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Social classes and recent fertility behaviour in Europe

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Introduction

In the last few decades decreasing fertility rates in Europe - with the emergence of lowest-low fertility regimes and increasing childlessness rates (Kohler et al., 2002; Sobotka, 2017) - have stimulated much research. This research has focussed on the ideational, socio-economic and institutional factors behind individuals' reproductive behaviour, exploring both the macro- and the micro-level determinants of below replacement rate fertility levels (Albertini and Brini, 2020, Balbo et al., 2013; Billari and Mills, 2013, Mencarini et al., 2015).

Scholars have analyzed the role of many, different factors (potentially) affecting fertility levels, such as: changing gender roles, female labor market participation, economic (in)security, work-family reconciliation policies, and the availability of formal and informal childcare. Within this literature there are numerous studies on micro-level factors connected with individuals' and families' position in the social stratification system; in particular the role of educational levels, employments status, household income and earnings.

In the present paper we propose to add to this research by investigating the association between fertility and occupational social class. Social class is often central in sociological studies of stratification and its consequences, but it has received far less attention in relation to reproductive behavior (Barbieri et al., 2015; Baizan, 2020). The aim of the present paper is to ask whether there is an association between an individual's (and her partner's) occupation, social class and the likelihood of having a first or second child, over and above the role of other relevant socio-economic characteristics such as educational levels and household incomes. The goal is that of establishing the phenomenon and producing evidence on a demographic phenomenon (Merton, 1987; Billari, 2015). Some micro-level social mechanisms connecting social class and fertility behavior are discussed in the paper. However, it is important to recognize that the available data do not allow us to test these or other explanations of the association between social class and the fertility documented in our empirical analyses. Nevertheless, the fact that we find that occupational social class is systematically associated with European couples' reproductive behavior, net of educational and income resources, speaks to the relevance of social class, and its sociological and demographic correlates. We see the pervasiveness of the effects of social class on the individual's life course.

The paper is structured as follows: in the next section we provide a brief overview of findings from studies on the role of income, earnings and education on fertility behavior and fertility levels; then, we analyze the relationship between occupational social class and fertility. In the third section we present our data and offer an analytical approach, the results of the analyses are then reported and commented upon in light of the more general discussion of the determinants of couples' fertility decisions and the importance of social class.

Beyond the income, education, and fertility nexus

The determinants of fertility behavior can be identified at the micro-level, i.e. at the individual and/or couple level; at the meso-level, i.e. social relationships and social networks; and at the macro-level, i.e. cultural and institutional settings (Balbo et al., 2013). These levels are necessarily interrelated and the context in which individuals and couples are embedded shapes the way their characteristics affect preferences and fertility behavior. In this way differences in the relative importance of fertility determinants across countries emerge.

Two of the individual characteristics that best define the SES of a person are income and education level (Skirbekk, 2008), and they are central in the large body of literature focusing on the socio-economic determinants of fertility at the micro-level, both theoretically and empirically. According to the Second Demographic transition (Lesthaeghe and Van de Kaa, 1986; Van de Kaa, 1987) any increase in female education and economic participation are indirect causes of fertility decline. This is consistent with non-normative demographic behavioral patterns, and individuals' focus on their own self-realization. As a consequence, low fertility is a result of women obtaining higher education and higher wages.

However, for other prominent theoretical views on post-transitional fertility, i.e. the New Home Economics, the picture is more complex. According to this view individuals (or couples) maximize life-cycle utility by considering the resources devoted to nurturing children in a context of scarce time and income resources. Children enter the utility function as consumption goods, while time and income are the main constraints for the parental budget. Thus, the direct costs for children are related to the reduction in the disposable income of parents following on from childbirth. It follows that parental income should have a positive effect on fertility and child-raising costs a negative one (Becker, 1981; 1960; Becker and Lewis, 1973; Cigno, 1991; 1986).

The indirect costs of children are, on the other hand, related to the opportunity costs of the time devoted to childcare. A general increase in women's earnings has, however, ambiguous effects on fertility. Any rise in earnings increases disposable income, but it also increases the opportunity costs of parental time. Having and raising children is time-consuming, so an increase in wages provokes a substitution effect for the demand for children. Put simply, it is more costly for higher-income individuals to have children (Becker, 1965; Willis, 1973).

Moreover, an increase in earnings through the income effect does not necessarily imply an increase in fertility, since parents may decide to devote resources to quality, instead of to quantity. Higher-income parents tend to give more importance to quality which, all else being equal, leads to a reduction in childbearing (Becker and Lewis, 1973). But the potential effect of an increase in income is, indeed, made complicated through in-kind and in-time transfers. This issue lies at the heart of the vast literature on female (and parental) labor supply with endogenous fertility.

Also, the empirical relationship between income and fertility in contemporary Western societies is far from clear, and it is not easy to conclude whether the direct and positive effect of income on fertility outweighs the indirect and negative effects of the opportunity costs of parenthood. For example, Andersson et al. (2014) found that female income is somewhat positively associated with fertility in Denmark, while the relationship is the opposite in West Germany (confirmed by Le Moglie et al., 2019). Berninger (2013) shows that in Denmark, women's income has a positive effect on first birth risk. Andersson et al. (2014) confirm this finding, while they find only a weak association between income and the second and third parity. As for Finland, Berninger (2013) does not find any effect, whereas Vikat (2004) reports a positive relationship in Finland and the Nordic region and infers that this result is most likely driven by particular parental leave policies specific to these countries. Rønsen (2004) claims instead the contrary, i.e., a negative effect of income on fertility is present both in Finland and in Norway. Rondinelli et al. (2006) find a negative correlation between female earnings (wage) and the decision to have children in Italy, though the magnitude differs across parities.

The argument for explaining such differential associations across countries at the micro-level finds support in the fact that at the macro-level, the correlation between income and fertility has changed from being negative to being positive in many developed European countries (Luci and Thevenon, 2011). At the macro-level, all European countries are characterized by low (below replacement level) fertility ; some have very low fertility (fewer than 1.5 children per woman). This suggests that the negative effect of opportunity costs dominates. Yet recent studies have argued that this may not necessarily be the case with some very advanced nations, where the income effect has started to prevail (Luci-Greulich and Thévenon, 2014). This is the case in the Anglo-Saxon and Nordic countries, which are characterized by high rates of female tertiary education, high female labor force participation, and higher fertility. In these countries, as already noted, a positive relationship between income and fertility seems also to hold at the micro-level (see also Hart, 2015; Andersson, 2000; Tasiran, 1995).

In fact, at the micro-level, there is no longer such strong evidence for high female earnings driving down fertility everywhere in Europe (Luci-Greulich and Thevenon, 2014; Engelhardt and Prskawetz, 2004; Engelhardt et al., 2004; Kogel, 2004). This is to say that the assumed dominance of the opportunity cost over the income effect, which has traditionally been taken to drive fertility decline as women's earnings have been on the increase, can no longer be taken for granted.

Another relevant insight from the recent literature is that, in the most developed countries, households are typically made up of dual earner couples - Anglo-Saxon and Nordic countries being prime examples. This has important implications for assessing the impact of earnings and income on fertility. While the incomes of dual couples are not always equal, both contribute to the household income, and with higher incomes home production activities, such as childcare, can more easily instead be outsourced to external actors (Esping-Andersen and Billari, 2015; Aassve et al., 2015)

Income correlates with education, obviously, and the expansion of education among women make dual earner households more common. But education has other effects. The most obvious is that higher education brings about fertility postponement, and this alone may also bring down overall fertility (Sobotka, 2004; Ní Bhrolcháin and Beaujouan, 2012; Basten et al., 2014). The negative effects of education can stem from the fact that higher level educated women are more likely to pursue their careers and thus postpone marriage and births. As such higher education may bring about further postponement, as getting a foothold in their career path may take longer than it does for those with lower education. As Oppenheimer (1994) argued, high education can work as an incentive for women to form a union and enter parenthood, but only once they have finalized their educational path. So both men and women still enrolled in education are at a lower risk of having a child, and the higher the accumulation of human capital during education, or the higher the returns on education, the later the transition to parenthood (Balbo et al., 2013). But highly-educated individuals are more likely to find highly-educated partners (Behrman and Rosenzweig, 2002) and consequently pool economic resources which can encourage child bearing (Mills et al., 2008). Although there is also empirical evidence of a negative relationship (e.g. Bagavos and Tragiki, 2017), many studies show that the highly-educated also tend to recuperate earlier postponements at a later age (Kravdal and Rindfuss, 2008; Klesment et al., 2014; d'Albis et al., 2017) and therefore the cumulative impact of late motherhood on second or third births disappears (Balbo et al., 2013). The spread of dual-earner couples is central in another approach to low fertility, i.e. the Gender Revolution, which emphasizes that the relationship between education and fertility can steadily reverse (Esping-Andersen and Billari, 2015; Goldscheider et al., 2015). This is so because the more highly-educated couples are the more egalitarian, something which also boost egalitarian attitudes within couples, which appears to boost, in turn, fertility (Mencarini, 2018).

Impicciatore and Tomatis (2020), in a recent comparative study across European countries, suggest that the impact of educational levels on fertility behavior has increased among the younger generation. But they also argue that the impact by parity is different across countries. For first childbirth postponement is a widespread phenomenon, but for second childbirth marked differences are found among countries and among different educational levels. Indeed, the propensity to have a second child was negative in some Eastern European countries (Oláh, 2003; Rieck, 2006; Perelli-Harris, 2008; Mureşan, 2007) and positive in Nordic countries (Gerster et al., 2007; Hoem and Hoem, 1989; Kravdal, 2007; Vikat, 2004; Wood et al., 2014) and in France, Germany, the UK and Italy (Köppen, 2006; Kreyenfeld and Zabel, 2005; Kulu and Washbrook, 2014; Impicciatore and Dalla Zuanna, 2017; Impicciatore and Tomatis, 2020).

Occupational social class and fertility behaviour

Occupational social class is systematically related to a number of the socio-economic factors that have been shown to affect fertility behavior. Thus, for instance, social class is strongly associated with household income and wealth, with individual earnings, with unemployment risks, with economic insecurity, and with education. However, there is more to social class than just education, income or other economic resources.

There are various reasons why, net of the effect of educational level and household income, the role of social class in the transition to parenthood, may prove interesting. First, class can be seen as an additional stratification variable, only partially overlapping with more frequently explored individual's attributes such as education, income and employment status. Second, class is a social construct directly related to individual's market position and, thus, employment relations within the occupational system. Class not only signals, with accuracy, individuals' earnings and income, but it is also associated with future career prospects, non-pecuniary occupation-related benefits, and an individual's command over their working time organization. Class is related to career prospects and this, in turn, further reinforces the existing between-class differences in (perceived) employment stability and economic security. As argued above, these are two important factors affecting fertility behaviour and their role is likely to be magnified in a difficult macro-economic context, such as that of the Great Recession in Europe (Comolli et al., 2020). Next, class is also associated with an individual's command over the organization of his or her working-time. Thus, for instance, one might expect that the service relationship does not entail the same level of rigidity in the organization of an individual's working time as that found in low skilled or routine non-manual occupations (Erikson and Goldthorpe, 1992). The rigidity or the flexibility of the work schedule is clearly a factor influencing the possibility of reconciling time for family and work, an important determinant of fertility decisions. Again, class is also about norms (Svallfors, 2006). For example, there are norms about the value of children and the tradeoff between the quality and quantity of children and expectations about future adult children's support when parents become old. Thus, individuals in different classes may take different fertility decisions not only because they experience different economic situations, or different market conditions. They may do so because have very different child/fertility-related values and expectations. For instance, it has been found that working-class parents have higher reciprocity expectations towards their children than service-class parents (Albertini and Radl, 2012; Lee et al., 1994; 1998; Rendall and Bahchieva, 1998) This finding can easily be related to fertility decisions when one considers that old-age security motives for having children – ensuring material support and care in old age – are still relevant also in societies with a fully-developed welfare state (Kreager and Schröder-Butterfill, 2004; Boldrin et al., 2005).

In sum, studying the association between class and the transition to parenthood, net of education and income level, is relevant not only because class is an additional important dimension in the stratification system, but also because it sits at the intersection of micro-level ideational and structural factors affecting fertility behavior. Through social mechanisms such as social closure, the identification and the creation of social boundaries, occupational social classes create subcultures and share values that also underpin fertility decisions (Svallfors, 2006; Parkin, 1974; Lamont and Molnar, 2002).

Data

To test the association between social class and fertility, we use the European Union Statistics on Income and Living Conditions (EU-SILC) survey. This survey, other than providing comparable and harmonised microdata on income and living conditions, also includes many other socio-economic and demographic characteristics, such as labour market position, level of education, health and others. In the analysis, we use the EU-SILC longitudinal component[1] of fourteen countries (Czech Republic, Denmark, Finland, France, Greece, Italy, the Netherlands, Norway, Slovenia, Spain, Sweden, Poland, Portugal and the United Kingdom) in the years from 2005 to 2017. The EU-SILC longitudinal dataset is a rotational panel (consisting of four quarters per year), where individuals are observed for a maximum of four consecutive years (or sixteen quarters)[2]. In spite of the fact that EU-SILC does not provide direct household grids or information on the childbirth history of individuals, its use in demography and family studies is increasing, particularly in the analysis of childbirth's determinants (Klesment et al., 2014; Nitsche et al., 2018; Vignoli et al., 2012). Indeed, in the longitudinal dataset, there is information

[1] We used the script provided by the GESIS website (retrieved from https://www.gesis.org/gml/european-microdata/eu-silc/) to set up a cumulative longitudinal dataset out of all individual releases for each separate file (Borst, 2018). Germany does not have data for the EU-SILC longitudinal component in EU-SILC.

[2] Except for France and Norway that implement panels that last longer than four years.

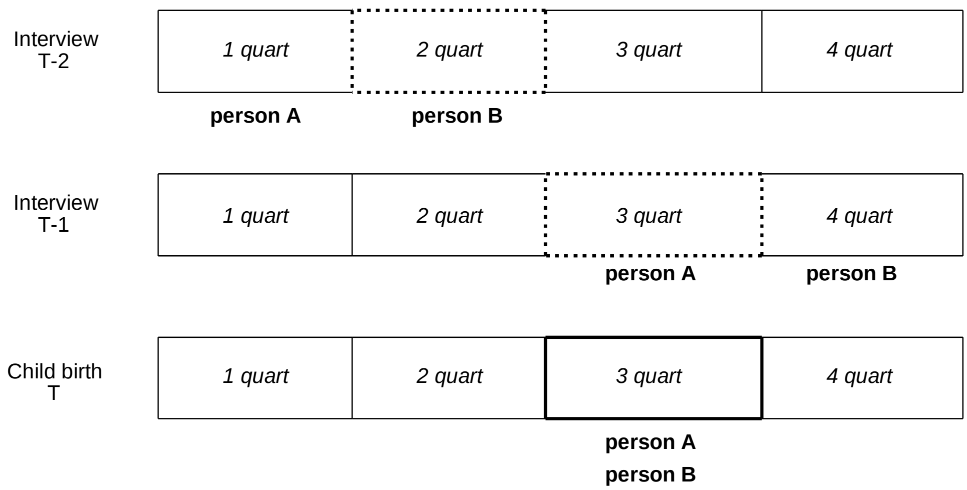
on whether a newly-born child has arrived in the household since the previous wave; hence, by using the parent's ID of the newly-born child, it is possible to identify whether an individual has had a child in the period between two consecutive interviews. Also, the longitudinal component of EU-SILC allows us to use a large international sample, limiting the risk of endogeneity and accounting for unobserved individual heterogeneity. Importantly for our research design, the evidence of systematic differences in attrition rates by socio-economic characteristics has not been found; hence, the analysis of the socio-economic determinants of childbirth should not be affected by attrition (Greuilch and Dasrè, 2017; 2018).

Our unit of analysis are women aged eighteen to 44 who enter the panel for at least two consecutive years and co-reside with their partner. We obtain an analytical sample of 77,834 individuals and 137,248 individuals-wave observations. We link each woman to her partner through the unique ID provided in EU-SILC. In order to account for the lag between time of conception and birth, we assign to our individuals the socio-demographic characteristics on the basis of a *nine-month method of imputation*. The rationale works as follow: EU-SILC provides the information on the quarter in which the interview was held in each year and the year and the quarter of the new-born. Therefore, the year can be inferred by looking at the quarter of the birth of the new-born (see Figure 1). The information on the parents is taken from the previous wave (*T-1*) to the one where the new birth occurred (*T*) if there are at least three complete quarters between the quarter of birth and the quarter of the interview in the previous wave; if there are fewer than three complete quarters between the quarter of birth and the quarter of interview in the previous wave, information is taken from two waves before the birth (*T-2*). For individuals who did not experience the event of childbirth, the rule of imputation from the previous wave is that a full year (four quarters) must pass between the two interviews[3]. Otherwise, the information is taken from two waves before.

Figure 1: Scheme of *nine-months method of imputation*

[3] We do not apply the *nine-months method of imputation* for those who did not experience a childbirth, since in this case it would be meaningless to calculate the imputation on the basis of the time of the pregnancy. In any case, sensitivity tests show that the results would not differ (see Robustness checks section).

nine-months method of imputation



Person A and **person B** have a child at time T;

variables for**person A** are taken at time T-1, variables fo**person B** are taken at time T-2.

Analytical strategy

We use a dummy as our dependent variable which takes the value 1 if the woman has experienced a birth at time *T* or 0 otherwise. Our main independent variable is the individual's social class at time *T-1* or *T-2* (following the *nine-months method of imputation*: see Figure 1). This indicator of socio-economic status allows us to account for the non-linearity of the status-fertility relationship (Essock-Vitale, 1984). We code social class using the European Socio-economic Groups (ESeG) scheme[4], a classification that differentiates nine groups which are based on similar cultural, social and economic characteristics (Meron, 2014) and that can be considered a refined and updated version of the Erikson-Goldthorpe-Portocarrero (EGP) scheme[5] (Erikson and Goldthorpe, 1992; Rose and Harrison, 2014). Since, in 2011, the classification of

[4] The scripts to create the ESeG class scheme in the longitudinal component of the EU-SILC have been downloaded from the Gesis website https://www.gesis.org/gml/european-microdata/eu-silc/.

[5] We did not use the EGP scheme since EU-SILC does not record information on respondent's managerial position in job (var. pl150) and the number of persons in the local unit (var. pl130), which are needed to define this social class scheme.

occupation switched from ISCO88 to ISCO08, we accordingly recoded occupations following the crosswalk provided by Harry Ganzeboom[6].

In order to "balance explanatory comprehensiveness and parsimony" (Connelly et al., 2016, p.5) and in line with Rose and Harrison (2006) we define the following classes scheme: a) service class (Ser), including professionals, managers and higher-grade technicians; (*EGP I-II*); b) white collars (WhC), including the routine non-manual workers (*EGP IIIa-b*); c) petite bourgeoisie (PB), including farmers (*EGP IVa-b-c*); d) working class (WC), including lower grade technicians, skilled and non-skilled manual workers (*EGP V-VI-VIIa-b*). To these classes, we further add: e) unemployed persons (Unemp); f) inactive persons (Inact). Even though the two last categories are not, strictly speaking, social classes, we included these two groups in our scheme in order to avoid selection processes in the sample.

We estimate a random-effects complementary log-log model[7] in three steps. This specification allows us to account for the rarity of the positive outcome. We estimate each model separately for women's and for partners' social class, to analyse whose social position is more effective in predicting childbirth.

$$Y_{it} = X'_{it}\beta_1 + SOC\_CLASS_{it}\beta_2 + \alpha_i + \varepsilon_{it} \qquad \text{(M1)}$$

In the first step (M1) we control for the term X'_{it}, a vector of socio-demographic characteristics (female's age group, the existing number of children before the new birth and whether the couple has had a child in the previous year); α_i is a random term representing an individual-specific effect and ε_{it} represent independent error terms.

$$Y_{it} = X'_{it}\beta_1 + SOC\_CLASS_{it}\beta_2 + EDU_{it}\beta_3 + \alpha_i + \varepsilon_{it} \qquad \text{(M2)}$$

In the second step (M2) we include, as our control, female's highest educational degree, coded in three categories: a) primary or less; b) secondary; and c) tertiary .

$$Y_{it} = X'_{it}\beta_1 + SOC\_CLASS_{it}\beta_2 + EDU_{it}\beta_3 + INCOME_{it}\beta_4 + \alpha_i + \varepsilon_{it} \qquad \text{(M3)}$$

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[6] The codes were downloaded from www.harryganzeboom.nl/isco08/isco08.zip (retrieved in January 2021).

[7] This model applies the link function *ln(-ln(1-μ)*.

Finally, in the last step (M3) we add income as an additional covariate (measured with quartiles of equivalised household income[8]); thus, with this specification we single out the *net* effect of social class on childbirth.

Results

In Figure 2, we show the distribution of a "birth index" by each possible combination of woman's\partner's social classes[9], given by the formula $\frac{Birth_i}{Birth_{TOT}} - \frac{N_i}{N_{TOT}}$, where the subscription *i* indicates each possible combination of woman's\partner's social classes. In other words, this index provides the average number of births observed in the panel for each combination of social classes, corrected for the different size of each combination of social classes in the sample. If the occurrence of births were equal for each class combination, we would expect the difference between the number of birth events and observations to be very close to zero for each combination. In other words, each class combination would contribute to the total number of births in the same manner based on its size. On the other hand, if the difference is positive (negative) this would imply that that combination contributed more (less) to the total number of observed births relative to its size.

From this first descriptive evidence, it can be observed that the couples where both members belong to the highest class have on average more children than 'mixed' couples. This is particularly true when both woman and her partner are in Ser. Interestingly, when women are in PB they have a negative value on the ratio irrespective of the social class of their partner, while this is not necessarily true for partners in PB. Negative differences are always present for couples where members belong to the lowest classes.

Figure 2: Birth index by combination of woman's\partner's social classes

[8] Income quartiles are constructed with EU-SILC variable hx090, which is the disposable household income equivalised with the OECD modified equivalence scale

[9] Unfortunately, due to sample size limitations and the rarity of birth events, we were not able to estimate models by maintaining this level of granularity. Thus, we estimate separate models for women's and partners' social class.

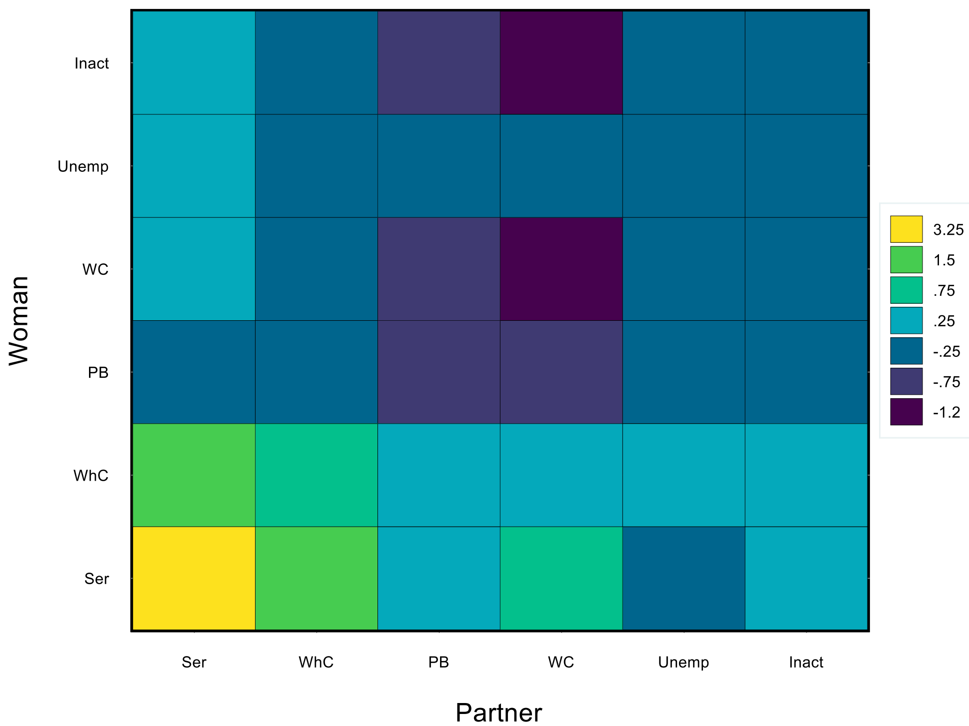


Table 1 shows the *gross social class* coefficients (M1) on any birth and by parity (0 and 1) controlling only for a woman's socio-demographic characteristics. We look separately at woman's and partner's social class. Overall, it emerges that belonging to the highest social class (Ser) is associated with higher predicted probabilities of having a new-born. This is true considering the outcome of any birth and the transition to second child, both for women and for partners. The magnitude of the coefficients is stronger for women than for partners: this means that the gap in the probability of having a child (in general) or transiting to the second child between Ser and other classes is stronger among the women's sample. When considering the transition to the first child, differences among classes are less marked: members of Ser are no longer more likely to experience this outcome than WhC and (only for partners) WC. Hence, without controlling for education and income, the (gross) social class apparently 'matters' more for women than for men in having a child (both per se and by parity); also, the biggest part of the association between (gross) social class and any birth appears to be explained in the subsample of those having one child: it is in the transition to the second child that social class seems to play a stronger role.

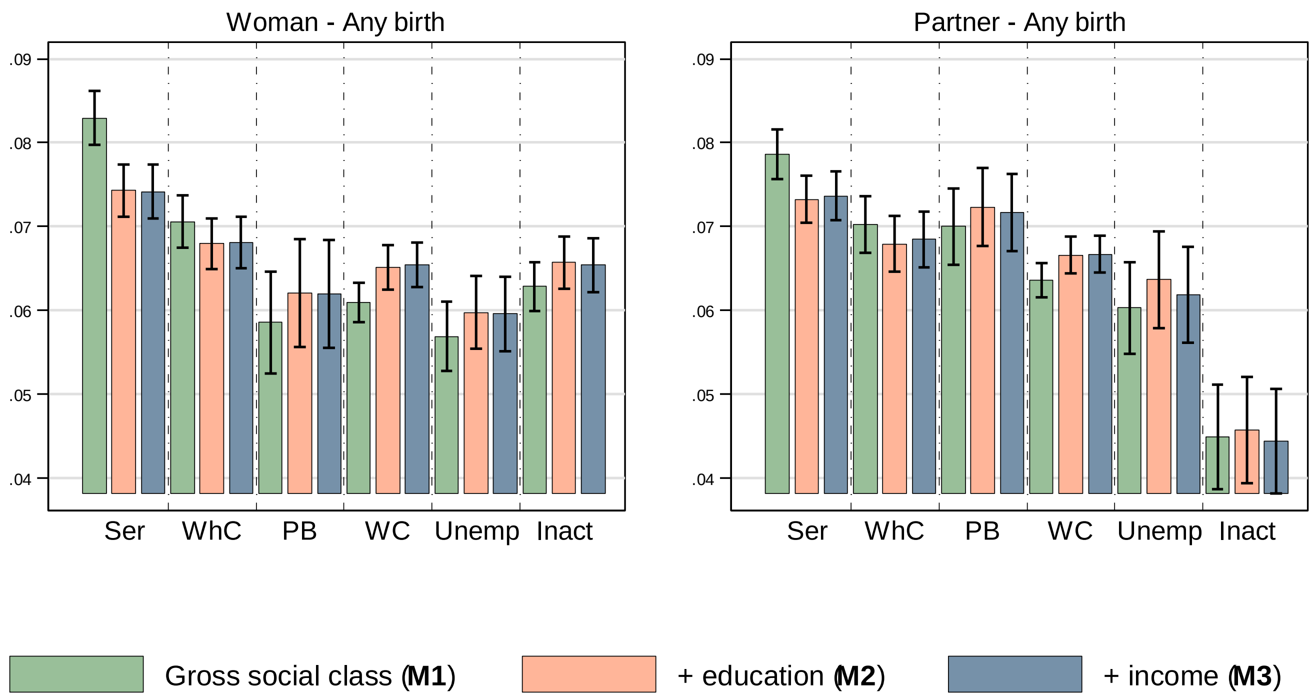
Table 1: Random-effects log-log model (M1)

	Woman			Partner		
Variables	Any birth	Parity 0	Parity 1	Any birth	Parity 0	Parity 1
ESeG social class (Ref: Ser)						
WhC	-0.18***	-0.09	-0.21***	-0.12***	-0.08	-0.12**
	(0.03)	(0.06)	(0.05)	(0.03)	(0.06)	(0.05)
PB	-0.38***	-0.39***	-0.39***	-0.13***	-0.20**	-0.08
	(0.06)	(0.12)	(0.09)	(0.04)	(0.09)	(0.06)
WC	-0.34***	-0.22***	-0.37***	-0.23***	-0.09	-0.28***
	(0.03)	(0.05)	(0.04)	(0.03)	(0.05)	(0.04)
Unemp	-0.41***	-0.48***	-0.44***	-0.29***	-0.47***	-0.33***
	(0.05)	(0.08)	(0.07)	(0.05)	(0.11)	(0.08)
Inact	-0.30***	-1.07***	-0.19***	-0.61***	-0.81***	-0.54***
	(0.03)	(0.09)	(0.05)	(0.08)	(0.14)	(0.13)
Constant	-2.05***	-1.49***	-2.06***	-2.02***	-1.47***	-2.07***
	(0.16)	(0.25)	(0.24)	(0.16)	(0.25)	(0.24)
Observations	137,248	22,006	36,501	129,290	19,909	34,448
Number of individuals	77,834	14,333	23,189	73,334	12,826	21,920

Standard errors in parentheses.*** p<0.001, ** p<0.01, * p<0.05. All models control for woman's age, year, country and year*country. With any birth as dependent variable models control also for existing number of children and having had a child one year before.

We have so far commented on the *gross* social class effect on childbirth, without controlling for two important socio-economic correlates like education and income. In order to obtain our measure of *net* social class effect we estimate Model 2 (M2, where we control for education) and Model 3 (M3, where we further add income as a control). As with M1, all models are estimated separately for women and partners, and with any birth (see Figure 3), first-order births and second-order births (see Figure 4) considered as an outcome. Since the results of nested non-linear models are not easily comparable (Mood, 2010), we present and comment on the predicted probabilities of the three steps.

Figure 3: Random effects log-log model - Predicted probabilities of any birth

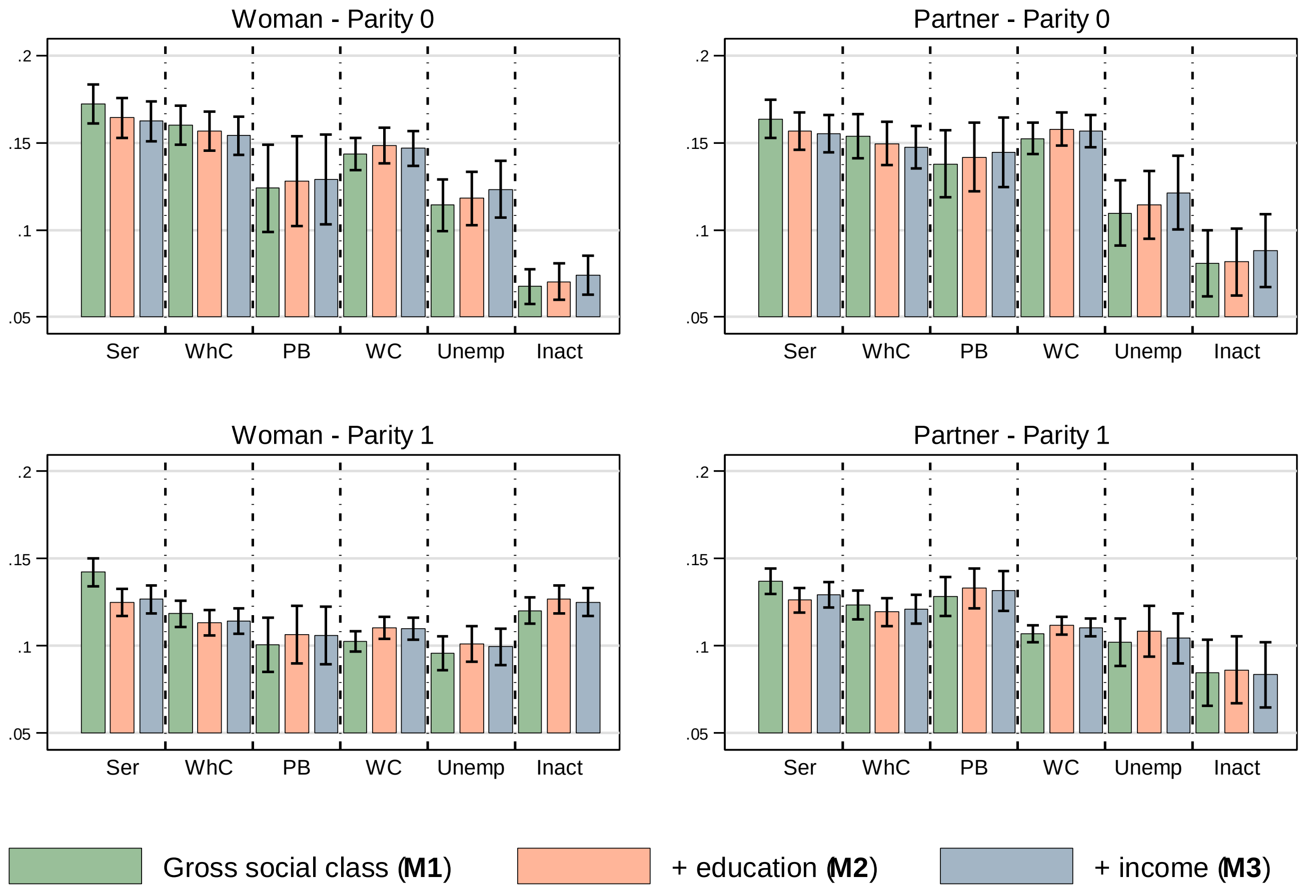


All models control for woman's age, year, country, year*country, number of children already had and had a child one year before

Findings in Figure 3 represent the results of models on any birth[10] (). We show the predicted probabilities associated with the *gross* social class (green bar), then add education as a control (orange bar) and finally income (blue bar); the last estimation (controlled for social class, education and income) represents the *net* social class effect on any birth. It emerges that including education and income as covariates diminishes the coefficient associated with the highest classes (Ser and WhC) and increases the coefficient of all remaining classes. In other words, despite the role of social class as a birth predictor becoming weaker once we control for two characteristics traditionally associated with this outcome (education and income), class remains a *net* effect of belonging to the Ser. Interestingly, this 'advantage' is, among women, strongest with respect to PB (1.2. percentage points, p.p. from now on, p=0.001), while, among partners, the predicted probabilities associated with Ser and PB are not significantly different (0.2 p.p., p=0.488). The role of other non-class statues is also important. In particular, a male partner not being in the labour force – possibly an indicator of underlying health-related issues, or of being discouraged by a particularly difficult labour market situation – is associated with a strong negative effect on the likelihood of having a child. Unemployment also represents a disincentive for having a child, however – unlike with inactive status – the effect is similar for men and for women.

[10] Full output available upon request

Figure 4: Random effects log-log model - predicted probabilities of first-order and second-order births



All models control for woman's age, year, country and year*country

Figure 4 presents the same models of Figure 3 distinguishing by parity 0 and 1[11]. As has already emerged in models with any birth as an outcome, controlling for the two socio-economic antecedents traditionally associated with fertility diminishes the difference between Service class and lower classes. In the subsample of first-order births, the controls for education and income explain the ‘advantage’ of women in Ser with respect to WhC ones: the difference in predicted probability between these two classes turn out not to be statistically significant (0.8 p.p., p=0.275). Still significant, but only marginally so, are for women the differences between Ser and PB (3.3 p.p., p=0.022) and between Ser and WC (1.5 p.p., p=0.051). Even more marked, in this sense, is the evidence for men: controlling for education and income remove any statistically significant ‘advantage’ of Ser with respect to WhC (0.8 p.p., p= 0.323), PB (1.1 p.p., p=0.355) and WC (-0.2 p.p., p=0.815). Thus, no *net* effect of social class on the transition to the first child emerges, except for members of Ser with respect to PB and WC (among women).

When looking at second-order births, it emerges that the two main controls (education and income) explain a lesser portion of variance in the outcome. Indeed, after having controlled for them, women in Service class still have higher predicted probabilities of transit to the second child than women in WhC (1.2 p.p., p=0.019), in PB (2.0 p.p., p=0.030) and in WC (1.7 p.p., p=0.002). Thus, these results suggest that for women social class has a stronger predictive role in having a second child, than in first-order births. For men, members of Ser have a higher probability of experiencing this outcome only in comparison with WC (1.9 p.p., p=0.000), while differences are not statistically significant with respect to WhC (0.8 p.p., p=0.137) and PB (-0.2 p.p., p=0.733).

Robustness checks

We performed a number of robustness checks. First, we ran the same models using a population-averaged estimator. Thus, instead of a subject-specific effect β_{SS} we averaged over all subjects in the population, obtaining a population-averaged effect β_{PA}. Results[12] confirm what was obtained with the random-effects estimator. Second, we estimated models right-censoring the observations, so that once a woman has had a new birth she dropped the panel. Analyses (available on request) confirm what was highlighted in the main text. Last, we estimated models by also applying the *nine-months method of imputation* to people who did not experience a birth in a given wave (see

[11] Full output available upon request

[12] Table of results available upon request

further footnote 3). Also in this case, results (available on request) are in line with the main analysis.

Conclusion and discussion

We have shown here that socio-economic status is a predictor of fertility over and above characteristics such as income and education, which have been widely analysed in literature. In particular, our analysis demonstrates that occupational social class matters more for women than for men, and more for the transition to the first child than for the transition to the second. The most relevant cleavages are to be found between Ser and PB, and Ser and WhC. Employment status is also relevant in particular inactivity for men. As such it is *her* class and *their* employment status that shape transition to the next parity (with the exception of inactivity for the woman for the second child).

Class is not only about income, education and employment status (controlled): it is about the possibility of losing your job and earnings (differences between Ser and PB); it is about your future career prospects, your values and attitudes; and it is also about the possibility of having greater control over your time organization (difference between Ser and WhC).

However, in this article, we wanted, above all, to establish the demographic phenomenon, generally (Merton, 1987; Billari, 2015). More data would be needed to sort out the role of the various micro-level ideational and structural factors.

The Great Recession probably accentuated these inter-class differences – given the growing importance of security and future career prospects even in generous welfare state systems (Comolli et al., 2020). The economic crisis in the pandemic, meanwhile, has jeopardized traditional family networks of mutual support (e.g. grandparents) and has led to major interruptions in educational and care services. When we have the data we will likely see that the importance of class – as compared to education and income – has grown still stronger in shaping individuals' fertility behavior.

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