

CHAPTER 3

MOTHERHOOD AND LABOUR MARKET PARTICIPATION: GENERATIONAL DYNAMICS

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Introduction

Discussions about the success of emancipation policy, or lack of it, more often than not end in confusion. When we break down the issue and look at the labour market, we must conclude that the position of women has improved considerably compared to, let's say, a quarter of a century ago. If you want to focus on progress, you can say that the emancipation glass is half full. Those who look at what has not been achieved yet will call it half empty. For the generations of women who left school during the past decades having a paid job is a matter of course, just like it has been to men for so long (Schippers and Vlasblom, 2004). In the past women would stop participating when the first child arrived. In fact, it was even worse: until 1957 there was a statutory prohibition in place to employ a married woman as a civil servant or keep her employed, while the general ban on the dismissal of women on their marriage or pregnancy was introduced as late as 1976 (Plantenga, 1993). In spite of these adjustments of the rules, it took many years before women felt they were allowed, not only by law but also by their social environment, to have (and keep) a job. Motherhood and stopping participation are no longer inextricably bound to each other, particularly not for highly educated women –the number of which is increasing. Lower educated women are still clearly lagging behind (Vlasblom and Schippers, 2004). Today, it is more common to adapt the participation patterns instead of interrupting the labour market career entirely. For many women, the birth of their children leads to a reduction of working hours: a large majority of mothers is working part-time (SCP/CBS, 2004).

However, we know relatively little about the differences in labour market behaviour in relation to the birth of a child between the various cohorts, and the long-term consequences of this labour market behaviour. For some time now we have known the concept of 'women returners': women who, after having raised their children to be more or less independent, return to the labour market. This return was often to a job that did not match the woman's original level of education and for relatively low wages. Theory emphasised that continuous participation, even if it is part-time and given a low profile, is to be preferred in order to keep knowledge and skills up to date and maintain a work-related network (Groot et al., 1988; Joshi, 1990; Schippers, 1987). In transitional labour market terms: the transition from work to care is more costly than the transition from work to a combination of (part-time) work and care. Furthermore, the first transition is much more difficult to reverse than the second one (Vlasblom et al., 2002).

Using the results of the Family Survey (*Onderzoek Gezinsvorming, OG*) of the Statistics Netherlands (CBS), we will conduct a number of analyses in this chapter, aimed at gaining an insight into the longterm consequences of labour market behaviour around childbirth.

Theory

Much of the research on the labour participation of women is based on a cross-sectional design. This research seeks to make a direct link between, let's say, the educational level and experience on the one hand, and the labour market supply on the other hand. It usually concludes that the level of participation by women with children is lower than that of those without. From a researcher's *and* policy maker's point of view, however, it is at least as interesting to place such analyses in a life course perspective. Such a perspective enables finding out more about the relationship between 'the things that once happened', meaning earlier life course events, and the present labour market and earnings position of women.

There is a great deal of research which shows that women with a higher level of education offer a larger labour supply (See for the Netherlands e.g. Grift, 1998; Vlasblom, 1998). The often heard explanation for this is based on a cost-benefit analysis calculation derived from human capital theory: the higher educated stand to gain more from working; the price they pay for stopping their participation is high. For those with a lower level of education it is exactly the other way round. This argument does not offer any insight in why (and when) the weighing of the pros and cons of participation and (partial) non-participation works out differently at some point in the life course of women with different educational backgrounds. There is much (empirical) research that shows that the decisive moment for women when it comes to the choice between participation or no participation is linked to 'critical life course events', such as the birth of their first child (See, among others, Vlasblom and Schippers, 2003) or a divorce. Empirical research has also shown that the incidence of the event has an effect, but that the labour supply decision is demonstrably affected in the long term, too. Not only *giving birth* to children, for example, has an immediate effect, *raising* them, affects the labour supply behaviour as well (particularly during the period when the children are members of the mother's household). This is an indication that decisions made at a number of moments during the life course seem to have longterm effects.

There are examples of theoretically based empirical models in economic literature that demonstrate *why* such decisions may have longer term effects. MaCurdy (1981) gives a multiple-period version of the labour supply model. He uses a standard labour supply model according to which the labour supply for each period is determined in light of the woman's situation (level of education, number and age of children, (work) experience and virtual earnings). He combines this labour supply model with a wage model. This wage model is the standard (human capital) wage model according to which the wage rate depends on human capital factors: the more human capital, the higher the wage rate will be. He ignores that, from a life course perspective, the level of people's education may not be entirely exogenous: he assumes that the level of education depends on people's abilities and not by goals that are set such as labour market desiderata. MaCurdy integrates the wage model and the participation model into a model that enables the demonstration of a number of interesting effects related to having children. In the period after the birth of a child, a woman faces the following choice: to participate or not to participate. At that moment, her choice will be particularly affected by a cost-benefit analysis related to that (first) child. If she decides not to interrupt her career she will have less time available for caring for her child and she will have to make different – and probably costly – arrangements. On the other hand, her wage rate will increase in the following period as opposed to the present period (after all, work experience is considered a bonus). This means that the outcome of the cost-benefit analysis for the next period will be to the advantage of working. However, if she chooses not to participate, she will save on the costs of child care, though it is highly probable that the outcome of the cost-benefit

analysis for the next period will work out to be against participation as well; after all, she lacks a year of work experience, which leads to a depreciation of her human capital. The result is a reduction of her income in the period after that compared to her income before she stopped participating.

This process may lead to a division between 'quitters' and 'stayers'. Once a choice is made, it can only be reversed at high costs. After all, the wage rate is not the only thing determined by previous work experience. When you are looking for a new job, your chances of finding one will also be affected by it. In other words: leaving the labour market is not very difficult, re-entering it is far more of a problem. That is the reason why it is often stated that the lower educated must stay connected to the labour market, even if only in a modest way such as a part-time job (Joshi et al., 1996).

However, you could easily make the case that some groups of women who have interrupted their careers at some point will be able to make up the arrears, at least to a certain extent: at first sight, the difference between the groups, as far as wages are concerned, seems to be substantial, but in the long(er) run, this difference decreases. There appears to be some kind of 'rebound' effect (Mertens, 1998; Mertens et al., 1998). The extent in which women returners are successful or enabled to revitalise their human capital plays an important part in this.

By placing the participation decision in the context of the life course perspective, the weakest link of the chain for women becomes clear. In order to be able to make the 'correct' choice (based on economic grounds) at the 'critical moments', a lot of information is needed about the consequences of that choice. For most women, the short term consequences of labour market transitions can usually be assessed: no participation means no income and much time available for care. The long term consequences such as reduced job opportunities and lower pay are far more difficult to assess. Moreover, when people are making decisions they tend to consider the long term consequences insufficiently (myopic behaviour). MaCurdy incorporates this in his model by hypothesising that individuals strive for utility maximisation over the life course. They calculate future utility using a positive discount rate. If the discount rate is low, future earnings weigh almost as high as current earnings. If the discount rate is high, only the present matters. There is research that shows that the discount rate, particularly for the lowly educated, is high. This, too, results (within the context of this model) in the higher educated opting for an uninterrupted career more often.

The empirical specification of the model that we use enables us to compare the behaviour of women of different cohorts and age categories. We will therefore have to examine the differences in the characteristics between the successive cohorts. The women of the successive cohorts share different norms and values and have faced different institutional settings. In the fifties, it was not done to have a paid job and care for children as well, whereas today most people would not object to the combination of labour and care (certainly not in the groups we are discussing here). The institutional context has changed as well. Some twenty years ago there was hardly any formal childcare available, nor the opportunity to work part-time. Even if women realised that they should continue participating, they would have lacked the opportunities to do so, unless their social network provided some form of informal childcare. Today, the increasing availability of (formal) childcare enables more women to benefit from it, if they want to. These shifts mean that there may be differences between the cohorts that cannot be brought back to a woman's personal characteristics.

Data

The data used in this research comes from the Family Survey (*OG Onderzoek Gezinsvorming*) that was conducted at regular intervals by Statistics Netherlands (CBS). We will use the results of the surveys of a number of years, namely those of 1993, 1998 and 2003. In this section, we will give an outline of several characteristics of the data sets that we used.

The OG aims at gaining insight into the family formation process. To do so, respondents were given a large number of questions with respect to the formation of their family and relationship(s). They were also asked more general questions on their educational as well as social background and labour market experiences. The survey also includes a very limited number of questions on the respondent's partner.

The selection criteria the CBS used for the possible respondents were not identical every year. The 1993 survey population of the OG consists of individuals aged 18-42 years, born between 1950-1974. The 1998 OG survey population consists of individuals aged 18-52, born between 1945-1979, whereas in the 2003 OG survey population the respondents were aged 18-62, born between 1940-1984. CBS pollsters conducted the OG surveys face-to-face, using an electronic questionnaire.

No more than three members per household in the designated age range were interviewed. For 1993, the net response was 3,705 men and 4,516 women; for 1998: 4,700 men and 5,500 women, and for 2003: 3,916 men and 4,229 women. It is not possible to link the successive versions of the OG on an individual level. This means that a better mapping of the life courses of men and women, and with more details by construction of a panel database is not possible.

Since the weighing of the pros and cons is completely different for single women than it is for cohabiting and married women, we will restrict our analyses to the group of women with a partner (regardless of whether they are married). The structure of the questionnaire led to a number of restrictions in the survey sample imposed by the CBS. The 2003 OG for example refrains from asking a number of relevant questions about children if the respondent's children were deceased. We have not included those respondents in our analyses for that reason. The questions differed according to, among other things, the age of the child. The analyses will therefore be restricted to the relevant age subgroup.

The 'present work situation' means the labour market situation at the moment of the interview. Although the questions differ between the three waves, CBS has constructed a variable that defines participation as having a weekly paid job for 12 hours or more. Anyone without a job or with a job of less than 12 hours is qualified as a non-participant.

The OG asks about the respondent's labour market experiences around the time of the birth of their children. Women who participated before their children were born were asked whether their participation had remained the same, had increased or decreased or whether they had stopped participating altogether. Women who did not participate before the birth of their child were not questioned about their situation right after the child was born. Therefore, we assume that they did not participate after the birth of their child either.

The analyses regard educational level as an indication of the respondents' human capital. Unfortunately, it is not possible to include more details on the educational level and type of work. The nature of work (including all work experience) is not a subject of questioning in the OG. The information with regard to the educational level is not the same for all the years either. Since only the educational *level* was indicated in 2003, it is not possible to include the *type* of education. In a number of cases, the distinction between married women and those who are cohabiting is used as an indication of those

respondents' 'modern' outlook on life. Couples living together in the eighties of the 20th century, especially those with children were considered to have a very modern outlook on life indeed.

Labour market transitions surrounding the birth of the first child

As we have indicated in Section 2, the longterm effects of having children make themselves felt in two steps. In the first place there is the question whether there were any labour market transitions as an immediate result of the birth of a child. The second question is whether these labour market transitions are noticeable and still make their effects felt in the present labour market situation. In Section 2 we could see, on the one hand, the path dependency hypothesis which predicts a growing divergence between those who continue participating (full-time) and those who participate part-time or leave the labour market altogether. On the other hand, there is the hypothesis of compensating behaviour and the rebound effect which predicts that choices made in the past can be undone and that any arrears can be made up. The latter hypothesis on the long term effects of having children coincides with the normative opinions of many of the involved parties that it should be possible to take some time off 'for the children' and pick up where you left without too much trouble. Further down this section, we will look into the labour market situation at the time of birth. In the next sections, we will look into the present labour market situation and compare it to the one around the birth of the first child.

We will confine ourselves here to the participation patterns around the birth of the first child since earlier research showed that this moment is of crucial importance to the woman's career (Vlasblom and Schippers, 2004). Even if more children follow the first one, the most important labour market adjustment takes place after the birth of the first child. It seems as if the birth of a first child leads to some kind of anticipation effect for the coming period: women who end up having one child only continue to participate in larger numbers and for more hours than the women who will have more than one child in the end. A larger part of the women who belong to the latter group, stops participating immediately after the birth of their first child, whereas those who remain active on the labour market reduce the number of hours of their participation.

Table 3.1: *Percentage of women who participated at the time of their first pregnancy (Numbers and percentage)*

Cohort (of the woman)	Year	Percentage (still) childless	Employed at the time of the first pregnancy		Number of observations
			Yes	No	
1940-1950	1993	-	-	-	-
	2003	8	52	48	616
1950-1960	1993	12	73	27	1462
	2003	12	73	27	708
1960-1970	1993	48	74	26	1397
	2003	17	80	20	813
1970-1980	1993	83	72	28	172
	2003	59	75	25	547
1980-1985	1993	-	-	-	-
	2003	89	60	40	44
Total	1993	33	73	27	3029
	2003	24	70	30	2728

For 1993 cohort 1970-1980 only includes the birth years 1970-1974, age category 18 to 22.
Source: OG 1993/2003

Table 3.1 shows that the percentage of women from more recent cohorts who remain childless is higher than that of women from older cohorts. It could be argued that this is a logical result for the two youngest cohorts as they are (partly) still in school. The year 2003 saw 61% of the 80-85 cohort still being educated, as opposed to 23% of the 70-80 cohort. The 60-70 cohort is still in the age range of being able to have children. Highly educated women in particular postpone motherhood until their thirties (Beets, 2004). Yet to a large extent in this cohort family formation, i.e. the birth of one or more children, has already taken place, just like in the two older cohorts.

The table also shows that participation before the first child was born ('when you became pregnant with') differs from generation to generation. Just a small part of the younger generation already participates before they have children³, whereas this figure is much higher for older generations. This trend is clearly on the increase. About half of the post-war generation was participating. This figure goes up to 80% for the cohort that was born between 1960 and 1970. Note that when the same cohort was questioned in 1993, they were still in the phase of family formation. 48% of the women were still childless in 1993, in 2003 only 17% was. The group that was still childless in 1993 has continued participating more extensively than the group that already had children; the percentage of women that participated at the onset of the pregnancy has grown between the two surveys⁴. In other words: women who had their children early were less active in the labour market than those who postponed motherhood to a later age. The cohort born after 1970 is still in the middle of the family formation process. 55% of this cohort is still childless. Most of these women do have a job though at present. The moment these women decide to have children, they will move to the column: participation before birth. Should we observe the pattern of this generation in a few years time, it will again show an increase, similar to the one we saw for the 1960-1970 generation. It is clear that the cohort that was subjected to the biggest changes is the one born between 1950-1960, an era during which the Dutch economy was resurrected.

The birth of a child, particularly the first one, often leads to a reconsideration of the division of household tasks. This usually results in an adjustment of (particularly) the woman's participation. Table 3.2 shows the extent of the adjustment of the labour pattern, again with the subdivisions according to the women's birth cohort.. Here, too, it is clear that there are substantial shifts over the course of time. Since the participation of women from older cohorts before giving birth was already substantially lower, the percentage of women who stopped participating is much higher. About 75% of all the women of the 1940-1950 cohort who had a paid job (of 12 hours weekly or more) immediately preceding the birth of their first child stopped participating when it was born. The percentage of women from the following cohorts who continued participating for the same number of hours did not change significantly. The percentage of women that stopped participating altogether strongly decreased: from 75% to 19% (the 1980-1984 cohort was ignored because of the low numbers). Apparently, these women benefited increasingly from the possibilities to work part-time: part-time work was a remote possibility for the 1940-1950 cohort, today 60% of the mothers reduce their work hours.

Table 3.2: *Adjustment of labour market behaviour of working mothers after the birth of their first child.*

Cohort of the mother		The same number or more hours	Less hours	Stopped working	Total
1940-1950	1993	-	-	-	-
	2003	13	11	76	292
1950-1960	1993	14	18	68	937
	2003	18	19	63	454
1960-1970	1993	16	26	58	541
	2003	20	50	30	540
1970-1980	1993	9	23	68	22
	2003	19	62	19	167
1980-1984	1993	-	-	-	-
	2003	33	33	33	3
Total	1993	15	21	64	1500
	2003	18	34	48	1456

'After the birth' is meant here as at the end end of the leave period.
Source: OG 1993/2003

The differences between the cohorts may be a reflection of the changing views of the cohorts, with respect to working mothers. In addition to the difference in behaviour *between* cohorts, the table also shows that there are differences *within* the cohorts between the women who had their child early (which in this case means before 1993) or late (between 1993 and 2003). This development cannot be seen in the 1950-1960 cohort as there were few women in that cohort who had a child in the 1993-2003 period. The shifts in the 1960-1970 cohort are nevertheless substantial: in 1993, 58% of the working mothers indicated that they had stopped participating after the birth of their first child. In 2003 this figure is only 30%. There are two possible explanations for this shift. The first one is a change of behaviour within the cohort : whereas most women did not continue participating in 1993 (either because the mothers themselves were 'against' it, or because society did not allow it due to, e.g., the lack of childcare facilities), today a large majority continues participating. The same shift can be seen for the 1970-1980 cohort. The second possible explanation points to the occurrence of a selection effect: women with strong preferences for paid work postpone having their first child. If, for example, the highly educated had their child relatively late and continued participating, whereas women who had their child early more often stop participating, perhaps what we see in 1993 are particularly the 'early' ones, while the entire 2003 group are the 'postponers'⁵.

Effects of transitions: Current labour market situation

Earlier research, which we have quoted in Section 2, has shown that maintaining a connection to the labour market is of great importance for a career later in life. If that is true, then women who opted for to continue their participation after the birth of their first child (even if they did so in a part-time job) would now, a few years later, be better off. Any one who stopped participating at the time would have irreversibly fallen behind. Earlier we summarized this as the path dependency hypothesis. Opposed to this is the hypothesis of compensating behaviour and the rebound effect according to which the path once chosen may be abandoned, a new path can be chosen and career damage may be remedied, at least partially. Table 3.3 shows the present participation according to cohort, age and oldest child.

Table 3.3: *Percentage of women with a paid job (> 12 hours a week) at the moment of the submission of the questionnaire according to cohort and age of the oldest child.*

Cohort of the woman		No children (yet)	0 year	1 – 4 year	5 – 12 year	12 – 18 yr	18 – 25 yr	25 – 35 yr
1940-1950	2003	42	-	-	-	81	53	33
1950-1960	1993	79	-	46	36	44	49	-
	2003	77	-	-	74	69	61	46
1960-1970	1993	88	39	40	28	19	-	-
	2003	82	77	74	60	55	68	-
1970-1980	1993	70	-	21	-	-	-	-
	2003	91	86	65	44	-	-	-
1980-1984	2003	80	-	-	-	-	-	-
Total	1993	83	48	40	33	43	49	-
	2003	83	81	69	60	61	60	36

Source: OG 1993/2003.

The table suggests correlations but it is difficult to construe these correlations straightforwardly. First of all, the table paints a familiar picture: women without children have a relatively high participation rate, while women with children have a lower participation rate. The 60-70 and 70-80 cohorts in particular seem to indicate that the differences are substantial, especially when we look at the year of observation, 1993. The cohort 50-60, as observed in 1993, shows that the participation rate of mothers with young children is very high. This is the immediate result of the fact established above that mothers from this cohort, who had children in the 0-4 age category in 1993, belong to the group who postponed having their first child as long as possible. It is very likely that mothers from this cohort, the ones with children in the age category 0-4 in 1993, belong to the group that postponed having their first child as long as possible, mostly for reasons to do with their strong connection to the labour market.

The 70-80 generation shows that the vast majority of mothers who had their children very early in life not only stopped working after the birth of their child, but did not return to the labour market in the long run. The participation rate of mothers from the 60-70 cohort with older children is about 20% in 1993. This table also shows that there is an age or timing effect: the participation rate of women with young children was higher in 2003 than in 1993. So, from the perspective of participation it matters at what age a woman has her first child(ren).

A comparison of the participation rates of mothers with young children at both observation points shows that the participation rate has increased substantially for all age groups: when we compare the 60-70 cohort in 1993 to the 70-80 cohort in 2003 we see that not only the participation rate of women without children has increased, it has for women with children in practically all age groups. The same pattern becomes visible when we compare cohorts 70-80 in 1993 and 80-84 in 2003. These comparisons also beg the question whether this is a selection effect, a behavioural effect, or an institutional effect; the result of the increased availability and more affordable child care, the possibility to work part-time etc. It is important to realise that the figures can not be construed as an individual life course when read vertically. We can only do this, approximately, when we read the figures 'diagonally': women from the 1950-1960 cohort with children between the ages 1-4 in 1993, have children between 11 and 14 in 2003. Read like that, we can clearly see the life course effect: reading it line by line we would not have seen the returns to the labour market at a later age, but when we read the table diagonally this is visible. In

conclusion : a considerable number of women, irrespective of their cohort, return to the labour market at a later age.

Table 3.4 shows the present labour market position in relation to the transition that was made at the time. It is important to note that non-participation is defined as no job or a job of less than 12 hours a week. Part-time is defined as 12-31 hours a week, whereas working full-time is 32 hours or more. Due to the questionnaire's routing, the transition from non-participation to participation cannot be observed. In order to see whether any of the effects are mitigated over time we will distinguish according to the age of the first child. After all, the chance that a woman who left the labour market last year, does not have a job now is bigger, *ceteris paribus*, than that for a woman who left the labour market 25 years ago. The extent in which a period effect or cohort effect occurs is therefore difficult to see.

Table 3.4: *The percentage of women with a paid job (> 12 hours per week) according to the labour market transition around the birth of the first child; distinguished according to the age of the first child.*

Age of the oldest child		NP – NP	PT – NP	PT – PT	FT – NP	FT – PT	FT – FT	Total	N
No children	1993	-	-	-	-	-	-	83	986
	2003	-	-	-	-	-	-	83	644
0 years	1993	-	-	80	18	80	-	48	27
	2003	-	-	100	-	96	97	81	74
1 to 4 years	1993	15	18	73	12	87	77	40	525
	2003	20	18	90	28	93	91	69	238
5 to 12 years	1993	20	24	67	24	73	68	33	846
	2003	32	28	73	41	76	82	60	430
12 to 18 years	1993	33	39	80	48	61	59	43	467
	2003	45	68	69	61	68	90	61	347
18 to 25 years	1993	44	49	64	51	66	42	49	176
	2003	46	61	70	66	75	76	60	351
25 to 35 years	1993	22	43	47	49	54	41	36	507
	2003	9	20	-	11	-	16	13	137
Total	1993	25	28	71	31	79	69	53	3031
	2003	29	47	75	51	81	78	60	2728

NP = not participating; PT = working part-time; FT = working full-time
Source: OG 1993/2003

In order to enable the comparison, we have given the total participation for every age category of the children, and the participation of women who have (so far) remained childless. At both observation points, women without children have a higher participation rate than those with children. It is striking though that the number decreased considerably between 1993 and 2003. It looks as if the longterm effects of the choices considering the family formation process are becoming visible. The vast majority of those women who did not participate before the birth of their first child are still not participating (see first column of the table). The participation of those who did work before the birth of the first child has decreased considerably, which can be seen in columns 2 through 5, since all the women that appear in these columns were participating before giving birth. In addition to this, we see the differences between the

adjustments that different women have opted for. Women who had a part-time job and then stopped their participation, return to the labour market in modest numbers only. When the children are older than 12, their mothers' participation rises once again to the level of participation of women who continued working part-time jobs. Participation remains highest for women who participated full-time before the birth of their child and continued to do so after. The participation of the group that reduces its participation to a part-time job remains relatively high, and this group remains more active on the labour market than those women who worked part-time before and after the birth. It is striking though that the latter group, particularly when these women have small children, have a higher participation rate than those women who worked full-time in first instance. The women who quit their full-time job appear to have a lower participation rate 'throughout the life course' than those women who continued participating⁶. Of all the women who did not participate immediately after the birth, however, the women who worked full-time before the birth have a better position in the long run than the women who worked part-time right before the birth.

For the women who participated at the time their first child was born, it can be observed that the transition differences become small when their children are 18-25 years old. At that age children are no longer a (potential) restriction on women's labour supply. Looking at it from a different angle, we can also conclude that if there is any effect at all on the participation, apparently it is reversible in the long run. Even those women who did not participate around the birth of their first child or those who stopped participating when their first child was born are able to find a job of some kind at a later age, although they will never meet the participation rate of those mothers who continued participating. In other words: if the present labour market position is related to the participation around the birth of a first child, the path dependency hypothesis does not hold true just like that, for the Netherlands in any case. It is true that the participation rate for continuing participants is higher than that of the quitters, but there is no clear indication that it is not possible to return to the labour market at a later age.

It is possible, to a small extent, to subdivide these patterns according to the birth cohort of the women. When we do, there does not seem to be a clear difference in the observed patterns between the cohorts. In other words: the consequences of the choice for a certain participation variant are fixed. If there are any changes, they can be observed in the shifts between the different behavioural patterns: women make different choices.

There are two more interesting issues in this table: the pace at which the interrupters resume the thread, and the large group of women who did not participate when their first child was born but who do at a later age. A final remark on this table is about the results for women with older children. These may be strongly influenced by women in the oldest cohort, as for those women the idea that being a working mother is 'not done' may still hold true.

As there may be a relation between the transition patterns and the level of education, and as the level of education provides an explanation for the participation as well as the transition pattern, we will look at the present participation in relation to the level of education in Table 3.5. The most striking feature in this table is that there does not seem to be one 'optimal' transition pattern. The participation of the most highly educated women is the highest among those who worked full-time and continued to do so. This strategy may not be the best for lower educated women: the participation of the most lowly educated women who continued to participate full-time is much lower, in the long run, while the participation of the women who have adjusted the number of working hours remains higher. These differences could be observed in 1993 as well, and do not seem to be going away. Worse than that: they are on the increase. Furthermore, it is clear

in this table that the increased participation degree especially applies to the higher educated women: the participation degree of the most lowly educated has not increased in the past ten years, that of the highly educated by ten points.

Table 3.5: *Participation of women with a paid job (> 12 hours per week) at the moment of questioning according to the labour market transition around the birth of the first child and educational level.*

		No children	NP	-PT	-PT	-FT	-FT	-FT	Total	N
			NP	NP	PT	NP	PT	FT		
Low education	1993	77	21	33	55	30	73	59	43	1292
	2003	67	22	40	68	43	68	50	41	1050
Intermediate education	1993	87	31	25	80	30	78	62	58	1237
	2003	84	36	45	81	58	86	80	69	1068
High education	1993	86	34	18	76	36	87	94	69	496
	2003	89	54	65	70	59	80	93	78	607
Total	1993	84	25	28	71	31	79	69	53	3025
	2003	83	29	47	75	51	81	78	60	2728

NP = not participating; PT = working part-time; FT = working full-time

Source: OG 1993/2003

In addition to the difference in participation, there may be a selection effect. Women who have stopped participating may be able to return but they will have to make do with a job in the secondary labour market (*mommy track*). There may be three possible indications for this, the type of work (the OG does not give any information on this, unfortunately), the hourly wage rate (the OG does not give any information on this either) and the number of work hours. The latter is based on the assumption that having a small job is an indication of an inferior labour market position. To distinguish the participation decision from the decision on the number of hours supplied, we will only show the hours for the people who hold a position of more than 12 hours a week⁷. This means that the category of the real marginal labour, in the way it is distinguished in literature, will be left aside.

Table 3.6: *Number of paid hours worked in a regular workweek (only if number of hours > 12) by birth cohort of the mother and age of the oldest child.*

Cohort of the mother		No children (yet)	0 year	1 to 4 years	5 to 12 years	12 to 18 years	18 to 25 years	25 to 35 years	35 to 45 years	Total	N
1940-1950	1993	-	-	-	-	-	-	-	-	-	-
	2003	27	-	-	-	-	27	25	28	25	188
1950-1960	1993	31	-	25	22	24	26	-	-	25	676
	2003	30	-	-	24	25	25	26	-	26	443
1960-1970	1993	35	15	24	22	27	-	-	-	31	843
	2003	34	27	22	22	25	34	-	-	26	535
1970-1980	1993	35	-	28	-	-	-	-	-	35	106
	2003	35	26	22	25	-	-	-	-	31	435
1980-1984	1993	-	-	-	-	-	-	-	-	-	-
	2003	32	-	-	-	-	-	-	-	31	34
Total	1993	34	19	24	22	24	26	-	-	29	1616
	2003	34	27	22	23	25	27	25	28	27	1634

Source: OG 1993/2003

Table 3.6 shows the number of hours that is worked, per cohort, and subdivided to the age of the oldest child. It is clear from this table that having or not having children has a substantial effect: every cohort shows a higher number of hours worked by childless women. The table gives a modest confirmation of the ‘return hypothesis’: it seems that women with children do increase the number of labour hours slightly when the children get older.

Table 3.7: *Number of paid hours worked in a regular workweek (only if the number of hours > 12) according to the age of the oldest child and the transition pattern around the birth.*

	Year	NP NP	- NP	PT- NP	PT PT	- NP	FT- NP	FT PT	- FT	FT FT	Total	N
No children	1993	-	-	-	-	-	-	-	-	-	34	823
	2003	-	-	-	-	-	-	-	-	-	34	531
0 years	1993	-	-	-	-	-	-	-	-	-	19	13
	2003	-	-	24	-	25	34	27	60			
1 to 4 years	1993	30	19	21	23	22	34	24	211			
	2003	26	20	19	17	21	29	22	165			
5 to 12 years	1993	22	22	20	19	22	30	22	281			
	2003	27	21	19	23	21	28	23	257			
12 to 18 years	1993	25	23	24	23	25	32	24	202			
	2003	25	23	24	23	25	35	25	209			
18 to 25 years	1993	23	25	-	27	-	-	26	86			
	2003	27	23	26	25	30	40	27	211			
25 to 35 years	1993	-	-	-	-	-	-	-	-			
	2003	24	21	20	25	33	36	25	184			
35 to 45 years	1993		-	-	-	-	-	-	-			
	2003	25	-	-	24	31	-	28	17			
Total	1993	23	22	21	22	21	31	29	1616			
	2003	26	22	22	24	23	32	27	1634			

NP = not participating; PT = working part-time; FT = working full-time
Source: OG 1993/2003

When the children have reached the age to attend secondary education, the differences in working hours are the smallest. After that, it looks as if the differences grow again: the average number of hours worked by women who did not stop participating still increases, whereas the number of hours worked by women who had stopped participating or did not participate at all during their pregnancy seems to be decreasing. The selection effect we described earlier may play a part here as well.

Since from the previous table it could be concluded that participating women in 2003 on average worked fewer hours compared to the participating women in 1993, it is striking that this table does not seem to provide any evidence for that: it is true that the average goes down from 29 to 27 hours per week, but the difference can almost entirely be accounted for by the shift in the division of young children. In- or excluding jobs of less than 12 hours per week does not affect the conclusions with respect to the number of hours worked. The incidence of small part-time jobs does not seem to bear any relation to the factors we are dealing with here.

To conclude this series of analyses, we will give the length of the average workweek subdivided according to educational level in Table 3.8. This table, too, shows that the big shifts in labour market behaviour are expressed in participation rather than in the number of hours worked, given participation. The increase of part-time work can sooner

be attributed to the changes in the educational level of the potential labour force, and the strong increase of the participation of, particularly, the group at an intermediate level of education. It is in this group in particular that the number of paid hours in an average workweek has gone down. There has hardly been a decrease in the length of the working week between 1993 and 2003 for the lowly and highly educated.

Table 3.8: Number of paid hours worked in a regular workweek (only if the number of hours > 12) according to the age of the oldest child, the transition pattern around the birth and educational level.

	Year	No children	NP-NP	PT-NP	PT-PT	FT-NP	FT-PT	FT-FT	Total	N
Low education	1993	33	24	21	21	22	20	31	27	506
	2003	32	27	20	21	23	22	35	26	429
Intermediate education	1993	35	25	24	20	23	22	32	30	740
	2003	33	23	23	21	23	22	31	27	734
High education	1993	35	25	-	23	24	23	33	30	368
	2003	35	26	24	24	28	24	31	30	469
Total	1993	34	24	22	21	23	22	32	29	1614
	2003	34	26	22	22	24	23	32	27	1634

NP = not participating; PT = working part-time; FT = working full-time.

Source: OG 1993/2003

In summary, it seems as if participation behaviour is strongly related to the choices women make with respect to children and the combination of labour and care. Given the choice for labour, however, it looks as if the differences in the labour market are not that big. Apparently, the connection to the labour market is related to 'life course events', but the *position* on the labour market is *not* or to a much lesser extent. In addition to that, or maybe because of it, we have seen that there have been rather big shifts in participation behaviour in the last few years, and the extent in which these are related to life course events. These shifts are not noticeable in the number of worked hours.

Labour supply and transitions: multivariate analyses

In order to answer the question of how the different factors we have discussed determine the chance that a woman respondent participates now, and, if that is the case, how many hours she participates, we will conduct a number of multivariate analyses. As this analysis is about the effects of the different ways in which people balance labour and care for children, we will only look at the group of women with children. This will prevent the contamination of the estimated effect on the combination of children as such and the effect of the decision with respect to the chosen work-family pattern. Information on the partner is not available for all the years and therefore it will be ignored in the analyses. As earlier research has shown that the age-participation profiles are relatively flat per cohort, we have decided to specify the model using a period/cohort approach with a period/cohort structure and to abstain from any age effects for this analysis (Vlasblom and Schippers, 2004).

Labour market behaviour can be subdivided in the decision to participate and the number of hours of participation. As both decisions are not necessarily uncorrelated, independent estimations of both decisions may result in estimation errors from selectivity bias. That is why we have opted for a two-step analysis (Heckman, 1974, 1976). First, we will give an estimate of the participation model. Second, we will give an estimate of the working hours model, including a term correcting the (possible) selectivity bias

following the correlation between the participation rate and the number of hours supplied.

Table 3.9 shows the results of the estimation of the participation model and the model for participated hours. The results show that the mothers' participation increases over the course of time, even if we take into account the effects of the composition of the population. Besides, we can also see a clear cohort effect. The oldest cohort (1940-1950) works significantly less than the cohort that serves as the category of reference (1960-1970). The cohort that follows after the oldest (1950-1960), on the contrary, works more often than the cohort that serves as reference. A possible explanation for this may be that it is this very cohort that has been active on the labour market leading to their continued participation, after they had children. Another explanation could be that the age effect is at work here rather than the cohort effect. In which case you could argue that the 60-70 cohort is still preoccupied with the children, while the 50-60 cohort is outgrowing that stage, making it possible to take up participation again.

Lowly educated mothers work less often and highly educated mothers work more than mothers with an intermediate education. Earlier research (Vlasblom and Schippers, 2004) suggested that the difference between mothers with a secondary education and those with a higher education becomes less over the course of time, while the difference between the lowly educated and those with intermediate education increased. The inclusion of interaction terms in the present model (period/interaction level) leads to a similar conclusion with respect to the comparison between 1998 and 2003.

Table 3.9: *Estimation results for the Heckman two-step model, explaining mothers' labour force participation.*

	Participation		Hours a week	
	Coefficient	Std. error	Coefficient	Std. error
Birth cohort				
1940 – 1950	-0.438***	0.09	-1.477	0.89
1950 – 1960	0.107**	0.05	-0.878**	0.44
1960 – 1970	ref.cat.		ref.cat.	
1970 – 1980	-0.177**	0.08	1.312**	0.61
1980 – 1990	-0.916**	0.44	2.675	3.84
Observed in 1993	ref.cat.		ref.cat.	
Observed in 1998	0.217***	0.08	-0.663	0.41
Observed in 2003	0.848***	0.09	-1.283***	0.46
Cohabiting	0.284***	0.07	2.085***	0.50
Low educated	-0.200***	0.06	-0.726	0.39
Intermediate educated	ref.cat.		ref.cat.	
High educated	0.232**	0.09	1.652	0.41
Low educated * 1998	0.021	0.08		
High educated * 1998	0.280**	0.12		
Low educated * 2003	-0.197**	0.09		
High educated * 2003	-0.086	0.12		
Number of children	-0.103***	0.03	-0.647**	0.28
Age oldest child	0.002	0.01	0.073	0.09
Age youngest child	0.064***	0.01	0.134	0.08
Observed in 1998 * age youngest	-0.023***	0.01		
Observed in 2003 * age youngest	-0.056***	0.01		
Transition around first birth:				

(before – after)				
No participation – No participation	ref.cat.		ref.cat.	
Part time – No participation	-0.251**	0.11	-2.937**	1.48
Part time – Part time	1.672***	0.12	-4.660***	1.62
Full time – No participation	0.065	0.08	-3.330***	1.08
Full time – Part time	1.901***	0.10	-3.824**	1.65
Full time – Full time	1.889***	0.12	5.162**	1.69
PT - NP * years passed	0.031***	0.01	0.023	0.08
PT - PT * years passed	-0.044***	0.01	0.203***	0.08
FT - NP * years passed	0.014***	0.00	0.118**	0.06
FT - PT * years passed	-0.061***	0.01	0.182**	0.08
FT – FT * years passed	-0.062***	0.01	0.143	0.08
Constant	-0.978***	0.09	24.981***	1.92
Mills lambda			-0.928	1.28
Rho				-0.109
Sigma				8.478
Number of observations	7,777		3,743	
***: significant at 1%, **: significant at 5%				
For identification reasons the interaction terms with observation years are not included in the hours equation .				
Source: OG 1993, 1998 and 2003.				

The difference between cohabiting and married couples is significantly positive; in other words, women who cohabit work more often than married ones. The composition of the household also has an effect on participation. The number of children determines the participation rate: the more children, the lower the participation rate will be. The age of the children is of importance as well. The age of the oldest child is not relevant, the age of the youngest is: the older the youngest child is, the higher the mothers' participation rate. The inclusion of interaction terms in the period shows that the effects of children on participation are becoming smaller: the effect of the age of those children disappears. Let it be noted that there is still a considerable difference between women without and women with children, but these results do not say anything about this difference, as the members of our population are women with children only.

The participation strategy the mother has adopted when her first child is born matters. The results leave no doubt about that. Mothers who did not work when their first child was born (not before or after it) are the reference category in this analysis. Since there may be a time effect, we have decided to include a dummy that indicates the transition the respondent has made, as well as an interaction term that gives an indication of how much time has passed since the transition was made. It appears that women who were connected to the labour market before the birth are able or willing to retain a more meaningful connection with the labour market later in life. Part of the group of women who stopped participating when their first child was born will have picked up the thread as time goes by. Besides, it can be observed that the participation of those whose participation did not change around birth is higher as time goes by than that of those who stopped working for a longer or shorter period. In this respect it is noticeable that the participation of women who went from full-time to part-time work is, on average, not lower than that of the women who continued to participate full-time. The interaction terms show that, as far as the participation decision is concerned, the effects of the different choices around childbirth are slowly mitigated as time goes by. In other words: although the effects of the different transitions remain visible, they are mitigated over the

course of time. It takes a considerable amount of time before the differences between the various transition patterns fully disappears: about twenty years.

The number of women that, even though they participate when their first child is born, still stop participating afterwards, is particularly striking. Further analysis seems to suggest that the number of children is irrelevant in this case: when the regression is repeated for women with one child only, the results remain the same.

The position on the labour market is not determined by participation alone. An increasing number of mothers participates in the Netherlands (SCP/CBS, 2004), but only part of them participate full-time. If we estimate the model for the weekly working hours (more than 12 hours a week), we get the results that are shown in the last columns of Table 3.9. To correct for potential selection bias, we have estimated Heckman's lambda using probit regression and included it in our analysis.

The table shows that there are considerably fewer factors which determine the number of hours worked, than those that affect the chance of participation. This can be seen in the cohort effects which are smaller and the near absence of period effects. There is an effect though for being married or not. Couples that live together without being married work more hours a week on average. Lower educated women work fewer, while higher educated women work more hours.

The more children, the fewer hours of participation. In contrast to the participation decision, however, the age of the children is essentially irrelevant. This may indicate that women are going to work fewer hours when children are born, and do not increase their hours when the children become older. Also, women that re-enter the labour market do so in a part-time job. The fact that almost all mothers keep working part-time, may either be caused by their preferences, or by the fact that it is imposed by for instance a lack of affordable child care.

Not only participation, but working hours are also affected by the transition made after the first child is born. Women who stopped participating when their first child was born have a significantly smaller workweek after their return to the labour market later in life. The situation before the child was born is irrelevant in this case. The sign of the estimated parameters is striking when we realise that the category of non-participants before and after birth is the reference group in this analysis. In other words: the chance that a woman participates, while having no connection to the labour market at the time of birth, is nearly as high as that for one who stopped participating. The women who work part-time after birth, work about as many hours as the women who never participated before giving birth. The women who participated full-time after giving birth work, on average, far more hours than those in the other categories. The problem with this interpretation is of course the time effect: if the child was born recently, it makes sense that the women who participated full-time, work more hours now, on average, than those who were part-timers. In order to overcome this, we have included an interaction effect with respect to the age of the children. It can be deduced from this that for all women working hours increase over time, but the increase is more or less the same for all groups. In other words: the 'relative position' of the various groups remains the same over a very long period of time. As said, twenty years have passed before the women who decreased their hours of work when first giving birth, have returned to the level of the group of reference.

Conclusions

Certain 'critical life events' may have sweeping effects on the further course of life and the labour career in particular. In this chapter we have looked at the different effects of having children shown by the successive cohorts of women, at the time the first child is born and in the longer run.

With respect to the longterm consequences, labour market literature features two essentially opposing hypotheses. One of them emphasises the path dependency of the successive decisions with respect to participation and the irreversible nature of choices once made, or the problems that may occur when the direction of the road once taken must be changed. According to this hypothesis, the (partial) abandonment of (the connection to) the labour market by mothers on the birth of their first child will be translated into a relatively loose connection to the labour market in the long run. The competing hypothesis emphasises the opportunities to remedy the damage that was once suffered to the human capital stock and sees opportunities for recovery and 'rebound' effects.

We have sought to examine whether the choices with respect to any labour market transition around childbirth have any longterm effects. It appears this only partially holds true. Women who had a connection with the labour market before childbirth appear to have (retained) that connection later in life, as well. The group of women who stopped participating when their first child was born, have partially picked up the thread as time goes by. Besides, it is evident that the participation of those whose participation remained the same before and after the birth of their child will also be higher over time, than that of those who stopped participating, whether temporary or not. In this respect, it is striking, that women who went from full-time participation to part-time participation do not have a lower participation on average than women who continued to work full-time. This conclusion supports the findings of others stating that having a connection to the labour market is more important than the extent of the connection. As far as the longterm effects are concerned, it appears that the effects of the chosen transition are subject to slight erosion. Although there are differences, they become smaller, as the child grows older. The period after which the distinction in participation disappears is considerable, twenty years. In other words: the differences that originate around the birth of the first child seem to continue, in any case, until the last child leaves home. The difference in the structure of human capital which builds up over this period is of such an extent, that it may have considerable consequences for the desired job level. The price of the choices that were made with respect to the loss of lifetime income, meaning the accumulated income over the entire life course, is such that this loss cannot really be compensated in successive stages of life.

Not only participation itself, but also the number of hours of participation appears to be affected by the transition pattern around the birth of the oldest child. Women who stopped participating when their first child was born, retain a substantially smaller workweek on their return to the labour market later in life. The situation before giving birth is irrelevant in this case. There are a number of striking results here though: the chances of participation by women who did not have a connection to the labour market at the time of birth are about as high as the chances of those who stopped participating however if women did participate before birth, they did so for more hours after than the quitters. These differences are not related to the time that has passed since giving birth. This seems to be an indication that those women make a conscious choice with respect to the moment they have children before they embark on a labour career.

Tremendous dynamics can be seen looking at the different cohorts. Labour market behaviour around the birth of children has radically changed in a few years time. Full-time participation after the birth of children or the combination of care and a part-time job has by now become the norm for most women.

From a policy point of view, it seems to be particularly relevant that this research shows that the willingness of women to return to the labour market (or even participate for the first time) when the children are grown is high. This does not just apply to those who had

a strong connection to the labour market before the birth of children, but also to women or mothers with a more moderate connection. The road to their maximum participation level is still a very long one for many women. On the way, the loss of potential income will be suffered. There will be less of an increase in human capital and a less than optimal return of the investments made in these women (for their education). The net balance is that their life course income is in such arrears that it can not be caught up, which also has its consequences for their contribution to national income. This conclusion lends support to the approach that was taken in de *Verkenning Levensloop* (Dutch Ministry of Social Affairs, 2002). On the one hand, the overload during the 'peak hour' of life ought to be eliminated, on the other hand, leave arrangements and child care require investments, but the renewed (or new build-up of) human capital of women who have done creditable work in the field of care must be maintained, as well. Leave arrangements have been conquering a more prominent position on the policy agenda and childcare, too, has been basking in the attention of policy makers (even though not everyone shares in the feeling that the chosen approach is the right one). Maintenance and build-up of human capital of women (and men) do not have sufficient active stakeholders who feel responsible and who are willing to set their shoulder to the wheel in order to lay down solid foundations for the Dutch economy in the 21st century.

Notes

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³ If members of the youngest cohorts have a baby at all, it is usually a teenage-mother who is still in school.

⁴ If we assume that we are observing the same populations in both years, this trend can be regarded as follows. 48% was childless in 1993, 52% of those with children continued working until the birth of their first child. 2003 saw 17% childless, while 80% of the remaining 83% had continued participating until the birth of their first child. These figures give rise to the following calculation: of every 100 women in 1993 52 had a child, 40% continued participating until birth (74% of 52). In 2003 83 of every 100 women had a child, and 66 of them continued working until birth. Which means that during those 10 years, 31 more women had a child, of which 26 continued participating until birth. So the pre-birth participation the women who had their child relatively late was $26/31=87\%$.

⁵ See Vlasblom et.al. (2005) for further analysis, Table 4.3 and accompanying description.

⁶ 'Throughout the life course' must be placed between quotation marks, as we cannot, strictly speaking, exclude the possibility that these women showed a completely different type of participation behaviour between both waves. As we lack the footage on the life course, we will have to make do with a number of photographs and we cannot but assume that the developments between these photo opportunities were more or less straightforward.

⁷ We have chosen the 12 hours' limit, as it will enable the comparison of the different hours categories before and after the birth.

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