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The Labour Supply of Native and Immigrant Mothers in Norway

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Abstract

This paper investigates the determinants of the labour supply of first-time mothers in Norway. By considering three groups of women—native Norwegian women, women who migrated from OECD countries and Asian-African women—we study the variation in their labour supply. Given that the women were working before childbirth, we do not find significant differences in the labour supply of the three groups of women. Our results illustrate that after the birth of a child, university education increases the probability of career continuity for natives, as well as for the two groups of immigrants, although women who remain attached to the labour market earn a lower income after childbirth. However, the negative effect of childbirth on earned income for career-oriented women has no association with the level of their education. Our results indicate a negative change in earned income for lower- as well as higher-educated native and immigrant women given that they stay in the labour market after childbirth.

We also study the probability of entering the labour force after childbirth for women who were not working before childbirth. Here we find that immigrant women from Asia and Africa behave differently compared with natives and OECD immigrants. Our results illustrate that higher-educated native as well as immigrant mothers from OECD countries tend to enter the labour market within two years after childbirth even though they were previously not working. On the other hand, in labour market entry for Asian-African immigrants, it is the husbands' income that plays a significant role and has a negative effect on their labour supply.

Key Words: Childbirth, female labour supply, immigrant and native women.

1. Introduction

The growth in female labour force participation in industrialized countries during recent years has given rise to a large body of research on women's return to work after childbirth (see for instance, Even 1987; Shapiro and Mott 1994; Joesch 1994; Gustafsson et al. 1996; Rønsen and Sundström 1996; Lundberg and Rose 2000; Gustafsson et al. 2002; Kenjoh 2005). However, most of these studies are based on data comprising only native women, whereas a considerable part of the female labour force in developed countries is comprised of immigrant women.

Only a few studies have investigated the effects of children on the labour supply behaviour of immigrant women. Duleep and Sanders (1993) demonstrate that the presence of adult relatives in the household increases the labour supply of immigrant women with young children in the United States. Korneman and Neumark (1992) find smaller wage penalties for black women with children compared with white American women. Waldfogel (1997) also reports a smaller "family gap" for African-American women.[1] Duleep and Sanders (1994) find large differences in the apparent effects of children on the labour force participation of married women among American-born white females and three ethnically distinct groups of immigrants. However, when they account for the labour supply in the previous year, differences in the current employment rates narrow dramatically, and similar child-status–work relations emerge. Using data from West Germany, Gustafsson et al. (1996) find that immigrant and native women's own human capital determines whether they are in the labour market three months before and 24 months after childbirth. However, when analysing the rate of entering the labour market after childbirth, educational level is most important for natives, whereas years of employment experience is most important for immigrants.

[1] "Family gap" means that mothers earn lower wages compared with women without children.

The aim of this paper is to compare the labour supply of first-time native and immigrant mothers in Norway. Knowledge about the labour supply of Norwegian immigrant women is interesting, as the female labour force participation rate in Norway is as high as in other developed countries (see Table A in the Appendix), and the percentage of the labour force that is foreign born is growing rapidly. At the beginning of 1990, immigrants comprised 4 per cent of the total population, but this increased to 8.3 per cent in 2006 (Statistics Norway 2006). There have also been dramatic changes in the country-of-origin composition of Norwegian immigrants.

In this paper, we focus on first-generation immigrant women from Asia, Africa and OECD countries. Given the labour supply of women before childbirth, we study the determinants of unbroken labour market careers two years after childbirth, and we also investigate the determinants of entry into the labour force after childbirth. We identify similarities and differences in the labour supply behaviour of native- and foreign-born women and among foreign-born women from different countries, as this is important for predicting the female labour force in Norway.

Comparing the labour supply behaviour of native and first-generation immigrant women, especially from Asia and Africa, is important for several reasons. Almost 75 per cent of immigrants in Norway come from developing countries, the majority from Asia and Africa. Although the female labour force participation in Norway is 76 per cent, the labour force participation rate of immigrant women from Asia and Africa is less than 40 per cent (Statistics Norway 2006). There is a traditional division of labour between husbands and wives in Asian and African countries. Labour supply decisions of immigrant women from these countries may be influenced by the potential "double-negative effect" on their earnings, resulting from the combined adverse affects of gender and birthplace. We believe that our study will promote a better understanding of the economic assimilation of immigrant families.

The rest of the paper is organized as follows. Section 2 reports the source of our data and explains our sample. Section 3 specifies the econometric models that we used to evaluate the female labour supply after childbirth. Descriptive statistics are reported in section 4. Section 5 discusses our results, and Section 6 concludes.

2. Data and Sample

Our data are extracted from the FD-Trygd database, which contains information about the total Norwegian population aged 16–67. The data include information from several public registers, merged by Statistics Norway. The database is organized in an event-oriented fashion; i.e., records are added when an individual's status in a register changes. It provides the per annum income and qualifications of each person and provides relatively detailed background information for each individual, including income, age and education of the spouse. FD-Trygd currently covers the period from 1992 to 2002.

Our sample comprises all native and immigrant married and cohabitating women from Asia and Africa who were between the ages of 15 and 40 in 1991 and who gave birth to their first child in the year 1994 or 1995 or 1996.[2] The family status of all cohabitating women is not registered correctly in the data. Many cohabitating women are registered as singles. Our sample includes only those women who are registered as cohabitants.[3]

To define our dependent variable (market work), we used information from income files. All women who earn an income less than the *basic income* (NOK 37,300)[4] are considered as inactive in the labour market. Income files for all the years of observation are deflated using the year 1993 as the reference year.

[2] We do not study women who gave birth to their first child in 1997 or after, as they were entitled to receive cash benefits that give mothers an incentive to decrease their labour force participation during the first three years after childbirth (See Naz 2004).
[3] We do not differentiate between cohabitants and married men in the paper. All men are called husbands.
[4] Each year, the Norwegian Insurance Board determines the income level that is used as the basis for social insurance, pensions and other public transfers. Currently the *basic income* is NOK 62,892. In this paper, we deflate incomes by using 1993 as the reference year. The *basic income* was NOK 37,300 in 1993.

To run regressions on mothers' labour supply after the birth of a child, we used dummies of women's education and marital status, and husbands' education and income as explanatory variables. For immigrant women, we also used an additional variable indicating years since migration. We used women's age, a dummy indicating whether a woman gave birth to another child within two years after the first birth, a dummy indicating whether the child was born during the second half of the year, a dummy indicating whether a woman completed education after childbirth, and dummies for years as control variables. To evaluate mothers' labour supply two years after childbirth, we measured the explanatory and control variables two years before childbirth. However, the dummy for marriage indicates marital status at the time of childbirth.

Given that women remain attached to the labour market after childbirth, we estimate the change in their earned income. We believe that a negative (positive) change in earned income after the childbirth indicates a decrease (increase) in the working hours of women. We focus only on those career-oriented women who do not undertake education after childbirth, as education itself may have a negative association with women's working hours. We call these women the *treatment group*. To study the change in earned income of women, we add a comparison group of women. The *comparison group* comprises all married and cohabitating women who remained childless during the entire observation period. In the FD-Trygd data, almost 40 per cent of childless women were aged over 35 years, whereas in the treatment group, only 2.5 per cent women were aged over 35 years. In addition, 13 per cent of women were aged under 21 years in the comparison group, and this ratio was only 3 per cent in the treatment group. Hence we drop the observations if women were aged over 35 years or under 21 years in the treatment group as well as in the comparison group. The number of observations and mean values of income and education of these groups are given in the appendix.

3. Empirical Specification

The standard model of female labour force participation suggests that a woman chooses to work in the labour market when her reservation wage is lower than the market wage. The reservation wage depends on factors such as tastes for the use of non-market time (cultural beliefs, social norms), households' non-labour income, husbands' education and income, and the cost of child care. The market wage depends on factors that determine the woman's expected salary in the labour market, such as her education and working experience, and labour market policies.

Our sample comprises women aged between 15 and 40 who did not have a child but gave birth to their first child during the observation period. We are interested in the readjustment of the female labour supply immediately after childbirth. In Norway, a woman can take paid maternity leave for up to one year. The leave is conditional on the female labour supply before birth. Many women have an incentive to work after pregnancy or when they plan to have a child even though they are not career oriented. Therefore, instead of one year, we estimate the probability of being in the labour force two years after childbirth as conditional on female labour force participation two years before childbirth. Our dependent variable *y* at time *t* can be specified as a conditional probability in the form:

$$P_{11}^{i}(t) = \Pr\left[y_t^i = 1 \middle| y_{t-1}^i = 1\right],$$

$$P_{01}^{i}(t) = \Pr\left[y_t^i = 1 \middle| y_{t-1}^i = 0\right],$$

where *t–1* is the time period before the birth, and *t* is the time period after the birth. Our dependent variable *y* is dichotomous. It can take values of zero (no work) and one (work). To estimate the probability of the female labour supply at time *t*, we run logit regressions. The probability of employment is given by:

$$\Pr(y_t^i = 1 \left| X_{t-1}^i \right.) = \frac{1}{1 + \exp^{-X_{t-1}^i \beta}}, \quad (1)$$

where *X* is the vector of the explanatory variable.

Interpreting logit coefficients is not simple. To facilitate interpretation, we report the marginal effects.

In addition to logit regressions, we evaluate the effect of childbirth on career-oriented women (the women who were attached to the labour market before and after childbirth). Estimating the effect of childbirth on mothers' income is problematic because the difference in women's income before and after the childbirth gives us biased results, as income can be influenced by various factors. If we could observe mothers' income after childbirth had they not given birth, there would be no evaluation problem. In the economic literature, a wide range of estimators are suggested to address this kind of evaluation problem (see for instance, Heckman and Robb 1985; Moffitt 1991). Here we use the *difference in difference* estimator. We consider career-oriented women who gave birth to their first child in the year 1994 or 1995 or 1996 as a treatment group, and career-oriented women who remained childless during the entire observation period as a comparison group. Let *Y* be the outcome variable; i.e., the earned income of women. Our *difference in difference* estimator is defined as follows:

$$\hat{\alpha} = \mathrm{E}(\mathrm{Y}_{\mathrm{it}(1)} - \mathrm{Y}_{\mathrm{it}-1(0)}) \left| \mathrm{d} = 1) \right.) - \mathrm{E}(\mathrm{Y}_{\mathrm{it}(0)} - \mathrm{Y}_{\mathrm{it}-1(0)} \left| \mathrm{d} = 0) \right.), \quad (2)$$

where $\mathrm{d} = 1$ indicates the state of childbirth and $\mathrm{d} = 0$ the state of no birth. $\mathrm{E}(\mathrm{Y}_{\mathrm{it}(1)} - \mathrm{Y}_{\mathrm{it}-1(0)}) \left| \mathrm{d} = 1) \right.)$ is the mean change in *Y* for the *treatment group*, and $\mathrm{E}(\mathrm{Y}_{\mathrm{it}(0)} - \mathrm{Y}_{\mathrm{it}-1(0)} \left| \mathrm{d} = 0) \right.)$ is the change in *Y* for the *comparison group*.

The identifying assumption is that the change in the earned income of women would remain the same if the *treatment group* did not give birth to a child, that is:

$$E(Y_{it(0)} - Y_{it-1(0)}) \big| d = 1)) = E(Y_{it(0)} - Y_{it-1(0)} \big| d = 0)) . \quad (3)$$

To calculate α, we run regressions on the following equation:

$$Y = \beta_0 + \beta_1 d_1 + \beta_2 d_2 + \beta_3 d_1 d_2 + \mu , \quad (4)$$

where $d_1 = 1$ if in the *treatment group*, $d_1 = 0$ if in the *comparison group*, $d_2 = 1$ if the time period is after the childbirth, and $d_2 = 0$ if the time period is before the childbirth.

By substituting (4) into (2) we obtain:

$$\hat{\alpha} = (\beta_0 + \beta_1 + \beta_2 + \beta_3 - \beta_0 - \beta_1) - (\beta_0 + \beta_2 - \beta_0) = \beta_3 . \quad (5)$$

To estimate the effect of childbirth on the earned income of women in association with the educational level of women, we run regressions on the following equation:

$$Y = \beta_0 + \beta_1 d_1 + \beta_2 d_2 + \beta_3 d_1 d_2 + \gamma_0 x + \gamma_1 d_1 x + \gamma_2 d_2 x + \gamma_3 d_1 d_2 x + v , \quad (6)$$

where $x = 1$ if higher educated, $x = 0$ if lower educated, and the estimator of the effect of the childbirth for the higher-educated women is equal to $\beta_3 + \gamma_3$.

To estimate the earned income and the determinants of the labour supply of women, we ran separate as well as combined regressions (by interacting the variables) for natives, OECD and Asian-African immigrants. However, the results of only the separate regressions are reported and interpreted. The purpose of the combined regressions was to compare the immigrants and natives directly, but we did not receive statistically significant differences. Possibly we obtained statistically insignificant results because of the large difference in the number of observations for natives and immigrants.

4. Descriptive Statistics

Income, *Education and Participation Ratio*

Individuals' working hours and wages determine their income in the labour market. The aggregate income statistics in Norway indicate that the average income of immigrants from Asia and Africa is lower than that of natives as well as that of immigrants from OECD countries (Statistics Norway 2006). We see in Table 1 that the average income of women who migrated from Asia and Africa is much lower than the average income of natives and immigrants from OECD countries. However, in contrast to the aggregate statistics, the average income of husbands is almost the same for the three groups of women in our sample. Nevertheless, we conjecture that the disparity in aggregate statistics and in our data is caused by the fact that our sample contains only a special group; i.e., first-time fathers.

The mean value of the age at birth is almost the same for all the groups of women. However, at the time of childbirth, a higher number of Asian-African women were married compared with natives and OECD immigrants. Among native and OECD women, 56 per cent and 66 per cent were married at the time of childbirth respectively, whereas this ratio is 90 per cent for Asian-African women. We believe that this difference is largely because of different social values. Among Asian-African women, it is uncommon and socially unacceptable to have the first child out of wedlock.[5]

(Table 1 about here)

Table 2 illustrates the number of years of education of women. More than 15 years of schooling is defined as higher (university) education. We see that the ratio of Asian-African women with university-level education is much lower than that of the natives and OECD immigrants. Table 2 also indicates a higher percentage of women with university education

[5] In our sample, most of the unmarried Asian-African women (cohabitants) come from Africa and South-East Asia, and very few have Muslim backgrounds.

who are active in the labour market and earn a higher income compared with women with a lower education. This is applicable for all three groups of women. However, Asian-African women are less active in the labour market compared with natives and OECD immigrants. The income gap between Asian-African immigrants and natives as well as OECD immigrants persists also for women with higher education.

(Table 2 about here)

Table 3 indicates the labour force participation of women before and after childbirth. The table indicates that among Asian-African immigrant women, only 316 (49.5 per cent) have a continuous career, whereas among natives, 18,739 (78.4 per cent) and among OECD immigrants 914 (73.9 per cent) women have a career. Table 3 also shows the exit and entry rate of women from the labour market. We see that the exit rate from the labour market after childbirth for natives is 9.7 per cent, and for OECD and Asian-African immigrants it is 11.3 per cent and 14.2 per cent respectively. The percentage of women who remain in the labour market after childbirth is 90.3 per cent for native born, 88.7 per cent for OECD immigrants and 85.8 per cent for Asian-African immigrants. These ratios are quite high compared with other Western countries (see Gustafsson et al. 1996). For women who were not working before childbirth, the entry rate after childbirth is 55.1 per cent for natives, and for OECD and Asian-African immigrants the entry rates are 48.5 per cent and 47.8 per cent respectively.

(Table 3 about here)

Table 3 indicates that the labour supply of Asian-African immigrant women is much lower compared with natives and OECD immigrants. However, this difference narrows dramatically when we control for the labour supply of women before childbirth.

5. Results

Determinants of Labour Supply

Married women's work behaviour is the product of a complex mix of factors including cultural beliefs, social norms, husbands' education and income, public childcare facilities, taxation and the social security system. One of the objectives of this paper is to investigate the determinants of labour supply after childbirth for native Norwegians and two distinct groups of immigrant women. We ran logit regressions on the female labour supply given that the women were working before childbirth. The results are shown in Table 4. First we ran regressions without controlling for variables related with the husband. We see that higher-educated native as well as immigrant women have a higher probability of continuous participation in the labour market compared with lower-educated women. For native women, having a university education increases the probability of career continuity by seven per cent relative to women with less than university education. Among OECD and Asian-African immigrant women, the career continuity increases by six per cent and five per cent respectively relative to lower schooling if they attended university.

Husbands' income and education may play an important role in determining women's labour supply, but we find that these variables do not affect the labour supply of native as well as immigrant women after childbirth. Nevertheless, controlling for husbands' variables attenuates the effect of women's own education.

Economic studies of immigrants' labour market adjustment suggest that immigrants have lower earnings than natives immediately after migration (see Borjas 1985; Lalonde and Topel 1992; Baker and Benjamin 1994). However, the studies that focus on association between years of residence and labour market adjustments of immigrant women give contrasting results. Beach and Worswick (1993) find that in Canada, the differential between immigrant and native women's earnings does not depend on the immigrants' years of residence. Long

(1980) finds that immigrant women with few years of residence in the United States work more hours and have higher earnings than both natives and immigrant women with more years of residence. Descriptive statistics in Norway show that immigrant women's residence time is positively associated with their labour force participation (Statistics Norway 2006). For immigrant women in our sample, we ran regressions to see whether the years since migration in Norway affects their labour supply after childbirth. We find that years of residence do not at all affect the labour force participation of OECD immigrants. However, for immigrant women from Asia and Africa, one year of residence in Norway increases the probability of career continuity after childbirth, but the coefficient is almost negligible.

(Table 4 about here)

For women who were not in the labour force before childbirth, we study the probability of entering the labour market two years after the birth. The results are shown in Table 5. We see that native and OECD married women have a lower tendency of entering the labour market after the birth of a child compared with cohabitants. This result suggests that married couples specialize more in household production compared with cohabitants.

Table 5 illustrates that for native as well as OECD immigrant women, education is the most important determinant of entering the labour market after first childbirth. Attending university increases native women's labour market entry by 31 percentage points and OECD immigrant women's entry by 22 percentage points compared with women who did not attend university.

On the other hand, Asian-African women's education is not statistically significant. Multiple factors may lead to weak association between women's education and the probability of entering the labour force. One may conjecture that Asian-African immigrant women's education is less relevant to the Norwegian labour market and therefore it is difficult even for higher-educated immigrant women to enter the labour force after childbirth. It is also

quite possible that employers are sceptical and avoid employing non-Western immigrants. Differences between Western and Asian-African women in preferences towards work can be another important factor. Our results on husbands' income support the idea that households with Asian-African and OECD immigrant wives may have opposite perspectives about the division of labour in the household. Husbands' income has a negative effect on wives' entry into the labour market if they come from Asia or Africa, whereas the effect of husbands' income is positive for OECD immigrant women. The positive effect of husbands' income on OECD women's labour force participation reflects a modest positive matching in which people with similar market (non-market) preferences follow the ideology of equal role sharing, whereas the negative effect of husband's income on Asian-African immigrants' labour supply indicates that they follow the breadwinner's ideology. However, prevalence of specialization in household work can also be the result of economic factors such as lower wages or lower return on education in the labour market.

(Table 5 about here)

Effect of Childbirth on Labour Market Income

Even though the labour force participation of women is relatively high in Norway compared with other developed countries, many women choose to work only part time. For instance, the proportion of working women who chose to work part time was 46 per cent in 1994. Neither our data nor our logit regression results report whether women with a continuing career decrease their working hours after childbirth. We use the *difference in difference* estimator to derive an idea about women's time spent in the labour market. Our treatment group comprises women who gave birth to their first child in 1994 or 1995 or 1996 and who participated in the labour market both before and after the birth. The comparison group contains women who were childless during the observation period. All the women were aged between 21 and 35.

The results of the *difference in difference* regressions are indicated in Table 6. We find that native as well as immigrant women decrease their labour force participation after childbirth leading to a decrease in their earned income. The decrease in earned income is 22 per cent for natives, 21 per cent for OECD immigrants and 26 per cent for Asian-African immigrants. Nevertheless, we do not see any effect on husbands' income for any group of women.

(Table 6 about here)

Human capital analysis assumes that schooling raises earnings and productivity in the market sector, which establishes a positive association between women's education and their labour force participation. By running logit regressions, we found that higher-educated women have a higher probability of staying in the labour market after childbirth. We used the *difference in difference* estimator to investigate whether the impact of childbirth on women's working hours differs with respect to their education level. The results are indicated in Table 7. Except for natives, there is no significant difference in the effect of childbirth for higher- and lower-educated women. We see in Table 7 that higher as well as lower educated women have a lower income after childbirth. This result applies even to Natives.

(Table 7 about here)

6. Conclusion

The main objective of this paper is to study the determinants of the labour supply of first-time mothers in Norway and to investigate whether women's labour force participation varies with respect to their ethnic background. We studied three groups of women—native Norwegian women, women who migrated from OECD countries and Asian-African women—and analysed their behaviour after their first childbirth.

Our descriptive statistics show that the labour supply of immigrant women from OECD countries is almost the same as that of natives, whereas that of Asian-African women is very low. When we control for the labour supply before childbirth, the difference in labour force participation between native and Asian-African immigrant mothers drops dramatically.

Moreover, given that women were in the labour market before childbirth, our results from running regressions do not indicate much variation in the behaviour of women coming from different cultures. It is women's education that plays a significant role, whether or not they stay in the labour market. After childbirth, higher-educated native as well as immigrant women have a lower probability of exiting the labour market compared with lower-educated women. However, women who are attached to the labour market before and after childbirth earn a lower income, but in this case, education has no effect on any group of women. Our *difference in difference* estimator indicates that lower- as well higher-educated native and immigrant women's income drops after childbirth even if they are career oriented.

We find a significant effect of ethnic background on the probability of entering the labour market after childbirth given that women previously were not in the labour market. Our results illustrate that higher-educated natives as well as immigrants from OECD countries with higher education enter the labour market within two years after childbirth even though they were not working before childbirth, whereas for Asian-African women, education does not play any role; rather, their husbands' income is the determining factor. Husbands' income has a negative effect on the entry into the labour market of Asian-African mothers. We conjecture that there are two reasons that the breadwinning ideology prevails in households where wives are from Asia or Africa: social values and/or a lower return on human capital in the labour market.

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Table 1: Mean income (Only for women who were working), marital status and age

	Natives	OECD	Asia_Africa
Woman's Income(NOK100)			
Two years before	1698.7	1798.4	1383.2
Two years after	1568.9	1715.6	1359.1
Husband's Income(NOK100)			
Two years before	1976.6	1935.2	1997.2
Two years after	2340.3	2388.5	2273.1
Woman's Income*100/Husband's income			
Two years before	85.9	92.9	69.3
Two years after	67.0	71.8	59.8
Dummy Married	0.56	0.66	0.90
Women's Age at Birth	28.2	29.3	28.4
Husband's Age at Birth	30.7	31.6	32.7
# of Observations	23,897	1,237	719
# of Observations of Women Working			
Two years before	20,752	1,031	415
Two years after	20,472	1,041	561
# of Observations of Women not Working			
Two years before	3,145	206	304
Two years after	3,425	223	165

Table 2. Women's education level, Work and mean Income of Working Women

	Natives	OECD	Asia_africa
Percentage of Education Level			
Low	70.0	68.7	86.0
High	30.0	31.3	14.0
Percentage of Work			
Work before if education high	93.3	90.4	76.1
Work before if education low	84.9	79.8	51.7
Work after if education high	94.1	89.8	81.3
Work after if education low	83.1	79.3	66.7
Mean Income (NOK 100)			
Income before if education high	1755.1	1866.1	1483.3
Income before if education low	1437.6	1464.3	962.5
Income after if education high	1932.2	2007.4	1573.7
Income after if education low	1445.0	1544.1	1283.3

Table 3.Percentage of women in the labour force before and after Birth

Natives

Origin State (time t-1)	Destination state (time t)		
	Work	No-work	Total
Work	90.3	9.7	100
# of observations	*18,739*	*2,013*	*20,752*
No-work	55.1	44.9	100
# of observations	*1,733*	*1,412*	*3,145*
Total Observations			23,897

OECD

Origin State (time t-1)	Destination state (time t)		
	Work	No-work	Total
Work	88.7	11.3	100
# of observations	*914*	*117*	*1,031*
No-work	48.5	51.5	100
# of observations	*100*	*106*	*206*
Total Observations			1,237

Asia_africa

Origin State (time t-1)	Destination state (time t)		
	Work	No-work	Total
Work	85.8	14.2	100
# of observations	*356*	*59*	*415*
No-work	47.8	52.3	100
# of observations	*145*	*106*	*304*
Total Observations			719

Table 4.Logit regressions: Probability of career continuity after childbirth

	Marginal Effect	t-ratio	Marginal Effect	t-ratio	Marginal Effect	t-ratio
Natives						
Married	-0.002	-0.4	-0.003	-0.7		
Education	0.07	18.4	0.065	17.4		
Husband education			0.001	1.1		
Husband income			-0.001	-0.4		
Age Difference			-0.003	-5.7		
Years of residence						
R2	0.03		0.04			
# of Observations		20,752				
OECD						
Married	0.005	0.2	0.009	0.4	0.012	0.6
Education	0.06	2.9	0.048	2.2	0.045	2.3
Husband education			0.003	1.4	0.002	1.3
Husband income			0.024	1.3	0.023	1.3
Age Difference			-0.006	-3.4	-0.006	-3.4
Years of residence					0.001	1.2
R2	0.03		0.04		0.04	
# of Observations		1,237				
Asia-Africa						
Married	0.05	1.1	0.054	1.1	0.067	1.3
Education	0.05	2.2	0.039	1.8	0.032	1.7
Husband education			0.001	0.1	-0.001	-0.2
Husband income			-0.035	-1.1	-0.037	-1.1
Age Difference			-0.004	-1.6	-0.003	-1.2
Years of residence					0.004	1.8
R2	0.02		0.04		0.05	
# of Observations		719				

Reference categories*: cohabitants; less than 15 years of schooling; education less than 15 years of schooling; husbands' income less than the average for the relevant year.*
Control Variables*: Dummy whether a woman gave birth to another child within two years after the first birth; dummy whether the child was born during the second half of the year; dummies for years* ; d*ummy whether a woman completed/continued education after birth; age of a woman*

Table 5.Logit regressions: Probability of entering the labour force after childbirth

	Marginal Effect	t-ratio	Marginal Effect	t-ratio	Marginal Effect	t-ratio
Natives						
Married	-0.10	-4.6	-0.100	-4.7		
Education	0.33	13.0	0.312	11.6		
Husband education			0.008	2.5		
Husband income			-0.012	-0.6		
Age Difference			-0.004	-1.4		
Years of residence						
R2	0.10		0.11			
# of Observations		3,145				
OECD						
Married	-0.17	-2.1	-0.161	-2.0	-0.182	-2.1
Education	0.23	2.5	0.228	2.3	0.222	2.3
Husband education			0.003	0.4	0.005	0.5
Husband income			0.166	2.3	0.166	2.3
Age Difference			0.002	0.2	0.002	0.3
Years of residence					-0.003	-0.8
R2	0.05		0.06		0.07	
# of Observations		206				
Asia-Africa						
Married	-0.01	-0.1	0.063	0.5	0.120	1.0
Education	0.16	1.8	0.093	0.9	0.041	0.4
Husband education			0.003	0.5	0.002	0.3
Husband income			-0.129	-1.9	-0.126	-1.8
Age Difference			-0.003	-0.6	-0.002	-0.3
Years of residence					0.010	1.6
R2	0.0l2		0.04		0.04	
# of Observations		304				

Reference categories*: cohabitants; less than 15 years of schooling; education less than 15 years of schooling; husbands' income less than the average for the relevant year.*
Control Variables*: Dummy whether a woman gave birth to another child within two years after the first birth; dummy whether the child was born during the second half of the year; dummies for years* ; d*ummy whether a woman completed/continued education after birth; age of a woman.*

Table 6. Income Effect after Child Birth

	β_3	*t_ratio*
Natives		
Women's Income	-0.22	-30.15
Husband's Income	0.01	0.71
# of Observations	54,826	
OECD		
Women's Income	-0.21	-5.43
Husband's Income	0.04	0.44
# of Observations	2,378	
Asian_African		
Women's Income	-0.26	-3.96
Husband's Income	-0.05	-0.33
# of Observations	814	

Table 7. Income Effect in association with education level of women

	β_3	*t-ratio*	γ_3	*t-ratio*	$\beta_3 + \gamma_3$	*t-ratio*
Natives						
Women's Income	-0.25	-29.95	0.05	2.62	-0.20	13.27
Husband's Income	0.03	1.36	-0.07	-1.46	-0.04	0.92
OECD						
Women's Income	-0.22	-4.94	0.01	0.06	-0.21	2.97
Husband's Income	0.11	1.08	-0.25	-1.25	-0.14	0.80
Asian_African						
Women's Income	-0.26	-3.61	-0.03	-0.20	-0.29	1.91
Husband's Income	-0.11	-0.65	0.31	0.84	0.21	0.61

β_3≡ Effect of child birth for low educated women
γ_3≡ Difference in the effect of childbirth for low and high educated women
$\beta_3 + \gamma_3$≡ Effect of child birth for high educated women

Appendix

Table A: Female Labour force Participation aged 15-64 in the year 2003

Countries	Percentage in the labour force
Belgium	55.8
Denmark	74.8
France	72.8
Germany	64.5
Netherlands	68.4
Norway	75.9
Sweden	76.9
United Kingdom	69.2
United States	69.7

Source: OECD Employment outlook

Table B: Mean values of education and income for career oriented women (treatment and comparison groups)

	Natives				**OECD Immigrant**				**Asian-African Immigrant**			
	treatment group		*comparison group*		*treatment group*		*comparison group*		*treatment group*		*comparison group*	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
Wife's education	0.30	0.30	0.32	0.32	0.32	0.32	0.30	0.30	0.19	0.19	0.17	0.17
Husband's education	0.22	0.26	0.16	0.20	0.27	0.31	0.23	0.28	0.23	0.26	0.27	0.28
Wife's Income	1697.80	1718.31	1603.36	1982.08	1796.35	1870.39	1612.02	2033.14	1396.64	1519.82	1301.25	1834.12
Husband's Income	1979.28	2335.61	2005.17	2350.71	1959.86	2387.27	1946.38	2209.23	2007.12	2331.58	2024.66	2291.19
# of observations	16,038		11,375		713		476		219		188	

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