The Multifaceted Impact of Education on Entry into Motherhood

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Abstract. This article studies the composite effect of education on young women’s entry into motherhood, using longitudinal data from Norway from 1971 to 2001. In line with previous research, we find that school enrolment delays motherhood, but having finished education there is a catching-up effect, as women who have completed at higher levels have their first child sooner than women who have completed at lower levels. Contrasting behaviour between women within various fields of education further indicate a career-adjustment effect related to differences in opportunity costs and/or preference heterogeneity. Finally, increasing educational differences in the timing of motherhood among younger cohorts suggest that long parental leaves and generous family benefits may fit better with a career track in some jobs than others.

Key words: fertility, first-birth, education, multivariate hazard model


Résumé. Cet article étudie l’effet composite de l’instruction sur l’entrée en maternité des jeunes femmes, en s’appuyant sur des données longitudinales norvégienes couvrant la période 1971–2001. Dans la ligne de précédentes recherches, nous trouvons que la poursuite des études retarder la maternité. En revanche, dès l’arrêt des études, il y a un effet de rattrapage et les femmes qui ont atteint des niveaux d’instruction plus élevés ont leur premier enfant plus tôt que celles qui ont fini leurs études à des niveaux plus bas. Selon les filières suivies, les femmes n’ont pas les mêmes comportements, révélant un effet d’ajustement de la carrière dépendant des coûts et/ou de préférences hétérogènes. Enfin, pour les plus jeunes générations, l’accroissement des différences dans le calendrier des naissances selon le niveau d’instruction tend à prouver que les congés parentaux et des prestations familiales conséquentes conviennent davantage à certains cursus de carrière professionnelle qu’à d’autres.

Mots clés: fécondité, première naissance, instruction, modèle de risque multivarié
1. Introduction

During the last decades Norway and other western countries have witnessed a pronounced trend in the postponement of entry into motherhood. The mean age at first birth among women in Norway was 27.9 years in 2003, which is 2.7 years higher than it was 15 years ago (Statistics Norway, 2004a). At the same time there has been a rapid educational expansion, during which the proportion of Norwegian women with a university degree has about doubled, from 11.4% in 1988 to 22.1% in 2002 (Statistics Norway, 2004b). The connection between education and timing of first birth has been widely analysed, and it is a well known descriptive finding that women with higher education are older at first birth than those with lower education (see e.g. United Nations 1996–2001, Table 17). When analysed in an event-history framework, however, there is less consistent evidence on the postponing effect of higher education on the entry into motherhood.

In much previous research, information on education has only been available at the time of interview or data extraction, which may be from a life stage far beyond the age period preceding first birth when fertility plans are presumably made. Used in this way, education may at best be regarded as a proxy for educational goals and strategies that are formed earlier in life, and as such assumed to be exogenous to the fertility process. At worst, the results may be biased, as has recently been demonstrated by Kravdal (2004) for Norway. This is because the causality is also likely to run the other way, i.e. fertility may have affected the educational level obtained later in life.

In event-history models where education is as a fixed covariate measured at some point after childbirth, the results corroborate the findings of descriptive statistics: women with higher education postpone motherhood longer than women with lower education. When longitudinal information on education is available and education is treated as a time-varying variable, however, the results are less uniform. This is because education as a time-varying covariate is very highly correlated with age and other life events closely linked with age (see e.g. Liefbroer and Corijn, 1999; Santow and Bracher, 2001). The results are thus quite sensitive to the specification of the model. When school enrolment is controlled for in such models, the effect of educational level is sometimes even estimated to be positive (Blossfeld and Huinink, 1991; Kreyenfeld, 2000; Hank, 2002). Educational activity, on the other hand, is consistently found to postpone motherhood (e.g. Hoem, 1986; Blossfeld and Huinink, 1991; Kravdal, 1994; Blossfeld, 1995; Liefbroer and Corijn, 1999; Hoem, 2000; Andersson, 2000; Hank, 2002).

In addition to educational level and educational activity, some studies have also shown that the field of education is important for women's fertility behaviour (Hoem, 1994; Kalmijn, 1996; Lappegård, 2002). In this study we take all three aspects of education into account when analysing entry into