

# The effect of previous induced abortions on the transition from no children to the first child among Danish women in the 1980s and 1990s

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Since 1973 all Danish women above the age of 18 have the right to terminate a pregnancy on demand at a public hospital with no private cost. The procedure has to take place before the end of the 12<sup>th</sup> week of the pregnancy. Induced abortion after the 12<sup>th</sup> week requires special permission from the county council. The focus of this paper is to study on a national basis how the event of an induced abortion (henceforth just termed ‘abortion’) modifies the transition to first birth for Danish women aged 20-39 years in the period 1981-2001, taking into account also educational status, marital status, and urbanization.

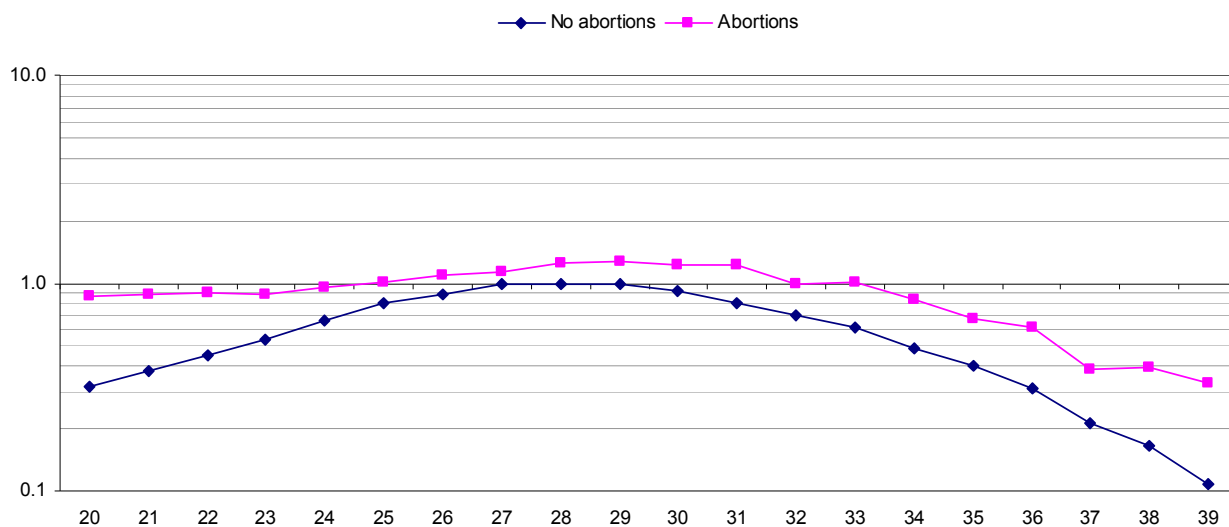
The data are obtained by linking several national public registers in Denmark using the unique personal identification number.

We believe that these results are rather unique, because availability of national registers of abortions with the possibility of individual linkage to other registers is very limited world-wide. In this context even quite preliminary descriptive structures should attract interest. We do attempt to discuss our results, but general references are few.

We focus on *immediate effects* of covariates by studying probabilities of first births in each calendar year, given covariates at the beginning of that year, and *longer term effects* by deriving *first birth curves*, showing the cumulative probability, given the age and other covariates at the time of the first abortion, that the first birth will happen over the subsequent years. These are compared to *control first birth curves* which show these probabilities, given no abortion happened. For the immediate effects we also provide multivariate logistic regression analyses to capture joint effects of several covariates.

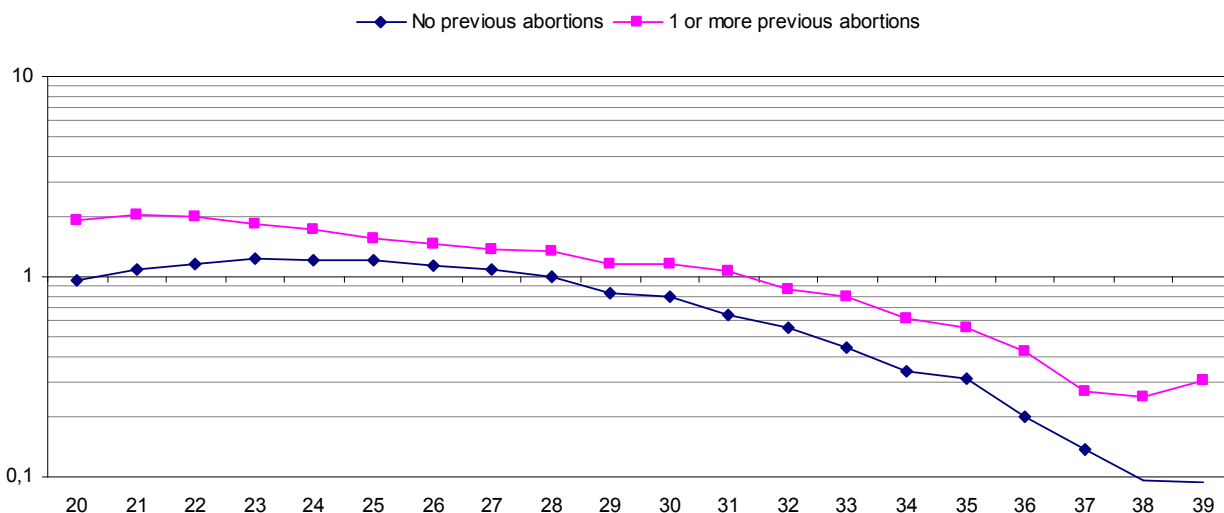
Below we exemplify the results that we can obtain.

We first mention some examples of effects of covariates at the beginning of the year of study. Having had an abortion increases the probability of subsequently having a child, as seen in Fig. 1, showing the log odds ratio using women aged 28 with no abortions as baseline. In this figure the effect is differential over age classes, with a much higher effect at young and old ages than around age 28.



**Figure 1: OR values plotted in a logarithmic scale for the interaction between women's abortion parity and age**

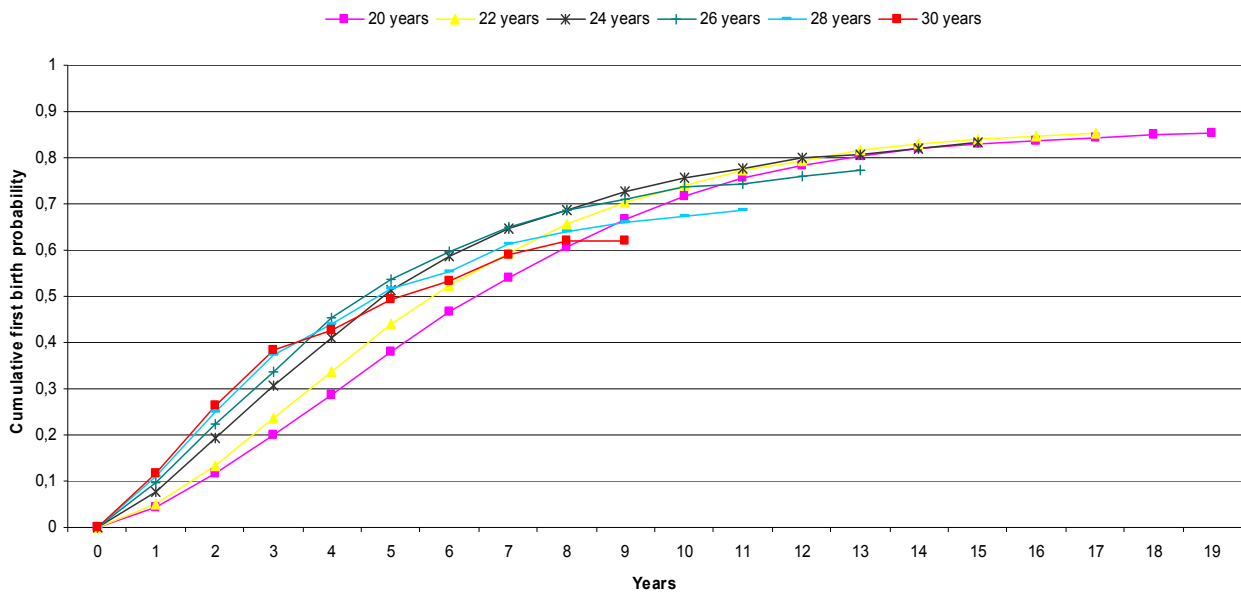
Interestingly, this interaction between abortion parity and age disappears when we also allow for current educational level, cf. Fig. 2.



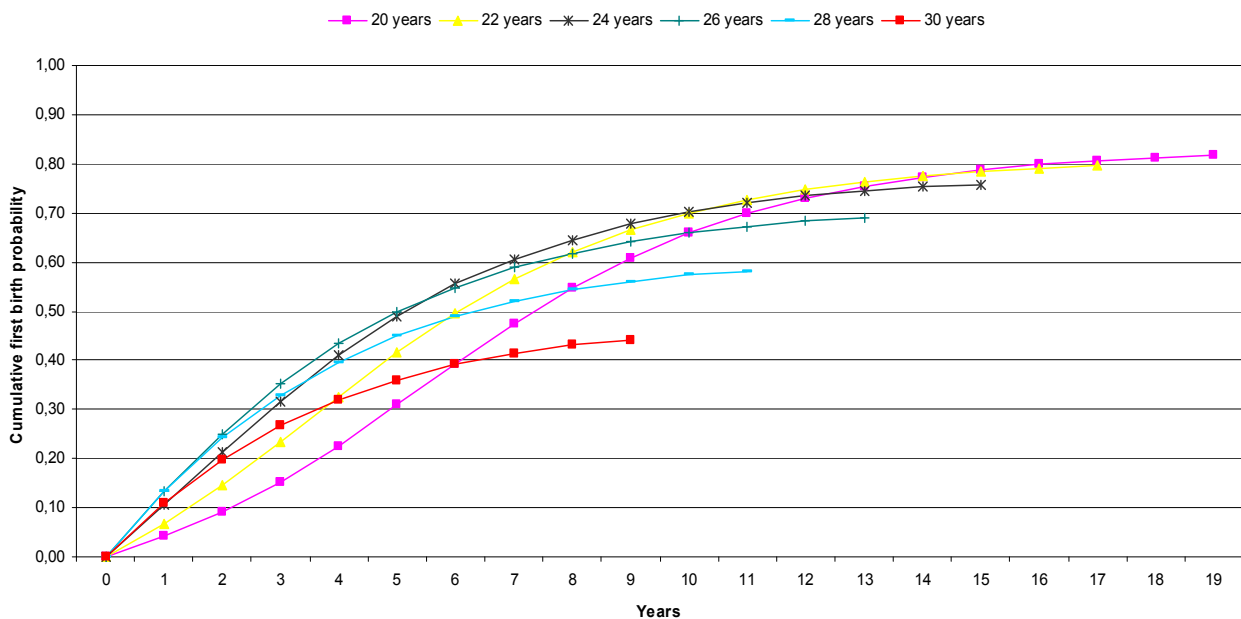
**Figure 2: OR values plotted in a logarithmic scale for the interaction between women's abortion parity and age when included in a model also containing an interaction between the women's educational level and age.**

Taking also marital status into account, there seems to be a clear interaction in the sense that previous abortions do not influence the first child fertility for married women, very little so for cohabiting women, but to a large extent for currently single women.

For examples of the longer term effects of covariates as measured at the time of abortion see Fig. 3a and 3b.



**Figure 3a: Cumulated age-at-abortion-specific first birth probability for women with a *first* abortion, selected ages.**



**Figure 3b: Cumulated age-at-abortion-specific first birth probability for women with *no* abortions, selected ages.**

Overall, an abortion increases the cumulative probability of having a child over the subsequent 10 years, after which the effect fades out, though there is never a *lower* cumulative probability of first birth for those with abortion than for those without. The effect of marital status at time of abortion is similar to the above mentioned effect of current marital status: for currently single women at time of abortion the cumulative probability of having a first birth is much higher than for those who have not had an abortion; for married women there is no effect of an abortion on the subsequent cumulative probability of having a first birth, while the situation for cohabiting women at time of abortion is in between (not shown here).