce (children who experienced parental death are excluded).

	Italy	France	Hungary	Bulgaria	Russia	Georgia
			FEMALES			
Child's age	0.622***	0.369***	0.720***	0.544***	0.271***	0.248***
	(0.025)	(0.067)	(0.055)	(0.085)	(0.068)	(0.061)
Child's age square	-0.009***	-0.010***	-0.011***	-0.009***	-0.004***	-0.004***
	(0.0004)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Mother's age	-0.045***	-0.017***	-0.036***	-0.022**	-0.017	-0.011
	(0.004)	(0.006)	(0.007)	(0.010)	(0.011)	(0.009)
Mother is born before 1945	0.606***	0.147**	0.492***	0.543***	0.433***	0.347***
	(0.046)	(0.067)	(0.069)	(0.117)	(0.111)	(0.104)
Mother's education: secondary	-0.453***	-0.062	-0.604***	-0.611***	-0.156	-0.460***
	(0.044)	(0.074)	(0.071)	(0.117)	(0.133)	(0.126)
Mother's education: tertiary	-0.708***	0.114	-0.808***	-1.116***	-0.253*	-0.814***
	(0.120)	(0.098)	(0.116)	(0.165)	(0.151)	(0.156)
Mother agrees child should leave at 18	-0.162***	0.283***	0.125**	0.047	0.242**	-0.124
	(0.051)	(0.069)	(0.063)	(0.101)	(0.102)	(0.093)
Mother is divorced & single-parent **(a)**	0.22*	0.174*	-0.181*	-0.283	-0.366**	-0.180
	(0.119)	(0.093)	(0.102)	(0.201)	(0.148)	(0.225)
No siblings in the house	0.151***	0.178**	-0.065	0.188**	-0.177*	0.053
	(0.037)	(0.065)	(0.068)	(0.091)	(0.103)	(0.108)
No sibling *single-motherhood	-0.386**	-0.374**	0.326**	0.210	-0.546***	0.103
	(0.182)	(0.144)	(0.147)	(0.259)	(0.196)	(0.341)
Constant	-10.026***	-9.628***	-10.364	-8.394***	-5.248	-4.880***
	(0.343)	(0.848)	(0.706)	(1.104)	(0.963)	(0.833
Rho	0.299	0.313	0.369	0.527	0.571	0.376
	(0.019)	(0.062)	(0.031)	(0.041)	(0.037)	(0.0421)
Log likelihood	-20,578	-5,851	-7,008	-3,665	-3,959	-3,644
Year observations	71,734	11,549	19,471	10,450	11,068	12,125
Num of households	6,410	1,781	2,451	1,549	1,640	1,372

(continue)

	Italy	France	Hungary	Bulgaria	Russia	Georgia
			MALES			
Child's age	0.727***	0.640***	0.904***	0.613***	0.514***	0.383***
	(0.023)	(0.052)	(0.050)	(0.073)	(0.072)	(0.062)
Child's age square	-0.010***	-0.009***	-0.014***	-0.008***	-0.008***	-0.004***
	(0.0004)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Mother's age	-0.030***	-0.030***	-0.0178***	-0.023	-0.026**	-0036***
	(0.004)	(0.007)	(0.006)	(0.015)	(0.011)	(0.0131)
Mother is born before 1945	0.501***	0.120	0.522***	0.688***	0.275**	1.144***
	(0.049)	(0.073)	(0.071)	(0.150)	(0.113)	(0.174)
Mother's education: secondary	-0.327***	0.111	-0.097	-0.334**	-0.148	-0.204
	(0.047)	(0.079)	(0.071)	(.152)	(0.131)	(0.188)
Mother's education: tertiary	-0.507***	0.394***	-0.299***	-0.535***	0.042	-0.234
	(0.125)	(0.107)	(0.111)	(0.205)	(0.149)	(0.234)
Mother agrees child should leave at 18	0.302***	0.413***	0.159**	0.463***	0.134	0.068
	(0.056)	(0.074)	(0.065)	(0.137)	(0.102)	(0.145)
Mother is divorced & single-parent **(a)**	0.198	0.122	-0.118	-0.055	-0.389**	-0.635
	(0.129)	(0.099)	(0.106)	(0.258)	(0.152)	(0.438)
No siblings in the house	-0.023	0.268***	-0.128*	0.174	-0.115	0.049
	(0.039)	(0.068)	(0.656)	(0.114)	(0.104)	(0.132)
No sibling *single-motherhood	-0.016	-0.215	0.007	-0.847***	-0.177	0.307
	(0.185)	(0.136)	(0.149)	(0.317)	(0.197)	(0.529)
Constant	-13.261***	-10.153***	-14.860***	-11.981***	-8.631***	-8.719***
	(0.345)	(0.694)	(0.693)	(1.122)	(0.161)	(0.984)
Rho	0.348	0.370	0.358	0.679	0.575	0.575
	(0.019)	(0.031)	(0.034)	(0.034)	(0.039)	0.051
Log likelihood	-20,880	-6,476	-7,093	-3,481	-4,200	-2,511
Year observations	91,663	15,656	25,760	14,357	13,965	14,275
Num households	6,670	1,821	2,571	1,585	1,741	1,293

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 %)

Table 4: Joint development and cohabitation effects.
Complementary log-log model with random effects at household's level, by sex and country, for children who have (not) experienced widowhood (children who experienced separation/divorce excluded).

	Italy	France	Hungary	Bulgaria	Russia	Georgia
			FEMALES			
Mother is widow & single-parent **(b)**	0.045	0.270*	-0.117	0.216	-0.333*	-0.060
	(0.063)	(0.160)	(0.135)	(0.225)	(0.195)	(0.154)
No siblings at home	0.129***	0.179**	-0.039	0.210**	-0.195*	-0.009
	(0.036)	(0.067)	(0.064)	(0.090)	(0.100)	(0.107)
Widow * no siblings	-0.302***	-0.784***	-0.206	-0.869**	-0.447	-0.428*
	(0.095)	(0.242)	(0.197)	(0.367)	(0.275)	(0.257)
Rho	0.253	0.311	0.304	0.531	0.521	0.357
	(0.018)	(0.033)	(0.033)	(0.040)	(0.041)	(0.039)
Log likelihood	-23,013	-5,101	-6,587	-3,540	-3,539	-3,945
Year – observations	84,950	10,252	19,220	10,813	10,340	14,492
No households	6,757	1,532	2,220	1,474	1,433	1,434
			MALES			
Mother is widow & single-parent **(b)**	0.008	0.264*	-0.224	0.098	-0.428**	0.008
	(0.063)	(0.153)	(0.141)	(0.328)	(0.200)	(0.173)
No siblings at home	-0.012	0.254***	-0.152**	0.157	-0.100	0.086
	(0.036)	(0.068)	(0.064)	(0.114)	(0.099)	(0.120)
Widow * no siblings	-0.296***	-0.620***	-0.471**	-0.925**	0.116	-0.498**
	(0.091)	(0.207)	(0.189)	(0.420)	(0.257)	(0.261)
Rho	0.277	0.332	0.325	0.671	0.511	0.455
	(0.017)	(0.0351)	(0.036)	(0.035)	(0.047)	0.055
Log likelihood	-23,813	-5,645	-6,811	-3,368	-3,794	-2,958
Year – observations	110,888	13,900	27,015	14,756	13,443	18,574
No households	7,116	1,548	2,364	1,506	1,502	1,430

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%).
Mother's and children's characteristics are included (see Table 2), but coefficients are not reported.

Table 5: Cohabitation effect.
Complementary log-log model with random effects at household's level, by sex and country, for children who have (not) experienced widowhood after age 18 (children who experienced separation or divorce, or parental death before 18, excluded).

	Italy	France	Hungary	Bulgaria	Russia	Georgia
			FEMALES			
Mother is widow & single-parent **(c)**	-0.013	-0.066	-0.345*	0.270	-0.373	-0.039
	(0.090)	(0.265)	(0.191)	(0.319)	(0.276)	(0.223)
No siblings at home	0.124***	0.168**	-0.048	0.199**	-0.196*	-0.014
	(0.036)	(0.068)	(0.065)	(0.090)	(0.102)	(0.107)
No siblings * widow	-0.338**	-0.779*	-0.084	-1.200**	-0.253	-0.850**
	(0.135)	(0.407	(0.699)	(0.509)	(0.371)	(0.385)
Rho	0.256	0.323	0.329	0.523	0.539	0.354
	(0.019)	(0.034)	(0.034)	(0.041)	(0.042)	(0.040)
Log likelihood	-21,610	-4,880	-6,305	-3,456	-3,323	-3,696
Year - observations	79,846	9,841	18,483	10,548	9,510	13,471
No households	6,435	1,479	2,140	1,439	1,354	1,344
			MALES			
Mother is widow & single-parent **(c)**	-0.092	-0.018	-0.318*	-0.341	-0.434	0.102
	(0.081)	(0.222)	(0.175)	(0.412)	(0.271)	(0.214)
No siblings at home	-0.023	0.241***	-0.166**	0.140	-0.132	0.067
	(0.037)	(0.068)	(0.065)	(0.114)	(0.103)	(0.124)
No siblings * widow	-0.344***	-0.824***	-0.532**	-0.596	0.073	-0.819**
	(0.118)	(0.307)	(0.239)	(0.517)	(0.347)	(0.330)
Rho	0.288	0.335	0.320	0.666	0.544	0.485
	(0.018)	(0.036)	(0.037)	(0.036)	(0.045)	0.054
Log likelihood	-22,466	-5,970	-6,525	-3,303	-3,573	-2,767
Year - observations	104,948	13,400	25,799	14,471	12,468	17,288
No households	6,792	1,494	2,271	1,477	1,411	1,331

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%).
Mother's and children's characteristics are included (see Table 2) but coefficients are not reported.

Table 6: Summary of the results, by sex and country.
Coefficients are calculated from tables 3, 4 and 5

	Italy	France	Hungary	Bulgaria	Russia	Georgia
			FEMALES			
Selection effect **(a-b)**	0.175	-0.096	-0.064	-0.499	-0.033	-0.120
	(0.135)	(0.185)	(0.169)	(0.302)	(0.245)	(0.273)
Development effect **(b-c)**	0.058	0.336 †	0.228	-0.054	0.040	-0.021
	(0.110)	(0.310)	(0.234)	(0.390)	(0.338)	(0.271)
Cohabitation effect (c)	-0.013	-0.066	-0.345***	0.270	-0.373†	-0.039
	(0.090)	(0.265)	(0.191)	(0.319)	(0.276)	(0.223)
			MALES			
Selection effect **(a-b)**	0.190†	-0.142	0.106	-0.153	0.039	-0.643†
	(0.144)	(0.182)	(0.176)	(0.417)	(0.251)	(0.471)
Development effect **(b-c)**	0.100	0.282†	0.094	0.439	0.006	-0.094
	(0.103)	(0.270)	(0.225)	(0.527)	(0.337)	(0.275)
Cohabitation effect (c)	-0.092†	-0.018	-0.318*	-0.341	-0.434†	0.102
	(0.081)	(0.222)	(0.175)	(0.412)	(0.271)	(0.214)

Notes: Standard errors in brackets (*** t-ratio > 2.58, ** t-ratio > 1.96, * t-ratio > 1.65, † t-ratio > 1).

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 countries – and so is the pure "selection effect". In contrast, we obtain consistent and significant results across countries for what concerns what the "development effect" and "cohabitation 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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