Extended Abstract

Women's Work and Timing of Second Birth in The Philippines

This thesis examines how women's work in the period after first birth affects the timing of their next birth using work history and birth history data from the 1993 Phillipine Demographic and Health Survey. It thereby overcomes some of the kinds of data and methodological problems that commonly contribute to doubt regarding whether work has a causal effect on fertility outcomes. The Philippines during that period was a nation with a total fertility rate of 4.1 (Westley 1996), the highest in Southeast Asia, low rates of modern sector employment for women, and low modern contraception use. Therefore, the relationship between work and birth spacing in these data can be expected to provide us some insight regarding the role compatibility of work and childbearing in such a setting.

Hypotheses

I expect that work affects the timing of the second birth: More specifically, (1) Work during birth interval, irrespective of types or location of employment, will result in longer intervals. (2) The negative effect of work on fertility is stronger for those doing paid work, which is more likely to be in modern sectors. Women in modern sectors of work face greater challenge combining mother and employer roles, have little control over the scheduling and pace of their work, and therefore may be most actively seeking contraceptive use and have longer birth intervals. (3) Most working women take effective fertilely control through contraception and breastfeeding, but for those who fail to do so, the negative relationship between work and child spacing may be less salient.

Results

Figure 1 shows the result from survival function analysis of the probability of giving second birth by work status during birth interval. Based on whether the woman did each type of work for more than 50% of the interval. By the close of the observation period of 64 months, the overall sample has a failure rate of .84. Those who never worked during the birth interval had a higher failure rate (.90) than those who ever

worked, including working part of interval and most of the interval. This indicates that working women may have taken deliberate control over birth spacing, and they are less likely to have a baby in the first five postpartum years.

When comparing failure rates by intensity of work, type of work, and location of work, however, the results are somewhat unexpected. Those who worked most of the interval have a higher failure rate than those who worked some during the interval, but less than half (.76 vs. .59). Other contrasts are illustrated by the difference in failure rates among doing paid work (.81) and doing unpaid work (.70) and self-employed (.71), and among those working away from home (.79) and those working at home (.67).

Figures 2-4 demonstrate the survival distribution functions at all stages. Figure 2 shows that those working part of the interval have the highest survival rate at all stages of postpartum, those who never worked in the interval have lowest survival rate at all stages of postpartum, while those who worked most of the interval falls in between. An interesting pattern occurs when comparing doing paid work, doing unpaid work and self-employment for most of the interval (Figure 3). At the beginning of second stage (16 month postpartum), those who did paid work most of the interval have the lowest survival rate, even as low as those who never worked. Those who did unpaid work have the highest survival rate while those self-employed fall in between. This suggests that for the first 16 months postpartum, those in paid employment are as likely to have a second birth as those who did not work, and those who did unpaid work are least likely to have a baby. The survival rates of the latter two groups declines in later stages, but those who did paid work remain the lowest survival rate during 56 to 64 months postpartum. Similar pattern results when comparing working away from home and working at home (Figure 4). Such results indicate that among working women, those who did paid work and who worked away from home are more likely to give a second birth within five postpartum years.

Table 4 displays multivariate results from five models with work modeled as a time-varying covariate. The overall pattern in the models confirms a consistent negative effect of work in the risk of second birth. So hypotheses1 is supported. Work of all types during birth interval is associated with .75 hazard ratio of giving second birth (Model 1), Therefore, working women are less likely to have a second child within five years.

However, doing paid work is associated with a higher hazard ratio than that of unpaid work and self-employed (Model 2). Such a higher hazard ratio associated with doing paid work is explained in Models 4 when the interaction terms are added: Those did paid work in the first eight months postpartum are nearly twice more likely to give a second birth than those who worked for pay only in later durations of the interval. In contrast, with the interaction term controlled, the hazard ratio for doing paid work is as low as .69, indicating the significant non-proportional effects of paid work based on the time it happens. So hypothesis 2, that the negative effect on fertility is stronger for those in paid work is not supported. Doing paid work reduces the probability of birth only when it happens after eight months postpartum.

The effect of unpaid work, while largest in its magnitude (Model 2), remains significant in the interaction term in Model 4. This demonstrates a strong negative effect of women's unpaid work on the risk of birth in early postpartum period. Doing unpaid work in the first eight months postpartum is associated with only 13% risk of a second birth. At later durations however unpaid work does not have any significant effect.

The hazard ratio for working away from home and working at home most of the interval are similar (Model 3), both at around .75, though the latter is only significant at .05 level due to small sample size. The fact that the hazard ratios of birth for these two categories fall in between that of doing paid work and unpaid work indicates variation within the two broader categories. Those who work away from home and at home include both those doing paid work and unpaid work, though there is a large significant correlation between working for pay and working away from home ($r = .79$).

When breastfeeding and modern contraceptive use are incorporated into the analysis (Model 5), the effect of unpaid work and self-employment are no longer significant, but the negative effect of paid work after eight months postpartum remains highly significant. The strong effect of doing paid work on the delaying of second birth persists. This suggests either measurement error or that the effect of paid work is through intermediate variables other than breastfeeding and contraception.

The effects of the interaction terms are no longer significant after such intermediate variables are taken into account. This suggests the effect of breastfeeding in mediating the effect of work on fertility: in early postpartum months, women's unpaid

work does not interfere with breastfeeding and it reduces the risk of birth, while paid employment severely affects breastfeeding and thus ends up in higher risk of birth. Hypotheses 3 is therefore confirmed. The ability to obtain effective fertility varies among working women, and for those who failed to do so, work has a less salient and even negative effect on birth intervals.

Discussion and Conclusions

The findings provide strong evidence that work in general is associated with lower risk of second birth. The use of monthly record of work in the birth interval mineralized the reverse causation bias, suggesting that work is likely to affect fertility to a greater extent than fertility affects work. Contrary to the belief that only modern sector of work is related to fertility control, the results demonstrate that even work at home, self-employment, and unpaid work causes longer birth intervals, indicating the existence of role incompatibility.

However, the non-proportional effect of doing paid work suggests that the impact of improved labor force prospects will not be felt equally by all women in the Philippines. The incompatibility of productive and reproductive roles does not automatically imply fertility decline in response to intensified female employment. Those who do not shift work roles and have a closely spaced second birth, may end up with higher fertility over their whole reproductive life.