

October 2. 2006

Title: “The Changing Patterns of the First Infant”

Determinants of the mother’s labour force attachment at the time of pregnancy and of early infancy: an examination of the role of the mother’s partner and of migrant background in Amsterdam

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1. Introduction

One of the most important changes in the past few decades to influence the way in which early childhood is experienced in European countries is the dramatic increase of working mothers with young children. For example, Dutch women's labour force participation increased from the internationally lowest rate of 7.3% (for married women) in 1960 to 32.8% in 1987, and to 58.7%, which is above the average participation rate in the European Union (15 countries) in 2005 (Statistics Netherlands 2006). The proportion of mothers with children below the age of six among employees more than doubled in less than a decade from 26% in 1988 to 57% in 1996 (OSA 1997).¹ In 2003, 90% of women in the Netherlands remained in the labour force after giving birth to the first child, but they worked fewer hours (Statistics Netherlands 2006). Another change in Dutch children's lives is the decrease of the father's working hours. In 2003, 13% of all fathers reduced their working hours or stopped working altogether after the first birth in the Netherlands, and 10% of them did in 1997 (Statistics Netherlands 2006). Finally, the proportion of children with a migrant background has increased, and in 2004 more than half of the children born in Amsterdam have at least one (grand)parent born abroad.

The recent changes from the breadwinner welfare state of the 1960s towards the more individualized society of today did not lead to an individualisation of children's rights regarding public supported child care in the Netherlands. For example, there is no collective responsibility for care for children between 3 months (the age at which pregnancy leave ends) and four years, the age at which they start school.² Moreover, while in some countries in the last five years public policies on the combination of

paid work and unpaid care for mothers have been extended, and the international standard for the breastfeeding period has been extended, the Dutch public policy has not moved in this direction.

Arguments related to mother's education level and on the choice of quality of child care would lead us to expect that in the Dutch welfare state differences between children (from as early as the age of three months see below) have increased (because the differences in the parental labour market and earnings capacity have increased).³ It is also well-known that on average the level of education and the labour force participation of migrants and especially of migrant mothers in the Netherlands is lower, and the differences between migrants and non-migrants may become larger. This may be reinforced or caused by language fluency and cultural factors.

The contributions we seek in this study are, firstly, to provide new descriptive statistics on the labour market attachment of groups of parents with a migrant background that are hardly ever analysed in labour supply studies (in the Netherlands and elsewhere⁴), secondly, to reveal not only labour supply patterns of parents but also the range of part-time work that both parents have. This will give us information on which parents may have problems as regards earning an income for their children, which parents may be more likely at risk as regards time pressure problems; which parents remain in the more traditional breadwinner distribution of paid work in the family, and which parents seek solutions to have both parents in paid work. In doing so, we wish to understand the different potential risks young infants may face in the typical Dutch setting and that may become a public responsibility at school age or when problems are recognized as extreme. Thirdly, we wish to analyse the determinants of the mother's decision to work for pay and of the choice of working hours for mothers in a partnership at two points in time that are relevant in the Dutch

setting: during pregnancy with the first child and when the first infant is 3-5 months old. Finally, the analysis aims to understand the potential effects of the migrant backgrounds of parents, the partner not sharing the household, the women's breastfeeding intentions and practices, in addition to the standard explanation of labour market behaviour such as education level and the partner's potential income.

In our analysis we focus on the first infants born in the Netherlands in 2004, which means that all first infants' parents are making their employment and care decisions in the Dutch welfare state framework. Our definition of migrant background aims to get a better understanding of the gender and generation of the migrant background and its impact on children's environments⁵. We define six migrant backgrounds in comparison with a "full" Dutch background which means that the parents of the infant are born in the Netherlands and the mother's parents are Dutch born. For our purpose, we use excellent, unique and recent data from two surveys that were held in the public health project called "Amsterdam Born Children and their Development", which was carried out by the Amsterdam Medical Centre and the Amsterdam Municipal Health Service in 2003 and 2004, with financial support of the Dutch Scientific Council.

Within this project two surveys were conducted at two points in a family's life: around 16 weeks of pregnancy and when the first infant is between 3-5 months old.

The rest of the paper proceeds as follows. Section 2 provides background information on women's labour supply and employment patterns as regards migrant background and describes policies on the combination of unpaid care and paid work for recent parents in the Netherlands. Section 3 presents the data used and describes the first infants' families as regards labour force attachment and migrant background. Section 4 discusses the methodology used in the econometric estimation of the mother's employment decisions and the effects of migrant background and her partner's

characteristics on these decisions. Section 5 shows our results. Section 6 summarizes, discusses and concludes.

2. Background

In the Netherlands, in 1924, a female civil servant's wedding day was also the day she would lose her job. Only in 1973 did Dutch women gain the same protection that, for example, Swedish women secured in 1939, namely legislation that made it unlawful for employers to dismiss a woman because of pregnancy, childbirth or marriage. Since then "the emergence (*and persistence and growth*) of the working wife in Holland" (Hartog and Theeuwes 1985) has been spectacular in terms of participation rates. Furthermore, in the last two decades the number of the working mothers, especially of mothers of infants has increased. However, although having the same legal and social policy settings, several specific groups of women in the Netherlands have significantly lower labour supply rates, especially mothers. Some of these groups consist of women who were born in another country, or whose parents were born abroad⁶. In addition, family reunion, traditionally the main factor of ethnic minority⁷ increase in the Netherlands accounts for 22% of all non-Dutch immigrants in 2001, and is decreasing, whereas family formation accounts for 15%, and is increasing (Hartog and Zorlu 2004).⁸ Zorlu (2002, chapter 9) shows that the negative effect of children on labour force participation is larger for Turkish and Moroccan families than for other migrant groups (in Amsterdam in 1999). Moreover, although the gender gap in labour force participation is the smallest for Caribbean, followed by South European and Dutch women, the gender gap in participation probabilities is 0.497 and 0.302 for Turkish and Moroccan women respectively. Furthermore, the participation rates of second-generation immigrants do not differ from those of the first-generation,

indicated by the marginal effects of the variable ‘born in the Netherlands’ across the sub-samples.⁹

In spite of the increase in labour force participation, the volume of full-time regular jobs in 1996 was the same as in 1970—about 3.7 million people—and the steady job growth in the early 1990s consisted entirely of part-time jobs. In 1996 1.8 million people had part-time jobs and 0.7 million people had flexible jobs (Hartog 1998).¹⁰ Several factors can explain this (Visser 2002, Gustafsson, Kenjoh and Wetzels 2003). In the tight labour market of the 1990s, fear of labour shortages encouraged employers who were otherwise reluctant to accept part-time workers. Furthermore, public policies during the 1990s aimed at enabling men to take parental leave and work part time in order to share care and work more equally at home, and thus keep both parents in the labour markets when children are young. The right to shorten or lengthen work hours was first accepted in the Netherlands, and the country has gone much farther¹¹ than demanding that employers should “give consideration” to employees who wish to transfer between full-time and part-time work, as the 1997 European Directive on Part time Work status states¹². The employer should, in principle, agree to the request and is obliged to indicate any reason for disagreement. There is also a structural demand for part-timers in higher job levels in the Netherlands, which is higher than in other European countries, such as Germany. Furthermore, employers consider part-time workers to be as committed as full-time workers. With 39% of employed people in part-time jobs, the Netherlands is indeed far ahead of other European countries. It is also number one as regards women working less than 35 hours per week (67.6%). In addition, part time work in the Netherlands is much less limited to a particular group of women than in Britain, Germany and Sweden (Gustafsson, Kenjoh and Wetzels 2003). Nevertheless, in 1996,

the difference in the proportion of women working less than 32 hours per week was greatest between childless women (37%) and mothers (86%) (Wetzels 2001). Zorlu (2002, chapter 8) reveals that working part time is more common among men and women in eight ethnic minority groups than in the ethnic majority in the Netherlands.¹³

While in many European countries, the government provides at least a part time nursery school place for children over the age of three, the situation changes substantially when for children under the age of three and especially under the age of one. The Nordic countries provide both generous parental leave and support for non-parental childcare. In the last 5 years, some countries started to move in this direction: the UK has extended the maternity leave to 12 months and has increased the availability of childcare subsidies. Moreover, international agreements on maternal health and infant's health have recommended breastfeeding exclusively to 6 months (Ynge and Sjostrom 2001), which was an extension of the 4-6 months. However, the Dutch setting does not show a move in this direction. The Dutch pregnancy leave and maternity leave period is the agreed minimum of the EC directive in 1996. As of 2005, pregnancy leave is 16 weeks (100% paid) in the Netherlands, and must commence 6-4 weeks prior to the expected delivery, and employees are eligible to an additional, parental leave of 6 months part-time for each parent. However, in most cases the parental leave (different from the pregnancy leave) is unpaid.¹⁴ Longer periods of breastfeeding (more than 3 months) might not be easy to reconcile with paid work, although employers are obliged to offer facilities for breastfeeding (for example Avishai Bentovim 2002, Burgmeijer and Rijnveld 2001, Grjibovski, Ynge, Bygren and Sjostrom 2005). Non-parental institutional childcare is available for young infants, starting at the age of three months, although institutional childcare for

children between 0-6 is relatively expensive in the international context (Wetzels 2005). In the Netherlands, in 2005, only 22% of the parents used formal institutional care as the most important type of childcare when the child is below one year (Statistics Netherlands 2006)¹⁵.

3. Describing the First Infant's Context

This section describes the first infant's context. What did families look like at the time of the first pregnancy and at the time the first infant was 3-5 months old in Amsterdam in 2004? At 16 weeks pregnancy, the proportion of the first infant's mothers employed is 78%, which is in line with other research on national samples (Gustafsson et al 1996). At this stage of pregnancy, 32% of mothers-to be work full-time, 35% work long part-time and 11% work short part time. In addition, 5% of the first infant's mothers-to-be stopped working because of pregnancy.

At the time the first infant is (on average) 13 weeks¹⁶, the proportion of mothers who have started to work is 42%, 19% of the first infant's mothers work less than 24 hours per week, and 23% work, at that time, more than 24 hours per week. The proportion of mothers having the intention to start work soon is 43%, whereas 15% of the mothers have no intention to work for pay.

Below we will describe our two samples in more detail as regards migrant background, partner's labour market participation and other explanatory variables. Then we will present descriptive results by immigrant background. However, first we give a general description of the data.

3.1 Data

Data was obtained from two surveys carried out within the prospective study called : "Amsterdam Born Children and their Development". The first sample was comprised

of all pregnant women who consulted a primary care taker or a midwife or any health care institution. These women received a questionnaire in their own language, and if they needed assistance in filling in the questionnaire, a free call could be made in their native language. In March 2004, 8,105 women who had started their pregnancies in 2003 returned a valid and complete questionnaire. The response rate was 67.8% (the ABCD pregnancy sample).

Pregnant women who gave permission to follow-up the health status of the child received a second questionnaire 3 months after birth, which covered lifestyles, emotional problems and the health of the baby. In December 2004, 5,217 women returned the infant questionnaire, having filled it out when the child was 3-5 months old. After the exclusion of women who did not respond to one or more relevant questions, had a multiple pregnancy or used illegal drugs, our sample consisted of 5,008 women (the ABCD-infants sample). Compared to the pregnancy sample, women of the follow-up sample (infants sample) were older, more educated, of lower parity and more often of Dutch origin (Van der Wal et al 2006).

In our pregnancy-sample we include women who are not longer than 34 weeks pregnant. The 34 weeks limit relates to the pregnancy leave in the Netherlands, which according to law has to start between 6 and 4 weeks before expected delivery. Thus, all selected women are in a stage of pregnancy in which they are regarded as potential labour force. Furthermore, we include women pregnant with their first child,¹⁷ since employment patterns change by birth parity in most European countries (Del Boca and Pasqua 2005, Gustafsson, Wetzels, Vlasblom, Dex 1996, Gustafsson, Kenjoh and Wetzels 2002), which leaves our pregnancy sample with 4,527 observations. Also, we include only first borns in our infants' sample, which leaves us 2,902 observations.

Appendix Table A1 provides a summary of statistics of our dependent and independent variables in both samples.

Pregnancy Sample

Our women in the “pregnancy sample” are on average 16 weeks pregnant with their first child. Our explanatory variables of the mother’s labour market decisions are as follows. In terms of the infant mother’s partners, 3% of the first infant’s mothers are single and 12% of the first infant’s mothers are with a partner who does not live in the household. 13% of the first infant’s mothers have a low level of education, which includes all education up to high school. 34% of the first infant’s mothers are in the second level education, which includes high school plus two years. However, 53% of the first infant’s mothers have a third level education, which includes higher vocational training and a completed university level.

Table A1 shows that the proportion of first infants with at least one parent or one of the mother’s parents born abroad is 55%, which corresponds with other statistics on Amsterdam (O&S 2004).¹⁸ We define six migrant backgrounds in comparison with the base category: infant’s mother is born in the Netherlands, mother’s partner is born in the Netherlands and mother’s parents are born in the Netherlands: all else being equal 1) mother’s parents are born abroad (4% of all first infants), 2) one of mother’s parents is born abroad (5%), 3) mother’s partner is born abroad (8%), 4) mother’s partner and mother’s parents are born abroad (5%), 5) mother and mother’s parents are born abroad (9%), and 6) parents are born abroad (22%). Assimilation to the host country, indicated by language skills, may partly reduce the effect of an immigrant background on employed motherhood and the working hours of the father. One out of ten first infant’s mothers indicate that they do not speak Dutch at all or do so with great difficulties.

The proportion of partners of the mothers-to be in paid work is 81%. 70% of all partners work fulltime, 5% work between 32-35 hours per week and 6% work in shorter part-time jobs.

Furthermore, the sociological literature on (immigrant) families shows that the mother has an important say in the daughter's choices in life (e.g. Ewen 1985, Orsi 1985). We therefore include the importance of the grandmother's opinion on breastfeeding for the first infant's mother in the latter's decision on employed motherhood, which we interpret as an indicator of the first infant's mother's individual decision making. One fifth of the first infant's mothers indicate that the opinion of their mother as regards breastfeeding is very important to them.

We regard a plan to breastfeed as an indicator of the time the first infant's mother plans to be at home, caring fulltime for the child. Since the pregnancy leave ends 10-12 weeks after delivery, if the first infant's mother plans to continue breastfeeding, it will require more effort once she starts working again. Therefore, if the first infant's mother plans to breastfeed for a period of three months or less then this will fit with returning to work without the worry or additional effort exerted for breastfeeding while working. The second option for breastfeeding is longer, 4 to 6 months, and is the most widely chosen option in the Netherlands. The base category used contains a cluster of other attitudes towards breastfeeding: first infant's mothers who plan to breastfeed for more than 6 months, do not have plans on the period of breastfeeding or do not have a plan to engage in breastfeeding. Almost nine out of 10 women plan to breastfeed; two out of ten plan to breastfeed for less than or equal to three months, and 26% plan to breastfeed between 4 and 6 months.

Infants Sample

The proportion of mothers' partners not in paid work is 9%, and 7% of the partners started to work after the first infant was born. Around half of all partners (54%) do not change working hours, but a quarter of the partners increase them, especially working more than 40 hours per week (18%), and one of every five partners decreases working hours, especially to 25-32 hours per week (8%) after the first birth.

The proportion of the infant's mothers having breastfed for more than four weeks is a substantial 84%; on average, mothers engaged in breastfeeding for eleven weeks at the time the infant is between 3-5 months old.

3.2 Descriptive results by immigrant background

In this subsection we will show descriptive statistics of the first infant's parents' labour force participation by our categories of immigrant background. However, first we wish to provide some information on the proportions of mothers' partners not living with the mother in relation to these categories.

Table 1 shows that the proportion of children born in a single mother's home is, on average, 2.6%.¹⁹ Surprisingly, the proportion of first infants born in a household where the mother has a partner but her partner is not living in the same household (on average 12.3%) is as high as 29.5% if the infant's parents are born in the Netherlands, but the mother's parents are born abroad. The proportion decreases to 22% if the mother's partner is also born abroad. If the first infant's mother is born abroad, but the mother's partner is born in the Netherlands, the percentage of partners not living in the household is lower than the average, at 8%.

A partner who is not sharing the household may, instead of giving time or sharing the responsibility for care, provide an income for the infant. On average 4.9% of first infants grow up in a household where the mother's partner is not living and not

providing an income, whereas 2.7% of infants grow up in a household without the mother's partner and no parental earnings. However, a mother's partner not providing an income seems more prevalent in households shared by parents. 10.3% of first infants grow up in a household where the mother's partner is sharing the household but not providing an income, whereas 4.7% of first infants are born in a household with both parents present but no parental earnings.

Almost 15% of first infants born to couples born in the Netherlands with the mother's parents born abroad do not have a mother's partner sharing the household and a mother's partner who earns. 11% of the latter do not have parents earning an income. The figures are lower for infants whose mother's partner and mother's parents are born abroad, and for infants whose parents are born abroad. Around 20% of first infants' parents whose mother's partner is born abroad and shares the household do not have the mother's partner earning an income. Around 12% of first infants whose parents share a household and whose mother's partner is born abroad, and whose mother's parents are born abroad do not have parental earnings. Likewise for infants whose parents are born abroad.

[Insert Table 1 here]

Since we are interested in the effects of the mother's partner's labour market behaviour and its effect on the infant's mother's labour market behaviour we exclude, in the further analysis, single mothers. Table 2 shows descriptive results by migrant background of the mother's employment and her partner's employment during pregnancy with the first child. At first pregnancy (on average 16 weeks), more than

half of the mothers-to be in couples who are born abroad are not engaged in paid work. This proportion is less than half (28%) for migrant women with a Dutch born partner. However, the proportions are 26% for second-generation migrant women with a first generation partner, and 22% for second-generation couples, compared to 5% for first infants' families with Dutch parents. Although the distribution of the categories of working hours differs among migrant backgrounds, the differences are less pronounced. The lower panel of Table 2 provides similar proportions for mothers' partners. Again, the most pronounced difference between migrant backgrounds concerns the partner's participation decision (21% for second generation mother with a first generation partner and first generation parents, compared with 4% for Dutch parents), and less the working hours decision, which differs even less among the migrant backgrounds for mother's partners than for mothers.

[Insert Table 2 here]

Table 3 shows descriptive results for the households at the time the first infant is between 3-5 months. The proportions of women who are not in paid work yet, but have the intention to start working soon, vary between migrant backgrounds from 32.7% (migrant parents) to 54.8% (migrant mother with Dutch born partner), with Dutch first infants' mothers fairly in the middle with 43.7%. Since the proportions of those not in paid work and having no intention to start work differ, like during the state of pregnancy, between migrant groups, we have quite striking differences between migrant backgrounds and the number of hours they actually work when the infant is 3-5 months old. The most important difference is between women who are

born in the Netherlands and migrant women: women born in the Netherlands work more hours whether their partner (or parents) is (are) born abroad or not. The lower panel shows the participation rates and working hours of the mother's partner when the first infant is 3-5 months old, and reveals that the proportions of working hours' categories changed substantially, both: working more than 40 hours per week and working less than 32 hours increased in all migrant backgrounds.

[Insert Table 3 here]

From Tables 2 and 3 we may expect the migrant backgrounds to effect first infants' mothers' labour supply, but less the mothers' working hours. In addition, Tables 2 and 3 have shown that the mother's partner's labour supply patterns differ by migrant background as well.²⁰ The multivariate analysis below will show the effects of a migrant background on the mother's labour market participation and hours taking account of all other potential effects such as effects of mother's education, her partner's labour market participation and hours, mother's language skills, the importance of the opinion of the own mother's mother and mother's breastfeeding plans and behaviour.

4. Modelling the Parent's Employment Decision

Our multivariate analysis aims at modelling and estimating the mother's decision to participate in paid work and her categories of working hours at the time of pregnancy with the first infant and at the time the infant is no longer considered dependent on the mother 24 hours a day according to Dutch law (10-12 weeks).

At (on average 16 weeks of) pregnancy, we distinguish between five possible employment states, namely domestic work only (non-participation during pregnancy up till now), non-participation at 16 weeks pregnancy but worked before the survey during pregnancy, wage market work, three categories of part time, and fulltime work. Although the multinomial logit specification is often used for this type of a polychotomous dependent variable, this specification suffers from the need to assume the independence of irrelevant alternatives (IIA). This assumption results from the maintained assumption that the disturbances associated with the utility derived from each option are independent and homoscedastic. One way to relax the IIA assumption is to group the original alternatives into subgroups and allow the variances to differ across the groups while maintaining the IIA assumption within the groups. This defines the nested logit model (Greene, 2000).

Suppose that we subdivide the employment decision²¹ into a three-level choice problem as depicted in Figure 1. The first level consists of the decision of whether or not to engage in any kind of market work. The second level distinguishes between working less than 24 hours per week or more than 24 hours per week for those who select to be active on the labour market, leaving the other branches unchanged. The third level distinguishes between working less than 32 hours (a four day working week that may be chosen if partners share care and work equally, and care for the child 1 day a week each while using childcare by other persons three days per week), working between 32 and 36 hours per week, and working more than 36 hours per week. Under the nested logit model, the IIA assumption is maintained within the alternatives of each decision, but can be relaxed across decisions.

[Insert Figure 1]

Suppose that each alternative at the second level is associated with a level of utility given by:

$$U_{ijk} = \mathbf{b}'\mathbf{X}_{ijk} + \mathbf{a}'\mathbf{Y}_{ij} + \mathbf{g}'\mathbf{Z}_i + \mathbf{e}_{ijk} + \mathbf{e}_{ij} + \mathbf{e}_i \quad (1)$$

where $\mathbf{Z}_i, \mathbf{Y}_{ij}$, and \mathbf{X}_{ijk} are vectors of explanatory variables specific to the first, second and third level choices, respectively and $\mathbf{e}_i, \mathbf{e}_{ij}, \mathbf{e}_{ijk}$ are independent and identically distributed error terms with Weibull distribution²². The probability that an individual will choose alternative ijk in the third stage is given by:

$$P(ijk) = P(k|ij)P(j|i)P(i) \quad (2)$$

where the conditional probability $P(k|ij)$ will depend only on the parameter vector \mathbf{b}' .

$$P(k|ij) = \frac{e^{\mathbf{b}'\mathbf{X}_{ijk}}}{\sum_{n=1}^{N_{ij}} e^{\mathbf{b}'\mathbf{X}_{ijn}}} \quad (3)$$

We define the inclusive value for the second level options j as:

$$I_{ij} = \ln \sum_{n=1}^{N_{ij}} e^{\mathbf{b}'\mathbf{X}_{ijn}}$$

so that the second level conditional probabilities $P(j|i)$ are given by:

$$P(j|i) = \frac{e^{\mathbf{a}'\mathbf{Y}_{ij} + \mathbf{t}_{ij}I_{ij}}}{\sum_{m=1}^{M_i} e^{\mathbf{a}'\mathbf{Y}_{im} + \mathbf{t}_{im}I_{im}}} \quad (4)$$

Similarly we define the inclusive value for the first level options i as follows:

$$J_i = \ln \sum_{m=1}^{M_i} e^{\mathbf{a}'Y_{im} + \mathbf{t}_{im}I_{im}}$$

yielding the following unconditional first level probability $P(i)$:

$$P(i) = \frac{e^{\mathbf{g}'Z_i + \mathbf{d}_i J_i}}{\sum_{l=1}^L e^{\mathbf{g}'Z_l + \mathbf{d}_l J_l}} \quad (5)$$

By substituting equations (3), (4) and (5) into equation (2), we obtain an expression of how the probability of each level-3 alternative depends on the explanatory variables and the model parameters. The nested logit model can be estimated by the full information maximum likelihood estimation, where the log-likelihood function is given by:

$$\ln L = \sum_{g=1}^G \ln P_g(ijk) \quad \text{where } g \text{ indexes individuals in the sample.}$$

The first infant's mother's labour force participation and working hours are explained by standard human capital variables (Mincer 1974), migrant background variables (as defined in section 3, fluency in Dutch), partnership, employment and hours of paid work of the partner, two dichotomous variables that indicate whether the intended period of breastfeeding is within the pregnancy leave period: 10-12 weeks after delivery, or between 4 and 6 months, with the base at more than 6 months.

Furthermore, we include the (importance of) the mother's own opinion about breastfeeding. We account for the weeks of pregnancy.

We apply a similar nested logit model for the first infant's mother's employment decisions when the first infant is between 3-5 months old. Figure 2 presents the levels

of decision-making. We include, in the decisions made after first birth, the intention to work for pay soon and having started to work for pay. The explanatory framework is similar, but we additionally include the information on the change of the partner's working hours, the partner starting to work, the partner leaving the household, and the mother's actual breastfeeding behaviour instead of the plans for it. We control the second model for the age of the infant.

[Insert Figure 2 here]

5. Estimation Results

At pregnancy with the 1st infant

Table 4 shows the estimation results. The base category used in the first level of the nested logit model is "not employed", in the second level: short part time employment, in the third level: working between 24-32 hours per week. The interpretation of the coefficient estimates is therefore based on how the relevant variable affects log odds of being employed or having stopped working during pregnancy versus never been active during pregnancy in the first level; being a short part time worker (less than 24 hours per week) versus a worker with longer working hours (more than 24 hours per week) in the second level, conditional on having chosen to be active in the first level; and being a full time worker (working more than 36 hours per week) or being employed between 32 and 36 hours in the third level, conditional on having chosen to work longer than short part time hours (more than 24 hours per week) in the second level.

[Insert Table 4]

Table 4 shows the estimations of the full model including the mother's education level, the migrant background of the parents, Dutch language fluency, partner characteristics (at home, employment type), opinion of the mother and breastfeeding plans.²³ A high education level is significantly positive in the decision to be active in paid work (first level in Figure 1) which is in line with numerous empirical results on the effect of investment in education and labour supply. There are no effects of education on the decision to quit work because of pregnancy, and if the decision in favour of paid work is made there is no effect of education on the decision to work more than 24 hours per week versus less than 24 hours per week (second level in Figure 1) which is in line with cross country comparative research that finds that part time work is available at all levels in the Netherlands (Gustafsson et al 2003). If the decision to work more than 24 hours per week is made, low educated women are less likely to work more than 32 hours per week (third level in Figure 1).

Some specific effects of migrant backgrounds remain in the full model presented in Table 4. As expected, women who have difficulties with the Dutch language are less likely to be engaged in paid work. If we account for the problems related to Dutch language fluency²⁴, pregnant women born abroad (with a Dutch born partner and with a foreign born partner) are less likely to participate in the labour market at the time of first pregnancy, and if they do, they are less likely to work more than 24 hours per week. The likelihood of quitting a job because of pregnancy versus never been active during pregnancy is only negatively affected by the mother's parents being born abroad.

Of concern is the negative effect of a partner who is not employed (as compared with the base category: a partner in part-time work) on the likelihood of the employment of the first infant's mother and on the likelihood of her quitting employment. There is no significant effect of a partner not being in paid work on the pregnant woman's decision regarding hours of work if she is in paid work.

If the mother's partner works full-time, this has a significant negative effect on (quitting) working during pregnancy (the woman is more likely not to be active during pregnancy) which shows that there is a breadwinner orientation at this point in life.

However, if the mother-to-be chooses to work for pay, then a full-time working partner has a positive effect on the mother working more than 24 hours per week, and if she chooses to work more than 24 hours per week, a full-time working partner has a positive effect on working full-time, which shows a work orientation of these couples.

If the mother's partner is, already at first pregnancy, working between 32-35 hours per week, the mother is more likely to work more than 24 hours per week. However, if she works more than 24 hours per week, a partner working between 32-35 hours has a negative effect on her working more than 32 hours per week. These parents-to-be have, already before the first birth, organized their life to work less than fulltime but still a substantial number of hours, but the woman working, on average, fewer hours than her partner (couples who are sharing but not fully equal).

The importance of the grandmother's opinion for the first infant's mother's decision to participate in paid work has only a negative effect. First infants' mothers-to-be who have chosen to be in paid work during pregnancy and have planned 1-3 months of breastfeeding are more likely to work longer hours, more likely to work more than 24 hours; but also, having chosen longer part time work, the shortest breastfeeding plans

have a positive effect on fulltime work. This leads us to suspect that paid work and breastfeeding is not seen as a desired prospective option.

When the first infant is 3-5 months old

Table 5 shows the estimation results of the full model²⁵ at the time the infant is between 3-5 months old. The base category used is not employed in the first level of the nested logit model, the base category used in level two is: having the intention to start work soon, and the base category used in level three is: working less than or 24 hours per week. The interpretation of the coefficient estimates is therefore based on how the relevant variable affects log odds of being employed or having the intention to start work soon versus no intention to work in the first level, being back at work versus having the intention to start work soon in the second level, conditional on having chosen to be(come) active in the first level, and working more than 24 hours per week versus less than 24 hours per week in the third level, conditional on having chosen to work in the second level.

[Insert Table 5]

As Table 5 shows, the age of the infant (between 3 and 5 months) has a significant negative effect on having the intention to work for pay, but a positive effect on the infant's mother being in paid work, if she has the intention to be an employed mother, but no effect on working more hours if she is already at work.

The highest education level of the first infant's mother has a significant positive effect on having the intention to work for pay as opposed to not having the intention to work for pay. However, if the women have the intention to work for pay, then the mother's highest education level has no effect on actually working for pay as opposed to having

the intention to start work soon. This could mean that there is no difference between medium and high level educated mothers regarding the negotiation of parental leave (after the pregnancy leave, which ends 10-12 weeks after the birth of the child) with their employer.²⁶

For those who have started to work when the first infant is between 3-5 months, a higher education level has a positive effect on working more than 24 hours per week versus working less than 24 hours per week. The low education level has only a significant negative effect on the participation decision (first level in Figure 2).

If we account for having difficulties with the Dutch language, three migrant backgrounds (mother's partner is born abroad, the mother is born abroad, and infant's parents are born abroad) affect the decisions of mothers who have the intention to be employed and to be active in paid work when the infant is 3-5 months old negatively (third level in Figure 2).

The analysis in Table 5 aims to reveal the effects of the mother's partner's working hours adjustments after the first birth compared to before. In Table 5, which analyses the time when the infant is 3-5 months old, we only find a significant positive effect of the partner's working hours on the first infant's mother's decision in favour of paid work (first level in Figure 2) for partners who increased their work hours and work more than 40 hours per week. This leads us to expect that these parents are work oriented. However, the first infant's mother is more likely to have started work versus having the intention to start soon (second level in Figure 2) if her partner works between 25-32 hours per week, having reduced his work hours after the first birth in accordance with the aims of Dutch public policies from the 1990s on parents' equal role sharing. We find no effects of (the changes of) the partner's working hours on the mother's choice to be in paid work more than 24 hours per week versus less than 24

hours per week, if she has decided to start working. This later choice is significantly positively affected by her partner's not being in paid work, and significantly negatively affected by her partner not sharing the household. These parents have a mother-breadwinner strategy.

The number of weeks of breastfeeding has a significant negative effect on choosing to start paid work versus having the intention to start soon, but not on working more than 24 hours versus less than 24 hours, if the woman has already started to work. This seems to indicate that a longer duration of breastfeeding is not compatible with starting to be active in paid work early.

6. Conclusion and Discussion

While in the 1970s the majority of Dutch infants grew up with a mother present 24 hours a day during childhood and with a breadwinning father; in 2004, parents in the Netherlands have a wide variety of employment patterns before and after the birth of the first child. Furthermore, 55% of first infants in Amsterdam have at least one (grand) parent born abroad.

The new descriptive statistics on first infants' parents clearly showed some important differences for the migrant backgrounds that we defined. Not only are more migrant mothers than "full Dutch" mothers single, but also more migrant mothers than full Dutch do not share the household with their partner. For example, the proportion of first infants born in a household where the mother has a partner but her partner is not living in the same household (on average 12.3%) is as high as 29.5% if the infant's parents are born in the Netherlands, but the mother's parents are born abroad. The proportion decreases to 22% if the mother's partner is also born abroad. If the first

infant's mother is born abroad, but the mother's partner is born in the Netherlands, the percentage of partners not living in the household is lower than the average, at 8%.

Future work should research how sharing of the household affects the parental (responsibility for) infant's care and parental work arrangements.

In this study we researched whether a partner who is not sharing the household may, instead of giving time or sharing the responsibility for care on the spot, provide an income for the infant. This is indeed what we find. On average, "only" 4.9% of first infants grow up in a household where the mother's partner is not living and not providing an income. Comparing the migrant backgrounds, we found that almost 15% of first infants born to couples born in the Netherlands with the mother's parents born abroad do not have a mother's partner sharing the household and a mother's partner who earns. The figures are lower for infants whose mother's partner and mother's parents are born abroad, and for infants whose parents are born abroad. The latter descriptive results lead us to suspect that discrimination on the Dutch labour market is not the main reason for not working for pay for parents born in the Netherlands with the mother's parents born abroad.

However, a mother's partner not providing an income is more prevalent in households shared by parents. 10.3% of all first infants grow up in a household where the mother's partner is sharing the household but not providing an income. The figure is double for first infants whose parents are born abroad, and for first infants whose mother's partner and parents are born broad.

However, the most economic vulnerable children grow up in a household without the mother's partner and no parental earnings (2.7% of first infants), whereas 4.7% of first infants live in a household with both parents present but no parental earnings.

The comparison of parents labour supply at the time of first pregnancy and at the time the first infant is 3-5 months old revealed that parents' labour supply differs clearly by migrant background already before the birth of the first child but also after the first birth. Especially parents who are born abroad have a lower labour force participation rate. On the other hand, for parents engaged in paid work the differences in working hours are less pronounced at both times for the different migrant backgrounds including the full Dutch background, showing that part time work is an option taken by all first infants' parents in Amsterdam. Interestingly, the minor differences of working hours between migrant backgrounds at the time the first infant is 3-5 months are: 1) Dutch born partners work more than 40 hours to a higher extent than other migrant backgrounds, 2) mother's partner is less likely to work between 25 and 32 hours per week if the mother's partner and the mother's parents are born abroad, and if parents are born abroad, and 3) foreign born mothers show considerably lower percentages of working between 25-32 hours per week than all other migrant backgrounds.

When the first infant is between 3-5 months (on average 13 weeks) old, half of first infants' mothers who are born in the Netherlands with Dutch born parents are back at work, and 8% are even back in full-time work, and nearly one in five work 3 or 4 days per week. In addition, one third of first infants' mothers with a partner and parents born abroad are back in paid work at this time. If the mother herself is born abroad the proportion declines to 20%. Nevertheless, in an international comparison, and in light of the present developments regarding the extension of leave periods in some countries, these proportions are quite high. Since European guidelines set the time for breastfeeding at least 6 months, further research should reveal whether (part-time)

employment, and the early timing of starting to work after the first birth, has an effect on children's outcomes such as child's attachment (through breastfeeding behaviour).

We used a nested logit model to explain the mother's labour supply and working hours at both times. In the full-model (including education, spousal labour market characteristics and migrant backgrounds) the effect of a mother's partner not sharing the household did not show a significant effect on the mother's participation decision at pregnancy and at the time the infant was 3-5 months old²⁷, except for the decision to work more than 24 hours per week for women who are in paid work at the time.

Independent of the expected effects of education and of the language problem on labour participation at pregnancy and at the time the first infant is 3-5 months old, we revealed two different effects for generations of migrants at the time of first pregnancy: A) the pregnant woman's decision to participate in paid work is negatively affected if she is born abroad (with a Dutch born partner and with a foreign born partner); B) the likelihood to quit the job because of pregnancy versus not being active at all during pregnancy is only negatively affected by the mother's parents being born abroad.

Furthermore, we analysed some specific variables such as the (changes of) partner's working hours, plans for and weeks of breastfeeding, and opinion of the mother's mother. At 16 weeks pregnancy a partner who works full-time reduces the likelihood of the pregnant women to work ("breadwinner model"). A partner who is not employed reduces also the likelihood of the pregnant women to work (non-working parents). A partner who works between 32-35 hours per week is likely to be with pregnant women who works between 24-32 hours and less likely with a pregnant woman who works more than 32 hours ("equal role sharing", but partner a little more working hours). Partners who changed working hours to work more than 40 hours per

week after first birth are likely to be with a mother who has an intention to work for pay (work oriented parents). A partner who reduced work hours to 25-32 hours per week is likely to be with a mother who already started work for pay when the infant is 3-5 months old. This seems to indicate that parents share the paid and unpaid work more equally.

First infants' mothers-to-be who have chosen to be in paid work during pregnancy and have planned to breastfeed for 1-3 months are more likely to work longer hours, both more likely to work more than 24 hours, but also once having chosen in favour of longer part time work, the shortest breastfeeding plans have a positive effect on fulltime work.

If the timing of going back to work when the infant is 3-5 months old is not desired from the child's development perspective, a few effects need further analysis. If the mother has been breastfeeding longer she is less likely to be back at work at the time the infant is 3-5 months. Clearly, the duration of breastfeeding, and the combination of breastfeeding and working for pay would need further analysis. The partner's reduction of working hours to 25-32 per week leads the mother to be back at work at the time the first infant is 3-5 months old. This effect in relation with the reasons for not taking 3 months of unpaid parental leave and the child care choices would need to be analysed. If going back to work when the infant is 3-5 months is not problematic for the child, the migrant background of the first infant needs more analysis, since mothers are less likely to return when the first infant is 3-5 months if the mother's partner, or the mother or the parents are born abroad.

The role and the importance of the opinion of the grandmother (and the opinion itself) for the mother whose partner and parents are born abroad needs more careful analysis, since the importance of the opinion affects the labour force participation decision

negatively for these first infant's mother, but has no effects on the working hours. Our analysis already finds this effect at 16 weeks pregnancy, and it seems that the grandmother's opinion leads some women to refrain from paid work, even in a part-time economy, which makes their and their children's economic situation vulnerable.

¹ The increase already appeared before the change in social policies to allow mothers to have a career in 1990. The Childcare Stimulation Act of 1990 is the first government action, which explicitly caters to the needs of the working mother rather than assigning priority to educational considerations for children.

² On the contrary, the government has not withdrawn their reservation regarding article 26 of the UN Treaty on Children's Rights regarding a child's individual right to social security (Van Dalen and Brinkgreve 2005, Committee on the Rights of the Child 2004). Nowadays individual parents are the unit of calculation in the social security system, and children are not, because the government does not take over the responsibility of parents.

³ From labour supply studies it is well known that women's education is a crucial determinant in the Dutch labour market (Hartog and Theeuwes 1985, Gustafsson, Kenjoh and Wetzels 2003), and in the marriage market (Wetzels 2001). Moreover, parents decide on the childcare arrangements for their children, and parents do not make these decisions randomly. Parents who choose better quality care may also provide children with other advantages (e.g., other educational opportunities) and those other advantages, not quality of childcare, may account for links between the quality of childcare and cognitive outcomes (Harvey 1999; Bernal 2004).

⁴ Empirical research based on register data in Scandinavian countries analyse the labour market position of migrant men and women. However, most of the data lack information on the partner. In other European countries e.g. in the Netherlands, laws prohibit the use of register data for research purposes because the privacy of data on individuals has to be respected.

⁵ We have chosen to focus on the gender and generation of the migrant background, and not to analyse any of the 826 specific countries of origin specifically. The reason is that there may be forces driving the labour market behavior of mothers and their partner by gender and generation of migration independent of the country of origin. Nevertheless, country of origin may in addition have its own specific effect although it is less clear what theoretical framework explains these specific, potential effects.

⁶ Labour participation rates of women aged 25-44 with at least one non-Dutch parent is 60%, of which 9% are unemployed (in 2002). Labour participation rates of women aged 25-44 with at least one parent born in Africa, Asia (excluding Japan, Indonesia), Latin America or Turkey is 52%, of which 10% are unemployed (Statistics Netherlands 2003).

⁷ The term ethnic minority is used in Dutch policy not to indicate the number of people from a non Dutch ethnic origin, but also to indicate those whose socio-economic position is weak.

⁸ This could imply that more adults than children migrate since the definitions of family reunification and family formation seem to consider different age groups. The increase in family formation mainly concerns women above 18, who marry a migrant men who lives in the Netherlands. Family reunion mostly concerns family members such as wives and children who migrate to the Netherlands because they have a family history with the migrant living in the Netherlands.

⁹ Zorlu (2002) controls in his labour supply model for age, age squared, education, gender, first infant's parents with children, 1st infant's parents without children and years since migration.

¹³ Since the mid 1980s, unions in the Netherlands have been raising demands for part-time work and equalizing the employment conditions between full-time workers and part-time workers. Earlier, the women's movement had demanded shorter work days, but realizing that travel time would not be reduced, interest in part-time work has grown. Skilled women increasingly want to combine part-time

work with family responsibilities. Women's increasing skills made the costs of replacing these employees higher. In addition, with a situation of high unemployment, women's incomes were needed by the family. Furthermore, employers began to recognize the benefits of part-time work in optimizing personnel strategies, for example, in the banking sector.

¹¹ The Act on Adjustment of Working Hours (Wet Aanpassing Arbeidsduur), which went into effect in the Netherlands on July 1, 2000, gives those employed by firms with more than 10 employees the right to shorten or increase work hours on request if they have been employed for at least one year, and have not asked for a change in working hours within the past two years. Within four months prior to changing work hours, the employee should indicate the date that the new working hours take effect, the number of working hours, and the preferred distribution of working hours during the week. The hourly wage remains the same. Usually, in the Netherlands when a law is accepted, it codifies already existing practice, which is included in most Collective Labour Agreements at the time the act passes. As of 1993, the advisory council on Dutch Labour Market Issues had proposed that collective bargaining agreements give "social partners"—representatives of employers and employees—the right to arrange part-time work.

¹² The 1997 European Union Directive on Part-time Work states: "Member states and social partners should identify and review obstacles which may limit the opportunities for part-time work" (EU 1997). Furthermore, "employers should give consideration to requests by workers to transfer from full-time to part-time work and the reverse when such work becomes available."

¹³ Zorlu (2002) reveals that 63 percent of Moroccan employed women work part time, 56% of Turkish women work part time, compared to 63% of Dutch women in part time jobs in the Netherlands in 1997. The rate of working part-time is equal between Dutch and Turkish employed men, 15%, and 19% of Moroccan employed men work part-time in the Netherlands in 1997.

¹⁴ In the Netherlands, leave indemnification is to be negotiated with the employer. For example, in the public sector, parental leave beneficiaries receive 75% of their wages. However, in the private sector, only few collective agreements (6% in 2000) include payment of the parental leave (replacement rate up to 30%). Only 40% of entitled mothers actually make use of their right to take parental leave, compared to 9% of the entitled fathers (De Henau, Meulders, DÓrchai and Perivier forthcoming).

¹⁵ Those parents who use formal child care also use it part-time. 40% use formal child care for less than 12 hours per week, 25% use it between 12-19 hours per week; 32% use between 20 and 27 hours per week; using formal child care for more than 28 hours per week is negligible.

¹⁶ Only 2.04% of the infants are 11 weeks at the time of survey. 34.32% are 12 weeks, 41.15% are 13 weeks, 10.98% are 14 weeks, 4.35% are 15 weeks, 2.57% are 16 weeks and the remaining 4.6% are between 17-22 weeks.

¹⁷ The data provide information on previous births but not on the employment status and the partner's immigrant background for previous births.

¹⁸ The proportion of immigrants is higher in Amsterdam than in the rest of the country (Hartog and Zorlu 2004) as in other major cities (Borjas 2006). As of January 2002, one third of the total non-Dutch population lives in the four major cities in the Netherlands, whereas only one eighth of the total population in the Netherlands lives in the four major cities. The percentage of the non-Dutch population living in the four major cities is even higher among the Turkish (52%) and the Moroccan (42%) populations living in the Netherlands (Hartog and Zorlu 2004).

¹⁹ We cannot distinguish clearly between different migrant groups for single women since only half of single women have indicated the father's country of birth.

²⁰ Unfortunately, since our data lacks information on mother's partner's education we cannot analyse his labour supply decision.

²¹ Our data lacks information on unemployment. We use the words "choice" and "decision" here, since we assume the woman can decide on employment type herself. Therefore, we assume no restrictions on the demand side of the labour market.

²² In our case, all the explanatory variables refer to the individual's or first infant's mother's household's characteristics rather than to the alternatives she selects so that the same explanatory variables show up at all three stages. Since each potential alternative is specified as a separate observation in the nested logit model, it was necessary to re-specify all the explanatory variables as interactions between the original explanatory variables and the relevant alternatives at each level, thus leading to different vectors of explanatory variables at each level.

²³ We performed the analysis for all women in the pregnancy sample and for women in the pregnancy sample who also participated in the “infants’ sample. The results hardly differ. In addition, we have estimated other specifications of the model in Table 4 (the results are available upon request from the author). First, we estimated the model explaining the three levels of labour market engagement by education levels only and partner not present. In addition to the effects of these variables in Table 4, low education and partner not at home were negatively significant in the decision to work, high and low education level were negative on quitting work, and a high education level partner not at home were negative on working more than 32 hours per week, whereas high education was positive on working fulltime. If the model was extended with migrant background of the couple, in addition to the results for these variables in Table 4, also women with a foreign born partner and foreign born parents were less likely to participate. Women with a Dutch partner and one parent born abroad were more likely to quit. Women with parents born abroad (and with a foreign born partner) were less likely to work more than 24 hours vs. less than 24 hours, and the latter categories were also less likely to work full time if they were in paid work for more than 24 hours per week. If we extended the model with the opinion of the grandmother the negative effect on participation in paid work of women with foreign born partner and parents disappeared. All other effects of migrant background on mother’s participation decision disappeared by including partner’s labor supply, except for those mentioned in Table 4.

²⁴ The language skills may also give an indication of time since migration, a variable that is lacking in our data.

²⁵ The model in Table 5 has been estimated explaining the employment decisions by education only, by education and partner’s employment, by adding migrant backgrounds, by adding difficulties speaking Dutch, by adding mother’s opinion. These estimations are available upon request.

²⁶ For example, they are more likely, because of educational matching on the labour market to have a partner who provides for the income if the negotiated leave is unpaid or the paid leave does not pay enough.

²⁷ In fact, in the model which excludes the partner’s labour market characteristics (not shown), a negative effect of a partner not sharing a household with the mother was revealed on the decision to quite work during pregnancy, and on working more than 24 hours per week versus less than 24 hours per week, and a positive effect on working long hours.

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Figure 1

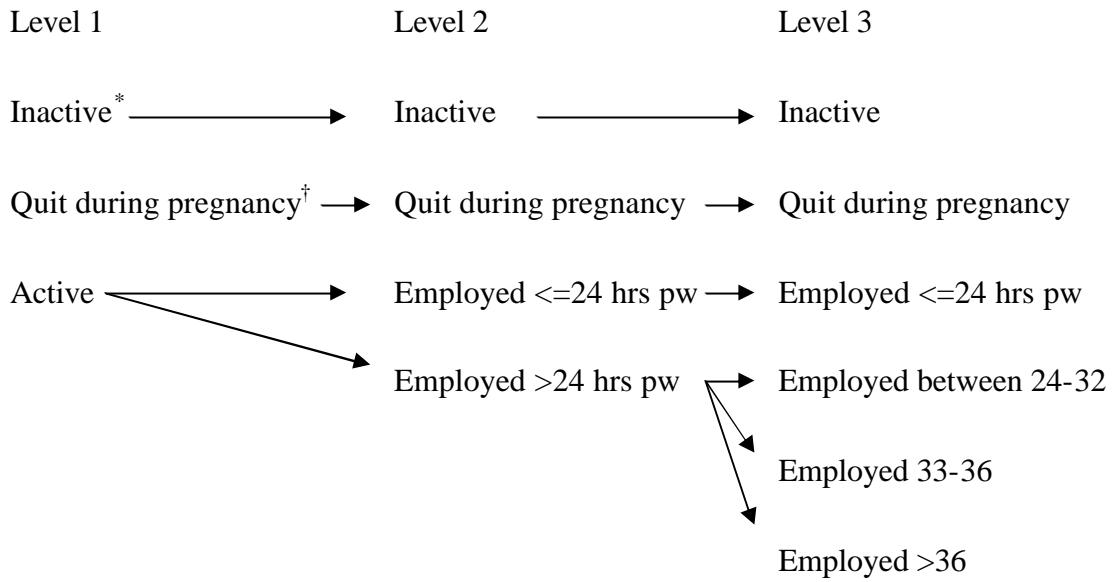
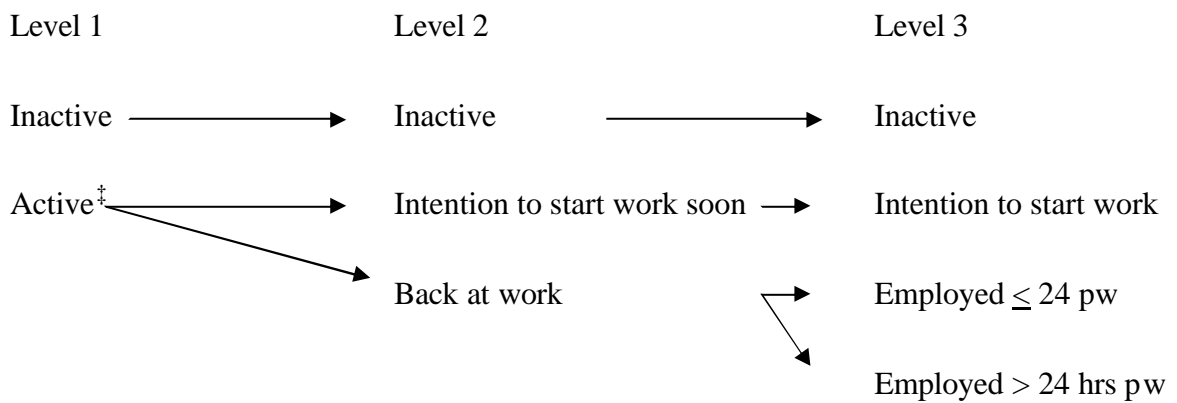


Figure 2



* Inactive in this figure means not active up until 16 weeks pregnancy.

[†] Quit work in this figure means quit paid work during first 16 weeks of pregnancy because of pregnancy

[‡] Active in this figure means intention to be active

Table 1A Definition and number of observations of migrant background

First infants' parents' migrant background		Born in NL=1				% of Total	N
		Not born in NL=0					
		M	P	GM	GF		
0	Parents and mother's parents Dutch born	1	1	1	1	45.32	2,055
1	Migrant: mother's parents	1	1	0	0	3.63	163
2	Migrant: One of the mother's parents	1	1	0	1	2.32	228
		1	1	1	0	2.62	
3	Migrant: mother's partner	1	0	1	1	8.03	367
4	Migrant: mother's partner + mother's parents	1	0	0	0	4.68	214
5	Migrant: Mother + mother's parents	0	1	0	0	8.85	396
6	Migrant: Both parents	0	0	0	0	22.02	995
	Total						4,527

Table 1B Lone motherhood, presence of the mother's partner in the household, and work status by types of migrant background at 16 weeks pregnancy of the first child

1 st infants Migrant background	Single %	Partner not at home %	Single mother not in paid work %	Partner not home partner no paid work %	Partner not at home parents not in paid work %	Partner at home partner no work %	Partner at home parents not in paid work
Parents and mother's parents Dutch born	0.1	7.4	0.1	1.1	0.3	4.2	0.4
Migrant: mother's parents	2.5	29.5	1.3	14.7	11.0	10.4	7.4
Migrant: One of the mother's parents	-	10.5	0	2.2	0.9	3.5	1.3
Migrant: mother's partner		16.9		5.5	0.6	19.5	3.6
Migrant: mother's partner + mother's parents		21.8		10.9	6.6	21.9	11.9
Migrant: Mother + mother's parents	0.8	8.8	0.5	3.5	1.3	8.8	5.3
Migrant: Both parents		17.2		10.8	7.1	19.5	12.4
Total		12.4		4.9	2.7	10.3	4.7

ABCD 2003/2004 pregnancy sample: M: First infant's mother; P: mother's partner; GM: mother's mother; GF: mother's father. We exclude 1.15% observations on mother's partner and one of mother's parents born abroad, 1.28% of the mother born abroad but her parents Dutch born, and all other migrant backgrounds since they have below 1% of observations.

Table 2 Parent's Hours supplied to the market at 16 weeks pregnancy (first child) by migrant background

First infants' parents' migrant background			% first infants' mothers not working	% working <=24 hours	% working 25-32	% working 33-36	% working >36
Parents and mother's parents Dutch born	2,055	100%	5.41	10.44	25.41	19.81	38.93
Migrant: mother's parents	163	100%	21.62	12.51	15.32	17.21	33.34
Migrant: One of the mother's parents	228	100%	9.85	13.57	23.65	19.70	33.23
Migrant: mother's partner	367	100%	10.41	10.78	26.39	17.47	34.95
Migrant: mother's partner + mother's parents	214	100%	26.17	7.56	16.11	20.13	29.86
Migrant: Mother + mother's parents	396	100%	28.89	11.12	14.44	13.61	31.94
Migrant: Both parents	995	100%	55.45	8.84	8.05	7.27	20.39
Total							
			% mothers' partners not working		% working <=32 hours	% working 33-36	% working >36
Parents and mother's parents Dutch born	2,055	100%	3.95		11.32	13.47	71.28
Migrant: mother's parents	163	100%	12.5		12.52	12.50	62.49
Migrant: One of the mother's parents	228	100%	4.04		13.13	13.13	69.7
Migrant: mother's partner	367	100%	17.05		13.25	9.09	60.61
Migrant: mother's partner + mother's parents	214	100%	21.28		10.64	6.38	61.88
Migrant: Mother + mother's parents	396	100%	9.38		9.98	14.37	66.27
Migrant: Both parents	995	100%	20.64		10.38	9.97	59.01
Total	4,527						

ABCD pregnancy sample 2003/2004. See note Table 1. Excluding single mothers.

Table 3 Parents' Hours supplied to the market when the first infant is between 3-5 months by migrant background

The migrant background of first infants' parents			% mothers not working s	% not yet, intention to start soon	% working 1-16	% working 17-24	% working 25-32	% working 33-40	%>40
Parents and mother's parents Dutch born	56.09	100%	6.73	43.74	7.42	14.83	18.50	7.55	1.22
Migrant: mother's parents	2.77	100%	18.18	39.40	ns	ns	ns	ns	Ns
Migrant: One of the mother's parents	5.94	100%	7.84	41.18	9.81	15.03	15.69	9.80	0.99
Migrant: mother's partner	8.11	100%	12.32	48.77	6.9	10.34	15.27	5.42	0.99
Migrant: mother's partner + mother's parents	2.92	100%	27.40	38.36	ns	ns	ns	ns	Ns
Migrant: Mother + mother's parents	8.25	100%	22.58	54.84	6.45	5.07	5.07	5.07	0.92
Migrant: Both parents	13.22	100%	46.48	32.72	5.5	3.36	3.98	7.03	0.92
Total	2,776*								
			% mothers' partners not working		% working 1-16	% working 17-24	% working 25-32	% working 33-40	%>40
Parents and mother's parents Dutch born	56.09	100%	4.01		2.17	3.60	16.85	45.45	27.92
Migrant: mother's parents	2.77	100%	9.23		ns	ns	ns	ns	ns
Migrant: One of the mother's parents	5.94	100%	7.19		2.26	4.58	15.69	39.87	29.41
Migrant: mother's partner	8.11	100%	15.75		8.4	2.46	13.30	38.42	21.67
Migrant: mother's partner + mother's parents	2.92	100%	17.81		10.95	5.48	2.74	45.21	17.81
Migrant: Mother + mother's parents	8.25	100%	9.68		7.38	1.38	13.36	40.09	28.11
Migrant: Both parents	13.22	100%	14.98		23.56	3.36	4.89	35.17	18.04
Total	2,776								

ABCD infants sample 2003/2004. Excluding single mothers. * See note Table 1. Ns: .not shown too few observations.

Table 4. Parameter estimates from a Three-Level Nested Logit Model of Participation in the Labour Force Pregnant women 16 weeks pregnant with first infant. The Netherlands

	1 st level	1 st level	2 nd level	3 rd level	3 rd level
	Active vs. not active up until 16 weeks pregnancy	Quit during pregnancy vs. not active up until 16 weeks pregnancy	Employed >24 hrs pw. vs. employed <=24 hrs pw	Employed 32-35 hrs pw vs. employed 24-32 hrs pw	Employed >35 hrs pw vs. employed 24-32 hrs pw
	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
	[se]	[se]	[se]	[se]	[se]
Partner, but not at home	-0.32 [0.30]	-0.45 [0.22]*	0.06 [0.18]	-0.33 [0.18]	-0.19 [0.15]
Low education	-0.10 [0.33]	0.06 [0.19]	-0.02 [0.22]	-0.64 [0.25]**	-0.39 [0.19]*
High education	0.49 [0.24]*	-0.03 [0.19]	0.07 [0.13]	-0.03 [0.11]	-0.05 [0.10]
Migrant: mother's parents	-0.89 [0.48]	-0.88 [0.40]*	-0.57 [0.32]	0.21 [0.32]	0.39 [0.27]
Migrant: One of the mother's parents	-0.41 [0.46]	-0.96 [0.52]	-0.18 [0.24]	-0.03 [0.21]	-0.08 [0.19]
Migrant: mother's partner	-0.48 [0.43]	-0.02 [0.36]	0.12 [0.21]	-0.13 [0.18]	-0.14 [0.16]
Migrant: mother's partner + Mother's parents	-0.61 [0.49]	0.43 [0.31]	-0.38 [0.31]	0.49 [0.28]	0.35 [0.25]
Migrant: mother + Mother's parents	-0.72 [0.35]*	-0.53 [0.27]	-0.47 [0.22]*	0.03 [0.21]	0.33 [0.17]
Migrant: Both parents	-0.87 [0.31]**	-0.37 [0.22]	-0.46 [0.20]*	-0.08 [0.20]	0.29 [0.16]
Difficulty speaking Dutch	-2.26 [0.50]**	-0.81 [0.21]**	-1.47 [0.61]*	1.36 [0.60]*	2.22 [0.53]**
Partner not in paid work	-1.37 [0.39]**	-0.45 [0.23]*	0.41 [0.23]	-0.22 [0.21]	0.24 [0.18]
Partner works 32-35 pw.	-0.82 [0.51]	-0.55 [0.42]	0.91 [0.23]**	-0.73 [0.22]**	-0.87 [0.21]**
Partner works full time	-1.58 [0.42]**	-0.45 [0.17]*	0.86 [0.17]**	-0.14 [0.11]	0.41 [0.10]**
Opinion of the grand-	-0.63	-0.42	-0.01	-0.03	-0.08

Mother	[0.27]*	[0.17]*	[0.17]	[0.16]	[0.14]
Plan to breastfeed, 0-3mths	-1.13	0.41	0.79	0.22	0.56
	[0.46]*	[0.25]	[0.20]**	[0.13]	[0.11]**
Plan to breastfeed, 4-6 mths	0.14	0.35	0.10	0.07	0.13
	[0.26]	[0.20]	[0.14]	[0.12]	[0.10]
(Incl. Value parameters)					
M					
/M1	0.50				
	[0.00]				
/M2	0.50				
	[0.00]				
/M3	0.50				
	[0.00]				
/M4	0.82				
	[0.16]**				
T					
/T1	0.50				
	[0.00]				
/T2	0.50				
	[0.00]				
/T3	2.22				
	[0.28]**				
Log likelihood	-6221.20				
Number of Observations	25518				
Number of groups	4253				
LR chi2 (82)	2798.30				
Prob > chi2	0.0000				
LR test of homoskedas- ticity(iv=1):chi2 (2)=	63.29				

*Data: ABCD 2003/4 Pregnancy sample. Excluding single mothers.
Standard errors in brackets. * Significant at 5%; ** significant at 1%.*

Table 5 Parameter estimates from a Three-Level Nested Logit Model of Participation in the Labour Force of First infant's mother when infant is 3-5 months old in the Netherlands

	1 st level	2 nd level	3 rd level
	(Intention to) Work for pay vs. No intention to work for pay	At work vs. intention to start work soon	working >24 hrs pw vs. <24 hrs pw
	Coeff. [se]	Coeff. [se]	Coeff. [se]
Age 1 st infant	-0.20 [0.06]**	0.13 [0.02]**	0.03 [0.03]
Partner, but not at home	-0.02 [0.33]	0.08 [0.18]	-0.53 [0.24]*
Low education	-1.05 [0.38]**	0.36 [0.22]	0.08 [0.32]
High education	0.67 [0.18]**	0.02 [0.15]	0.62 [0.14]**
Migrant: mother's parents	-0.92 [0.50]	-0.14 [0.27]	-0.22 [0.38]
Migrant: One of the mother's parents	-0.23 [0.40]	-0.02 [0.18]	-0.29 [0.24]
Migrant: mother's partner	0.04 [0.31]	-0.41 [0.16]*	-0.27 [0.24]
Migrant: mother's partner + mother's Parents	-0.63 [0.46]	-0.32 [0.29]	0.24 [0.44]
Migrant: Mother + her parents	0.36 [0.32]	-1.03 [0.18]**	-0.34 [0.30]
Migrant: Both parents	-0.32 [0.29]	-0.53 [0.18]**	0.06 [0.28]
Difficulty speaking Dutch	-0.95 [0.36]**	-0.50 [0.49]	1.35 [0.82]
Partner no job after first birth	-0.15 [0.39]	0.31 [0.35]	0.84 [0.30]**
Partner works >40 hrs pw. (no change)	0.06 [0.44]	0.16 [0.27]	0.09 [0.30]
Partner works 33-40 hrs pw. (no change)	0.50 [0.33]	0.11 [0.21]	0.04 [0.19]
Partner works 25-32 hrs pw. (no change)	1.05 [0.62]	0.08 [0.25]	-0.44 [0.34]
Partner works 17-24 hrs pw. (no change)	0.18 [0.80]	0.39 [0.40]	0.06 [0.51]
Partner works >40 hrs pw. (more hours)	0.61 [0.31]*	-0.20 [0.24]	0.18 [0.22]

Partner works 33-40 hrs pw. (more hours)	0.61	-0.21	-0.33
	[0.48]	[0.29]	[0.41]
Partner works 25-32 hrs (more hours)	0.76	-0.24	-0.33
	[0.63]	[0.35]	[0.52]
Partner works 33-40 hrs (less hours)	-0.36	0.38	-0.04
	[0.63]	[0.33]	[0.43]
Partner works 25-32 hrs (less hours)	-0.24	1.04	-0.05
	[0.70]	[0.24]**	[0.24]
Partner works 17-24 hrs (less hours)	-0.79	0.47	-0.62
	[1.07]	[0.47]	[0.59]
Opinion of the grandmother	-0.42	0.09	0.31
	[0.24]	[0.16]	[0.23]
Breastfeed > 4 weeks [yes=1, No=0]	-0.24	0.19	-0.04
	[0.50]	[0.24]	[0.34]
Number of weeks breastfeeding	0.04	-0.04	-0.03
	[0.03]	[0.02]*	[0.02]
(Incl. Value parameters) M	0.50		
/M1	[0.00]		
/M2	0.50		
	[0.00]		
/M3	-0.25		
	[0.29]		
/T1	0.50		
	[0.00]		
/T2	2.91		
	[0.57]**		
Log likelihood	-3154.634		
Number of obs.	10,720		
Number of groups	2,680		
LR chi2 (77)	1121.07		
Prob > chi2	0.00		
LR test of homoskedasticity (iv=1): chi2 (2)=	24..89		

*Data ABCD infants sample 2004. Excluding single mothers.
Standard errors in brackets * significant at 5%; ** significant at 1%*

Appendix Table A1.

1 st infant's mother's and her partners characteristics	Pregnancy sample		Infants sample	
	Mean	Std. Dev.	Mean	Std. Dev.
Variable				
Age	29.64	5.278	30.43	4.832
Low education	0.13	0.336	0.08	0.267
Medium education	0.33	0.471	0.30	0.459
High education	0.53	0.499	0.62	0.487
Mother does not live with partner	0.15	0.357	0.12	0.322
Mother has partner but does not live with him	0.12	0.329	0.10	0.297
Single	0.03	0.160	0.02	0.138
Partner left between 16 weeks preg. & child's 16 weeks			0.03	0.171
Participation in paid work	0.78	0.417	0.85	0.360
Mother stops paid work because of pregnancy	0.05	0.224	0.04	0.185
Ft \geq 36 hours per week	0.32	0.465	0.34	0.473
Lpt	0.35	0.478	0.40	0.490
Spt	0.11	0.308	0.11	0.309
Working \leq 24 hrs pw	0.11		0.11	0.309
Working $>$ 24 hrs pw	0.67		0.74	
Partner works $>$ 35 hours per week	0.70	0.460	0.74	0.440
Partner works 32-35 hours per week	0.05	0.224	0.06	0.237
Partner works 1-32 hours per week	0.06	0.239	0.06	0.238
Partner not in paid work	0.15	0.362	0.11	0.318
Mother has plan to breastfeed	0.89	0.312	0.90	0.296
Plan for breastfeeding is 1-3 months	0.30	0.460	0.31	0.463
Plan for breastfeeding is 4-6 months	0.26	0.441	0.29	0.454
Opinion of the grandmother is important for mother#	0.21	0.404	0.15	0.353
Difficulty speaking Dutch^	0.10	0.299	0.06	0.228
Parents and mother's parents Dutch born	0.45	0.498	0.54	0.498
Migrant: mother's parents	0.04	0.187	0.03	0.174
Migrant: One of the mother's parents	0.05	0.220	0.06	0.233
Migrant: mother's partner	0.08	0.272	0.09	0.287
Migrant: mother's partner + mother's parents	0.05	0.211	0.03	0.174
Migrant: mother's partner + one of mother's parents	0.01	0.107	0.01	0.107
Migrant: Mother	0.01	0.112	0.02	0.123
Migrant: Mother + mother's parents	0.09	0.284	0.08	0.271
Migrant: Both parents	0.22	0.414	0.14	0.348
After :Not in paid work/no intention to start paid work %			0.15	
After: Intention to start work soon %			0.43	
After: Working \leq 24 hrs pw %			0.19	
After: Working $>$ 24 hrs pw %			0.23	
After: P not in paid work			0.09	0.282
After P-start to work			0.07	0.257
After P-works 1-8 (no change of hours)			0.03	0.174
After P-works 9-16 (no change of hours)			0.03	0.157
After P-works 17-24 (no change of hours)			0.04	0.184
After P-works 25-32 (no change of hours)			0.04	0.195

After P-works 33-40 (no change of hours)	0.34	0.475
After P-works 41+ (no change of hours)	0.06	0.232
After P works more hrs	0.25	0.435
After P works less hrs	0.21	0.407
After P-works 17-24 (less hours)	0.02	0.143
After P-works 25-32 (less hours)	0.08	0.269
After P-works 33-40 (less hours)	0.02	0.149
After P-works 25-32 (more hours)	0.02	0.133
After P-works 33-40 (more hours)	0.03	0.175
After P-works 41+ (more hours)	0.18	0.387
Actual breastfeed (y/n)	0.84	0.363
Number of weeks breastfeeding	10.89	5.45
Age infant-(weeks)	13.22	1.97
N	4492	2902

Data: ABCD 2003/2004 Pregnancy sample and Infants sample.

Importance of grandmother's opinion is 1 if the answer to the question: how important to you is your mother's opinion on the choice between breastfeeding and industrial milk? Is: " A. Very important"; zero otherwise.

^ **Difficulty with language is 1 if the answer to the following question** "Do you have a rudimentary knowledge of Dutch, which enables you to communicate? Is:" A. No, I do not speak Dutch; B. yes, but with a lot of difficulty", zero otherwise.