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Keynote

Does Part-Time and Intermittent Work during Early Motherhood Lead to Regular Work Later?

A Comparison of Labor Market Behavior of Mothers with Young Children in Germany, Britain, The Netherlands, and Sweden

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Summary

We use data from Great Britain, Germany, the Netherlands and Sweden to examine whether part-time and intermittent work during early motherhood leads to regular full-time work later. We find that in Sweden, by the time the first child is four years old 80 percent of mothers are working full-time if 25 hours is counted as full-time work, but only 30 percent if a 35-hour threshold is used. This finding contrasts sharply with the work patterns in early motherhood in the other three countries and we interpret it as an effect of woman friendly public policies. Furthermore, while employment of mothers is concentrated in the public sector in all four countries, it is relatively less concentrated there in Sweden. Our results emphasize the importance of labor force transitions of women around the early stages of maternity in explaining cross-sectional findings on women's employment.

1. Introduction

One of the most burning questions for young women in Europe today is how to fit family formation into their lives. Increasing numbers of young women educate themselves for a life long career and expect to get a return on their educational investment. The consequences are postponement of maternity (Gustafsson 1999; Gustafsson, Wetzels, and Kenjoh 2000) and frustrated women, with possibly negative consequences for marital instability and increased single motherhood. Germany has family policies that are outright negative for women who want to combine work and family; examples include a three-year unpaid maternity leave, few full day kindergartens, and high marginal tax rates for married women who want to enter the labor force (Gustafsson 1992). Sweden, on the other hand, has built up policies gradually since the 1970s to promote the combination of work and family through 15-month paid parental leaves, six-hour work days until the child is eight years old, subsidized full day daycare for all children whose parents want it as a legislated demand on communities, and separate individual filing for income tax purposes. While Swedish family policy benefits are very generous, Sherwin Rosen (1995) has criticized the Swedish system for causing dead weight losses, in contrast to the systems of Britain or the United States, where the family is basically seen as a private business and there is an emergent market for child care. (Rosen restricts his analysis to a static situation, evaluating costs and benefits of Swedish family policies only during those years when the subsidies are being used.)

The Netherlands used to have German-type family policies, although the income tax system was already more individualized than the German system in the early 1970s. From around 1990, Dutch policies changed with respect to child care in order to accommodate the needs of working mothers. The Dutch system differs from the Swedish one in several respects, however. First, unlike in Sweden, childcare is organized by private entrepreneurs who can compete for state subsidies. Second, employers invest directly in the child care needs of their employees; this reflects the Dutch view that parents, employers, and the local community are partners in the provision of child care (Dobbelsteen, Gustafsson, and Wetzels 2000). Third, the Dutch maternity leave is only 16 weeks, and the mother is required to use 8 to 10 weeks of this before delivery, which implies an end to full-time care when the child is about 2.5 months old. New legislation from the late 1990s gives Dutch parents the right to simultaneously work one-half

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time during one-half year. Many collective agreements, particularly involving government workers, give parents a benefit that compensates for the earnings loss during the parental leave period.

In this paper we analyze long term effects, asking whether time patterns of monthly labor force status between full-time, part-time and out of the labor force differ between the four countries. Second, we compare the occupational and industry structure of employment among mothers of young children. (One of Rosen's 1995 arguments against the Swedish family policies is that they encourage female employment in the public sector, where employment, in his view, is less productive than in the private sector.) Third, we analyze the extent to which mothers are less likely to be employed in part-time and temporary jobs than are men or women in general, and in comparison to men, and we compare the frequency of such employment across countries. Fourth, we analyze the wage structure across the four countries, asking whether there are wage penalties for part-time and temporary employment and whether the gender wage gap differs between the four countries.

2. Patterns of monthly labor force behavior in the early maternity period

In this section we analyze the pattern of transitions between full-time work, part-time work, and nonemployment in the early maternity period. We make use of the panel aspects of four household panel data sets: BHPS (Britain), GSOEP (Germany), OSA (The Netherlands) and HUS (Sweden). We in principle distinguish between three states of labor force participation: full-time employed, part-time employed, and out of the labor force, but data limitations prevent a fully comparable comparison of transitions across these states. The term "out of the labor force" includes all types of non-employed status such as unemployment, on leave, studying, etc., which differ somewhat between the data sets. The Dutch spell data do not distinguish between full-time and part-time employment so analysis of The Netherlands can only distinguish employed from not employed. In the British and German data the respondents self-report as working part-time or full-time in a certain month, whereas in the Swedish data there is a breakdown of hours worked per week for each month as follows: 1–24, 25–34, 35–44 and 45+. This makes it possible with the Swedish data to work with alternative definitions of full-time work, using 35+ hours in correspondence with international conventions or alternatively using 30+, which includes full-time Swedish women who work in their regular full-time job but make use of their legal right to shorten work hours to six hours per work day until the child is eight years old.

The results for monthly labor force status are shown in Figure 1A, 1B, 1C and 1D. We can compare all four graphs for the status out of the labor force. Comparing Figures

Figure 1 A

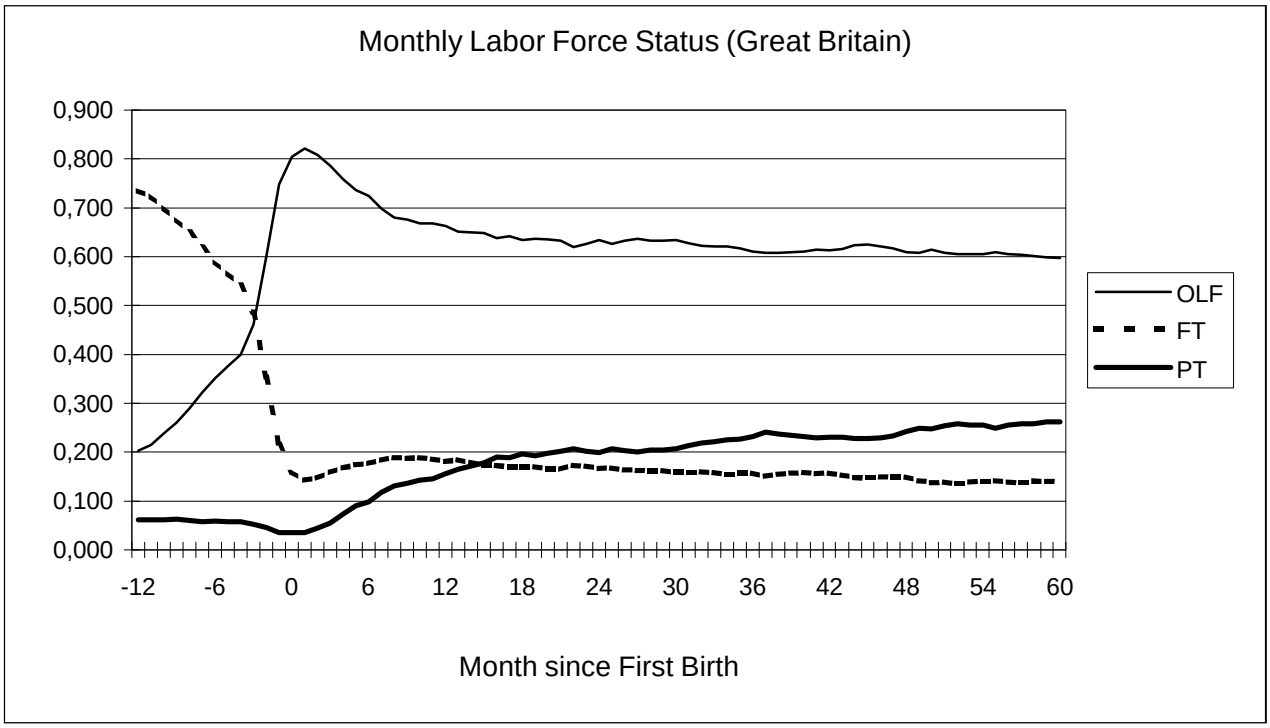


Figure 1 B

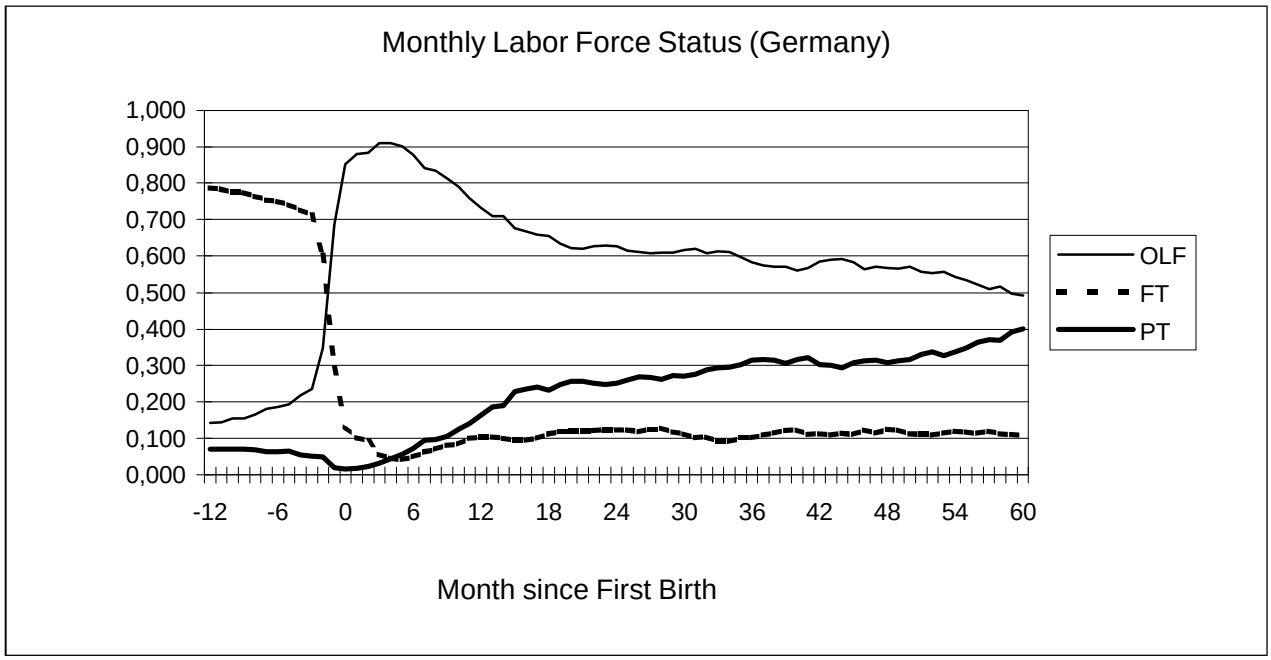
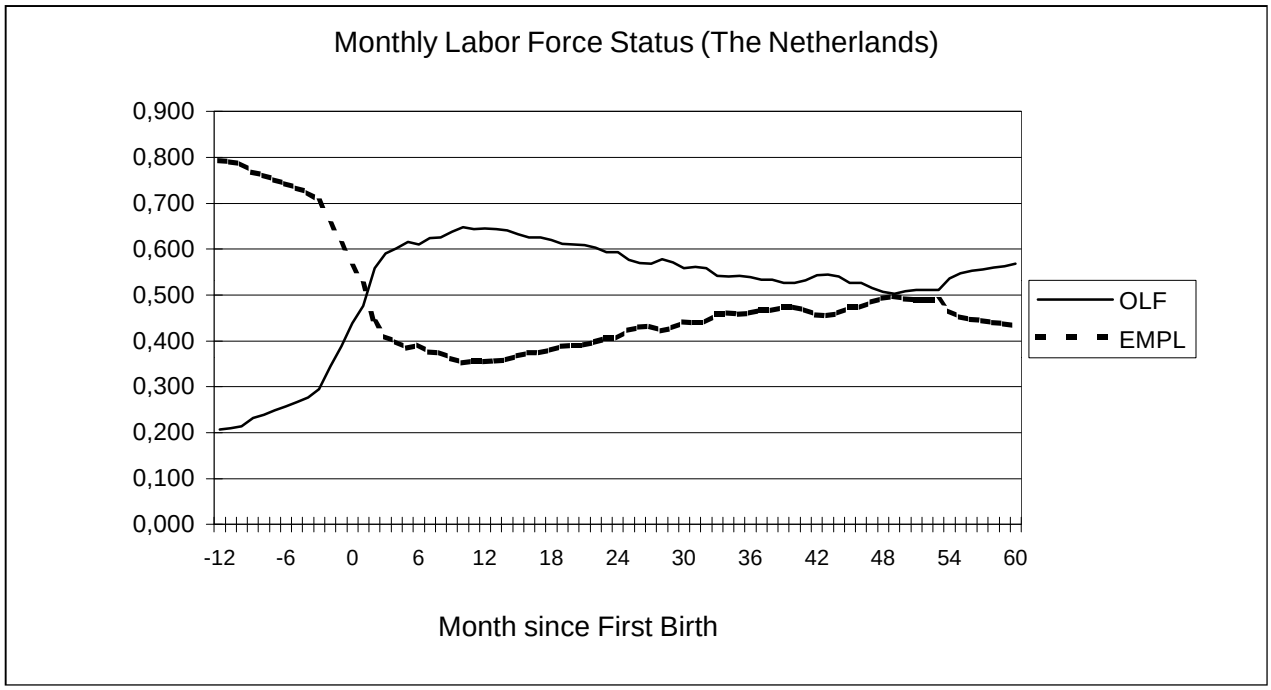
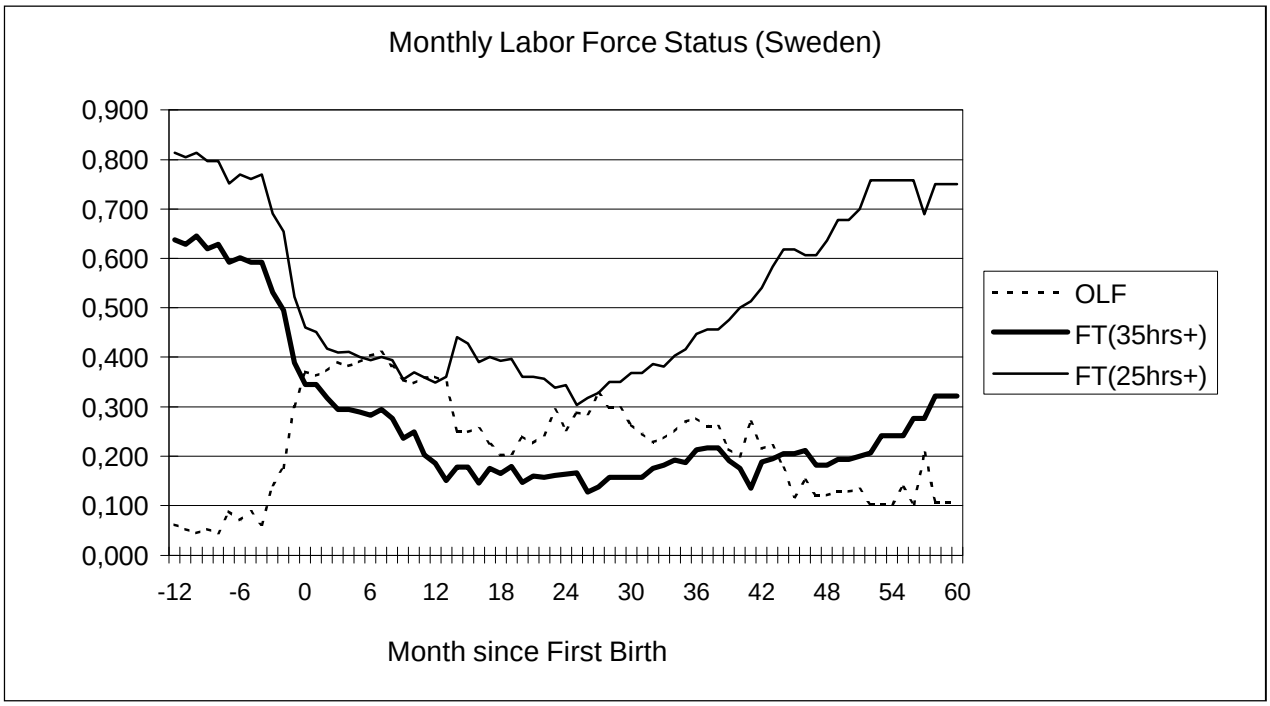


Figure 1 C



1A, 1B, 1C and 1D we see that very few women are not working before the birth of their first child. The graphs start 12 months before the first birth because we think that labor force status 12 months before birth is not influenced by future pregnancy and child birth. The Netherlands and Britain have the largest proportion of women not employed before first birth (about 20 percent) while the figure for future German mothers remains at about 15 percent. The smallest figure is found in Sweden, which makes sense because the generosity of the parental leave benefit depends on earnings before giving birth: it therefore is important to have a job first and a baby next in Sweden. In the other three countries, where maternity benefits depend on earnings and are of much shorter length (two months in Germany, 16 weeks in The Netherlands and six weeks in Britain), such a pattern is much less important

Figure 1 D



and a woman might be more inclined to have a baby right after finishing school for example. In Britain the out of the labor force (OLF) curve pretty much peaks at month 0, whereas in Germany it peaks at month six and in The Netherlands at month nine. The German case is explained by the fact that many women report their work hours from before having the child because they are employed and receive salary until their maternity benefit period (Mutterschutz) expires and they enter the next period (Erziehungsurlaub) during which they receive a benefit ranging from zero to DM 600 per month, depending on husband's income. We believe that there is a similar effect in the Swedish data because the OLF curve peaks at a rather stable level from month 0 to month 12, the period during which the mother receives parental leave benefits if she chooses to care at home for her newborn child. But the level of the peak of the Swedish OLF curve is only 40 percent, which is very low considering the generosity of the parental leave benefit; the major part of the leave is taken by the mother although the father gets 75 percent of his salary compensated if he stays home with the child. Also Gustafsson, Wetzels, and Kenjoh (2000), using a different spell file where employed was measured as "at work," show that about 90 percent of the mothers are at home at month 0 and most of them remain so until month 12.

The graph of full-time work for Britain and Germany drops drastically close to month 0 from about 80 percent 12 months before birth to less than 10 percent for Germany and less than 20 percent for Britain, and then it stays at a low level throughout the period until the child is five years old. The Swedish pattern is very different. We present two different definitions of full-time work. Looking at the graph defining full-time (FT) as 25 hours or more, the curve starts out at 80 percent, drops to reach a lowest point at 20 percent in month 18, and than recovers rapidly in an almost linear trend to reach 75 percent in month 50. That is, 75 percent of Swedish mothers are full-time workers at the time their first child is four years old while enjoying a six hours work day until the child is eight years old, which, in combination with good quality affordable child care and cooperative husbands, makes the combination of work and family rather feasible. In Sweden, only 10 percent of the mothers are out of the labor force when the child is four years old compared to more than 50 percent for Dutch and German mothers and more than 60 percent for British mothers. It is difficult seeing these graphs to agree with the criticism of Sherwin Rosen (1995) that the Swedish policies have not helped Swedish mothers in their careers.

3. Where do mothers work?

"If some women look after the children of other women who look after the elderly parents of the first group of women, one can wonder what has been gained" (Rosen 1995, 4). In the next section we look at this gain in terms of the employment contract, occupation, and industry of employed mothers by analyzing one recent survey year

Table 1

Employment of Mothers with a Child 11 Years or Younger, According to Type of Contract[a]

Employment	Britain 1997	Germany 1996	The Netherlands 1996	Sweden 1996
Gainfully employed	56.6	31.2	43.5	66.3
Permanent, full-time	18.0	5.2	3.3	29.5
Permanent, part-time	32.2	24.1	35.6	31.7
Temporary, full-time	0.9	0.3	0.0	3.0
Temporary, part-time	5.4	1.6	4.6	2.0
Self-employed	4.8	4.0	3.9	2.8
Full-time	1.9	2.1	0.5	1.3
Part-time	2.9	1.9	3.3	1.5
Mothers not gainfully employed	38.7	64.9 (42.3)	51.2	29.5
All women not gainfully employed	32.5	53.4 (46.5)	46.6	24.5
All men not gainfully employed	19.8	25.8 (25.7)	17.4	14.4

[a] Figures in parenthesis for Germany are computed counting people who are on leave as employed. The definition of full time work is 35 hours per week or more.

Source: Gustafsson, Kenjoh and Wetzels (2000). BHPS 1997, GSOEP 1996, OSA 1996, and HUS 1996

for each country (1997 for Britain and 1996 for Germany, The Netherlands, and Sweden). Table 1 presents employment rates of mothers with a child younger than 12 years. As expected from the longitudinal analysis above, more Swedish mothers than mothers in the other countries are employed and a much larger share of the Swedish mothers are full-time employed. Working with a temporary contract either part-time or full-time is rather uncommon and involves the least proportion of employed mothers except in The Netherlands, where mothers temporarily working part-time are more frequent (4.6 percent) than mothers working regularly full-time (3.3 percent). The largest share of mothers who are not gainfully employed, 64 percent, is found in Germany. However, since so many

Table 2

Employment of Mothers with a Child 11 Years or Younger According to Industry

Industry	Britain 1997	Germany 1996	The Netherlands 1996	Sweden 1996
Agriculture, forestry, fishing	1.0	3.9	2.2	2.1
Mining	0.3	0.0	0.0	0.0
Manufacturing	10.1	8.8	4.0	16.8
Energy and water supply	0.8	0.0	0.7	0.0
Construction	1.1	1.0	1.4	5.0
Wholesale, retail trade, hotels and restaurants	23.4	23.0	11.9	9.6
Transportation and communication	3.1	10.8	4.3	7.1
Finance, insurance and real estate	14.0	3.4	8.6	8.9
Nonprofit business (public administration & other services)	46.2	49.0	66.9	50.4
Total	100.0	100.0	100.0	100.0
N (mothers)	714	204	278	280
All women non-profit business (public administration and other non-profit services)	44.3	49.5	36.5	31.8
N (all women)	2,636	912	1,061	853
All men non-profit fussiness (public administration and other non-profit services)	17.9	26.8	24.5	34.5
N (all men)	2,781	1,303	1,582	962

Source: Gustafsson, Kenjoh and Wetzels (2000). BHPS 1997, GSOEP 1996, OSA 1996, and HUS 1996

mothers are on leave for three years the figure of not gainfully employed German mothers drops to 42.3 percent if people who are on leave are counted as employed. The most likely behavior of these mothers is to remain at home after the three-year period expires. In Gustafsson, Kenjoh, and Wetzels (2000) we analyze the hazards of leaving the out of the labor force status and entering either full-time or part-time work. We find no tendency to return to work among German mothers when the child is three years old. If this had been the case we would have seen it in Figure 1B above.

Table 2 presents the distribution of employed mother according to industry. The most remarkable finding in Table 2 is that large numbers of employed mothers in all four countries work in the public sector, although the proportions of men working in the public and non-profit sector varies widely between the four countries, from 34.5 percent in Sweden to 17.9 in Britain. About one-half of employed mothers in Britain, Germany, and Sweden work in the public sector and two-thirds of employed Dutch mothers. One reason for a high concentration of women in the public sector is that nursing and teaching are mainly public sector occupations in all four countries. In The Netherlands the public sector also provides better parental leave. The large share of female shop assistants, waitresses, hotel receptionists, and the like found in Britain, Germany, and The Netherlands is not found in Sweden, where manufacturing is the second largest industry employing women, after the public sector.

In Table 3 the occupational distribution of employed mothers is shown. More than one-third of the employed mothers in Germany, The Netherlands, and Sweden have professional or technical jobs, which includes nurses and teachers. The second and third largest groups in these three countries are clerical and related work and service workers, whereas in Sweden it is production workers (Table 3).

4. Are mothers less likely to have full-time regular contracts?

In Table 4 we present the results of probit estimates for the probability of having a full-time regular contract. We present a version where the industry and occupation variables are left out. The interested reader is referred to Gustafsson, Kenjoh, and Wetzels (2000), where the full results are presented including occupation and industry. Initially in Table 4 we present for the country-specific probits only coefficients that are statistically significant with two digits and results that are not statistically significant are denoted n.s. in the table. The basic result shows that there is a big negative effect from being female and an additional but smaller effect from being a mother on the probability of having a full-time regular contract in all four countries. The negative effect is the smallest in Sweden, but the implication is that women there also work part-time in periods when they do not have small children. In column 1 of Table 4, where the data of all four countries are merged, we find that, other things equal, workers in Sweden are the most likely to have a full-time regular contract. We also find that young workers in Britain and Germany are less likely to work full-time than in The Netherlands and Sweden. The large share of part-time work among young Germans is probably explained by the apprenticeship system, which offers part-time school and part-time work to young school leavers. Older workers in Britain, The Netherlands, and Sweden, but not in Germany, are less likely to work full-time, which fits with the part-

Table 3

Employment of Mothers with a Child 11 Years or Younger According to Occupation

ISCO-68	Britain 1997	Germany 1996	The Netherlands 1996	Sweden 1996
0/1 Professional, technical etc.	19.5	31.9	37.4	39.3
2 Administrative and managerial	6.3	2.0	2.9	5.4
3 Clerical and related	29.0	26.0	19.8	14.3
4 Sales personnel	11.2	15.7	7.9	7.5
5 Service workers	27.5	14.2	28.1	8.9
6 Agriculture	0.8	3.4	2.2	1.1
7/8/9 Transportation and production	5.7	6.9	1.8	23.6
Total	100	100	100	100
N (mothers)	714	204	278	280
All women transportation and production workers	6.3	6.9	4.2	17.9
N (all women)	2,636	912	1,061	853
All men transportation and production workers	35.5	39.3	34.5	28.4
N (all men)	3,781	1,303	1,582	962

Source: Gustafsson, Kenjoh and Wetzels (2000). BHPS 1997, GSOEP 1996, OSA 1996, and HUS 1996.

Table 4

Change in Probability of Being in Full-Time Work with a Regular Contract from Probit Models[a]

Variable	All Four Countries		Separate Probits Per Country dF/dx			
	dF/dx	z-value	Britain 1997	Germany 1996	The Netherlands 1996	Sweden 1996
Britain	0.049	3.9				
Germany	0.056	3.9				
The Netherlands (= base)						
Sweden	0.910	6.0				
Female	–0.307	–30.0	–0.25	–0.33	–0.51	–0.20
Female with Child age < 11	–0.148	–12.5	–0.19	–0.14	–0.10	–0.12
Age 16 to 24	–0.059	–3.4	–0.07	–0.26	0.09	n.s.
Age 25 to 34	0.085	6.7	0.08	0.09	0.11	n.s.
Age 35 to 44 (= base)						
Age 45 to 54	–0.440	–3.2	–0.10	n.s.	n.s.	n.s.
Age 55 to 64	–0.139	–7.5	–0.22	n.s.	–0.17	–0.09
Education low	0.017	1.3	n.s.	n.s.	n.s.	–0.06
Education medium (= base)						
Education high	0.055	3.9	0.07	n.s.	n.s.	n.s.
Controls for industry	yes	yes	yes	yes	yes	yes
Controls for occupation	yes	yes	yes	yes	yes	yes
Observed P	0.62		0.62	0.65	0.58	0.65
Predicted P (at mean values)	0.64		0.64	0.68	0.59	0.66
N	12,090	5,417	2,215	3,642	2,074	1,815

[a] n.s. is not significantly different from base group.

Source: Gustafsson, Kenjoh, and Wetzels (2000). BHPS 1997, GSOEP 1996, OSA 1996, and HUS 1996.

time retirement that is becoming common in these countries. Finally, it is notable that, holding industry and occupation constant plus the variables shown in Table 5, there is no effect of education on the probability of working full-time with a regular contract.

In Tables 5A and 5B we show the effect of changing the definition of full-time work from 35 or more hours per week to 30 hours or more per week broken down by industry. In all four countries, changing from 35 to 30 hours hardly changes the proportion of men working full-time but for women the increase is substantial. In Sweden, the gap between the ratio of women to men working full-time decreases from 54.5/74.0 = 0.74 to 71.3/76.0 = 0.94, that is, almost the same proportion of women as men work full-

Table 5A

Percent Mothers with a Child 11 Years or Younger with Regular Full-Time Work According to Industry[a]

Industry	Britain 1997	Germany 1996	The Netherlands 1996	Sweden 1996
Agriculture, forestry, and fishing	0.0	0.0	0.0	0.0
Mining	0.0	0.0	0.0	0.0
Manufacturing	43.1	33.3	18.2	48.9
Energy and Water Supply	50.0	0.0	0.0	0.0
Construction	12.5	100.0	25.0	28.6
Wholesale and retail trade/hotels and restaurants	18.0	6.4	0	33.3
Transportation and communications	31.8	18.2	0	55.0
Finance, insurance and real estate	32.0	14.3	4.2	40.0
Non-profit business (public administration and other services)	32.1	14.0	8.1	42.6
All industries	29.4	14.7	6.8	41.8
All women all industries	49.1	45.3	28.3	54.5
All men all industries	73.8	79.0	78.3	74.0

[a] Full-time work equals 35 hours or more per week.

Source: Authors' computations based on BHPS 1997, GSOEP 1996, OSA 1996, and HUS 1996

Table 5B

Percent Mothers with a Child 11 Years or Younger with Regular Full-Time Work According to Industry[a]

Industry	Britain 1997	Germany 1996	The Netherlands 1996	Sweden 1996
Agriculture, forestry, and fishing	0.0	0.0	0.0	50.0
Mining	0.0	0.0	0.0	0.0
Manufacturing	54.2	33.3	18.2	74.5
Energy and Water Supply	50.0	0.0	0.0	0.0
Construction	25.0	100.0	25.0	71.4
Wholesale and retail trade/hotels and restaurants	22.2	14.9	0.0	51.9
Transportation and communications	50.0	31.8	0.0	80.0
Finance, insurance and real estate	35.0	14.3	4.2	80.0
Non-profit business (public administration and other services)	38.8	22.0	15.1	67.4
All industries	35.7	22.1	11.5	68.9
All women all industries	55.1	51.8	38.2	71.3
All men all industries	74.7	79.9	82.4	76.0

[a] Full-time work equals 30 hours or more per week.

Source: Authors' computations based on BHPS 1997, GSOEP 1996, OSA 1996, and HUS 1996

Table 6

OLS Regressions on the Logarithm of Hourly Wage in National Currency[a]

Variable	Britain 1997	Germany 1996	The Netherlands 1996	Sweden 1996
Permanent, full-time (omitted category)				
Permanent, part-time	–0.13	–0.10	n.s.	0.06
Temporary, full-time	–0.21	–0.50	–0.18	–0.80
Temporary, part-time	–0.17	–0.12	–0.22	n.s.
Female	–0.18	–0.21	–0.22	–0.22
Female with child age < 11	0.07	0.04	0.08	0.03
Age 16–24	–0.37	–0.52	–0.48	–0.19
Age 25–34	–0.11	–0.15	–0.14	–0.04
Age 35–44 (omitted category)				
Age 45–54	n.s.	0.06	0.09	0.07
Age 55–64	–0.10	n.s.	0.15	0.09
Education low	–0.10	–0.04	–0.08	–0.11
Education medium (omitted category)				
Education high	0.07	0.20	0.17	0.09
Controls for industry	yes	yes	yes	yes
Controls for occupation	yes	yes	yes	yes
Constant	1.95	3.29	3.22	4.61
R^2	0.42	0.51	0.48	0.30
N	4,350	1,892	2,074	1,539

[a] n.s. is not significantly different from base group.

Source: Gustafsson, Kenjoh and Wetzels (2000). BHPS 1997, GSOEP 1996, OSA 1996, and HUS 1996

time. For Swedish mothers the decrease in the ratio is more dramatic, changing from 41.8/74.0 = 0.56 to 68.9/76.0 = 0.91. The explanation is that the mothers make use of the right to continue working in their full-time job 30 hours per week instead of the usual 40 hours per week. The changes in the other three countries are less pronounced but go in the same direction, with the smallest changes in Britain and Germany, which indicates that fewer women in these countries work between 30 and 35 hours per week.

5. Are mothers paid less?

In Table 6 we present OLS regressions on the logarithm of hourly wages in national currency. As in Table 4 we do

not present the coefficients for the industry and occupation variables that are included in the regressions (the interested reader is referred to Gustafson, Kenjoh and Wetzels 2000). Table 6 reveals that, other things equal, women earn 18 to 22 percent less than men but mothers regain 3 to 7 percent in comparison to other women. Working part-time or having a temporary contract decreases wages substantially except in Sweden, where permanent part-time workers in fact earn more per hour than permanent full-time workers do. In The Netherlands there is no significant wage effect. Earlier studies on Dutch data have found that the hourly wage of part-time working women is higher than the hourly wage of full-time working women (Maassen van Brink 1994).

Educational wage effects are remarkably similar across the four countries with a variation of 0.17 to 0.27 between low and high educated people. In Britain the educational difference is even smaller than in Sweden, where there is a lively ongoing debate about the export of human capital to surrounding countries where education is higher valued. However, the occupational wage variation is very compressed in Sweden in comparison to Britain. Germany and The Netherlands have a wage structure more similar to Britain than to Sweden. The age effects shown in Table 6 exhibit the compressed Swedish wage structure compared to the other three countries.

6. Conclusions

In this paper we examine the question of whether part-time and intermittent work during early motherhood leads to regular full-time work later. We find that in Sweden, by the time the first child is four years old 80 percent of mothers are working full-time if 25 hours is counted as full-time work, but only 30 percent if a 35-hour threshold is used. This finding contrasts sharply with the work patterns in early motherhood in the other three countries and we interpret it as an effect of woman friendly public policies. Furthermore, contrary to what Sherwin Rosen (1995) concludes, female employment in Sweden is actually less concentrated in the public sector than in the other three countries, although the concentration of employed mothers in public sector is high in all four countries. Swedish mothers work full-time to a much larger extent than mothers in the other three countries, particularly if 30 hours is counted as full-time work. Most employed mothers have permanent part- time jobs, and the wage discount in hourly wage in comparison to permanent full-time job is smaller than for temporary jobs, either full-time or part-time. Our results emphasize the importance of labor force transitions of women around the early stages of maternity in explaining cross-sectional findings on women's employment.

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