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Abstract:
I analyze whether the correlation between yearly earnings and the first birth probabilities changed in the period 1994-2008 in Norway, applying discrete-time hazard regressions to highly accurate data from population registers. The results show that the correlation between earnings and fertility has become more positive over time for women but is virtually unchanged for men – rendering the correlation fairly similar across sex at the end of the period. Though the (potential) opportunity cost of fathering increases, there is no evidence of a weaker correlation between earnings and first birth probability for men. I suggest that decreasing opportunity costs of motherhood as well as strategic timing of fertility to reduce wage penalties of motherhood are both plausible explanations of the increasingly positive correlation among women.

Keywords: Fertility, First births, Earnings

JEL classification: J11, J13, J16

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Sammendrag

Tidligere studier har vist at det er en positiv korrelasjon mellom kvinners lønnsinntekt og sannsynligheten for å få barn når familiepolitiske ordninger og/eller et aktivt farskap gjør det mulig å kombinere yrkesliv og familie. Menns fruktbarhetsatferd er gjennomgående mindre studert enn kvinners, og betydningen av kontekst for sammenhengen mellom menns lønnsinntekt og fruktbarhetsatferd er ikke tidligere undersøkt.

Denne studien undersøker hvordan sammenhengen mellom lønnsinntekt og førstefødselssannsynlighet endrer seg for norske menn og kvinner i perioden 1994-2008. I denne perioden har mødre økt sitt arbeidstilbud, samtidig med at fedre har økt sin innsats på hjemmebane. Økt tilgang på barnehageplasser har også gjort det lettere å kombinere lønnsarbeid og familie. Til sammen fører dette til en forventning om at sammenhengen mellom lønnsinntekt og fruktbarhet skal ha blitt mer positiv over tid for kvinner - og mindre positiv over tid for men.

Jeg estimerer korrelasjonen mellom årlig lønnsinntekt og førstefødselssannsynlighet i neste kalenderår ved hjelp av diskret tids hasardregresjon. Data for menn og kvinner som er født i perioden 1955-1988 som var under risiko for å få et første barn i perioden 1994-2008 er hentet fra norske administrative registere. Jeg kontrollerer for en rekke potensielt viktige bakenforliggende variable: Utdanningsnivå, studentstatus, alder, periode, fødested, helse, aggregert arbeidsledighet og mottak av arbeidsledighetstrygd.

Resultatene viser at korrelasjonen mellom lønnsinntekt og fruktbarhet blir mer positiv over tid for kvinner, men er uendret for menn. Resultatene gir dermed ikke støtte for at et mer involvert farskap gjør det mindre viktig for menn å ha høy inntekt før de får barn. At korrelasjonen blir mer positiv over tid for kvinner kan skyldes at det har blitt enklere å kombinere foreldreskap og yrkesliv - og at kvinner i større grad enn før foretrekker å etablere et fotfeste i arbeidslivet før de får barn.

1. Introduction

The relationship between female earnings and fertility is context dependent. Cross-country comparisons indicate that in contexts with weak institutional support for families and/or gender traditional division of labour in the family, a conflict between employment and childbearing leads to a negative relationship between earnings and fertility for women. As the institutional support for families increase and/or the division of labour in the family becomes more gender equal, employment facilitates the transition to motherhood for women, and a positive correlation between female earnings and fertility emerges (Berninger 2013, Andersson, Kreyenfeld & Mika 2009, Matysiak 2011). The fact that employment comes to facilitate the transition to motherhood is among the main explanations suggested for the shift to a positive correlation between human development and fertility found in macro-level analysis (Myrskylä, Kohler & Billari 2009, Luci-Greulich & Thévenon 2014). However, no previous study has used micro-level data to assess how the correlation between earnings and fertility responds to changes over time in gender relations and the institutions surrounding the family.

As common in fertility research, women have been the focal persons in studies of earnings and fertility (Goldscheider & Kaufman 1996). Knowledge of how context shapes the relationship between men's earnings and fertility is therefore limited. Over the last few decades, the time fathers spend with their young children has increased substantially, particularly in the Nordic countries (Hook 2006, Kitterød & Rønsen 2013, Dribe & Stanfors 2009). As men spend an increasing amount of time on childrearing, a conflict between fathering and career development may emerge, potentially inducing some high-earning men

to forgo fatherhood. If so, the correlation between men's earnings and fertility is expected to become less positive over time.

Norway constitutes a prime example of convergence of gender roles in the family and workplace. Since the 1980s, mothers have increased their efforts in paid work, while fathers have increasingly participated in household work (Kitterød & Rønsen 2013). As these changes play out, the relationship between earnings and fertility may be affected: Previous comparative studies lead to the expectation that the relationship between female earnings and fertility will become increasingly positive as women's opportunity cost decreases, while the relationship between male earnings and fertility becomes less positive due to the increasing opportunity cost of childbearing for men.

Using data from Norwegian administrative registers, I study how the correlation between lagged annual earnings and first birth probability changes in the period 1994-2008. The study is based on highly accurate register information on the annual earnings and first births of all Norwegian men and women born 1955-1988 who were at risk of a first birth in the period 1994-2008 (N~ 11 million person years). I estimate the correlation between earned income and the yearly probability to enter parenthood using discrete time hazard regression. The extraordinarily rich data set allows for describing changes over time separately by sex through estimation of separate models by year and sex.

As expected, the results for women confirm that when motherhood and employment becomes increasingly compatible, the correlation between earnings and the transition to motherhood becomes more positive. For men, there are no substantial changes in the strength of the

correlation between earnings and fertility over time. This is a slightly surprising finding in light of the substantial increase in fathers' involvement, expected to increase the substitution effect among men and make the correlation between earnings and fertility less positive. The results indicate that while the relationship between earnings and fertility is sensitive to contextual changes among women, this is not so – or at least less so – among men.

2. Theoretical perspectives on earnings and the transition to parenthood

The correlation between earnings and fertility is driven by two main mechanisms: His and her current earnings may affect a couple's fertility decisions, and earnings may affect the propensity to enter and dissolve unions. This section first outlines a theoretical framework for the impact of earnings on couples' fertility decisions, taking rational choice theory (i.e. the microeconomic theory of fertility) as a starting point. I extend upon previous research by explicitly addressing rational choice theories of fertility timing. While rational choice theories typically are developed under the assumption of gender specialisation, I pay particular attention to the relevance of these theories in contexts where gender specialisation is at most partial (Kitterød & Rønsen 2013). Finally, I briefly discuss how union entry and stability could mediate the impact of earnings on fertility.

2.1 A rational choice perspective on couples' fertility choices

Rational choice theories of fertility quantum address how the decision to have children is affected by (expected) lifetime earnings (Becker 1991). As the cost of taking time off work to care for children (opportunity cost) increases with lifetime earnings, the negative *substitution effect* is stronger when life time earnings are high. However, household income and thus the

ability to cover monetary costs of childrearing also increases in earnings, making for a positive *income effect* of life time earnings on fertility. If the substitution effect dominates the income effect, high-earning individuals will on average have fewer children than low-earning individuals. In a society where women do most of the unpaid work, the substitution effect will be weak for men, and high-earning men are expected to have more children than low-earning men due to the income effect[1]. However, the amount of resources spent on each child is expected to increase with income, weakening the positive relationship between income and fertility among men (Becker 1991).

Theories of fertility timing address *when* in the life course couples choose to have children. A key idea in theories of fertility timing is that, all else equal, it would be optimal to postpone the transition to parenthood to the end of the fecund years, when earnings are highest[2] (Happel, Hill & Low 1984; Hotz, Klerman, J. A. & Willis 1997, see also Polachek 2008:192 for a description of earnings development over age). Consumption smoothing motivates this postponement: When fertility is postponed until earnings are high, couples can spend money on childrearing without reducing other consumption to a very low level[3]. This leads to the expectation that individuals with high current earnings will be more likely to enter parenthood, as their utility loss from consumption reduction is relatively low. In line with the expectations from this theory, a qualitative study of economic security and childbearing in Norway indicates that couples prefer to postpone childbearing until earnings are relatively

[1] This holds as long as children are «normal goods», that is, goods for which demand increases in income.

[2] This restriction applies if one can not borrow freely against the future.

[3] The utility loss from consumption reduction decreases with income level (given decreasing marginal returns of consumption).

high in order to maintain a relatively high living standard after children are born (Ellingsæter & Pedersen 2013).

Fertility timing decisions may also aim to minimize the negative effect of childbearing on earnings both in the short and the long term (Gustavsson 2001). Short-term effects of childbearing on earnings are driven by the fact that (at least one of the) parents usually withdraws from the labour market for a short period to care for infants (and to some extent for toddlers). The immediate cost of such labour market withdrawal increases with wages, making for a negative correlation between earnings and the probability to enter parenthood. However, this immediate cost may to a large extent be compensated by family policies: Parental allowance schemes with full income replacement allow a parent to stay home with a child for a certain period of time (almost) without any (immediate) monetary costs, and availability of subsidized high-quality child care for toddlers contributes to speed up the return to work after that period. If both of these arrangements are in place, the immediate monetary cost due to temporary job interruptions will be (close to) zero, and considerations regarding the long-term effects of childbearing on wages may be given more weight in fertility decisions.

The long-term negative effects of childbearing on wage development is commonly explained by the fact that childbearing hinders new investment in human capital – and/or reduces the value of human capital already accumulated (Even 1987). Empirical studies indicate that postponing motherhood until a level of career maturity is reached reduces the total wage penalty of motherhood (Buckles 2008, Wilde, Batchelder & Ellwod 2010, Miller 2011,

Taniguchi 1999)[4]. On a similar note, Matysiak (2011) finds that Polish women prefer to establish a foothold in the labour market before they have a first child. In sum, to the extent that higher earnings indicate career maturity, attempts to minimize long-term wage penalties may contribute to a positive correlation between earnings and first birth probability. This corresponds to the more sociological notion that men and women prefer an ordering of life course transitions where a foothold in the labour market is established before the first child is born.

The relationship between current earnings and first birth risk is further complicated by the fact that the wage penalty for early childbearing may increase with expected lifetime earnings. Qualitative evidence from Norway supports the notion that more career oriented women are more inclined toward postponing fertility until they have accumulated work experience than are women who are less career oriented (Ellingsæter & Pedersen 2013). Possibly, women on high-earning tracks, employed in "career jobs", face relatively larger wage penalties for early childbearing. If the penalty for early childbearing is largest for women with high life time earnings, women with high current earnings may be more likely to postpone parenthood than women with lower earnings. Such heterogenous postponement would make the correlation between earnings and fertility more negative. This stands in contrast to uniform postponement – as outlined in the previous paragraph – which would contribute to a positive correlation between earnings and fertility.

[4] Different theoretical mechanisms could explain such a postponement premium. One possible explanation is that motherhood implies a long-term wage *growth* penalty – a penalty that would be smallest relatively late in the career when the wage would not increase much anyway (Gustavsson 2001). Another explanation is that *uninterrupted* career investments up to a given point of time give long-term rewards (Buckles 2008:404).

In the above, I have outlined two possible drivers of a positive correlation between earnings and first birth probability: Higher earnings means that it is less straining to reduce consumption of other goods upon the birth of a child, and may also indicate that a foothold is established in the labour market, which may in turn reduce the long-term wage penalty of childbearing. Two mechanisms pull in the opposite direction, making the correlation between earnings and fertility more negative. As the opportunity cost of childbearing increases with earnings, some high-earning individuals may prefer not to have a child. Additionally, to the extent that individuals with high earnings over the life course have a preference for delayed childbearing, this will also contribute to a less positive correlation between earnings and first birth probability.

In the Nordic context, the mechanisms driving a positive correlation between earnings and fertility dominate mechanisms pulling in the opposite direction, as the correlation between annual earnings and the probability to enter motherhood is consistently found to be positive (Andersson 2000 (Sweden), Vikat 2004, Berninger 2013, Jalovaara & Miettinen 2013 (Finland), Andersson et al 2009 (Denmark), Kravdal 1994 (Norway)). However, it should be noted that studies using predicted wages rather than observed earnings have found significant negative effects for Norway: Rønsen (2004) finds an overall negative effect, and Kornstad and Rønsen (2014) find significant negative effects of wages at the average level or lower. For men, Lappegård & Rønsen (2013) and Jalovaara & Miettinen (2013) find positive correlation between annual earnings and the transition to parenthood, while some older Swedish studies find an insignificant (Heckman & Walker 1990) or even, in some specifications negative effects (Tasiran 1994).

2.2 Union entry and stability as a mediator

Intending to have a child in the near future may serve as a motivation to marry or enter a consensual union (Rindfuss & St. John 1983), and living with a partner may strengthen the desire to have a child – particularly among men (Marsigilio 2007). Selecting the sample on union status implies conditioning on an endogenous variable, which could both net out part of the total impact of earnings on fertility and introduce further selection bias in the model (Winship & Elwert 2014). The following section outlines theoretical perspectives on the role of union entry and stability as a mediator of the earnings-fertility relationship.

Earnings are important for union entry partly because the spouses cover the costs of childbearing and various other expenses together: A high-earning partner can contribute more to the (monetary) cost of childbearing, giving a higher overall material living standard. While the theory of gender specialisation (Becker 1991) predicts that only women prefer a high-earning partner, the theory of pooling of resources (Oppenheimer 1997, 2003) suggests that this preference holds across sexes. In the Nordic context, empirical studies show a positive impact of earnings on union entry for both men (Sweeney 2002, Petersen, Penner & Høgsnes 2011) and women (Bracher & Santow 1998, Jalovaara 2012), overall lending support to the theory of pooling of resources. The results for union dissolution are more mixed: A similar earnings level between cohabiting spouses is correlated with reduced risk of union dissolution (Kalmijn, Loeve & Manting 2007, Brines and Joyner 1999, Jalovaara 2013), while his higher earnings protect against divorce and her higher earnings elevates the divorce risk (Lyngstad (2004) for Norway, Jalovaara (2003) for Finland). In sum, higher earnings are expected to facilitate union entry and stability across sex – though slightly more for men than

for women – contributing to a positive correlation between earnings and the transition to parenthood.

3. Theoretical perspectives on change over time

In the period of study, there has been a marked increase in the time fathers spend on childrearing (Kitterød & Rønsen 2013). Particularly, the introduction of the daddy quota means that the birth of a child now implies a short career break for men. More involved fathering is accompanied by a small fatherhood wage penalty among men in the private sector (Cools & Strøm 2014), indicating that the substitution effect has become stronger for men. This could induce some high-earning men to not enter parenthood – a development that would make the correlation between earnings and fertility less positive for men.

Some trends indicate that the long-term negative effects of childbearing on women's lifetime earnings may have decreased over time: The combination of a slight decrease in the time mothers of small children spend on care work and an observed increase in mothers' labour supply (Kitterød & Rønsen 2013) indicates that mothers to some extent have shifted their efforts from home production to market production in the period of study. There is evidence that mothers return increasingly fast to work after childbirth from towards the end of the period of study – indicating that the human capital loss caused by the birth of a child decreases over time (Rønsen & Kitterød 2014). One plausible explanation for the increase in mothers' labour supply is the massive expansion of available publicly subsidized childcare slots in the period of study, a development also shown to increase fertility among women whose opportunity costs of childbearing are high (Rindfuss, Guilkey, Morgan & Kravdal

2010). In sum, these developments lower the opportunity cost of childbearing, which may induce some high-earning women who would otherwise have remained childless to have a first child, making the correlation between women's earnings and chance of first birth more positive.

Finally, there are some indications that the monetary cost of childbearing has increased in the period of study. The value of cash transfers to parents has declined relative to real earnings, effectively increasing the monetary cost of childrearing[5]. Some studies also indicate that spending on children has increased (Kornrich & Furstenberg 2013). In the Norwegian context, characterized by strong norms toward home ownership and high real estate prices, housing costs make up a substantial amount of the monetary cost of childbearing. The almost linear increase in housing prices in the period of study[6] has thus likely raised the monetary costs of childbearing.

If the monetary cost of childbearing increases, individuals may increasingly prefer to have a child at a time point when earnings are high. This development may also imply that women with higher earnings potential are increasingly attractive as partners, making the correlation between earnings and fertility more positive for women especially (see Oppenheimer (1997) for a discussion of this). In sum, both changing gender relations as well as the increasing

[5] *Child allowances* (not means tested) are given from the first child. In the early 1990s, child allowances made a substantial contribution to covering the monetary cost of childbearing. Since then, the absolute value of child allowances has remained virtually unchanged. After adjustment for price growth, the purchasing value of the child allowances has actually *declined* in the period of study. Mothers who have not earned rights to parental leave allowance receive a *lump-sum transfer upon birth* ("engangsstønad"). After a marked increase in the early 1990s, the nominal value of this lump-sum transfer has again been virtually unchanged through the period, leaving its CPI-adjusted value to decrease in the period of study (Ministry of Children and Family Affairs 1996 and 2004, Ministry of Finance 2009).

[6] http://www.ssb.no/en/statistikkbanken, Table 07230, House price index, whole country (1993-2007).

monetary cost of children are expected to make the correlation between earnings and fertility increasingly positive for women over time. For men, new fathering practices likely makes for a less positive correlation between earnings and fertility, while the increasing monetary costs of childrearing pulls the correlation in the opposite direction. Whether one of these mechanisms dominates the other – or the two mechanisms cancel each other out – thus remains an empirical question.

4. Method and data

4.1 Data

The analysis is based on data on births, earnings, unemployment benefits, health related benefits, and educational level/enrolment for all men and women born 1955-1987 from the Norwegian population registers. The data set further is restricted to persons who have at least one Norwegian-born parent, who are Norwegian citizens, and who did not have a first child either before age 20 or before year 1994. First births are observed in the period 1994-2008, and observations are censored at whatever occurs first of a first birth, age 50 or calendar year 2008.

4.2 Method

Discrete-time hazard regression models for first birth rates are estimated with the baseline rate (hazard) specified as a linear spline with 5-year knots. After data are transformed into person years, logistic regression models are estimated in Stata, using the *logit* command. To allow for comparison of the magnitude of regression coefficients across different samples, results are displayed as average marginal effects (obtained by the Stata command *margins*) (Mood 2010). When presented as average marginal effects, coefficients give the average *absolute*

change in first birth probability in the study sample associated with a one-unit change in the explanatory variables.

4.3 Variables

The earnings variable is based on the sum of earnings from employment and primary and secondary business income. The two latter sources of income are included as they convey information of the individual's earnings potential that is not captured when using information on earnings from employment alone. Earnings quintiles are calculated based on the position in the earnings distribution relative to all individuals (i.e. both parents and (currently) childless persons) of the same sex and age in the same year. Calculations are done separately by year and age to avoid that the earnings variable captures period and age effects. Missing earnings are included as a separate category.

Potential confounders are included in the empirical model to net out spurious elements of the association between earnings and first birth probability. Being enrolled in full-time education reduces earned income (as less time is allocated to paid work), and also reduces the probability of having a child for reasons unrelated to earnings. To capture full-time education rather than participation in shorter courses, educational enrolment is defined as enrolment for at least 4 months of the previous year. Educational attainment also affects earnings as well as fertility decisions (see e.g. Lappegård & Rønsen 2005, Kravdal & Rindfuss 2008), and is therefore included in the model. Unemployment may affect fertility through reducing income, but also through creating uncertainty about future economic prospects (see e.g. Kreyenfeld 2010). To avoid that such effects of unemployment are captured by the earnings estimates, a control for reception of unemployment benefits is included. A dummy for receipt

of disability pension or rehabilitation transfers was constructed to capture health limitations that affect earnings potential[7] as such health limitations may affect childbearing desires through channels other than reduced earnings. As fertility and earnings level both change over time, period is a potential confounder. This is handled either through including a set of dummy variables for period as controls (Model 1) or by running regressions separately by calendar year (Model 2). Finally, a set of dummies for region of birth[8] is included, to capture regional variation in earnings level and fertility that may confound the estimates for earnings.

A couple's decision to get married may result from an intention to have a first child, and if so, a control for marital status would be a control for an intention to have a child (see Rindfuss & St. John (1983) for a discussion of this). Including marital status in the model would then control out any indirect effect of earnings potential on fertility that is mediated by marriage. For this reason, controls for marital status are omitted. A covariate for marital status would also make comparisons over time less clear due to the increase in first births to cohabitants: Non-marital births in the first part of the period will to a larger extent be births to single mothers in the beginning of the study, while a larger proportion of non-martial births in the end of the period of study will be to cohabiting mothers (Noack 2010:30).

[7] The health dummy is based on a measure from FD Trygd, which includes old age pensions as well as child allowances. However, as childless persons under age 50 do not have the right to neither of these additional benefits the measure constitutes a fairly good proxy for reception of health benefits in this group. "Sykepenger", which is given for the first year of sickness absence, is included in the earnings variable.

[8] Measuered at the county level ("fylke").

5. Results

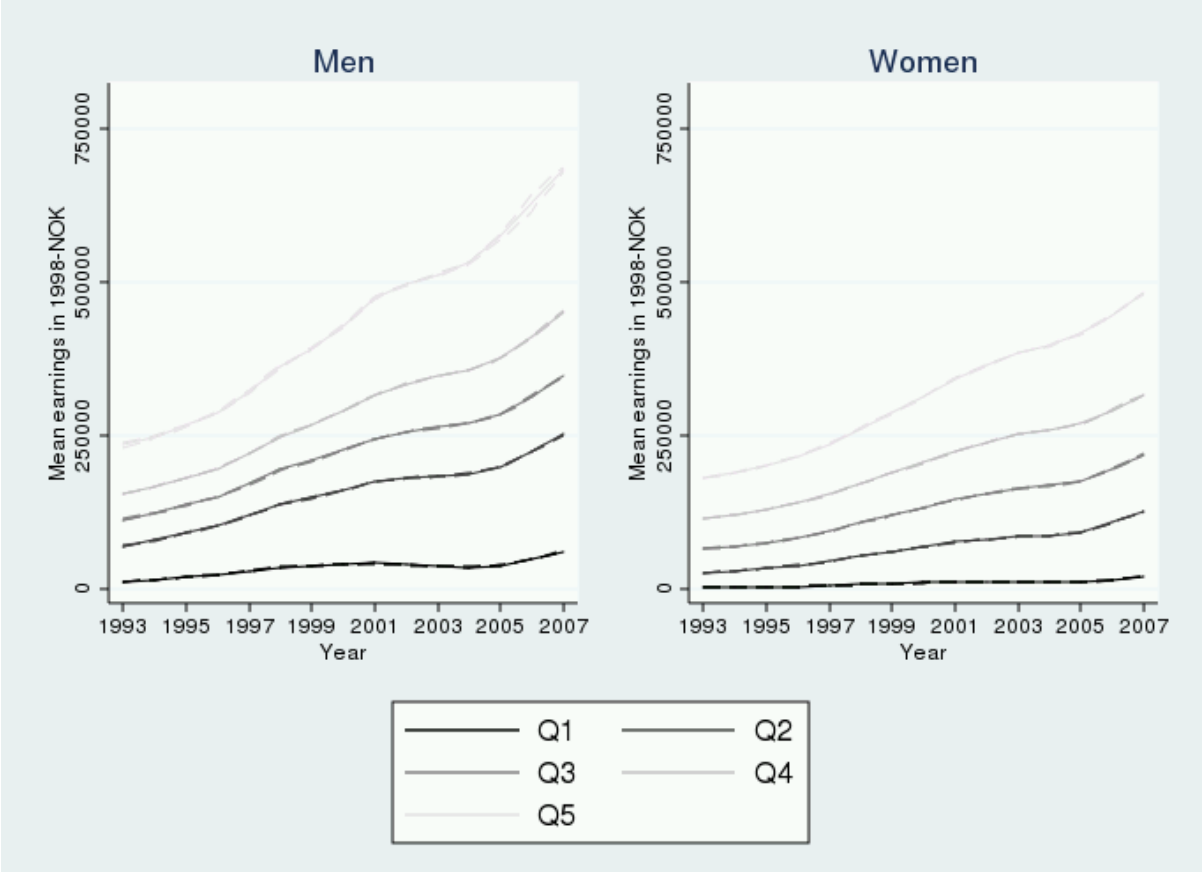
Summary statistics of person years are shown in Table 1. The study sample consists of 6 563 808 person years for men and 4 822 906 person years for women, with 332 782 and 331 346 events (first births) respectively. This amounts to a mean yearly probability of first birth of 5 per cent among men, and close to 7 per cent among women. In a relatively large per cent of the person years (32.2% among men and 42.4% among women) the individual was enrolled in education for at least four months. Men are more likely than women to have received unemployment benefits in any given year (12.2 per cent for men versus 7.2 per cent for women).

Because earnings quintile is calculated based on the position in the earnings distribution relative to *all* persons of the same sex and age – not just the (still) childless individuals in the study sample – the earnings quintile groups in the study sample are of uneven size. It should be noted that while individuals with zero earnings are included in the calculation of earnings quintiles (and all grouped into the first earnings quintile); individuals for whom information on earnings is not available are not. Information on earnings is lacking for 12.5 per cent of the person years in the male sample and 16.5 per cent of the female sample. A simple cross tabulation (Appendix, Table A1) shows that the proportion with missing earnings is relatively evenly distributed over period, and thus unlikely to affect results regarding period changes. The same holds for the proportion with zero earnings, which revolves around 7.7 and 6.7 per cent in the male and female sample respectively (Appendix, Table A1).

Table 1: Summary statistics – person years

	MEN		WOMEN	
	Freq.	**%**	**Freq.**	**%**
First birth in current year				
No	6 229 026	94,9 %	4 491 560	93,1 %
Yes	334 782	5,1 %	331 346	6,9 %
Educational attainment				
Higher education, higher degree	310 834	4,7 %	207 734	4,3 %
Higher education, lower degree	1 105 607	16,8 %	1 300 927	27,0 %
Primary education	893 272	13,6 %	615 315	12,8 %
Secondary education	4 200 367	64,0 %	2 663 188	55,2 %
Missing	53 728	0,8 %	35 742	0,7 %
Educational enrolment				
No	4 450 218	67,8 %	2 779 709	57,6 %
Yes	2 113 590	32,2 %	2 043 197	42,4 %
Received unemployment benefits				
No	5 762 584	87,8 %	4 475 252	92,8 %
Yes	801 224	12,2 %	347 654	7,2 %
Received health-related benefits				
No	6 130 042	93,4 %	4 505 919	93,4 %
Yes	433 766	6,6 %	316 987	6,6 %
Period				
1994-1997	1 674 299	25,5 %	1 232 483	25,6 %
1998-2001	1 734 386	26,4 %	1 274 224	26,4 %
2001-2005	1 796 065	27,4 %	1 318 274	27,3 %
2006-2008	1 359 058	20,7 %	997 925	20,7 %
Earnings quintile				
Missing	821 596	12,5 %	794 181	16,5 %
Q1	1 386 014	21,1 %	665 938	13,8 %
Q2	1 194 055	18,2 %	691 235	14,3 %
Q3	1 080 266	16,5 %	683 911	14,2 %
Q4	1 043 059	15,9 %	855 284	17,7 %
Q5	1 038 818	15,8 %	1 132 357	23,5 %
	Mean	**SE**	**Mean**	**SE**
Log (earnings/10 000)	2,576	0,002	2,059	0,002
Age	29,239	0,003	28,277	0,003
N	6 563 808		4 822 906	

Figure 1: Mean CPI-adjusted earnings by earnings quintile, period and year



Note: The figure is based on information on earnings from employment as well as primary and secondary business income for men and women born 1955-1987 and aged 20-50 years from the Norwegian population registers. The sample is limited to men and women born 1955-1987 who is between age 20 and 50 years in the given year, and to persons who have at least one Norwegian-born parent and are Norwegian citizen. Individuals with missing earnings are excluded, while individuals with zero earnings are included in the lowest (first) earnings quintile.

Figure 1 provides more detailed information of the distribution of the main explanatory variable in the study sample. Mean CPI-adjusted earnings are plotted over period, separately by sex and earnings quintile. The figure shows that mean earnings increases over period in all parts of the earnings distribution, but the absolute increase is highest in the highest earnings quintile. Thus, both purchasing power and earnings inequality increase over time[9]. This development stands in contrast to the stable or declining value of cash transfers through the

[9] Due to the sample selection criteria, the mean age increases over period (with 2.2 and 3.1 years among men and women respectivelty). This in turn contributes to an increase in mean earnings over period. However, a simple OLS regression of log earnings on dummies for period and age reveals that changes in the age composition explains very little of the change in earnings level over period.

period of study (as described in Section 3). As the value of earnings and earnings-based benefits (such as parental leave allowance) increases relative to the value of cash transfers, earned income could become increasingly important for the transition to parenthood.

5.1 Results from main specification

Parameter estimates from a discrete time hazard regression of the probability of a first birth, estimated for the full study sample (Model 1), are shown in Table 2. Coefficients are displayed as average marginal effects, giving the mean *absolute* increase in the probability of first birth associated with a one unit increase in the dependent variable.

For men (Model 1a), the coefficients show that the mean yearly first birth probability increases monotonously with earnings: The highest first birth probability is found in the fifth (highest) earnings quintile, and the lowest first birth probability is found in the first (lowest) earnings quintile (reference category). Men for whom no data on earnings are available (missing category) display the by far lowest probability of a first birth. When moving from the first to the fifth earnings category, the probability of having a first birth increases by 0.04. Bearing in mind that the average first birth probability is 0.05 among men (Table 1), the estimates show that the correlation between earnings level and first birth probability is substantial.

Table 2: Model 1. Discrete time hazard regression of the (conditional) yearly probability to have a first child. Average marginal effects. 95% confidence intervals in brackets

Earnings quintile	A) MEN	B) WOMEN
(ref=Q1)		
Q2	0.0168***	-0.00370***
	[0.0161,0.0174]	[-0.00476,-0.00264]
Q3	0.0298***	0.0145***
	[0.0291,0.0304]	[0.0135,0.0155]
Q4	0.0374***	0.0334***
	[0.0368,0.0380]	[0.0324,0.0343]
Q5	0.0420***	0.0374***
	[0.0414,0.0427]	[0.0364,0.0383]
Missing	-0.0308***	-0.0264***
	[-0.0320, -0.0295]	[-0.0277, -0.0250]
Educational attainment		
(ref=secondary education)		
Higher education, higher degree	0.00687***	0.0108***
	[0.00623,0.00751]	[0.00985,0.0118]
Higher education, lower degree	0.00292***	0.00536***
	[0.00248,0.00336]	[0.00482,0.00591]
Primary education	-0.00222***	-0.00530***
	[-0.00289,-0.00154]	[-0.00636,-0.00425]
Missing	0.00377***	0.0298***
	[0.00184,0.00571]	[0.0275,0.0321]
Educational enrolment		
(ref=no)		
Yes	-0.0118***	-0.0340***
	[-0.0123,-0.0113]	[-0.0346,-0.0334]
Received unemployment benefits		
(ref=no)		
Yes	0.00207***	0.0113***
	[0.00154,0.00259]	[0.0106,0.0121]
Received health benefits		
(ref=no)	-0.0242***	-0.0218***
Yes	[-0.0253,-0.0232]	[-0.0232,-0.0205]
Log aggregate unemployment rate	0.000231	0.0000747
	[-0.000579,0.00104]	[-0.00127,0.00142]
N	6563808	4822906

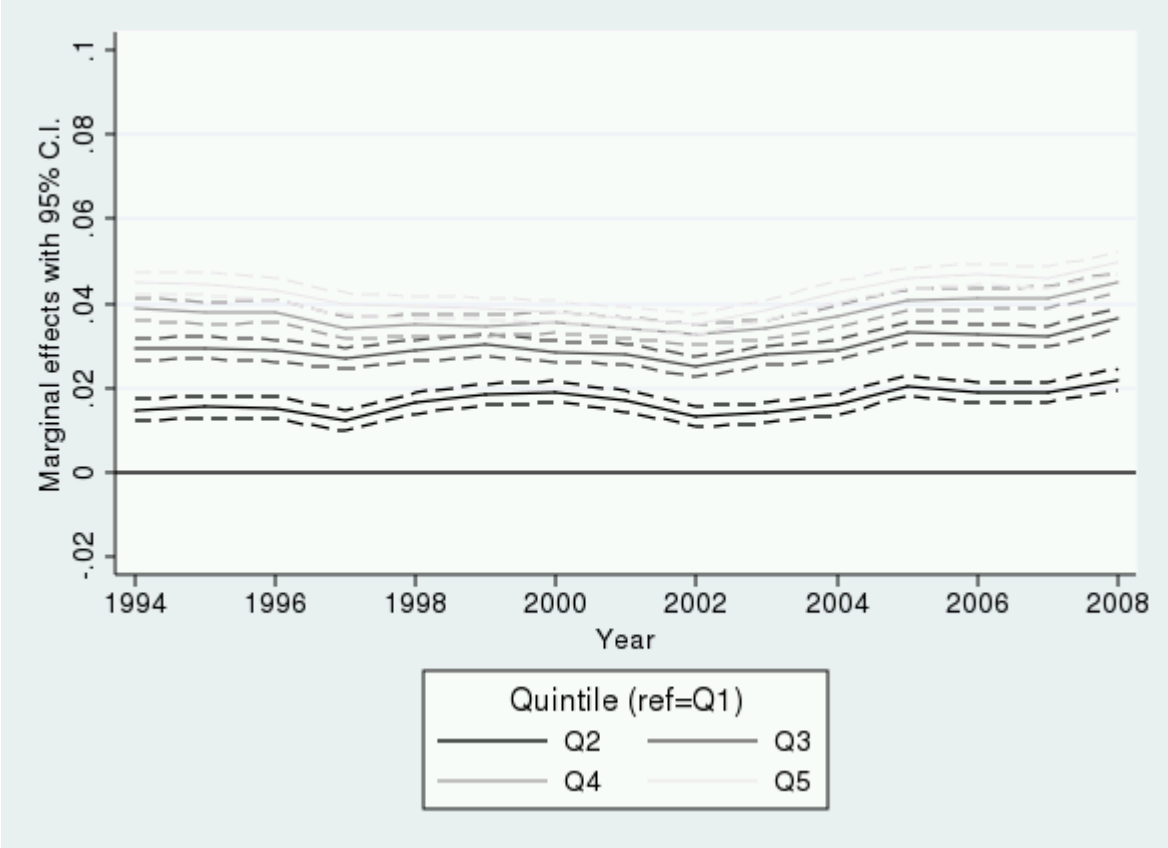
*Note: The baseline hazard (i.e. age) is specified as a linear spline with 5-year knots. The model includes dummies for periods and region of birth. Sample includes all Norwegian men and women born 1955-1988 who were at risk of having a first child in the period 1994-2009. Individuals are observed from age 20 to (what occurs first of) a first birth, age 50 or year 2008. *** p<0.001, ** p <0.01, *p<0.1*

For women, the coefficients reveal a non-monotonous relationship between earnings quintile and first birth probability: Compared to the lowest quintile (reference category), women in the second quintile have slightly lower probability of having a first child. With this exception, the first birth probability increases monotonously in earnings. The proportion having a first child in a given year is 0.03 higher in the fifth earnings quintile than in the lowest. The coefficients are, however, consistently less positive for women than for men, and non-overlapping 95 per cent confidence intervals indicate that the differences by sex are significant on the 0.05 per cent level.

The directions of the parameter estimates of the control variables are largely as expected. Reception of unemployment benefits the previous year is positively correlated with first birth probability among women as well as men, indicating that unemployment (conditional on earnings) lowers the time cost of childbearing and thus increasing fertility across sex. The estimates for reception of health benefits is negative across sexes, indicating that health problems leads to postponement of fertility for women as well as men. It is noteworthy that the estimates change little, and rarely significantly, when the control variables are added consecutively (not shown). With the exception of yearly national unemployment rate (for which there is no variation within year), all control variables are included when the model is estimated upon separately by year. The control variables display the same overall pattern in the year-specific model, but for the sake of brevity the estimates are neither shown nor commented upon (available on request).

5.2 Changes over time

Figure 2A: Results from hazard regressions of earnings quintile on yearly first birth probability. Separate models by period, men. Average marginal effects



Note: For each year, the study sample consists of women born between 1955-1988 and aged 20-50 years, who are childless at the start of the year. All models include controls for educational attainment and enrolment, reception of unemployment benefits in the previous year, reception of health benefits in the previous year, and dummies for region of births. All explanatory variables are lagged with one year.

In Section 3, I argued that the correlation between earnings and fertility is expected to become increasingly similar across sex over period – either because the correlation becomes more positive for women and/or because the correlation becomes less positive for men. In this section, I test the hypothesis of change over (period) time by estimating Model 1a and b separately by period, allowing the effect period and sex and all other independent variables to vary by year. Results from 15 separate period regressions are shown in Figure 2a (men) and 2b (women). A table with all year-specific estimates and 95 per cent confidence intervals is

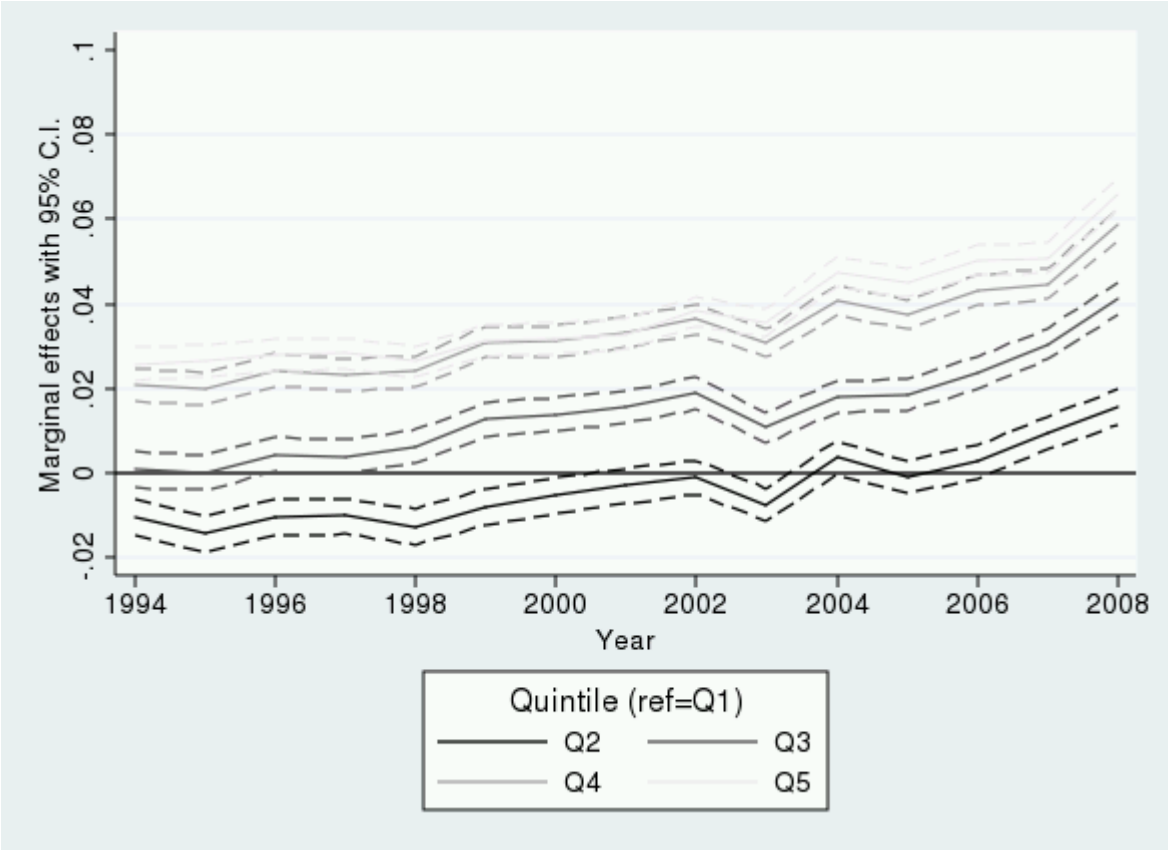
found in the Appendix (Table A2 and A3). Again, estimates are presented as average marginal effects to facilitate comparison across models.

For men, the correlation between earnings quintile and first birth probability is stable throughout the observation period. In all years in the period 1994-2008, the probability of having a first child increases monotonously with earnings quintile. The magnitude of the estimates indicate a non-linear relationship between annual earnings and fertility: While first birth probability increases markedly from the first to the second quintile, the differences between the estimates for the fourth and the fifth earnings quintiles are small, and their 95 per cent confidence intervals are often overlapping.

For women (Figure 2b), the parameter estimates display a small yet marked change over period. In the beginning of the period, the relationship between earnings and fertility is not monotonously positive: Among women with recorded earnings, the lowest first birth probability is found in the second quintile, and the first birth probability in the third earnings quintile does not differ significantly from that in the first (reference category). However, women in the fourth and fifth earnings quintile display the highest first birth probability throughout the period of study. Though the highest first birth probability is usually found in the fifth earnings quintile, the estimates for the two highest earnings quintiles are of similar magnitude and their 95 per cent confidence intervals overlap. Over time, the first birth probability in the second and third quintile increases markedly relative to that in the lowest quintile. Thus, the negative coefficients for the second earnings quintile estimated in Model 1a (Table 2) are driven by the low first birth probability in the second earnings quintile in the

first part of the period. At the end of the period, the relationship between earnings and fertility is monotonously positive for women as well as men, and the coefficients are of similar magnitude across sex.

Figure 2B: Results from hazard regression of earnings quintile on yearly first birth probability. Separate models by period, women. Average marginal effects



Note: For each year, the study sample consists of men born between 1955-1988 and aged 20-50 years, who are childless at the start of the year. All models include controls for educational attainment and enrolment, reception of unemployment benefits in the previous year, reception of health benefits in the previous year, and dummies for region of births. All explanatory variables are lagged with one year.

In the period of study, fathers have become increasingly involved in childrearing, and mothers have increased their efforts in paid work. Though these changes could be expected to lead to both a less positive earnings-fertility correlation for men and a more positive earnings-fertility relationship for women, the empirical results confirm the latter expectation only.

5.3 Specification checks

In the main specification, the earnings variable is lagged by one year. Since the dependent variable is live births, most conceptions will take place the year before – i.e. in the year the earnings variable is measured. To the extent that being pregnant – or knowing that a child will soon be born – affects efforts in the labour market, the earnings variable should be lagged by two years rather than one to avoid reverse causality. To check whether the choice of number of lags affect the results, I estimate the year-specific models with a two-year lag on the earnings variable. The results (Appendix Figure A1) are very similar to those obtained with a one-year lag. I therefore conclude that (this form of) reverse causality seemingly does not affect the results.

As suggested by Kornstad and Rønsen (2014), the impact of earnings may vary substantially by age, violating the proportional hazards assumption. In presence of such varying effects, the earnings estimates will give a weighted average of the (differential) effects over age. I test the proportionally assumption by running Model 1a separately for six age groups. Results are shown in Appendix Figure A2. Though estimates are positive for all age groups, there is statistically significant and substantial difference in the magnitude of the estimates by age. The impact of earnings by age shows a clear curvilinear pattern, with estimates close to (and not always statistically significant from) zero at low and high ages, and the strongest impact in the age group 30-34. The main findings in this paper are thus driven by the relatively strong correlation between annual earnings and fertility in the main childbearing years.

5.4 Study limitations

I have chosen to use actual (rather than predicted) earnings as a measure for earnings potential. This measure underestimates the price of time for individuals who work less than

full time. As women are more likely than men to work part time, this underestimation of the price of time may be more severe in the female sample than in the male. It should further be noted that the estimates do not have a causal interpretation, as unobservable characteristics may affect both earnings and fertility. However, the estimated coefficients give an unbiased estimate of the (conditional) correlation between annual earnings and first birth probability. Studying changes in this correlation over time and across sex casts light on how the interlinkages between earned income and fertility behaviour depend on context.

6. Discussion and conclusion

This study has assessed how the relationship between annual earnings and yearly first birth probability changes when mothers increase their effort in paid work and fathers increase their efforts in childrearing. The results show that while the positive correlation between annual earnings and first birth probability strengthens over time for women, it remains stable over time for men. The results for women corroborates the findings from cross country comparisons, showing that the correlation between earnings and fertility is more positive for women in contexts where motherhood is compatible with pursuing a career (Berninger 2013, Andersson et al 2009, see also Matysiak 2011). No previous study has addressed how context shapes the relationship between earnings and first birth probability for men. The current study indicates that while the relationship between earnings and fertility is shaped by context among women, this is not – or at least to a lesser extent – the case among men.

The positive correlation between earnings and fertility estimated in Model 1 could indicate that the income effect dominates the substitution effect – either because individuals with higher earnings overall are more likely to ever have a child (as suggested by the theory of fertility quantum (Becker 1991)), and/or because couples may prefer to have a child at a time point when earnings are high (as suggested by theories of fertility timing, see e.g. Happel et al 1984). However, a positive correlation could also emerge if individuals prefer to enter parenthood when a certain level of career maturity is reached, given that high earnings (conditional on age and educational level) signalize career maturity. The finding of a positive correlation between earnings and first birth probability at all ages (Section 5.3) supports the interpretation that at any given age, relatively high earnings (conditional on age and education) signalizes career maturity, and thus facilitates the transition to parenthood. The interpretation of career maturity as a prerequisite to entering parenthood bears clear resemblance to Matysiak's (2011) finding that Polish women prefer to establish a foothold in the labor market before they have a first child.

The estimated positive correlation neither supports the notion that men with low earnings throughout the life course are less likely to have a child, nor that women prefer to have a child at a time in their career when earnings are low. In Section 2.1, I also suggested that a negative correlation would emerge if individuals on high earning trajectories were more likely to postpone childbearing than individual on low earning trajectories (heterogeneous postponement). Though it cannot be ruled out that such patterns of heterogeneous postponement exist, their impact (if any) on the correlation between earnings and fertility is cancelled out by mechanisms pulling in the opposite direction. Furthermore, heterogenous

postponement would be expected to lead to a negative relationship between earnings and first birth probatility at low ages, for which there is no evidence in data.

Turning to change over time, the increasingly positive correlation between earnings and fertility for women over time is as expected. As outlined in Section 3, particularly the increased availability of public child care has made it easier to combine childrearing with full time employment for women – a development expected to weaken the substitution effect and make the correlation between female earnings and fertility more positive. Furthermore, if an increasing proportion of women intend to work full time also as mothers, fertility timing may be increasingly important in order to minimize the long-term negative effects of childbearing on earnings and career development. As outlined in Section 2.1, empirical evidence indicates that the wage penalty of childbearing is reduced when childbearing is postponed until earnings are relatively high, contributing to a positive correlation between earnings and first birth probability. Finally, the increasing monetary cost of childbearing may have contributed to the more positive correlation observed in the female sample – both through making women with relatively high earnings more attractive as partners and by making couples increasingly interested in having a first child at a point in time when her earnings are relatively high.

In light of the substantial changes that have taken place in fathering practices, the stable correlation between earnings and the probability to enter parenthood is noteworthy. Based on the mechanisms outlined in Section 2.1, more involved fathering could have made the correlation between earnings and fertility less positive both if some fathers choose to forgo fatherhood due to the increased opportunity costs, and/or if men increasingly prefer to have children when earnings are low to minimize the (immediate) forgone earnings associated with

childbearing. The observed stable correlation over time indicates that neither of these mechanisms dominates. It seems plausible that the relatively small wage penalties observed for men do not have profound impact on men's decision of whether – and if so, when – to enter parenthood. The notion that concerns of wage penalties are not crucial for men's fertility decisions is further supported by qualitative evidence showing that even men who intend to devote a large amount of time to childrearing rarely consider this to be in conflict with their future career development (Ellingsæter & Pedersen 2013). It should be noted, however, that the increased monetary costs of childrearing was expected to make the correlation between men's earnings and the transition to parenthood increasingly *positive*. The possibility that mechanisms are at work in opposite directions and cancel each other out can of course not be excluded.

Studies of women's earnings and fertility have found that a positive correlation emerges when it is possible to combine paid work with childrearing. The unchanged correlation between earnings and male fertility indicates that involved fathering offers men the opportunity to combine active childrearing with employment – seemingly without introducing a conflict between employment and fathering. As fathers increasingly partake in childrearing, it may be increasingly important for men to enter parenthood at the time in their career when childrearing has the least negative impact on long-term earnings. To the extent that the wage penalty is inversely related to earnings at the time of entry into parenthood, such strategic timing can contribute to a more positive correlation between annual earnings and first birth probability.

The positive correlation between earnings and fertility observed in Norway therefore need not be driven solely by an income effect as such, but could also reflect preferences for ordering of life course transitions: Establishing a solid foothold in the labour market before a first child is born may (be perceived to) ease the subsequent combination of career development and childrearing. If the estimated coefficients were to be driven by an income effect only, a shift from the lowest to the highest income quintile would increase the yearly odds of a first birth with more 84% for women and 144% for men[10]. In a context where a large proportion of the monetary cost of childbearing is covered by the welfare state, income effects of this magnitude may come across as surprisingly large.

Interestingly, the two suspected main drivers of a positive correlation between earnings and fertility – the income effect and the preference for career maturity – may also reinforce each other. If some couples – motivated by career planning concerns – prefer to have a child when earnings are relatively high, the purchasing power among parents will (as a possibly unintended consequence) increase. Increased wealth among parents may heighten the standards for consumption on children, in turn leading other couples – initially less concerned with career positioning – to prefer to have children at a time point when earnings are high. This example of self-reinforcing mechanisms underlines the complex nature of the causal drivers of the correlation between earnings and fertility. For a better understanding of this relationship, studies that address the relationship between earnings profiles over the life course and fertility timing decisions are clearly called for.

[10] Calculated based on odds ratios for Model 1 a and b (full results shown as AME in Table 2).

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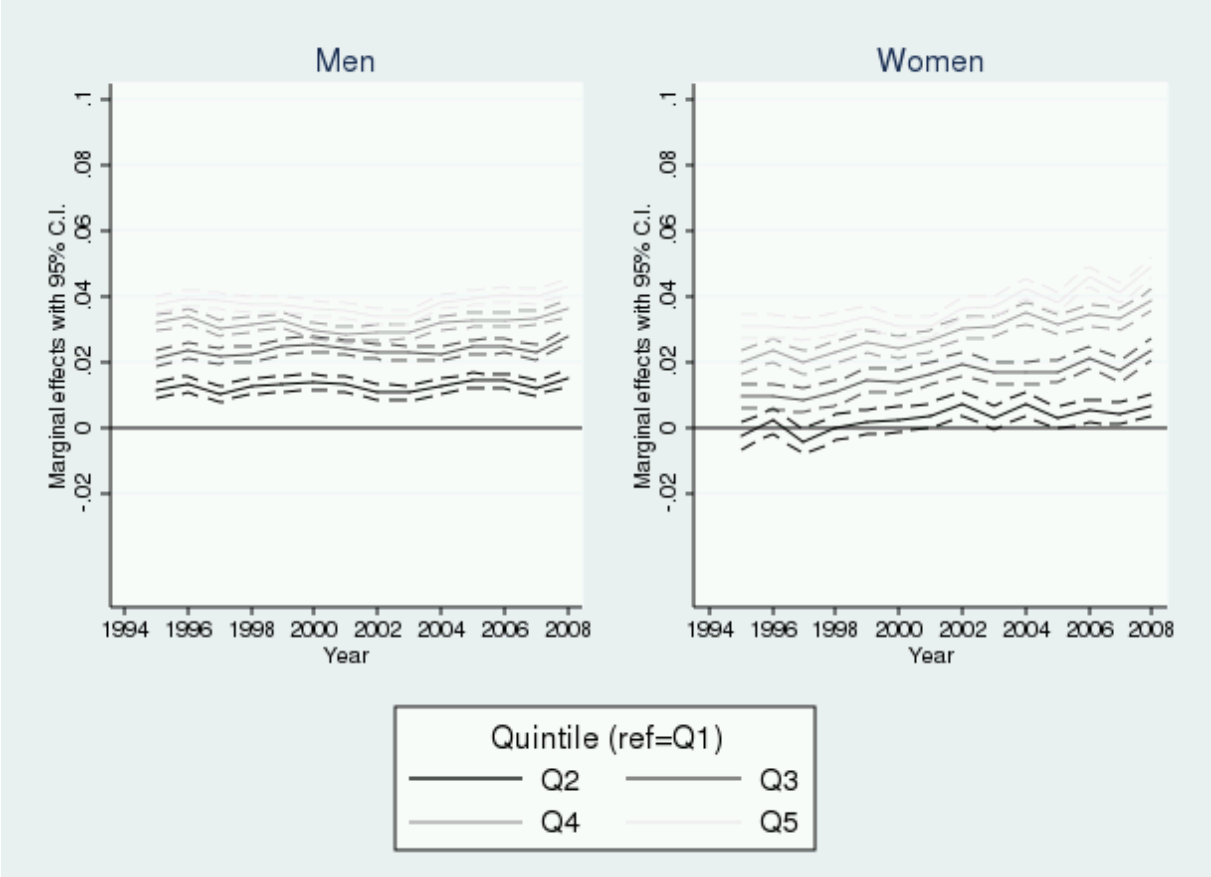
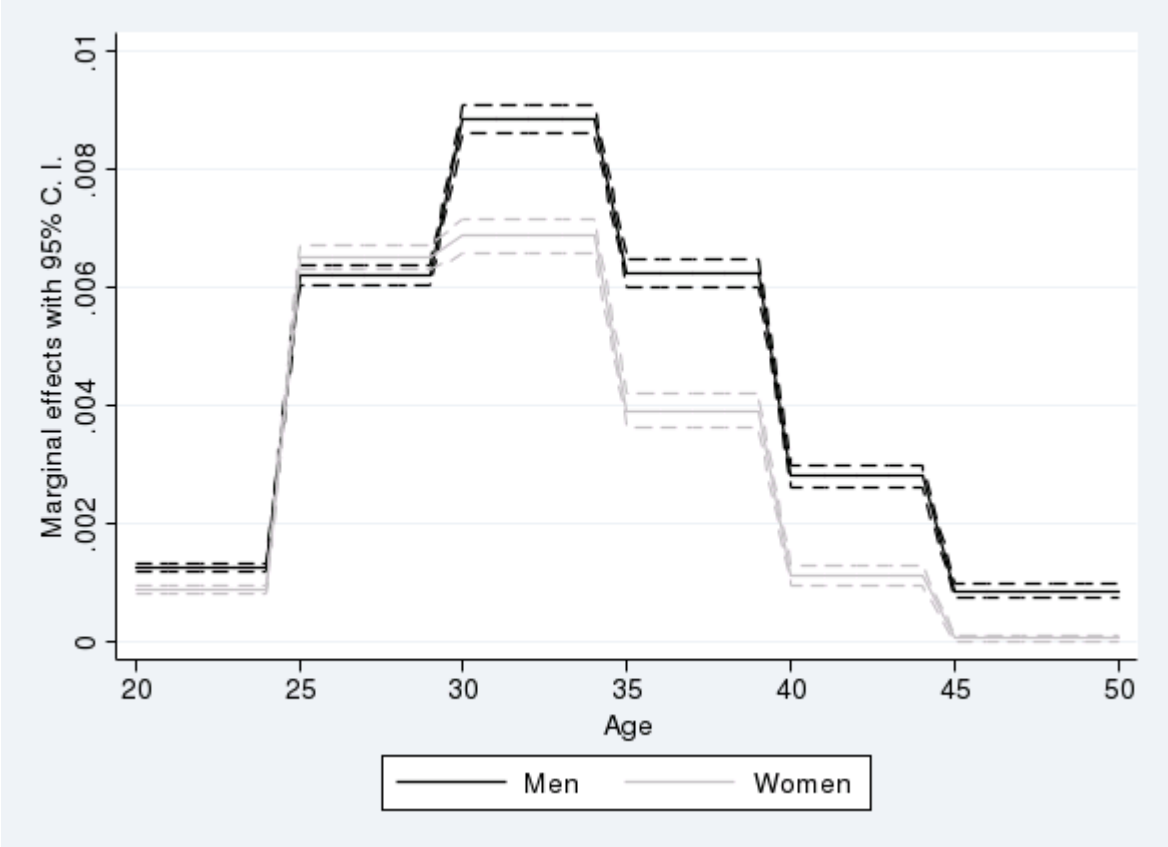
Appendix

Figure A1: Results from hazard regressions of earnings quintile (two years lag) on yearly first birth probability. Separate models by period, men and women. Average marginal effects



Note: For each year, the study sample consists of women born between 1955-1988 and aged 20-50 years, who are childless at the start of the year. All models include controls for educational attainment and enrolment, reception of unemployment benefits in the previous year, reception of health benefits in the previous year, and dummies for region of births. With the exception of earnings quintile (lagged with two years), all explanatory variables are lagged with one year.

Figure A2: Hazard regressions of earnings quintile on yearly first birth probability. Separate models by 5-year age groups. men and women. Average marginal effects



Note: The study sample consists of men and women born between 1955-1988, who were childless and above age 20 for at least one year in the period 1994-2008. The sample is split into six subsamples each covering a five year age bracket (six years for the the interval 45-50). All models include controls for educational attainment and enrolment, reception of unemployment benefits in the previous year, reception of health benefits in the previous year, and dummies for region of birth and calendar year (4 year brackets). All explanatory variables are lagged with one year.

Table A1: Frequency distribution of zero, non-zero and missing earnings by year and sex. *Percentages in brackets.*

	MEN				WOMEN			
Period	**Nonzero**	**Zero**	**Missing**	**Total**	**Nonzero**	**Zero**	**Missing**	**Total**
1994	314170	37289	59548	411007	223540	20471	58683	302694
	[76,44]	[9,07]	[14,49]	[100,00]	[73,85]	[6,76]	[19,39]	[100,00]
1995	324504	34146	58499	417149	229787	20222	57345	307354
	[77,79]	[8,19]	[14,02]	[100,00]	[74,76]	[6,58]	[18,66]	[100,00]
1996	332642	31657	57380	421679	234546	19790	56023	310359
	[78,89]	[7,51]	[13,61]	[100,00]	[75,57]	[6,38]	[18,05]	[100,00]
1997	336726	31504	56234	424464	236659	20522	54895	312076
	[79,33]	[7,42]	[13,25]	[100,00]	[75,83]	[6,58]	[17,59]	[100,00]
1998	343322	28758	56037	428117	240409	19624	54564	314597
	[80,19]	[6,72]	[13,09]	[100,00]	[76,42]	[6,24]	[17,34]	[100,00]
1999	349951	27521	54681	432153	244931	19035	53585	317551
	[80,98]	[6,37]	[12,65]	[100,00]	[77,13]	[5,99]	[16,87]	[100,00]
2000	353664	28069	53897	435630	247893	19307	52608	319808
	[81,18]	[6,44]	[12,37]	[100,00]	[77,51]	[6,04]	[16,45]	[100,00]
2001	356513	28421	53552	438486	250634	19247	52387	322268
	[81,31]	[6,48]	[12,21]	[100,00]	[77,77]	[5,97]	[16,26]	[100,00]
2002	359380	30229	53304	442913	253672	20394	51281	325347
	[81,14]	[6,83]	[12,03]	[100,00]	[77,97]	[6,27]	[15,76]	[100,00]
2003	361284	34078	51841	447203	256563	22365	49308	328236
	[80,79]	[7,62]	[11,59]	[100,00]	[78,16]	[6,81]	[15,02]	[100,00]
2004	358297	38073	54574	450944	255614	23151	52222	330987
	[79,45]	[8,44]	[12,10]	[100,00]	[77,23]	[6,99]	[15,78]	[100,00]
2005	358845	41472	54688	455005	256517	25224	51963	333704
	[78,87]	[9,11]	[12,02]	[100,00]	[76,87]	[7,56]	[15,57]	[100,00]
2006	357916	42319	53553	453788	256328	25906	50436	332670
	[78,87]	[9,33]	[11,80]	[100,00]	[77,05]	[7,79]	[15,16]	[100,00]
2007	360593	39674	51974	452241	257697	24733	49656	332086
	[79,73]	[8,77]	[11,49]	[100,00]	[77,60]	[7,45]	[14,95]	[100,00]
2008	364535	36660	51834	453029	260756	23188	49225	333169
	[80,47]	[8,09]	[11,44]	[100,00]	[78,27]	[6,96]	[14,77]	[100,00]
Total	5232342	509870	821596	6563808	3705546	323179	794181	4822906
	[79,72]	[7,77]	[12,52]	[100,00]	[76,83]	[6,70]	[16,47]	[100,00]

Table A2: Results from hazard regressions of earnings quintile on yearly first birth probability.
Separate models by year, men. Results presented as average marginal effects

Period	Q2	95% C. I.		Q3	95% C. I.		Q4	95% C. I.		Q5	95% C. I.		Missing	95% C. I.	
1994	0,0147	(0,0121;	0,0173)	0,0292	(0,0266;	0,0319)	0,0387	(0,0361;	0,0414)	0,0449	(0,0422;	0,0476)	-0,0358	-(0,0404;	- 0,0313)
1995	0,0156	(0,0130;	0,0182)	0,0294	(0,0268;	0,0320)	0,0377	(0,0351;	0,0404)	0,0447	(0,0420;	0,0474)	-0,0399	-(0,0446;	- 0,0352)
1996	0,0153	(0,0128;	0,0179)	0,0288	(0,0262;	0,0314)	0,0381	(0,0355;	0,0407)	0,0433	(0,0406;	0,0460)	-0,0351	-(0,0397;	- 0,0304)
1997	0,0122	(0,0097;	0,0148)	0,0270	(0,0245;	0,0295)	0,0342	(0,0316;	0,0367)	0,0399	(0,0373;	0,0425)	-0,0399	-(0,0446;	- 0,0351)
1998	0,0164	(0,0139;	0,0189)	0,0289	(0,0263;	0,0314)	0,0349	(0,0323;	0,0374)	0,0391	(0,0366;	0,0417)	-0,0367	-(0,0415;	- 0,0319)
1999	0,0184	(0,0159;	0,0209)	0,0301	(0,0275;	0,0326)	0,0348	(0,0322;	0,0373)	0,0388	(0,0362;	0,0414)	-0,0353	-(0,0402;	- 0,0304)
2000	0,0191	(0,0166;	0,0216)	0,0285	(0,0260;	0,0311)	0,0356	(0,0330;	0,0381)	0,0380	(0,0354;	0,0405)	-0,0367	-(0,0418;	- 0,0316)
2001	0,0169	(0,0144;	0,0193)	0,0281	(0,0256;	0,0305)	0,0342	(0,0317;	0,0367)	0,0366	(0,0341;	0,0391)	-0,0370	-(0,0421;	- 0,0319)
2002	0,0133	(0,0108;	0,0157)	0,0249	(0,0225;	0,0273)	0,0326	(0,0301;	0,0350)	0,0350	(0,0326;	0,0375)	-0,0304	-(0,0354;	- 0,0255)
2003	0,0140	(0,0117;	0,0164)	0,0277	(0,0254;	0,0300)	0,0339	(0,0316;	0,0362)	0,0384	(0,0361;	0,0408)	-0,0391	-(0,0446;	- 0,0336)
2004	0,0160	(0,0136;	0,0185)	0,0289	(0,0265;	0,0314)	0,0369	(0,0345;	0,0394)	0,0428	(0,0404;	0,0453)	-0,0239	-(0,0288;	- 0,0189)
2005	0,0204	(0,0180;	0,0229)	0,0330	(0,0306;	0,0355)	0,0409	(0,0384;	0,0433)	0,0459	(0,0434;	0,0484)	-0,0189	-(0,0239;	- 0,0139)
2006	0,0188	(0,0163;	0,0213)	0,0327	(0,0303;	0,0352)	0,0410	(0,0385;	0,0435)	0,0470	(0,0445;	0,0495)	-0,0148	-(0,0197;	- 0,0098)
2007	0,0190	(0,0166;	0,0215)	0,0321	(0,0296;	0,0346)	0,0414	(0,0389;	0,0439)	0,0462	(0,0437;	0,0487)	-0,0194	-(0,0245;	- 0,0143)
2008	0,0219	(0,0194;	0,0245)	0,0365	(0,0340;	0,0390)	0,0450	(0,0425;	0,0476)	0,0495	(0,0470;	0,0521)	-0,0185	-(0,0238;	- 0,0133)

Note: Results from regression of earnings quintile on yearly first birth probability, as visually displayed in figure 2A. All models include controls for educational attainment and enrolment, reception of unemployment benefits in the previous year, reception of health benefits in the previous year, and dummies for region of births.

Table A3: Results from hazard regressions of earnings quintile on yearly first birth probability.
Separate models by year, women. Results presented as average marginal effects

Period	Q2	95% C. I.		Q3	95% C. I.		Q4	95% C. I.		Q5	95% C. I.		Missing	95% C. I.	
1994	-0,0104	-(0,0148;	- 0,0061)	0,0007	-(0,0035;	0,0049)	0,0208	(0,0168;	0,0247)	0,0258	(0,0219;	0,0296)	-0,0447	-(0,0499;	- 0,0395)
1995	-0,0145	-(0,0188;	- 0,0103)	0,0000	-(0,0041;	0,0042)	0,0199	(0,0161;	0,0237)	0,0265	(0,0227;	0,0303)	-0,0452	-(0,0504;	- 0,0400)
1996	-0,0107	-(0,0149;	- 0,0064)	0,0043	(0,0002;	0,0084)	0,0244	(0,0205;	0,0282)	0,0280	(0,0242;	0,0318)	-0,0469	-(0,0523;	- 0,0416)
1997	-0,0103	-(0,0145;	- 0,0061)	0,0037	-(0,0003;	0,0078)	0,0232	(0,0194;	0,0269)	0,0282	(0,0245;	0,0320)	-0,0438	-(0,0491;	- 0,0385)
1998	-0,0128	-(0,0170;	- 0,0086)	0,0062	(0,0023;	0,0102)	0,0239	(0,0202;	0,0276)	0,0263	(0,0226;	0,0299)	-0,0399	-(0,0452;	- 0,0347)
1999	-0,0081	-(0,0123;	- 0,0038)	0,0126	(0,0087;	0,0166)	0,0309	(0,0272;	0,0347)	0,0313	(0,0276;	0,0350)	-0,0437	-(0,0491;	- 0,0382)
2000	-0,0054	-(0,0096;	- 0,0012)	0,0139	(0,0099;	0,0178)	0,0311	(0,0274;	0,0348)	0,0318	(0,0281;	0,0355)	-0,0295	-(0,0349;	- 0,0241)
2001	-0,0031	-(0,0072;	0,0010)	0,0156	(0,0117;	0,0195)	0,0333	(0,0296;	0,0369)	0,0329	(0,0292;	0,0365)	-0,0240	-(0,0293;	- 0,0187)
2002	-0,0011	-(0,0051;	0,0029)	0,0188	(0,0150;	0,0225)	0,0364	(0,0328;	0,0400)	0,0382	(0,0346;	0,0417)	-0,0207	-(0,0259;	- 0,0154)
2003	-0,0075	-(0,0114;	- 0,0036)	0,0107	(0,0071;	0,0142)	0,0306	(0,0274;	0,0339)	0,0355	(0,0323;	0,0387)	-0,0291	-(0,0345;	- 0,0238)
2004	0,0036	-(0,0004;	0,0075)	0,0179	(0,0141;	0,0217)	0,0408	(0,0373;	0,0444)	0,0475	(0,0440;	0,0511)	-0,0113	-(0,0166;	- 0,0061)
2005	-0,0011	-(0,0050;	0,0027)	0,0185	(0,0148;	0,0222)	0,0374	(0,0339;	0,0409)	0,0449	(0,0415;	0,0484)	-0,0070	-(0,0121;	- 0,0019)
2006	0,0026	-(0,0014;	0,0065)	0,0236	(0,0198;	0,0273)	0,0432	(0,0396;	0,0468)	0,0503	(0,0467;	0,0539)	-0,0001	-(0,0054;	0,0052)
2007	0,0094	(0,0055;	0,0134)	0,0305	(0,0268;	0,0343)	0,0447	(0,0411;	0,0483)	0,0509	(0,0473;	0,0545)	-0,0019	-(0,0073;	0,0035)
2008	0,0156	(0,0114;	0,0197)	0,0412	(0,0373;	0,0451)	0,0586	(0,0549;	0,0624)	0,0659	(0,0622;	0,0697)	0,0051	-(0,0005;	0,0108)

Note: Results from regression of earnings quintile on yearly first birth probability, as visually displayed in figure 2B. All models include controls for educational attainment and enrolment, reception of unemployment benefits in the previous year, reception of health benefits in the previous year, and dummies for region of births

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