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The first birth on the pathway to adulthood among male Uruguayan youngsters

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Summary

We analyse the rarely studied transition to the first birth among Uruguayan male youngsters in 1990 and 2008, applying survival analysis in an exploratory approach to survey data. Our findings suggest a later timing in the first birth for male youngsters compared to female youngsters, accompanied by an educational attainment gradient that is present for both sexes. Also, differentials by education increase between 1990 and 2008, leading us to establish the hypothesis of a process of polarisation in the transition to the first birth between the two time periods. In order to establish the role of the first birth in the larger process of the transition to adulthood, we also examine its relations with other markers of the transition, such as leaving the parental home, starting a first job and leaving the school system. We also analyse the impact of attributes such as region of residence and social origins.

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1.1 Introduction: the transition to adulthood and the first birth

The transition to adulthood is a period of the life course in which a series of events occur, leading to increasing autonomy and the ability to provide for oneself. In this sense, the TA is the process by which youngsters are introduced to adult social roles (Settersen *et al.*, 2005). This implies taking on responsibilities both in the family and in the public domain. Different patterns in the process of the transition to adulthood are found depending both on the social and historical setting and on the specificities of individual biographies (Casal, 2006; Settersen *et al.*, 2005).

From a sociological point of view, the TA is conceptualized as a complex and relatively de-structured process which presents different durations and patterns depending on social status and on the social and historical settings in which the process takes place. This perspective focuses on the individual as embedded in a community with specific social, economic and historical features. Therefore, the process of the transition of adulthood is considered to be determined both by micro and macro social factors (Casal *et al.*, 2006; Mora Salas and Oliveira, 2009).

From a demographic standpoint, the entry to adulthood is considered as a process that is determined by a series of events or "markers of the transition". In the public domain, the markers of the transition to adulthood usually considered are the end of schooling and the entry into the labour market, whereas in the private domain, the standard markers of the transition are leaving the parental home to form independent households, the formation of the first conjugal union and the start of childbearing (Settersen *et al.*, 2005).

The pathway to adulthood is greatly shaped by the moment in the life-course in which several events happen, the start of childbearing being a key event. This is due to the life-changing responsibilities that come along with the role of mother or father. The levels of autonomy and social integration that can be achieved during the transition to adulthood will therefore depend significantly on the timing of the events leading to it, as well as on the social context in which these events are experienced (Arnett, 2000; Casal *et al.*, 2006). Hence the importance of the timing of the first birth, as it will shape the path to adulthood and the levels of vulnerability to be faced during this time.

In spite of the fact that fatherhood is one of the most important demographic events in the transition to adulthood, there is scarce data available for the Latin-American region regarding the

timing of the first birth among males (Amorín *et al.*, 2006). This paper is a first attempt at filling in the void concerning the research on male reproductive behavior in Uruguay, focusing on the timing of the first birth.

1.2 Context

Compared to the Latin-American region, Uruguay experienced an early first demographic transition. It started in the last years of the nineteenth century and the first decades of the twentieth century, contemporaneous with the demographic transition in southern Europe (Pellegrino, 2010).

From its origins as a nation, Uruguay has been characterised by a low demographic density and an uneven territorial distribution of the population, highly concentrated in the capital and some urban centers. The presence of large migration flows implied that the country was populated mainly by European and some Argentinian and Brazilian immigrants, with very scarce native population.

These specificities of the population process, together with the insertion in the international economic system, contributed to the early development of modern patterns of reproductive behavior and to the adoption of ideational systems similar to those of industrialised nations (Pellegrino, 2010).

The age structure went from a young population in the beginning of the twentieth century to an aging population in the last third of the century, a process that deepened in the twenty-first century. The reduction in fertility and mortality, together with the occurrence of large emigration waves, shaped the current demographic scenario, with a global fertility rate under generational replacement levels (1.93) and a proportion of persons aged 65 and over of 14.1 %.

Uruguay experienced major transformations in the patterns of family formation since the 1980's. These changes can be summarised as a steady increase in divorce rates; a fall in nuptiality rates; a growing number of cohabiting unions and an increase in out of wedlock births. The most drastic change has been the reduction in legal marriages and the concomitant increase in cohabiting unions, transformations with a major generational change component (Cabella, 2009).

1.3 Male fertility from a demographic perspective

Very few studies have researched male reproductive patterns, despite their involvement in biological conception and the fact that male attitudes towards contraception and sexual behavior can be considered intermediate determinants of fertility. The underlying assumption of the historical emphasis on women is that the understanding of male behavior is not important in the study of fertility (Greene and Biddlecom, 2000). Arguments put forward to justify the fact that male fertility rates are not often calculated include that the reproductive ages are not as clearly delimited for men as for women as they are for women, and the fact that children usually live with their mother rather than with their father, thus making it difficult to use indirect estimations of fertility. In addition, it is assumed that men have a poorer knowledge of their offspring, whereas women may provide more reliable information.

Greene and Biddlecom (2000) suggest that the barriers to the inclusion of men in fertility research are mostly normative, reflecting demographers' own socialisation regarding male gender roles. This often means that men are taken into account only in regard to their economic roles (Greene and Biddlecom, 2000).

As a result, the collection of fertility-related data is mainly aimed at women, thus reproducing the idea that children are solely or mostly women's responsibility (Figueroa Perea, 2011). Therefore, men are not considered to be an active part of the reproductive process but rather as only having a role in the conception and in the use of contraception. Yet, should fertility be studied in specific cultural settings, men behavior ought to be included in the research (Greene and Biddlecom, 2000).

The recent development of more comprehensive theoretical frames concerned with gender equity contributed to the realization that the study of male fertility was necessary. Consequently, the interest on male fertility and men's roles in the reproduction process grew since the 1990's (Greene and Biddlecom, 2000).

Prevailing models of masculinity affect the way in which fatherhood is experienced. Amorín *et al.* (2006) suggest that an undergoing process of social de-legitimization of patriarchy is making way to the creation of new meanings of masculinity. A growing involvement in childrearing is among the most noticeable recent changes in fatherhood. Moreover, men are displaying

emotional and affective types of involvement in their relationships with children which are a far cry from the traditional male stereotypes (Amorín *et al.*, 2006). These transformations are the corollary of the changes in women's' gendered roles that came about with their massive insertion in the labour market and the growing visibility of gender equality issues in the public agenda that came along with it (Amorín *et al.*, 2006).

1.4 Previous research in the Latin-American region

Male fertility research in Latin-America has been rare, mostly qualitative and from the sociological and anthropological domains (Rojas, 2010).

One of the first research efforts for the region, by Quilodrán and Sosa Márquez (2001), aimed at estimating male fertility in Mexico, while analysing differences between men and women both in the calendar and in the fertility levels. Having calculated global and age-specific fertility rates for men and women, the results show a later calendar and higher levels of fertility among males (Quilodrán and Sosa Márquez, 2001).

Rojas (2002), following a qualitative approach, suggests that male reproductive attitudes and values have undergone important transformations. The reproductive behavior has been influenced by sexual education as well as by the diffusion of reproductive and sexual health and family planning programs. The start of a conjugal union and fatherhood coincide in the life-course trajectories of men, the timing of both events being very close apart (Rojas, 2002).

Figueroa Perea (2010) insists on the necessity of including men in the study of reproductive behavior, given their biological role as "the other part" in the process. A preoccupation that is shared by gender studies claiming for the inclusion of relational categories in fertility research that would give way to the incorporation of men when analysing the reproductive process (Figueroa Perea, 2010). The "feminization of reproduction" that is supported by considering only women in the study of fertility is thought to have negative consequences both for women's wellbeing and for the general exercise of individual rights (Figueroa Perea, 2010). As a consequence, the construction of medical and demographic indicators based solely on data collected for women reinforces and legitimises the minimisation of male reproductive roles.

1.5 Previous research in Uruguay

There is scarce research on male reproductive behavior in Uruguay. The academic agenda and social policy on fertility have not taken into account the male perspective either (Guida, 2003).

Among the rare studies on this topic we find the research project "Gender and generations. Biological and social reproduction of the Uruguayan population" which studied the meanings of motherhood and fatherhood among teenagers from low and middle socio-economic status. Using a qualitative perspective, the study finds the persistence of traditionally predominant gender stereotypes among male teenage fathers (Amorín *et al.*, 2006). However, some signs of the emergence of new meanings of fatherhood and masculinity can be found. This is in part explained by the fact that meanings of fatherhood diverge depending on socio-economic status. While there is a strong symbolical association of parenthood and the need to support the family in a breadwinner model type among males from the lower socio-economic backgrounds, males from the middle classes tend to associate fatherhood with affectionate roles (Amorín *et al*., 2006).

Some differences in gendered roles have been observed according to the income level of households. In the lower income sectors of the population, men assume earlier the role of head of the household and participate in the labour market in a greater extent than women do (González and Macari, 2011). This could indicate the prevalence of traditional gender roles. On the contrary, in the higher income sectors the gap between male and female labour market participation is smaller. This suggests that differential masculinity models are emerging, which could lead to differential types of fathering (González and Macari, 2011).

Videgain (2012) analyses changes in the transition to adulthood among male and female Uruguayans using census data since 1986 to 2006. Studying the multiple status configurations at each age (working, studying, being in a conjugal union), the author concludes that men show later calendars than women in family formation, when conjugal union status is considered. It is suggested that men have earlier labour market calendars and that their labour market insertion is more stable throughout the life course. Childbearing among men is not analysed in this study given the absence of data on the subject among male respondents of the censuses.

2. Data and methods

Due to lack of adequate and reliable data, there are no quantitative studies on the calendar and levels of male fertility in the country. The recent availability of two national surveys represents a research opportunity because they contain information on some of the characteristics of males at time of first birth.

The data sources are the National Youth Surveys (NYS) carried out in 1990 and 2008 by the Uruguayan National Institute of Statistics (INE by its name in Spanish). The surveys are representative at a national level, both of the country's capital –Montevideo- and the rest of urban centers with more than 5,000 inhabitants. 2,726 men aged between 15 and 29 were interviewed in 1990, while 1,957 were interviewed in 2008. Hence, our study universe consists on urban male residents who were in their youth in 1990 and in 2008 that resided in urban centers in Uruguay.[4] Table 1 presents the composition of the sample.

Taking advantage of this data source, this paper sets out to examine the start of male reproductive trajectories. The transition to fatherhood is analysed in a life-course perspective, undertaking an exploratory approach given the scarcity of research on this topic in the country and the region.

We use two analytical strategies: cross-sectional and longitudinal, each presented in a separate section. Cross sectional analysis is used in the descriptive findings section, where we present changes over time in the socio-demographic profile of males that were fathers at the time of the survey. The variables used in this section include: age-group of the respondent; poverty condition of the household; educational attainment level and residence area.[5]

The second section of results concentrates on the first birth from a longitudinal standpoint, retrospectively analysing reproductive trajectories. Biographies are analysed from age 15 to age 29.[6] We use the Kaplan-Meier estimator in order to estimate the hazard of the first birth

[4] Women were also interviewed and have been analysed in a previous study by Varela Petito *et al.*, (2012) to which we refer at some points for comparison purposes.

[5] Region of residence is a variable with two categories: « capital city » (Montevideo) and « other urban centers". The country´s capital city concentrates approximately 40% of the total population. "Other urban centers" designate urban areas with more than 5000 inhabitants, as established by the National Institute of Statistics.

6 Given the few births observed among males before age 15, it is considered here the start of the childbearing ages among males. Individuals are censored at the time of the first birth or at age 29, given that the eldest individuals in

according to different time-fixed and time-varying covariates.[7] The time-fixed covariates used in this section include: educational attainment, residence area and the educational attainment of the respondent's mother.[8] In order to analyse the first birth in its relations with other events that mark the path to adulthood, time-varying covariates are used: the start of the first job, the exit of the educational system and leaving the parental home.[9] The survival analysis will allow firstly to assess changes over time among two cohorts of Uruguayan males and secondly, the impact of other dimensions of the transition to adulthood on the first birth.

Table 1. Socio-demographic profile of young males (as percentage). Uruguay, 1990 and 2008.

		1990		2008	
		N	Percentage	N	Percentage
Age group	**15 to 19**	1192	43.7	758	38.7
	20 to 24	752	27.6	612	31.3
	25 to 29	782	28.7	587	30.0
Household poverty	**Residing in a non-poor household**	2379	87.3	1696	86.7
	Residing in a poor household	347	12.7	261	13.3
Educational attainment level	**Less than 9 years of schooling**	999	36.9	623	31.8
	9 to 12 years of schooling	1425	52.6	1019	52.1
	13 years of schooling and over	286	10.6	315	16.1
Region of residence	**Other urban centers**	1192	43.7	1020	52.1
	Capital	1534	56.3	937	47.9
N		2 726	2 726	1 957	1 957

Source: own elaboration based on NYS, 1990 and 2008. Unweighted data.

the sample are 29 years-old, therefore not allowing the analysis beyond that age. We will consider "the youth period" as the 15-29 age-period, for these practical reasons.

[7] This allows analysing the calendar and the intensity of the rhythm of the transition to the first child, estimating the amount of individuals that experience an event while being at risk of doing so, and the corresponding probability of the event happening.

[8] This covariates are measured at the time of the survey but might be considered fairly fixed or background characteristics.

[9] In order to include these covariates, the biographies were separated in multiple episodes, considering at every point in time whether the respondent had experienced the event of interest; whether the individual had already left the parental home; whether the respondent was still enrolled in the school system and whether it had already started working for the first time. The dataset contains information on the age at each of these events.

3. Descriptive findings: recent changes in the profile of fathers

In this section we briefly present the incidence of the phenomenon of fatherhood in the youth in our sample from a cross-sectional perspective. Then, we present an approximation to changes in fathers' profile over time.

First birth during youth has been experienced by less than 17.7 % of males in the 1990 sample and by 16.5 % in the 2008 one (table 3). Therefore, no significant changes are observed in the proportion of fathers between 1990 and 2008 (individuals born between 1961-1975 and 1979-1993, respectively).

Table 2 shows the age composition of males that were fathers at the time of the survey.

Most of the fathers are concentrated in the late youth: three quarters of fathers belong to the 25 to 29 age-group. In the case of women, this proportion is lower, with 60 % of mothers in this age group (see Table 4 in annex). This result suggests a later calendar in male fertility.

Table 2. Father's age composition of (as percentage).[10] Uruguay, 1990 and 2008

		1990	2008	Gap 2008-1990
Age group	15 to 19	2.1*	3.9*	1.8
	20 to 24	24.1	25.4	1.3
	25 to 29	73.8	70.7	-3.1

Source: own elaboration based on NYS, 1990 and 2008. Weighted data.

There are no drastic changes in fathers' age-profile over time. Small increases in the proportion of fathers in the two younger age-groups can be observed, while there is a slight reduction in this proportion in the oldest age-group.

Table 3 evaluates if there have been changes over time in the socio-demographic profile of fathers. In order to do so, we show the proportion of fathers in a series of categories and examine the changes in these proportions over time. The percentages are calculated on the rows and only the proportion of fathers is shown for each point in time (1990 and 2008).

[10] Cells marked * contain 30 individuals or less.

Table 3. Socio-demographic profile of fathers (as percentage in the rows.[11] Uruguay, 1990 and 2008.

		1990	2008	Gap 2008-1990
	%	17.7	16.5	-1.2
Household poverty	**Residing in a non-poor household**	16.2	14.2	-2
	Residing in a poor household	26.9	31	4.1
Educational attainment level	**Less than 9 years of schooling**	22.1	26.9	4.8
	9 to 12 years of schooling	14.5	13.3	-1.2
	13 years of schooling and over	12.8	5.9	-6.9
Region of residence	**Other urban centers**	20.1	18.3	-1.8
	Capital	15.6	14.4	-1.2
N		409	299	

Source: own elaboration based on NYS, 1990 and 2008. Weighted data.

This reveals that even though the proportion of fathers did not change significantly from one sample to the next, some of their socio-demographic characteristics did indeed change over time.[12]

Both in the 1990 and in the 2008 samples, the proportion of fathers among males living in poor households doubles the proportion of fathers found in non-poor households. Moreover, there is a 4 percentage point increase between 1990 and 2008 in the proportion of fathers among those living in a poor household, while among those living in non-poor households there is a 2 point decrease in the proportion (Table 3).

In addition, we find differentials in the proportion of fathers in each educational attainment category, which grow over time. Whereas in the 1990 sample the differences between the proportion of fathers among males with 9 to 12 years of schooling and among those with 13 years and more of schooling were negligible, in the 2008 sample there is a clear stratification in the proportion of fathers in each educational attainment category.

Some differences emerge over time between both ends of the educational attainment scale. There is a 5 percentage point increase between 1990 and 2008 in the proportion of fathers among the category with less than 9 years of schooling, while there is a 7 percentage point decrease in this

[11] The percentage of non-fathers in each category is omitted from the table.

[12] The variables that show statistically significant changes between the two samples at the 0.01 significance level are: poverty of the household, years of schooling and residence region. We use two-sample tests of proportions.

proportion among those in the other end, with 13 and more years of schooling. On the other hand, males in the middle of the educational attainment scale, with 9 to 12 years of schooling, show no significant changes over time.

The literature shows that education is a determinant factor in male reproductive behavior (Rodríguez, 2005; Chackiel, 2003; Chackiel, 2004; Varela Petito *et al.,* 2008; Varela Petito *et al.,* 2012). Retention in the education system has been shown to affect significantly both the calendar of childbearing and completed fertility. These findings suggest that in the case of Uruguayan males, the years of schooling are a defining factor whose impact could be increasing over time.

We observe a slight reduction in the proportion of fathers both among men living in the capital and in other urban centers. In this analysis, region of residence does not appear as a differentiating factor in male reproductive behavior during the youth. The gap between regions is small, about 4 percentage points in both samples.

Table 4 allows for a first approximation to the intensity of fertility among males that were fathers at the time of the survey. We focus on whether fathers had only one child or more children at the time of the survey in each analytical category.

The proportion of fathers to 2 and more children is stable between both surveys and represents about 40 % of fathers. More than 60 % of fathers residing in poor households had 2 children or more at the time of the survey in both samples. There is an important gap of about 20 percentage points in 1990 and 28 in 2008 between fathers residing in non-poor and poor households. This suggests that the poverty condition is a key factor in explaining both the calendar and the levels of fertility among males in this stage of the life course (Table 4).

Educational attainment also seems to imply differentials in the timing and the intensity of male fertility, finding significant gaps between both ends of the educational scale. The proportion of fathers to 2 children or more decreases when years of schooling increase. The gaps widen over time: the proportion of fathers to 2 and more children among the least educated more than doubles that among the most educated in the 2008 sample.

Table 4. Socio-demographic profile of fathers by number of children (as percentage in the rows). Uruguay 1990 and 2008.

		1990		2008	
		1 child	2 or more	1 child	2 or more
	Children at time of survey	58.7	41.3	61.8	38.2
Age group	**15 to 19**	92.5*	7.5*	93.0*	7.1*
	20 to 24	74.0	26.0	78.7	21.3
	25 to 29	52.8	47.2	54.0	46.0
Household poverty	**Residing in a non-poor household**	63.1	37.1	69.0	31.9
	Residing in a poor household	42.2	57.8	40.9	59.1
Educational attainment level	**Less than 9 years of schooling**	53.5	46.5	51.2	48.8
	9 to 12 years of schooling	63.8	36.2	72.9	27.1
	13 years of schooling and over	68.9*	31.1*	78.2*	21.8*
Region of residence	**Other urban centers**	55.4	44.6	60.4	39.6
	Capital	62.4	37.6	63.8	36.2
N		240	169	185	114

Source: own elaboration based on NYS, 1990 and 2008. Weighted frequencies.

The region of residence appears to be an intervening factor in the number of children that fathers have in their youth, with a greater proportion of fathers having more than one child among those who reside in other urban centers compared to fathers in the capital. This is so in both surveys, but differences are less important in the 2008 sample.

4. Survival analysis findings: the gaps in the transition to fatherhood

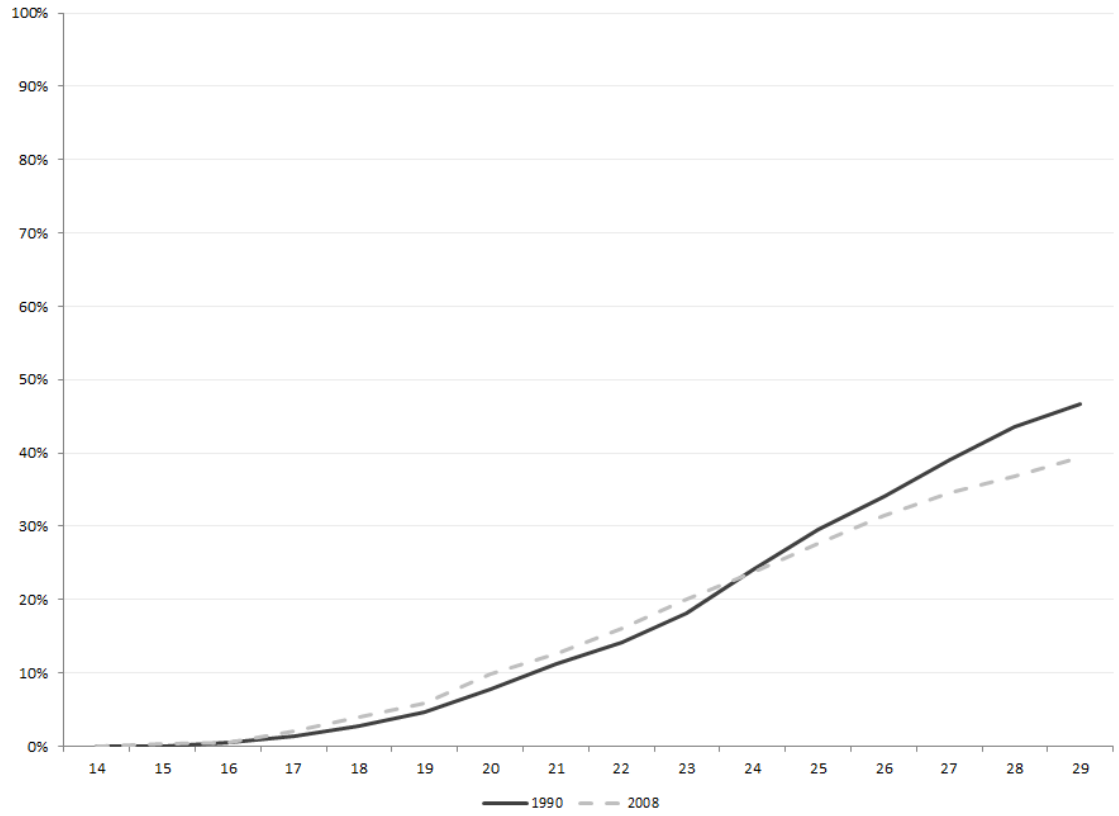
In this section we describe the calendar and the rhythm of the first birth by using the Kaplan-Meier estimator. The results are shown in the form of the cumulative percentage of males experiencing the event at each point in time (age).

Major changes are not observed when comparing the cumulative percentage curves for the two cohorts of males surveyed in 1990 and 2008. This implies a similar pattern of the timing in the first birth among males from both samples (Figure 1). [13]

[13] The log-rank test shows that the differences between the survivor curves of 1990 and 2008 are not statistically significant.

During the teenage years, the transition to fatherhood is rare, with a cumulative percentage having had a first child of about 9 % at age 20. It is noteworthy that about half of the male youngsters will end their youth as defined here not having fathered a child.

Figure 1. Cumulative percentage of males experiencing the transition to the first birth. Uruguay, 1990 and 2008.



Source: own elaboration based on NYS, 1990 and 2008. Weighted data.

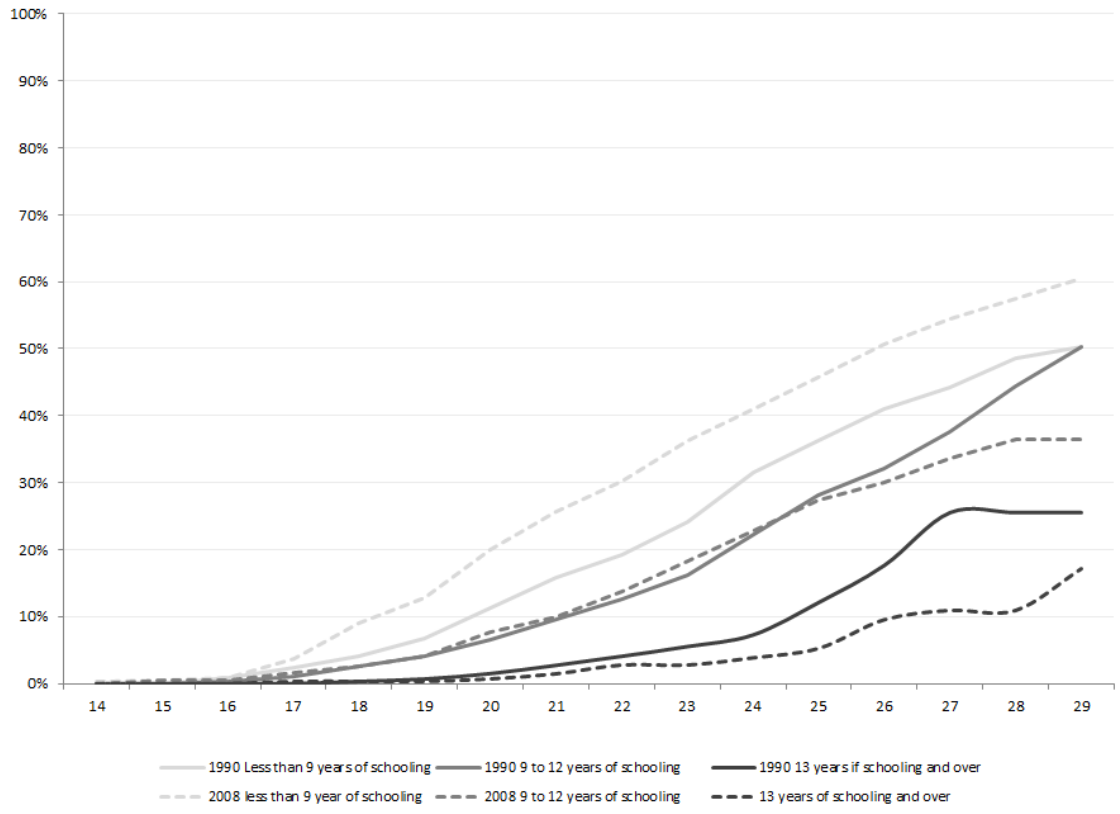
4.1 Transition to fatherhood and social inequalities

As mentioned in the previous section, important differences in reproductive behavior arise from the educational attainment of individuals. Figure 2 suggests the presence of three models in the transition to fatherhood according to the years of schooling. The lower the educational level, the bigger the cumulative percentages having fathered a child during the youth. Moreover, the gaps increase between 1990 and 2008. At the end of period considered, at age 29, the gap between the cumulative percentage of males with 9 years of schooling or less and those with 13 years and

more is 25 percentage points in 1990 and 43 percentage points in 2008[14]. This polarisation could be explained by the coexistence of two processes going in opposite directions: the least educated are making earlier transitions to fatherhood, whereas the most educated are postponing the first birth.

This can be seen when analysing the age-pattern of the curves for both ends of the educational attainment scale. Among the least educated, since the early ages of the youth the curve for the 2008 cohort shows a gap of between 6 and 12 percentage points with the curve for the 1990 cohort. Among the most educated, the gap between both cohorts can be found from age 23 onwards and it widens after age 25.

Figure 2. Cumulative percentage of males experiencing the transition to the first birth, by educational attainment levels.[15] Uruguay, 1990 and 2008



Source: own elaboration based on NYS, 1990 and 2008. Weighted data.

[14] The log-rank test shows that differences in the survivor curves for males with 9 years of schooling and those with 13 years and more are statistically significant at the 0.01 significance level.

[15] Log-rank tests for these analyses took into account males aged 20 and over so that age-effects could be somewhat controlled for, since only males aged 18 and more can have more than 12 years of schooling.

Men with an intermediate level of education fall somewhere in between the other categories and do not experience major changes over time, the difference between the curves for the 1990 and 2008 cohorts not being statistically significant.

To sum up, not only important differences can be found according to the years of schooling males have acquired, but also we find differences over time within the same educational category (with the exception of males with an intermediate level). It can be ventured that there is a process of delaying fatherhood led by the most educated Uruguayan males. A great percentage of them will not experience fatherhood during the youth period as defined in this paper: in the 2008 sample, 83% of males will not have fathered a child by age 29. This percentage was 74% in the 1990 sample.

Other than the existence of three well defined models, these findings suggest that men delay childbearing more than women do (as shown in previous research by Varela Petito *et al.,* 2012) at each educational level. We can hypothesise that this greater delay of fatherhood is related to the fact that men's transition to adulthood is rather characterised by the other events, such as the entry in the labour market, leaving the parental home and finishing school. The delay in fatherhood could also be explained in terms of the age difference between spouses.

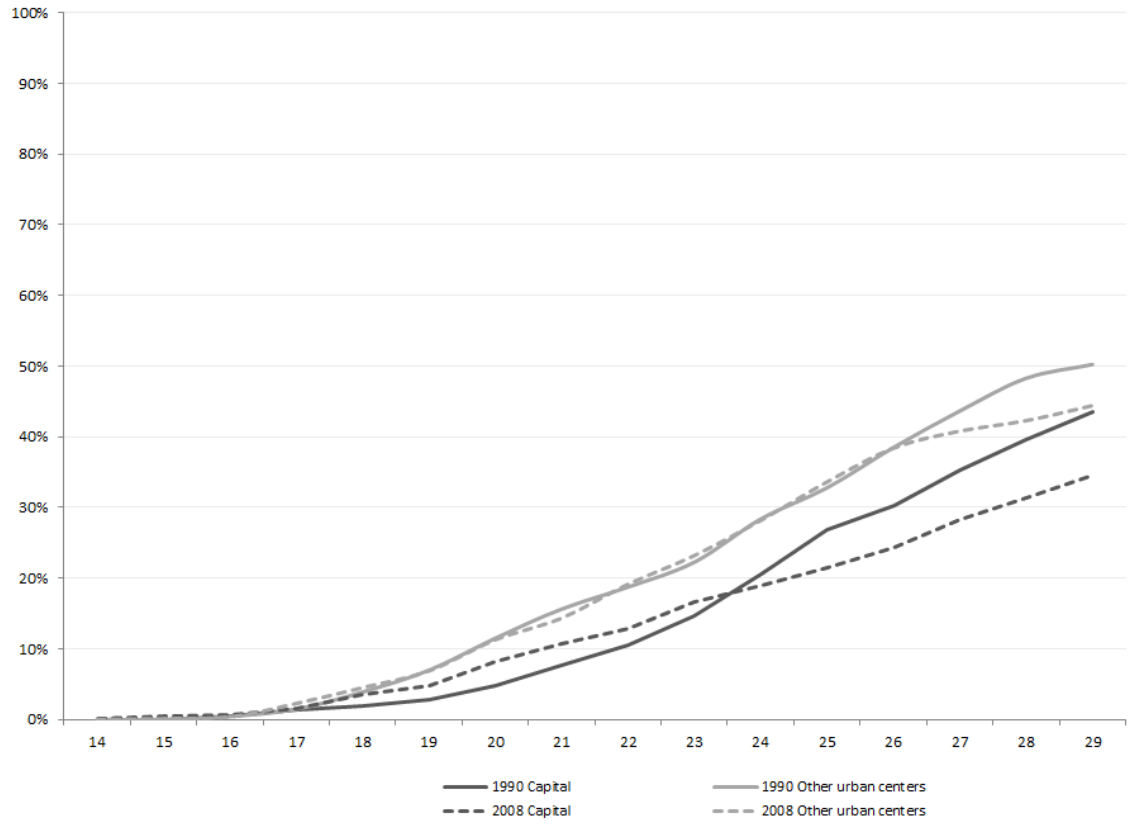
4.2 Region of residence differentials

The region of residence can also be a factor that explains differences in demographic behavior and particularly in reproductive patterns, as has been shown for the case of women (Varela Petito *et al.,* 2008; Varela Petito *et al.,* 2012).

As revealed in the descriptive findings section, there are not major differences in the transition to fatherhood according to the region of residence of the respondents. In the 1990 sample, the cumulative percentage of fathers by age 20 was 5 % in the capital, whereas among males residing in other urban centers it was 12 %. By age 25 these cumulative percentages are 27 % and 32 % respectively and at age 29 they are 43 % and 50 %. In the 2008 sample, the curves seem to show a certain postponement in the transition to fatherhood after age 24 in the capital and after age 27 in other urban centers. However, the differences between 1990 and 2008 are not

statistically significant. Therefore, it can be stated that despite the small magnitude of the differences over time, males residing in the capital of the country are postponing fatherhood to a greater extent than males residing in other urban centers.[16]

Figure 3. Cumulative percentage of males experiencing the transition to the first birth, by region of residence. Uruguay, 1990 and 2008



Source: own elaboration based on NYS, 1990 and 2008. Weighted data.

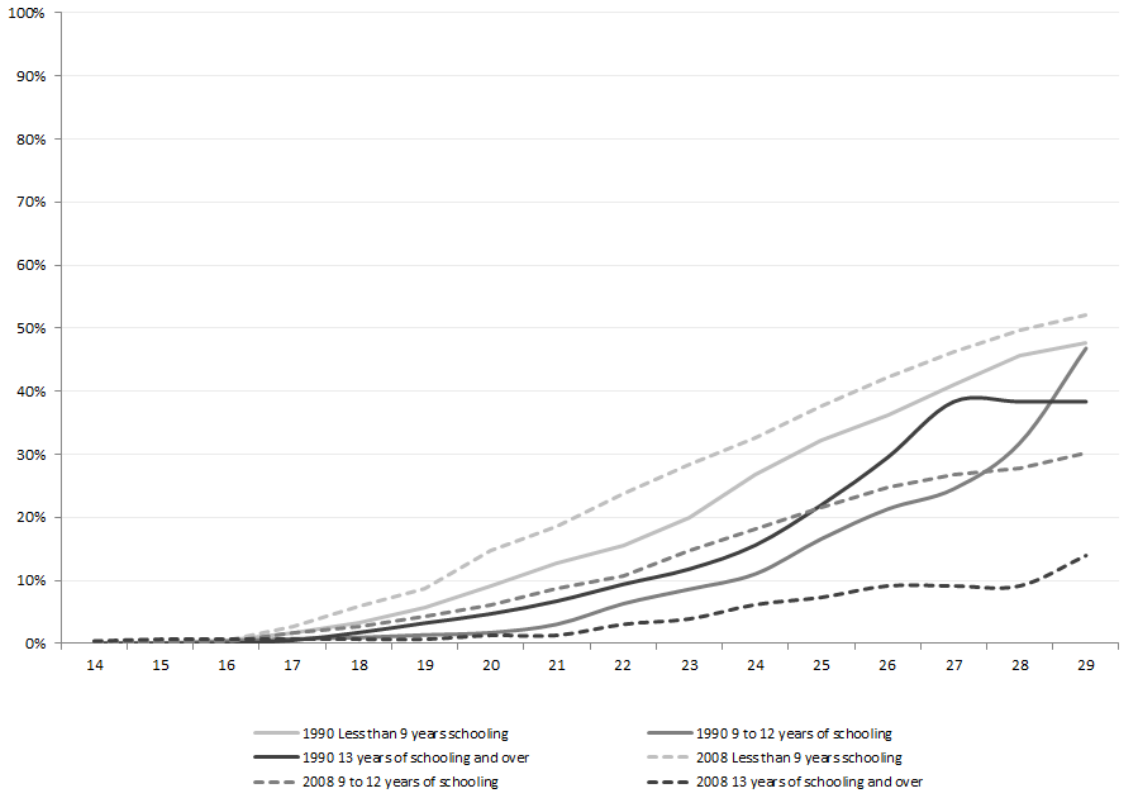
4.3 An approximation to the social background

The educational attainment of the respondent's mother is considered here as a proxy of the context of socialisation. The dataset contains information on the current educational level of the respondent's mother and therefore we cannot be sure that it was the same during the childhood and youth of the respondent. Nevertheless, when mothers present low levels of educational attainment we can be more certain that the respondent grew up in a poor educational climate.

[16]The log-rank test shows that the differences between the survivor curves for the capital and other urban centers are statistically significant at the 0.01 significance level.

The educational climate of the household discriminates the reproductive behavior of both women (Varela Petito *et al.*, 2012) and men. Males from both samples who come from poor educational climates (male whose mothers acquired less than 9 years of schooling) show an earlier calendar of fatherhood than those who come from better off backgrounds. Moreover, there are signs of advancement in the calendar of the first birth over time among the least educated, with earlier transitions among males from the 2008 cohort than from the 1990 one. Greater cumulative percentages can be observed at each age among the least educated: in the 1990 cohort the cumulative percentage of fathers by age 20 is 8 %, while it increases to 15 % in the 2008 cohort. By age 25 these cumulative percentages are 26 % and 33 % respectively and by age 29 they are 48 % and 52 % (Figure 4).

Figure 4. Cumulative percentage of males experiencing the transition to the first birth, by educational climate in the household. Uruguay, 1990 and 2008



Source: own elaboration based on NYS, 1990 and 2008. Weighted data.

Males who come from the intermediate background are in between both ends of the scale and do not show important changes over time.[17]

The more drastic transformation in this respect happened among males from the highest end of the scale, whose mothers have been in the educational system for 13 years or more. We find signs of a postponement in the calendar of the first birth among males who come from the best educational climate in the 2008 cohort. This could suggest a generational transmission of the value of investing in educational capital during the youth.

In short, we find a process of polarisation in reproductive trajectories over time depending on the educational climate of the household, with males from the high end of the scale postponing fatherhood while those from the poorer social backgrounds are actually having earlier transitions to childbearing.

4.4 The transition to adulthood: the interrelation of events

This section focuses on the first birth in its relations with other events of the transition to adulthood, considered as time-varying covariates. In order to determine if the individual experienced a series of markers of the transition, we analyse the age at the start of the first job, of school leaving and of leaving the parental home. It is to be noted then that we are not analysing if the individuals were working, in school or living independently at the time of the first birth but rather if they had already experienced the event under consideration for the first time.[18]

4.4.1 The first birth and the first job

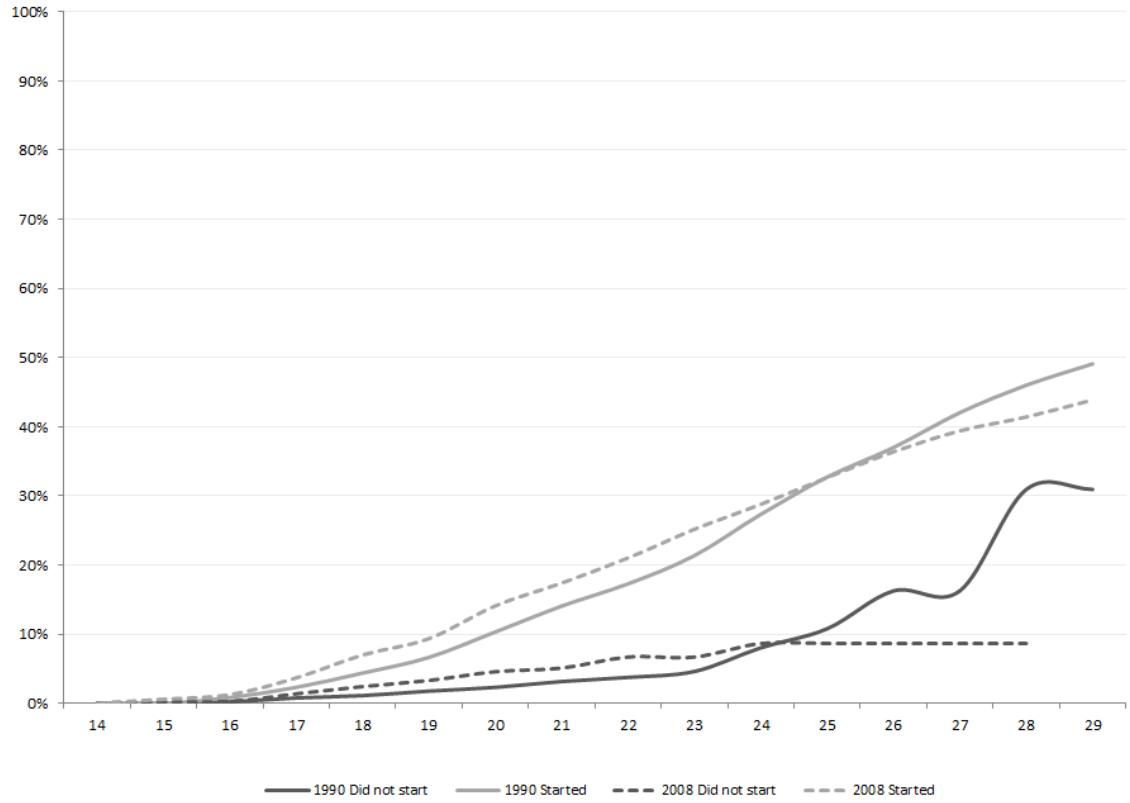
The first labour market experience is a key event in the pathway to adulthood, introducing individuals in a new set of social relations that transform their everyday life. The entry into the labour market implies developing the capacity of self-support and therefore of becoming independent from the parental home.

[17] The log-rank test shows that the differences between the survivor curves for the intermediate educational climate background are not statistically significant.

[18] The dataset does not include information on whether the person was working, at school or in an independent household at the time of the birth.

This analysis takes into account whether the respondent had started a first job or not at the time they experienced the transition to fatherhood. It shows that the cumulative percentage of fathers is greater at all ages among males that had started their first job.[19]This is so for both cohorts, with little change over time. In 1990, at age 20 the cumulative percentage of males having experienced a first birth was only 2 % among those who had not had a first job and it was 10 % among those who had. This tendency continues among the 2008 cohort, with somewhat higher cumulative percentages: at age 20, 4 % of males that had not entered the labour market for the first time had fathered a child, whereas the cumulative percentage was 14 % among those who had started their work trajectory.

Figure 5. Cumulative percentage of males experiencing the transition to the first birth, according to start of the labour market trajectory. Uruguay, 1990 and 2008



Source: own elaboration based on NYS, 1990 and 2008. Weighted data.

[19] The log-rank test shows that the differences between survivor curves for males who have started working and those who have not yet had a first job are statistically significant at the 0.01 significance level.

At age 25 the gap in the cumulative percentages persists among the 1990 cohort, with 10 % of the respondents having made the transition to parenthood while not having started a first job and 33 % while they had started working. The figures are quite similar for the 2008 cohort, with cumulative percentages of 9 % and 33 %.

Even though we have to be careful with the interpretation of the results among males that had not started working at the later ages of the youth, given that they are a very small proportion, we observe a reduction over time in the cumulative percentages of the first birth. While the cumulative percentage having experienced the first birth among them was 31 % by age 29 in 1990, it was only 9 % in the 2008 cohort. This could point to an increasing importance of the labour market experience as a precondition to family formation.

The early calendar of the transition to the first job among males is an aspect that should be highlighted: around 90 % of the respondents in both cohorts had entered the labour market by age 20. However, their cumulative percentages experiencing the transition to fatherhood are relatively low. This suggests that the labour market trajectories among males are not strongly associated with family formation and childbearing.

4.4.2 Leaving the parental home

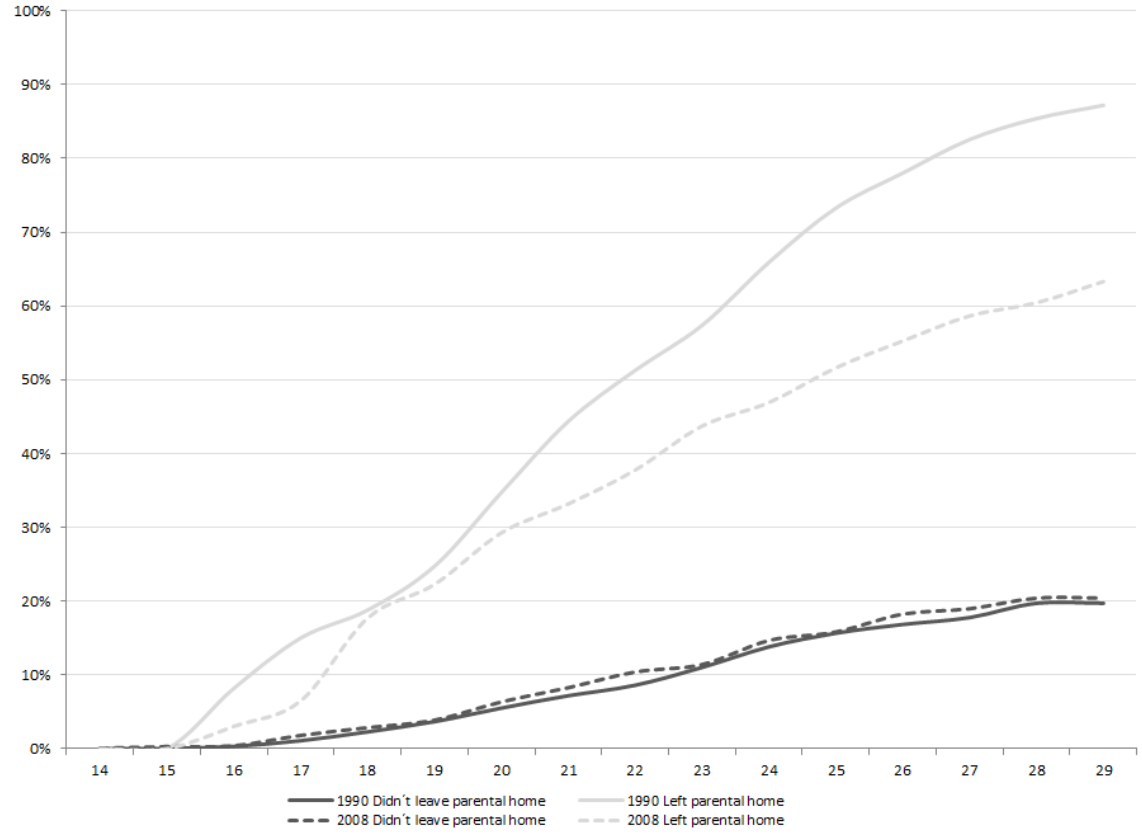
As could be expected, the cumulative percentages of males experiencing the transition to parenthood are greater among those who had already left the parental home in both cohorts.

The age pattern of the transition to the first birth is fairly stable over time among those who had not left the parental home. Among those who had started living independently, on the other hand, an important reduction at all ages in the proportions experiencing the first birth can be observed between 1990 and 2008.

As shown in Figure 6, only 5 % and 6 % of males still living at the parental home had fathered a child by age 20 in the 1990 and 2008 cohorts respectively. The cumulative proportions among those who had started living independently were 35 % in 1990 and 29 % in 2008. By age 25 we observe the biggest gap between males living independently and those who were still at the parental home. While the cumulative percentage of the transition to the first child for the latter

remains stable around 16 % between 1990 and 2008, it shows a great reduction from 73 % to 52 % among males who were living independently.

Figure 6. Cumulative percentage of males experiencing the transition to the first birth, according to leaving the parental home. Uruguay, 1990 and 2008



Source: own elaboration based on NYS, 1990 and 2008. Weighted data.

This could suggest a growing diversification in the pathways to adulthood, with a weaker association between family formation and independent living among males in the new generations. This hypothesis should be tested including other variables, notably the formation of conjugal unions.[20]

By the end of the youth as considered here, a stable 20% of male respondents had fathered a child while still not having formed an independent household in both cohorts. This can be attributed to the formation of extended families, in which new couples start a family within the parental household of one of the spouses. Such stability is not found among those who had

[20] Not available in the NYS.

started living independently, with the cumulative percentages having had a first birth falling from 87 % in 1990 to 63 % in 2008.[21]

In short, a process of convergence can be observed in the transition to parenthood among males that started living independently and those who had not, which points to a weaker link between the formation of an independent household and the start of a new family during the transition to adulthood.

4.3 Leaving the school system

Both the educational attainment and the insertion in the school system are strong determinants of reproductive behavior, as discussed previously. This can be confirmed in our analysis considering the exit of the school system as a time-varying covariate.

The transition to fatherhood during the youth is more common among males who left the school system, in both cohorts. It is noteworthy that in the latter cohort, cumulative percentages among these respondents are greater at all ages than in the 1990 cohort (Figure 7).

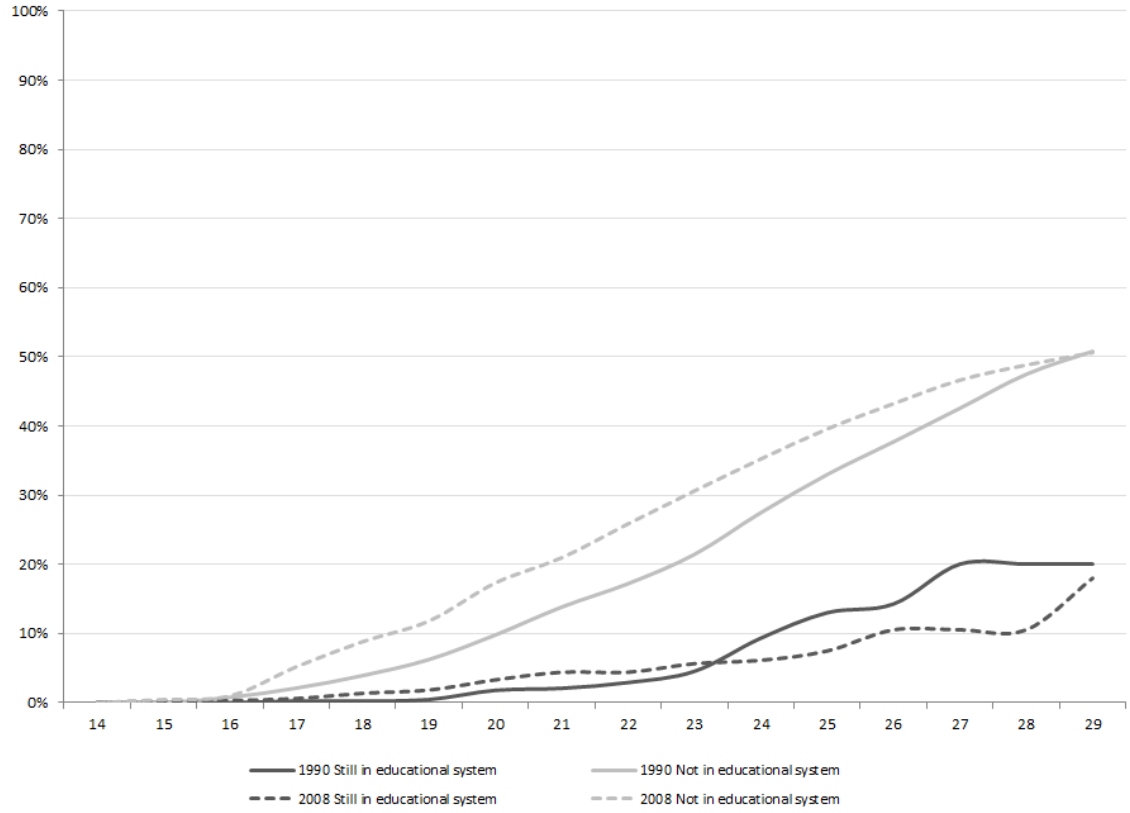
Whereas by age 20 the cumulative percentages experiencing the event are very low both in the 1990 and 2008 cohorts among those still in the school system, this percentage goes from 10 % to 17 % between cohorts among those who had already left the school system. These cumulative percentages go from 33 % in 1990 to 40 % in 2008 by age 25. On the contrary, among males that are still in school not only are the cumulative percentages lower, but also they decrease over time, going from 13 % to 7 % at age 25. By the end of the youth half of males that left the school system will have fathered a child, whereas only one fifth of those still in school will.

As shown for the case of women both the school enrollment and the accumulation of years of schooling are contributing factors to the postponement of the first birth (Varela Petito *et al.*, 2012).[22]

[21] The log-rank test shows that the differences between survivor curves are statistically significant at the 0.01 significance level.

[22]The log-rank test shows that the differences between survivor curves are statistically significant at the 0.01 significance level.

Figure 7. Cumulative percentage of males experiencing the transition to the first birth, according to leaving the school system. Uruguay, 1990 and 2008



Source: own elaboration based on NYS, 1990 and 2008. Weighted data.

5. Conclusions

We can conclude that there are no major changes in the transition to fatherhood over time, when considering the total male population. In the samples, only a fifth of Uruguayan male youngsters had experienced fatherhood and fathers were concentrated on the later ages of the youth, which suggests a later calendar than that of women.

In spite of the apparent stability of male reproductive behavior over time, differentials emerge when considering the educational attainment and the social background. This paper asserts the existence of three models of reproductive behavior among males according to the educational attainment, and furthermore widening gaps over time.

Years of schooling establish important differences in the timing of the first birth, as previously found among Uruguayan women. We find clearly differentiated calendars: an earlier transition to parenthood for the least educated, a later calendar for the most educated and an intermediate calendar for males with an intermediate level of education. These differences seem to widen over time: among the 2008 cohort not only the existence of three models in the transition to fatherhood becomes clearer, but the findings also point to ongoing processes of opposite directions. While signs of postponement of childbearing are found among the most educated men, the least educated are experiencing a process of advancement of the first birth. Our descriptive findings suggest as well that years of schooling also affect cumulated fertility during the youth.

The existence of three models is also found when analysing the first birth according to the educational climate of the household, considered to be a proxy of the social background of respondents. Moreover, signs of postponement of the first birth are found among men whose mothers are most educated in the 2008 cohort.

On the other hand, there are not great differences in the transition to parenthood by region of residence, contrary to what has been found in the case of women, where residence in areas other than the capital entails visibly earlier calendars and a higher level of fertility.

When considering the relations of the transition to parenthood with the other markers of the transition to adulthood, it should be highlighted that leaving the educational system has a very positive impact on the calendar of childbearing. This suggests that not only years of schooling but also the fact of being enrolled in the school system have an influence on the timing of the first birth among males. Conversely, leaving the parental home is increasingly becoming an independent process to family formation on the pathway to adulthood. In the case of the entry into the labour market and despite a positive influence on childbearing during the youth, there are also signs that ties between this process and the transition to parenthood are weakening.

To sum up, Uruguayan male youngsters show a later calendar in transition to parenthood compared to women. However, the same factors that create differentials in their reproductive behavior are found among men. Years of schooling are the most discriminating factor in the timing of the first birth among males and there are no signs of convergence, but rather of widening social gaps.

References

Amorín, D., Carril, E. and Varela Petito, C. (2006). Significados de maternidad y paternidad en adolescentes de estratos bajos y medios de Montevideo. Proyecto género y generaciones. Reproducción biológica y social de la población uruguaya. Trilce, Montevideo.

Arnett, J. (2000). "Emerging adulthood: A theory of development from the late teens through the twenties." American Psychologist 55(5): 469-480.

Cabella, W. (2009). "Dos décadas de transformaciones de la nupcialidad uruguaya. La convergencia hacia la segunda transición demográfica." Estudios Demográficos y Urbanos 42(2): 389-427.

Casal J., G., M., Merino, R. and Quesada, M. (2006). "Aportaciones teóricas y metodológicas a la sociología de la juventud desde la perspectiva de la transición." Papers 79: 21-48.

De Oliveira, M. C., Bilac, E. and Muskat, M. (2000). "Homens e anticoncepcao: duas generacoes de 'camadas médias' no Brasil." Cahiers des Amériques Latines 39: 59-82.

Figueroa Perea, J. G. (2010). "Generación de datos sobre comportamientos reproductivos de varones en México." Papeles de Población 16(65): 131-161.

Figueroa Perea, J. G. (2011). Paternidad, mortalidad y salud: ¿es posible combinar estos términos? Estudios sobre Varones y Masculinidades para la generación de políticas públicas y acciones transformadoras. Montevideo.

González Mora, F. M., A. (2012). ¿Qué roles asumen los/as jóvenes en sus hogares? Arreglos familiares en el Uruguay del siglo XXI. En: IV Coloquio Internacional de Estudios sobre Varones y Masculinidades, Facultad de Psicología-UdelaR. Montevideo.

Greene, M. and Biddlecom, A. (2000). "Absent and Problematic Men: Demographic Accounts of Male Reproductive Roles." Population and Development Review 26(1): 81-115.

Güida, C. (2003). Las prácticas de género y prácticas excluyentes de los varones en el campo reproductivo. 1° Encuentro Universitario de Salud, género, derechos sexuales y derechos reproductivos. Facultad de Psicología, UDELAR. Montevideo.

Mora Salas, M. d. O., O. (2009). "Los jóvenes al inicio de la vida adulta: trayectorias, transiciones y subjetividades." Estudios sociológicos 27(79): 267-289.

Pellegrino, A. (2010). La población de Uruguay. Breve caracterización demográfica. Montevideo.

Quilodrán, J. and Sosa Marquez, V. (2001). "Un primer acercamiento a la estimación de los niveles de fecundidad masculina en México." En: Cultura Estadística y Geográfica. Notas. Revista de información y análisis núm. 15: 59-67, INEGI, México.

Rojas, O. (2002). "La participación de los varones en los procesos reproductivos: un estudio cualitativo en dos sectores sociales y dos generaciones en la Ciudad de México." Papeles de Población 31.

Rojas, O. (2010). Hombres y reproducción. Los grandes problemas de México. G. Oldorica. México D.F., El Colegio de México. 1.

Settersten, R. A., Furstenberg Jr, F. and Rumbaut, R. (2005). On The Frontier of Adulthood. Theory, Research and Public Policy, The University of Chicago Press.

Varela Petito, C., Pollero, R. and Fostik, A. (2008). La Fecundidad: evolución y diferenciales en el comportamiento reproductivo. Demografía de una sociedad en transición. La población uruguaya a inicios del siglo XXI. V. Petito. Montevideo, Porgrama de Población UNFPA.

Varela Petito, C., Fostik, A and Fernández Soto, M. (2012). Maternidad en la juventud y desigualdad social. Montevideo, Fondo de Población de las Naciones Unidas.