Part-time employment in Poland –family friendly employment form or a mere alternative for the low-skilled?

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Anna Matysiak
Institute of Statistics and Demography
Warsaw School of Economics
e-mail: amatys@sgh.waw.pl

Abstract

Over the recent years part-time employment has risen in many European economies, contributing strongly to the overall job growth. This trend has evoked a strong debate on the role of part-time employment for the flexibility of the labour market and work and family reconciliation, but also on the quality of part-time jobs. Nevertheless, an upward trend in part-time development has so far omitted Central and Eastern European countries, in spite of a severe conflict between work and family that has been arising in this part of Europe over the last 15 years. The focus of this paper is on Poland with an objective to investigate the role of part-time employment in this country over the 1990s. For this purpose a set of binary logit models for the years 1993, 1997 and 2002 with the dependant variables defined as part-time versus full-time employment and part-time employment versus non-employment were estimated. In a second step, a k-means cluster analysis on a 2002 working population was implemented. The results clearly show that part-time employment was hardly used for work and family reconciliation, but was rather taken involuntarily by the low-skilled facing lower opportunities for a highly paid full-time job on a permanent basis. The latter refers mainly to women.

Introduction

Over the recent years part-time employment has risen in many European economies, contributing strongly to the overall job growth. This trend has its advantages but also its drawbacks. On the one hand, the development of part-time employment increases the flexibility in the labour market. On the labour supply side, it raises labour market opportunities for those who were previously unwilling or unable to work. It allows also to maintain contact with work while being in education, disability or having family responsibilities. On the labour demand side, it may allow employers to adjust working hours to fluctuations in demand, facilitating adjustment of production (Buddelmeyer *et.al*., 2004). On the other hand, however, there is some concern about the quality of part-time jobs. Various studies have shown that part-timers tend to receive lower hourly wages, have less access to training and are more likely to be in unstable jobs than their full-time counterparts (e.g. OECD, 1999; Ermisch, Wright, 1993; Gregory, Connolly, 2001; Simpson, 1986). There is also some evidence of persistence in part-time employment which means that it does not necessarily have to be a stepping stone into full-time employment (Conolly, Gregory, 2004; O'Reilly, Bothfeld, 2002).

The development of part-time employment in many countries is strongly related to the growth in female labour force participation. Widely used in Nordic and Western European countries it enables women to combine work and family duties. However, the incidence of part-time work is much lower in Southern, Central and Eastern Europe. While the share of female part-timers in total employment in such countries as Sweden, Norway, Great Britain, Germany, Austria and Belgium exceeds 35% and in the Netherlands even 70%, in the Southern European economies it is below 20% and in the Central and Eastern European (CEE) countries it rarely reaches the level above 10%. Moreover, whereas there has been a rapid increase in part-time employment over the recent 20 years in the Northern and Western Europe, nearly nothing has changed in its Southern, Central and Eastern part. This observation is even more striking if we take into account a sharp drop in fertility which this part of Europe has experienced in the meantime and which was much more intensive, although started later, than in the Scandinavian and Western countries.

Furthermore, an increase in part-time employment is also often discussed as a consequence of globalisation and a severe rise in competitiveness. The resulting increase in uncertainty in the markets and, consequently, a change in the structure of labour demand, have led to destabilisation of employment and development of more flexible employment forms. Moreover, the shift of labour demand toward better skilled workers requires from an individual more involvement in the professional career and improvement of occupational skills. For this reason it is perceived to be one of the more important determinants of an increase in difficulties in work and family reconciliation and further a severe drop in fertility (e.g. Kotowska, 2004b, 2005; Mills, Blossfeld, 2003).

The negative effects of globalisation were most pronounced in the CEE countries, as they overlapped with the economic transition. Employment, which was relatively high before 1989 if compared with EU-15 (particularly in the case of women), dropped severely in all CEE countries. Nearly in all of them labour market situation of women worsened much more heavily than men. Moreover, apart from a sharp decline in employment, since the beginning of the 1990s CEE countries have also been experiencing a severe change in family formation patterns. Although a similar process have also been observed in Western Europe already in the mid 1960s, its intensity was much lower.

The focus of this paper is on Poland being a country with a relatively high female labour force participation before 1989, which experienced a particularly severe and persistent drop in employment during the period of economic transition. While in the majority of CEE countries the situation in the labour market has been improving since the mid 1990s, in Poland, after some period of recovery in the labour market, employment started to fall again after 1998. As a result, in comparison to other EU-25 countries Poland indicates the lowest employment rates for men and nearly the lowest for women.

Similarly to other CEE countries after 1989 Poland has also experienced sudden changes in family formation patterns. One of them was a severe drop in fertility, from 2,078 child per woman aged 15-49 in 1989 to 1,222 in 2003. One of the most important reasons for this drop is considered to be a severe rise in difficulties in combing work and family resulting from an increase in competitiveness in the labour market but also from the reduction of the state support for the family (in terms of income and provision of services) (e.g. Kotowska 1999, 2002; Balcerzak-Paradowska, 2002, 2004). According to Muszyńska (2004) Poland together with other CEE countries is characterized by the highest conflict between work and family resulting from an inappropriate institutional setting. However, in spite of the highest unemployment in Europe, one of the lowest fertility levels and severe difficulties in combining work and family part-time employment in Poland, although highest among the CEE countries, is relatively low if compared to other European countries and has not increased over the 1990s.

Taking into account the above described trends, the objective of the paper is to answer the following questions:

- Was part-time employment in Poland used to reconcile work and family duties over the 1990s or at least was it seen to be any solution to the conflict between family and work?
- If it is not the case - who are the part-timers?

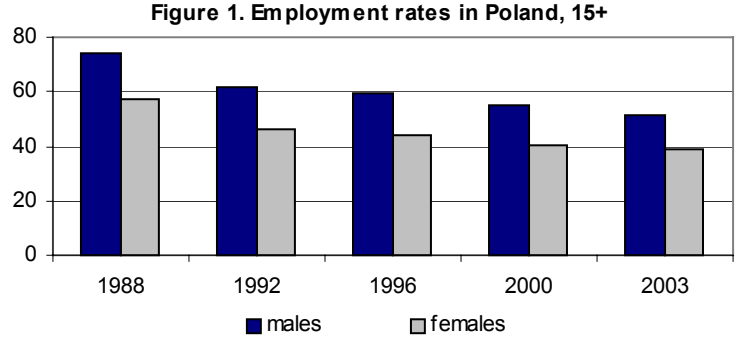
The data used in the study is the Polish Labour Force Survey for the years 1993, 1997 and 2002. In order to answer the first research question two binary logit models per each time period were estimated. As the dependant variables part-time employment versus full-time employment and part-time employment versus non-employment were used. The second research issue was addressed by implementing a k-means cluster analysis on the 2002 working population. Both analyses were conducted separately for women and men. The estimation of the logit models was constrained to the population aged 20-49.

The paper is structured as follows. The first section includes a description of the major trends in the labour market and family formation patterns in Poland as compared to other European countries. This background description is followed by the presentation of the trends in part-time employment development. The third section covers the methods used for the analysis, while in the fourth one the results of the multivariate analyses are presented. The papers ends with concluding remarks.

1. Labour market and family formation patterns in Poland and other European countries – major trends

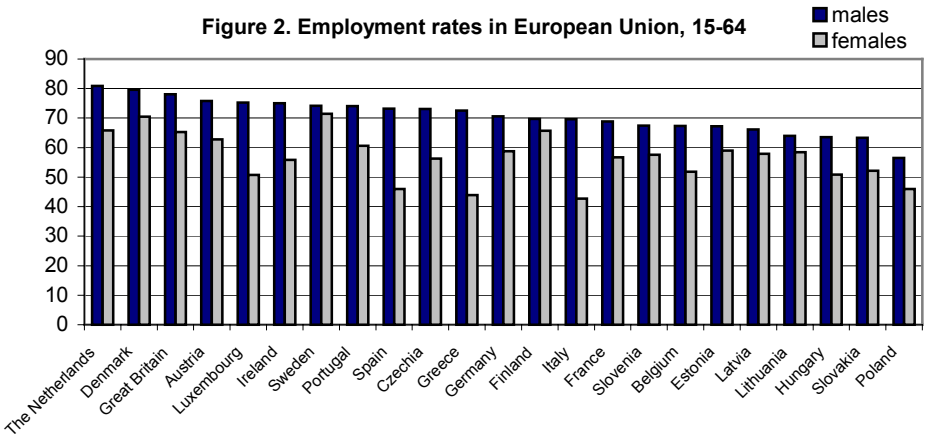
During the communist regime employment in Poland was relatively high, in 1988 74.4% men and 57% women aged 15 or more were employed. After the economic transition had begun, the situation in the labour market worsened rapidly. In the period 1988-1992 employment rates of men dropped by 18% and in the case of women by 20%. After a slight improvement in the mid 1990s the situation in the labour market started to worsen again after 1998. In the years 1998-2003 employment rates dropped by 13% to the level of 51.5% for men and 38.8% for women aged 15 or more. Calculating the employment rates so that they could be compared with employment rates for other EU-25 countries (i.e. for the population aged 15-64) shows that in 2003 Poland indicated the lowest male (51.5%) and nearly the lowest female employment (46%) in the European Union (female employment rates are lower only in Malta, Greece and Italy).

Figure 1. Employment rates in Poland, 15+



Source: Data for 1988 come from the National Population Cenzus, data for 1992-2004 come from the LFS, 4th quarters

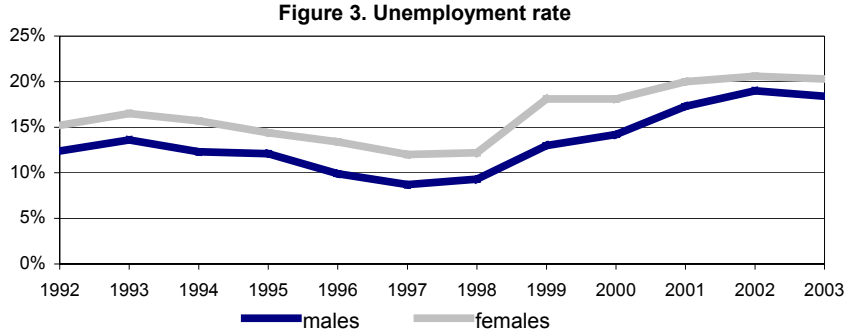
Figure 2. Employment rates in European Union, 15-64



Source: Eurostat, 2003

Parallel to the fall in employment in the 1990s a sharp rise in unemployment has been observed. If during the communist regime unemployment did not exist, after the first 4 years of the economic transition unemployment rate reached the level of over 16% for women and 13% for men (Figure 3). After some fall in the mid 1990s it started to rise again after 1998, reaching the highest levels in EU-25 - 20% for women and 18.6% for men in 2003.

Figure 3. Unemployment rate



Source: Labour Force Survey, 4th quarters

Hard situation in the labour market hit all population groups apart from the high skilled. A rapid rise in competitiveness in the labour market and a shift in the structure of labour demand in a transforming economy that was suddenly opened to the influence of the market forces in the globalising world contributed to an increase in uncertainty in the labour market and finally led to employment discontinuity and destabilisation of employment forms (i.e. spread of fixed-term and temporary contracts). The new situation in the labour market requires from an individual more involvement in the professional career and steady improvement of occupational skills (Kotowska, 2004b, 2005; Blossfeld, Mills, 2003). This leads to an increasing conflict between work and family life which contributes not only to a drop in female employment, but is also seen to be one of the more important reasons for the changes in the patterns of family formation and dissolution that have been proceeding in Poland since the beginning of the 1990s (Kotowska, 2004a, 2005; Meulders, Gustafsson (eds.), 2002; Palomba, 2003). They manifest mainly in a drop in fertility, postponement of fertility decisions, a fall in propensity to marry and destabilisation and deinstitutionalisation of family forms (an increase in the number of marriages dissolved through a divorce, development of new living arrangements and family forms, like consensual and Living-Apart-Together unions, an increase in the number and share of single parent families and extramarital births).

The changes in the patterns of family formation and dissolution started in Nordic European countries in the mid 1960s. In the following years they were spreading gradually to the Western (1970s) and Southern part of Europe (1980s). They are essential for the second demographic transition, the theory proposed for population change observed in developed European countries (van de Kaa, Lesthaeghe 1986; van de Kaa, 1987; Lesthaeghe 1995). These developments reached the Central-East after the breakdown of the communist regime. Nevertheless, although they occurred with some delay, their intensity in CEE countries was much higher than in the North and West.

The diversity of European countries regarding the changes in family formation patterns is presented in Table 1. The table contains the typology of European families that was proposed by Roussel in 1992 (Kuijsten, 1995). Using such measures as total fertility rate, marriage rate, divorce rate and incidence of extramarital births he divided European countries into 5 groups. First of them includes Scandinavian countries (apart from Norway) where the demographic changes were observed for the first time. These countries indicate the highest level of destabilisation and deinstitutionalisaton of the family, but also relatively high fertility level. Group B (The Netherlands, France, Norway, Great Britain) also includes countries with relatively high fertility level but with a lower degree of family destabilisation and deinstitutionalisation. If we move further to the bottom of the table up to the Group D (Mediterranean countries), the fertility level and the degree of family deinstituionalisation and

destabilisation decreases. The last group (E) is built by the CEE countries and Ireland. It can be easily seen that at the end of the 1980s. they indicated definitely the highest fertility level, highest propensity to marry, lowest divorce rate and lowest incidence of extramarital births. This situation has changed in CEE countries rapidly over the 1990s. Fertility level has dropped to the level compared with the Mediterranean countries of about 1.2-1.3 (the lowest in Europe), propensity to marry has declined and the number of divorces and incidence of extramarital births have increased. Although Poland is least advanced in these changes it does not refer to a drop in fertility, which was not less severe then in other CEE countries.

Table 1 Typology of European families

Country	Total fertility rate		Total female first marriage rate (for females aged <50)		Number of divorces per 100 marriages		Percentage of extramarital births	
	about 1988	about 2001	about 1988	about 2001	about 1988	about 2001	about 1988	about 2001
Group A								
Denmark	1.62	1.74	572	700	46	40	45	45
Sweden	2.02	1.57	601	470	41	59	50	55
Finland	1.78	1.73	592	590	38	55	25	39
Group B								
France	1.81	1.90	540	630	31	38	28	43
Norway	1.89	1.78	558	510	37	39	28	50
The Netherlands	1.55	1.71	601	540	28	46	10	27
Great Britain	1.81	1.63	665	540	42	53	25	40
Group C								
Austria	1.45	1.31	599	460	30	60	23	33
Belgium	1.58	1.66	718	520	31	69	8	15
Germany	1.39	1.38	598	640	32	44	10	18
Luksembourg	1.52	1.66	579	480	37	52	12	22
Switzerland	1.51	1.41	663	580	33	44	6	11
Group D								
Italy	1.29	1.24	695	580	8	12	6	10
Greece	1.50	1.29	870	520	12	17	2	4
Portugal	1.53	1.46	787	680	11	32	14	24
Spain	1.30	1.26	640	590	11	18	8	16
Group E								
Ireland	2.11	1.97	710	610	prohibited	15	12	31
Poland	2.15	1.29	840	570	17	23	6	13
Hungary	1.81	1.31	750	440	28	56	12	30
Lithuania	2.02	1.30	990	530	32	70	6	25
Bulgaria	1.96	1.24	852	520	18	32	11	42
Romania	2.31	1.24	870	620	21	24	4	27

Source: Kuijsten, 1995 ; data for 2001 from Council of Europe, 2002

One of the reasons for such a high intensity of the demographic changes in CEE countries are the already mentioned difficulties in work and family reconciliation. Although they exist also in other European countries they are particularly strong in the CEEs. The reason for this fact is not only a rapid rise in labour market competitiveness, but also traditional attitudes towards the gender roles and a lack of a proper institutional setting supporting the family in combining work and family duties.

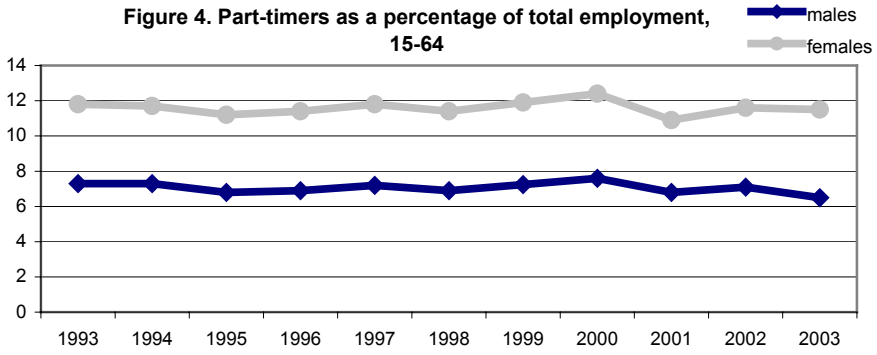
According to the analyses of Muszyńska (2004) CEE countries indicate the highest intensity of the cultural and structural conflict between work and family life. First of them relates to the attitudes toward the gender roles that determine the share of professional and household

duties. They are relatively traditional in spite of the high female labour force participation in the past. It is likely to be a result of the fact that during the communist regime female labour force potential was mainly regarded as a means to fulfil the needs of the production system in a period of rapid industrialisation but not to ensure gender equality in the labour market and household related tasks (e.g. Pascall, Manning, 2000; Siemieńska 1997). On the contrary, the rise in female employment in Western Europe was rather a result of an inward social change, not an outward pressure (Siemieńska, 1997). The structural conflict results from the institutional and organisational opportunities and barriers to the economic activity of women due to their family roles. Although during the communist regime family policy was relatively generous, the declining role of the state during the 1990s and the economic reforms aiming at liberalisation and deregulation of the economy led to a significant reduction of the state support for the family, both in terms of income and provision of services (Kotowska, 1999, 2002, 2004a; Balcerzak-Paradowska, 2002). This might have strengthened the intensity of demographic changes. In Poland cuts in childcare expenditures resulted in a decline in the number of places in crèches by 76% and in the nursery schools by 25% in the years 1989-2003. Consequently in 2003 only 2% of children aged 0-2 and 40.4% of children aged 3-6 attended any childcare institution. At the same time the costs of childcare institutions were partly shifted on parents (according to the study conducted by Olejniczuk-Merta it is about 30% (Balcerzak-Paradowska *et.al*., 2003)). Along with the adjustment of the enterprises to the conditions of the market economy the generous social programs that were offered by the enterprises in the past, including childcare services, were abolished. However, in spite of the rising difficulties in work and family reconciliation and falling fertility no coherent family and employment policy system has been elaborated (Balcerzak-Paradowska, 2004). The majority of changes in the family benefit and parental leave systems were performed under the pressure of rising poverty and declining financial resources of the state and resulted rather from the political orientation of the governing parties than were a response to the observed demographic trends (Balcerzak-Paradowska *et. al*., 2003).

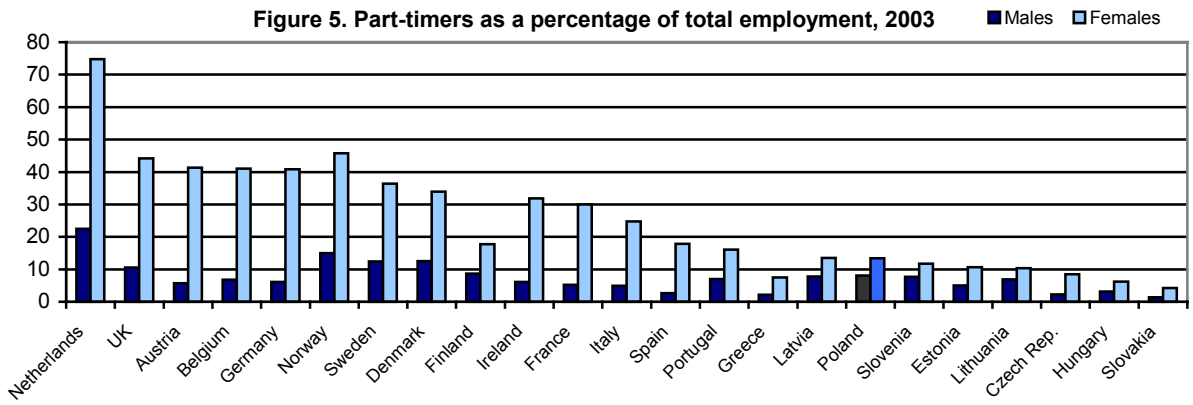
2. Development of part-time employment in Poland

Apart from the high structural conflict between work and family part-time employment has not become a popular form of employment, either in Poland or any other CEE country. In Poland the share of part-timers in total employment over the 1990s was rather stable, fluctuating around 10.9-12.4% for women and 6.5-7.6% for men aged 15-64 (Figure 4). This percentage is relatively high if compared to other CEE countries, but still much lower than in Northern and Western Europe (Figure 5). What is also special about part-time development in Poland and other CEE countries are the low gender disparities. While in Western and Northern European countries part-time work is performed mainly by women, in CEE countries, although women are more often employed part-time than men, the differences are not so large.

Figure 4. Part-timers as a percentage of total employment, 15-64

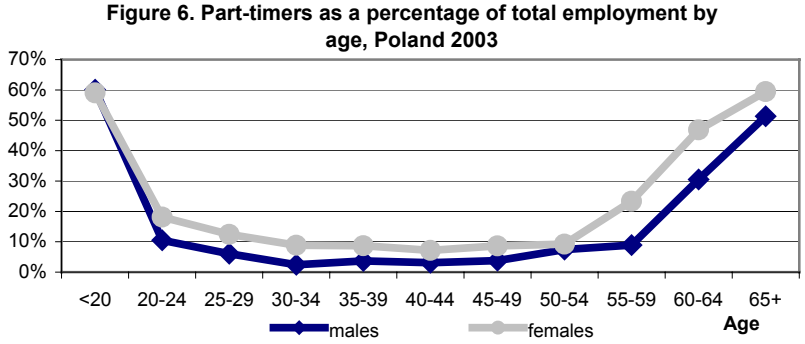


Source: author's calculations on LFS



Source: Eurostat

If disaggregating the share of part-timers by age, it shows off that those who choose this employment form in Poland are mainly the young (aged 15-19), probably entering the labour market for the first time and/or combing economic activity with education, and the persons in pre-retirement and retirement age (Figure 6). Although women in all age groups (apart from 15-19) work part-time more often than men, the gender difference in this respect among those aged 20-34 (i.e. when a probability of being a parent of a small child is the highest in Poland) is not particularly large.



Source: Labour Force Survey, 2nd quarter 2003

A similar pattern in part-time employment can be with some exceptions observed for men nearly in all European countries (Figures 7-10). For women it is the case in Slovenia and the Scandinavian countries. Nevertheless, while in Poland and Slovenia part-time employment for women aged 20-50 is less than 10%, in the rest of these countries it is around 30% or more. Another female part-time employment pattern can be observed in Austria, Belgium, Germany and Switzerland, where the incidence of part-time employment rises from a low level among the young to the highest among the retired. In the United Kingdom and particularly in the Netherlands part-time employment is high among all the age groups, but rises anyway if a person approaches the retirement age. On the contrary, in the Southern European countries (Spain, Italy and Greece) the share of part-timers is quite low and relatively stable throughout all female age groups, whereas in Portugal, Czech Republic and Hungary it increases rapidly from a very low level for the population in the productive age up to 60% after retirement.

Figure 7. Part-timers as a percentage of total emloyment, 2003

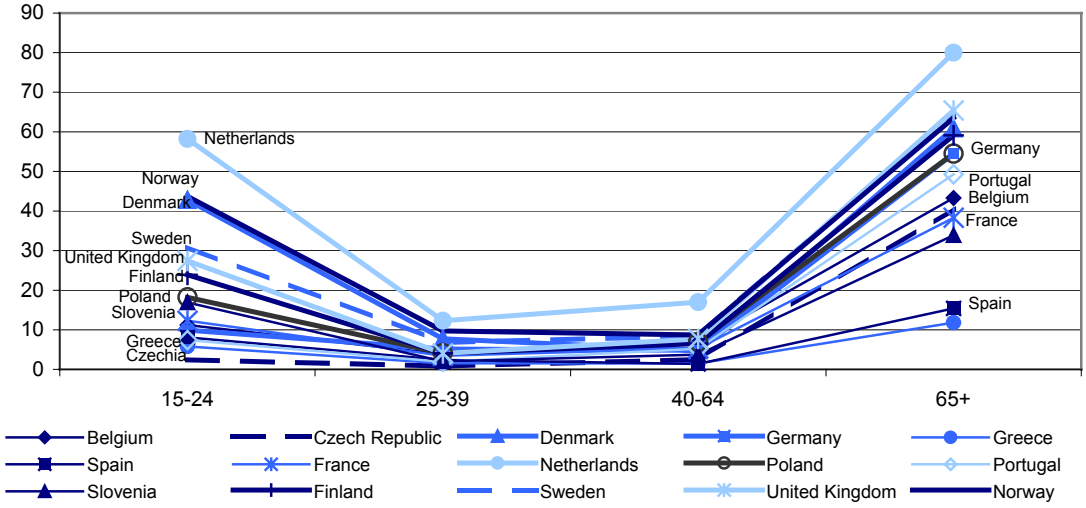


Figure 8. Part-timers as a percentage of total employment, females 2003

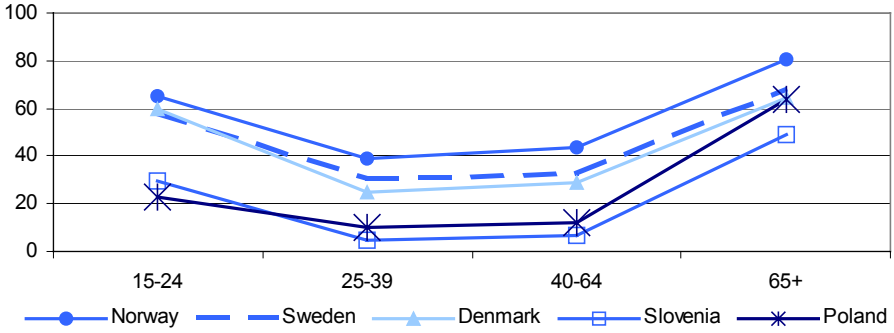


Figure 9. Part-timers as a percentage of total employment, females 2003

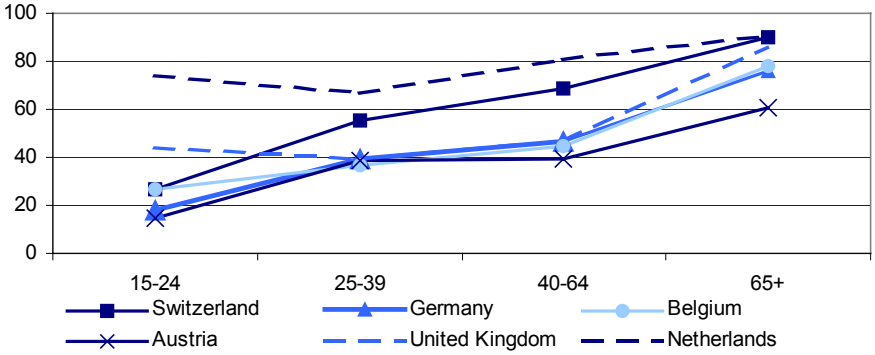
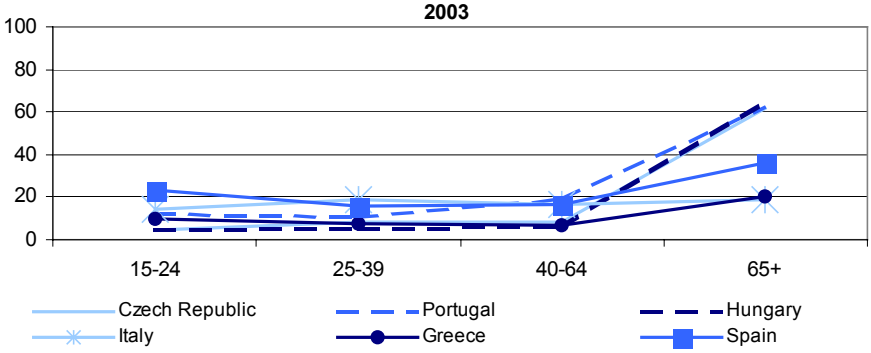


Figure 10. Part-timers as a percentage of total employment, females 2003



Source: Eurostat

The analysis of part-time employment patterns by age may suggest that this form of employment plays different roles over the life cycles of women and men in various European countries. In the case of young men in the majority of the countries it is a first step into full-time employment after graduation and/or an opportunity to combine economic activity with education. For older men, aged about 55 or more it is a bridge into retirement. An opportunity to work part-time seems to play an analogous role in the case of women in Poland, Slovenia and Scandinavian countries. In the latter group however, similarly to Belgium, Germany, Austria, Switzerland, the Netherlands and United Kingdom, it is very likely to be used also for other purposes, like work and family reconciliation. On the contrary, pure analysis of part-time employment distributions does not indicate that this employment form plays such a role in the Southern, Central and Eastern European countries.

The fact that part-time employment in Poland is rather not a popular form of family and work reconciliation confirms also an analysis of part-time participation by the family situation (Table 2). Although there are some differences between part-time incidence among the married and single women and also between mothers of small children, they are not large. While in 2002 part-timers accounted for about 14.3% of the employed married women, among the singles the adequate percentage was 11.3%. Similarly, while 13.7% of employed mothers aged 20-49 and having small children (aged 2 or less) worked part-time, the similar percentage for women in the same age group but having children aged 6-14 was 9.4% and for childless women or mothers of children older than 14 – 9.4%. Similar relationships between part-time participation and family situation were observed at the beginning of the 1990s.

Table 2 Part-timers as a percentage of the employed by sex and family status

	Males		Females	
	1993	**2002**	**1993**	**2002**
Marital status				
Single	14.2	12.8	18.3	16.5
Married	7.7	6.5	11.4	11.3
Widow/-er	30.4	20.4	34.5	26.6
Divorced	10.3	10.4	10.4	8.2
Age of the youngest child*				
No children or children aged 15+	5.7	6.8	6.7	9.2
0-2	3.1	2.6	13.2	13.7
3-5	3.3	3.3	12.5	12.0
6-14	3.4	3.1	7.4	9.4
Number of children aged 14 or less*				
None	5.5	7.0	6.4	9.3
One	3.8	2.9	8.4	9.2
Two	2.8	2.9	13.2	11.3
Three or more	1.8	3.9	15.9	13.4

* - The shares of part-timers by the age of the youngest child and number of children were calculated for parents aged 20-49.

Source: author's calculations on LFS data

On the contrary, among the single employed men the percentage of part-timers is higher than among the married. Similarly, employed men aged 20-49 who do not have children or whose children are 15+ choose part-time work more often than full-time if compared to fathers with younger children.

What was written above is fully coherent with the reasons part-timers in Poland give for their choice. It shows off that in 2003 nearly 30% of them, regardless of sex, chose this employment form involuntarily (Table 3). It means that the difficult situation in the labour market did not give them the opportunity to work full-time. In 2003 only 9.7% women and 0.6% men in Poland entered part-time employment for family and personal reasons, whereas in such countries as Germany, Austria, Switzerland, United Kingdom and Luxembourg,

where the incidence of part-time work among women is much higher, this percentage for women exceeds 40% (Table 4). Although part-time employment in Poland is also quite often chosen voluntarily as a better alternative than full-time job, it is rather done so by older persons, approaching retirement age, and not women in procreative age as it is the case in the Netherlands. Although in this country women relatively rarely declare they work part-time for family and personal reasons, but rather that they do it voluntarily, it refers not only to the older ones but also to those aged 25-39 (according to Eurostat's data over 80% of them work part-time because they do not want a full-time job).

Table 3 Reasons for part-time employment in Poland in 2003 (in %)

	Education	Disability / illness	Could not find full-time job	Did not want full-time job	Family or personal responsibilities	Other reason / no reason given	Total
Total	9.5	16.8	28.1	29.5	5.8	10.2	100.0
Males							
< 35	40.2	2.3	40.4	9.9	0.2	6.9	100.0
35-54	-	27.4	38.0	17.5	1.9	15.2	100.0
55+	-	32.5	6.3	46.6	0.5	14.0	100.0
Total	14.3	20.8	27.2	25.6	0.6	11.5	100.0
Females							
< 35	19.0	0.7	40.0	18.7	15.1	6.6	100.0
35-54	0.2	11.7	38.6	27.7	9.8	12.0	100.0
55+	-	28.2	5.1	54.8	2.1	9.8	100.0
Total	6.0	13.8	28.8	32.4	9.7	9.3	100.0

Source: Author's calculations on LFS, 2nd quarter 2003

Table 4 Reasons for part-time employment in Europe in 2003 (in %)

	Education	Disability / illness	Could not find a full-time job	Did not want a full-time job	Family or personal responsibilities	Other reasons / No reason given	Total
MALES							
Belgium	5.5	7.6	22.8	7.6	4.1	51.7	100.0
Czech Republic	8.3	36.7	5.0	*na*	*na*	50.0	100.0
Denmark	50.9	6.7	13.9	26.7	*na*	*na*	100.0
Germany	21.7	6.1	21.9	29.3	13.4	7.6	100.0
Greece	13.0	*na*	38.9	25.9	*na*	18.5	100.0
Spain	15.7	*na*	17.9	3.4	*na*	60.4	100.0
France	2.8	9.0	29.0	48.2	*na*	10.5	100.0
Ireland	39.1	*na*	27.5	27.5	*na*	*na*	100.0
Italy	6.5	3.1	42.3	20.7	*na*	27.6	100.0
Cyprus	*na*	20.0	20.0	50.0	*na*	*na*	100.0
Latvia	*na*	*na*	39.4	*na*	*na*	*na*	100.0
Lithuania	*na*	*na*	50.0	13.5	*na*	23.1	100.0
Luxembourg	*na*	*na*	*na*	*na*	*na*	*na*	100.0
Hungary	*na*	24.5	22.6	26.4	*na*	13.2	100.0
Netherlands	21.8	1.4	4.5	59.9	*na*	12.2	100.0
Austria	20.9	5.5	9.9	24.2	2.2	36.3	100.0
Poland	14.8	19.8	28.7	24.1	*0.6*	11.8	100.0
Portugal	*na*	29.1	12.6	22.1	*na*	29.6	100.0
Slovenia	33.3	37.5	*na*	*na*	*na*	*na*	100.0
Slovak Republic	*na*	43.8	*na*	25.0	*na*	18.8	100.0
Finland	29.1	*na*	25.2	36.9	*na*	5.8	100.0
Sweden	23.1	15.3	19.6	25.5	2.0	14.5	100.0
United Kingdom	32.3	4.3	16.2	21.5	4.9	20.2	100.0
Norway	35.1	7.6	11.1	26.9	*19.3*	18.7	100.0
Switzerland	20.6	9.5	6.7	15.8	8.7	35.6	100.0
Romania	1.1	3.7	56.2	33.9	*na*	5.1	100.0

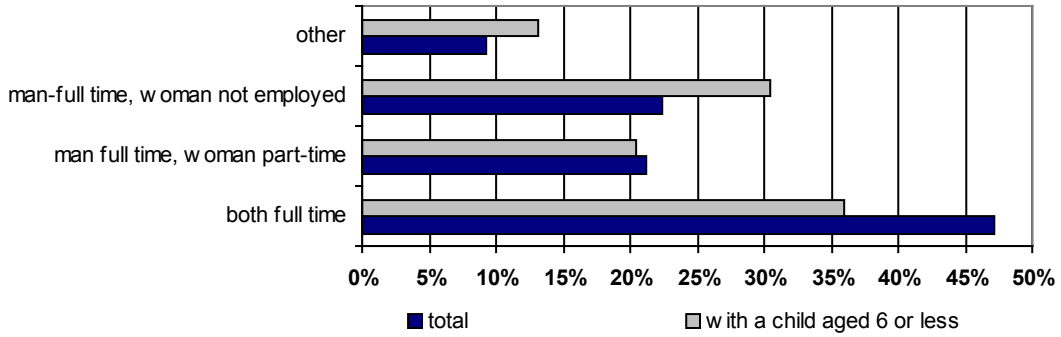
Table 4. Reasons for part-time employment in Europe in 2003, cd.

FEMALES							
Belgium	1.4	2.5	16.4	11.7	25.3	42.5	100.0
Czech Republic	2.3	16.7	17.2	*na*	20.7	43.1	100.0
Denmark	25.6	5.3	15.3	50.9	3.0	*na*	100.0
Germany	5.0	1.8	12.9	16.2	60.7	3.5	100.0
Greece	6.1	*na*	40.0	32.2	8.7	10.4	100.0
Spain	4.6	0.5	18.7	9.2	12.3	54.8	100.0
France	1.0	4.5	28.4	57.3	4.4	4.3	100.0
Ireland	14.6	*na*	9.9	72.1	*na*	3.0	100.0
Italy	3.2	0.9	26.4	30.0	*na*	39.5	100.0
Cyprus	*na*	*na*	21.1	68.4	*na*	*na*	100.0
Latvia	13.4	*na*	37.3	11.9	11.9	22.4	100.0
Lithuania	7.3	*na*	52.4	15.9	*na*	14.6	100.0
Luxembourg	*na*	*na*	8.7	21.7	43.5	21.7	100.0
Hungary	*na*	16.5	25.2	30.1	9.7	16.5	100.0
Netherlands	8.9	1.1	2.5	74.4	6.1	7.1	100.0
Austria	3.3	1.0	7.2	17.9	49.0	21.4	100.0
Poland	6.8	12.1	30.4	31.7	9.7	9.5	100.0
Portugal	4.2	16.5	22.0	19.5	13.1	24.7	100.0
Slovenia	31.4	34.3	11.4	*na*	*na*	14.3	100.0
Slovak Republic	*na*	27.8	13.9	25.0	*na*	27.8	100.0
Finland	24.6	2.4	32.9	25.6	9.7	4.8	100.0
Sweden	13.5	9.4	20.8	32.2	16.5	7.8	100.0
United Kingdom	11.5	1.5	5.8	17.7	43.9	19.6	100.0
Norway	16.7	3.3	11.3	55.3	*na*	13.4	100.0
Switzerland	7.3	3.1	5.2	18.6	49.1	16.7	100.0
Romania	*na*	5.4	32.9	48.1	8.2	5.5	100.0

Source: Eurostat

Also the preferences of the Poles toward the organization of the professional life clearly indicate that part-time employment is not associated with family and work reconciliation. The majority of the Poles would like to live in a relationship, in which both partners work full-time (dual-earner family model). About 20% prefer a male breadwinner model (a man works full-time and a woman does not have a job). Nearly the same percentage opts for the so called modernized male breadwinner model, in which a man works full-time and a woman part-time. However, the preferences are different if a child aged 6 or less is present. Lower support for dual earner model is then compensated by higher preferences for the male breadwinner model, while the preferences for the modernized male breadwinner model hardly change.

Figure 11. Preferences for work organisation in Poland, 2001



Source: author's calculations on data from the Population Policy Attitude Survey PPA2, 2001

The fact that part-time employment is not perceived by the population as a work and family reconciliation tool may result from the fact that it was long not treated as such in the state policy. Over the 1990s there were not only any regulations that would enhance part-time

employment, but also this idea did not appear in the public debate or governmental documents. However a strong emphasis on the development of this employment form as a measure enhancing female employment that was put in the European Employment Strategy made the issue arise also in Poland (Kok, 2003). In 2002 a law was passed entitling parents to change a part of their right to parental leave for a part-time contract. There is however no data available yet allowing to verify if there was any change in the attitudes of both, employers and employees, towards this form of family and work reconciliation. Futhermore, in spite of a clear tendency in Europe toward enhancing the development of part-time employment there is no clear answer to the question if part-time work is a good solution and if does not reproduce gender inequalities in the labour market. The experience of the countries with high part-time employment rates shows that part-timers tend to receive lower hourly wages, have less access to training and are more likely to be in unstable jobs than their full-time counterparts (e.g. OECD, 1999; Ermisch, Wright, 1993; Gregory, Connolly, 2001; Simpson, 1986). There is also some evidence of persistence in part-time employment which means that it does not necessarily have to be a stepping stone into full-time employment (Conolly, Gregory, 2004; O'Reilly, Bothfeld, 2002). In the case of Poland results of simple descriptive analyses also indicate that part-timers seem to be more often lower educated, working in elementary occupations or as skilled agricultural and fishery workers and service, shop and market sales workers (part-time employment in the latter occupational group is mainly taken by women). What is more, the role of education for the opportunities of having full-time job seems to have increased over the 1990s. (Table 5).

Table 5 Part-timers as a percentage of total employment by sex, education and occupation at the beginning of the 1990s. and in 2003.

	Males		Females	
	1993*	2003	1993*	2003
Education level				
tertiary	8.03	4.43	11.14	6.82
secondary	6.07	6.00	8.95	10.19
vocational	5.73	5.95	11.15	14.85
primary or lower	18.73	19.74	24.10	26.62
Occupation				
Legislators, senior officers and managers	2.9	3.90	1.20	5.50
Professionals	7.9	9.20	6.50	6.50
Technicians and associate professionals	7.2	5.60	5.30	6.50
Office clerks	5.7	7.10	5.50	8.50
Service workers, shop and market sales workers	9.5	13.40	9.60	14.50
Skilled agricultural and fishery workers	18.9	26.70	19.90	30.40
Craft and related trades workers	4.9	9.90	4.20	5.90
Plant and machine operators and assemblers	2.6	3.20	3.00	4.80
Elementary occupations	14.8	15.50	18.30	19.30

*- shares of part-timers by occupations are calculated on the data from 1994 as the classification of occupations in the Labour Force Survey in 1993 was different from ISCO-88.

Source: author's calculations on Labour Force Survey

3. Research methods

The results of descriptive analyses presented in a previous section are further examined using multivariate statistical methods that allow to control for various determinants of part-time employment at the same time. The objective of the study is to check whether part-time

employment is not used for work and family reconciliation but is taken involuntarily by those who have lower opportunities for a high paid full-time job on a permanent basis.

The data used is the Polish Labour Force Survey for the years 1993, 1997 and 2002. LFS is the best labour market data source for Poland. The selection of different time periods allows to compare the changes in part-time development at the beginning of the economic transition with the time periods when the transition was more advanced. 1993 is one of the first years after the implementation of the most important structural reforms. It is therefore a period of massive restucturing, a severe decline in labour demand and consequently a rise in unemployment. 1997 is already the time when the economy was at its peak and unemployment was the lowest in the whole period of the economic transition up to now. On the other hand, 2002 is the year of economic slowdown with a rising uncertainity and a much worse situation in the labour market. It is also the time when the young born during the demographic boom on the turn of the 1970s and 1980s started to enter the labour market facing serious difficulties in gaining employment. Moreover the whole period under investigation can be characterised with rising competetitevness, job insecurity and conflict between work and family (Kotowska 1999, 2002, 2004a).

In order to verify the first research issue two binary logit models per each time period were estimated, separately for women and men. The dependant variables were: part-time employment versus full-time employment (L_1) and part-time employment versus non-employment (L_2). The 4-grade education level (E), age of the youngest child (C with four categories: 0-2, 3-5, 6-14, no children or children aged 15+)[1], the partner's labour force participation (P with three categories: no partner, working partner, nonworking partner) and a binary variable describing the fact of being in education (B) were used as predictors. The age of the respondent was not included in the model due to the high correlation with the age of the youngest child. However, in order to eliminate the age effect on labour force participation in respect to the working hours the model was estimated for the population aged 20-49. For this reason also the variable 'being in education' was added to the model to control for the effect of education on labour force participation that may be particularly strong among the young. At the beginning the following theoretical logit model was proposed:

$$O_1^L = e^{\alpha + \tau_i^B + \tau_j^E + \tau_k^P + \tau_l^C + \tau_{jl}^{EC} + \tau_{jk}^{EP} + \tau_{lk}^{CP} + \tau_{ik}^{BP}}, \quad i=1,2;\ j=1,\ldots,4;\ k=1,\ldots,3;\ l=1,\ldots,4$$

where O_1^L is the odds of being in category 1 (part-time employment) as opposed to category 2 (full-time employment / non-employment) and the taus reflect the effects of predictors or combinations of predictors (interactions) on these odds. The choice of the interaction effects is explained as follows:

- EC – the education level may strengthen or weaken the decisions on labour force participation that are taken dependant on the age of the youngest child
- EP – the education level may strengthen or weaken the decisions on labour force participation that are taken dependant on the fact if there is an additional income source earned by the partner
- CP – the fact of having or not an additional income source earned by the partner may influence the decision on labour force participation taken dependant on the age of the youngest child

[1] The LFS data does not allow to split the category 'no children or children aged 15+' into two separate ones, as there is no information on the adult children who do not live in the same household with their parents.

– PB – the fact of having or not an additional income source earned by the partner may influence the decision on labour force participation taken due to the fact of being in education

The above defined initial model was in the next step tested for the goodness of fit with the help of L^2 goodness-of-fit test and the conditional L^2 test. According to the test results all the unnecessary effects were dropped. As a result the majority of the models include only the main effects, there are however some exceptions, where dropping an interaction effect would cause a significant loss in the goodness of fit.

The second research issue was addressed by implementing the k-means cluster analysis on the 2002 working population. Following labour force characteristics were used in the clustering procedure:

- working hours: full-time, long part-time (above 20 hours a week), short part-time (20 hours a week or less),
- the type of the contract: permanent, fixed-term (of different lengths),
- education level,
- occupation (ISCO-88 1-digit scale),
- hourly net wage.

The analysis was conducted separately for women and men.

4. Results

This section includes the description of the outcomes of the multivariate analyses. Firstly the estimation results of the logit models are discussed beginning with the model with a dependant variable defined as part-time versus full-time employment (part 4.1). The tables including the estimation results are presented in the Annex at the end of the paper. The next part (4.3), called quality of part-time jobs, includes the outcomes of the cluster analysis.

4.1. Determinants of part-time versus full-time employment

The estimation results clearly show that the choice between part-time and full-time employment is strongly determined by the fact of being in education and the education level of the respondent, both in the case of women and men. The significance and direction of the impact of family status (having a partner / a child, labour market status of the partner and the age of the youngest child) on the working hours differs however among women and men.

Firstly, those who are in education are much more likely to work part-time versus full-time than those who do not learn. This effect was particularly strong in the years 1993 and 1997 and fully coherent with what was found out on the basis of descriptive analyses presented in section 2. It means that part-time employment may be a good solution for those who would like to combine educational and economic activities, not necessarily being a mere alternative for the labour market entrants. Its role has however decreased over the 1990s, which may be a result of a particularly difficult labour market situation of the young born during the demographic boom at the beginning of the 1980s. who have been entering the labour market in large numbers in the last years. These conclusions require however further testing that goes beyond the objective of this paper.

Secondly, there is a strong effect of education on labour force participation in respect to the working hours. Persons with tertiary education are much more likely to be full-time than part-

time employed than the lower educated, particularly those with at most primary education. What is more, there has been a clear increase in the full-time versus part-time employment opportunities of the high-skilled over the 1990s. It refers particularly to women. While in 1993 the odds of working part-time versus full-time were by 13.5% lower than what would be expected were there no association, both in the case of women and men, in 2002 the adequate percentage was nearly 60% for women and 40% for men, holding other factors constant. On the other hand, the opportunities of the low skilled, particularly those with at most primary education, to be part-time versus full-time employed have increased, but it refers to men in a higher degree. This may result from the fact that the low-skilled women are more likely to withdraw from the labour market than the low-skilled men.

Thirdly, what is the objective of the paper, the influence of the family status on the working hours has been examined. The significance and direction of this effect is however different for women and men.

In the case of women the age of the youngest child had a significant impact on the labour force participation with respect to the working hours in all the time periods examined. In the years 1993 and 1997 being a mother of a small child, aged 0-2, increased the odds of working part-time versus full-time by about 45-50% as compared to what could be expected were there no association, while having no children or aged 6+ lowered these odds. However, while in 1993 it was more likely for mothers of children aged 3-5 to take up part-time than full-time employment if compared to what could be expected were there no association, in 1997 this effect was insignificant.

For 2002 the conditional L^2 test indicated that the model with two interaction effects (age of the youngest child*education and age of the youngest child*partner's labour force participation) is better fitted than a model without any of these interaction effects. Although the main effect of the age of the youngest child on the working hours became insignificant, this predictor influences the choice between part-time and full-time employment in an interaction with education level and partner's labour force participation. First of these interactions implies that having a child aged 0-2 decreased the odds of working part-time versus full-time among women with tertiary education and increased it among the low-skilled as compared to what could be expected were there no association present. It means that the women with tertiary education were about nine times less likely to choose part-time instead of full-time employment than women with at most primary education if having a child aged 0-2. This gap between the high-skilled and low-skilled women was lower for the other child's age groups, but was also large (except for women with primary education having a child aged 3-5 and women without children below 15). The second interaction effect implies that having a child in a given age group influences the impact of the partner's labour participation on females decisions as regards the working hours. As the odds of entering part-time versus full-time employment among childless women or mothers of 15+ aged children did not differ due to the fact whether their partner had a job or not, it did not hold for mothers of 0-2 aged children. The latter having a working partner were nearly three times more likely to work part-time than full-time if compared to those with a non-working partner.

The above described results suggest that part-time employment was to some degree used for work and family reconciliation over the 1990s. However, what started to play a role in this respect in the last years is the education level and partner's labour force participation. Better educated women (with tertiary or secondary education) with 0-2 aged children are much less likely to enter part-time versus full-time employment than those with at most vocational

education. It may be a result of much better labour market opportunities for the high skilled but also of a better access to the childcare facilities of higher quality. On the other hand, having an additional income source lowers the motivation of women to work full-time while having small children. Nevertheless, in the next part of this section it will be shown that the importance of part-time employment for reconciling work and family in Poland is rather weak.

As regards the men family situation influences their labour force participation with respect to the working hours in a completely different manner. First of all, men having a partner are much less likely to work part-time than full-time than those who do not have a partner, regardless of the fact whether the partner works or not. This effect has even strengthened over the 1990s. Secondly, the age of the youngest child does not have a significant impact on the male working hours. Hence, it is clear that part-time employment has not been used by men for work and family reconciliation in Poland. An additional conclusion that may be drawn from the estimation results is that a traditional share of household duties is quite deeply rooted in the way of thinking of the Polish couples. While in the case of women having a working partner increases the odds of part-time versus full-time employment if having a small child, in the case of men having any partner, no matter whether she works or not, decreases these odds.

4.2. Determinants of part-time employment versus non-employment

In order to verify the role of part-time employment in the life cycles of women and men the results presented in the previous part of this section should be compared to the estimation results of the logit models with a dependant variable part-time employment versus non-employment.

First of all, although it is quite clear that part-time employment is used for combing economic and educational activities, this solution is not very common. It is much more likely that people in education will stay out of employment and probably enter the labour market after graduation. This effect did not work only in the case of men in 2002, when the fact of being in education was insignificant for the choice between part-time employment and non-employment. In the case of women, on the other hand, the fact of being in education interacted in 2002 with the partner's labour force participation – having no partner decreased the odds of part-time employment versus non-employment if being in education, while having a non-working partner worked in an opposite direction. The latter conclusion may result from the rising difficulties in the labour market that hit men as well and as a consequence contributed to an increase in the responsibility of women for the household's income.

Secondly, holding other factors constant, it is quite clear that the better educated are more likely to have any job, even if it is a part-time job, than stay out of employment.

Finally, a third conclusion, most interesting from the point of view of this paper's objective, can be drawn in respect to the age of the youngest child. In the case of men this predictor was insignificant for the choice between part-time employment and non-employment in 1993 and 1997. It played a role only in 2002 – being childless or having a child aged 15+ decreased the odds of part-time employment versus non-employment, while having a child aged 3-5 increased it. Having a child 0-2 did not have an impact on the male choice between part-time employment and non-employment. On the contrary, in 1993 women having a child aged 0-2 and in 1997 also women with a child aged 3-5 were much more likely to be out of employment than to work part-time. In 2002 the age of the youngest child interacted with the

mother's education level in such a manner that having a child aged 0-2 decreased the odds of part-time employment versus non-employment in the case of the high skilled women and increased these odds for the low skilled. Taking into account what was written in the previous part of this section it may be concluded that although in 2002 the high skilled women having a child aged 0-2 were, with some exceptions, much more likely to work full-time versus part-time than the low-skilled, if it was not possible, the risk they would land out of employment was nearly the same as in the case of the low-skilled. Summing up, although part-time employment was used to some degree for work and family reconciliation (excluding the high skilled women in 2002), its role was rather weak as it was more likely for women to stay out of employment than to work part-time while having a small child.

4.3. Quality of part-time jobs

If part-time employment is to a low degree used for work and family reconciliation and its role has not increased over the 1990s in spite of great changes in the labour market and decreasing role of the state in supporting families in its care duties, a question arises who works part-time and what is the quality of part-time jobs. This research issue was addressed by implementing k-means cluster analysis on the 2002 working population, separately for women and men aged 15+. For the discrimination variables the following labour market characteristics were chosen: labour force participation in respect to the working hours, type of the contract, education level, occupation and hourly net wage. As a result two labour market clusters, both in the case of women and in the case of men, were identified. For both cases, one of the identified clusters is a low and the second is a high quality employment cluster. The 'low quality employment' cluster in the case of men covered nearly 70% of the respondents classified to any of the identified clusters, while in the case of women it was slightly above 40%. In comparison to the 'high quality employment' cluster the 'low quality employment' cluster is characterized by on average lower hourly wages (nearly two times), relatively high incidence of temporary employment and low education level and occupational skills of its members (Table 6). Nearly all respondents with tertiary (about 97-99%) and postsecondary (about 93% in the case of women and 80% in the case of men) education and in the case of women also a majority of respondents with vocational secondary (over 70%) were classified into the 'high quality employment' cluster. On the contrary the 'low quality employment' segment includes the vast majority of the respondents with vocational education (over 98%) and all even lower skilled. Similarly, nearly all the persons performing the occupations that require high skills according to the ILO skill classification (i.e. professionals, technicians and associate professionals) and also legislators, top managers and senior officers were classified into the 'high quality employment' cluster, while all manual workers and the majority of respondents performing the occupations requiring low skills were classified into the 'low quality employment' cluster. Among temporary workers about 90% in the case of men and nearly 80% in the case of women were included into the 'low quality employment' cluster, while among the permanent workers the adequate percentages amounted to about 70% (men) and 40% (women). Also the majority of the part-timers belong to the 'low quality employment' cluster (about 75% for men and 70% for women). Nevertheless, while only about 40% of full-time employed women were classified into the 'low quality employment' cluster, for men it is about 70%, which suggests that male full-timers, opposite to female, are as likely to be in low quality employment as part-timers. On the other hand, however, although being full-time employed does not protect men from having a 'low quality' job, it does not change the fact that not only female but also male part-time jobs are highly concentrated among the low-skilled earning on average lower wages and facing higher job insecurity (in terms of temporary contracts). This conclusion is fully coherent with the fact

Table 6 Results of the cluster analysis

	MALES						FEMALES					
	LOW QUALITY EMPL CLUSTER		HIGH QUALITY EMPL CLUSTER		TOTAL		LOW QUALITY EMPL CLUSTER		HIGH QUALITY EMPL CLUSTER		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
Total	10922	71.5	4349	28.5	15271	100.0	6054	44,4	7596	55,6	13650	100,0
Education												
Tertiary	40	2.2	1779	97.8	1819	100.0	23	0,8	2806	99,2	2829	100,0
Post-secondary	62	19.5	256	80.5	318	100.0	78	7,0	1030	93,0	1108	100,0
Vocational secondary	2147	52.4	1951	47.6	4098	100.0	1137	28,2	2899	71,8	4036	100,0
General secondary	401	59.9	268	40.1	669	100.0	796	49,6	810	50,4	1606	100,0
Vocational	6695	98.6	95	1.4	6790	100.0	2902	98,3	51	1,7	2953	100,0
Gymnasium, primary or lower	1577	100.0	0	0.0	1577	100.0	1118	100,0	0	0,0	1118	100,0
Occupation												
Legislators, senior officers and managers	3	0.4	724	99.6	727	100.0	1	0,2	465	99,8	466	100,0
Professionals	0	0.0	1178	100.0	1178	100.0	8	0,3	2396	99,7	2404	100,0
Technicians and associate professionals	66	3.8	1669	96.2	1735	100.0	145	5,0	2746	95,0	2891	100,0
Office clerks	372	45.9	439	54.1	811	100.0	583	26,3	1630	73,7	2213	100,0
Service workers, shop and market sales workers	980	79.6	251	20.4	1231	100.0	1917	85,0	339	15,0	2256	100,0
Skilled agricultural and fishery workers	158	98.1	3	1.9	161	100.0	42	100,0	0	0,0	42	100,0
Craft and related trades workers	5142	98.8	63	1.2	5205	100.0	1090	98,7	14	1,3	1104	100,0
Plant and machine operators and assemblers	2838	99.3	20	0.7	2858	100.0	405	98,8	5	1,2	410	100,0
Elementary occupations	1364	99.9	1	0.1	1365	100.0	1864	100,0	0	0,0	1864	100,0
Type of the contract												
Permanent	8992	68.7	4102	31.3	13094	100.0	4700	39,4	7236	60,6	11936	100,0
Temporary	1738	89.0	214	11.0	1952	100.0	1246	80,3	305	19,7	1551	100,0
Working hours												
Full-time	10337	71.3	4155	28.7	14492	100.0	5175	41,8	7191	58,2	12366	100,0
Part-time	586	75.2	193	24.8	779	100.0	880	68,5	405	31,5	1285	100,0
Hourly wage												
Mean	23.5		41.3		28.5		17.8		34.1		26.9	
St. deviation	8.8		21.3		15.7		5.5		16.5		15.2	
Median	21.7		37.5		25.0		17		30		21.8	

Source: author's calculations on the LFS, 2002

Table 7 Results of the cluster analysis, cd.

	MALES		FEMALES	
	LOW QUALITY EMPL CLUSTER	HIGH QUALITY EMPL CLUSTER	LOW QUALITY EMPL CLUSTER	HIGH QUALITY EMPL CLUSTER
Education				
Tertiary or post-secondary	0.9	46.8	1.7	50.5
General / vocational secondary	23.3	51.0	31.9	48.8
Vocational or lower	75.7	2.2	66.4	0.7
Total	100.0	100.0	100.0	100.0
Occupation (classified according to the occupational skills scale)				
Legislators, senior officers and managers	0.0	16.6	0.0	6.1
Professionals	0.0	27.1	0.1	31.5
Technicians and associate technicians	0.6	38.4	2.4	36.2
Office clerks, service, shop and market sales workers, skilled agricultural and fishery workers, craft and related trade workers, plant and machine operators	86.9	17.8	66.7	26.2
Elementary occupations	12.5	0.0	30.8	0.0
Total	100.0	100.0	100.0	100.0
Type of the contract				
Permanent		94.3	77.6	95.3
Temporary	15.9	4.9	20.6	4.0
Total	100.0	100.0	100.0	100.0
Working hours				
Full-time	94.6	95.5	85.5	94.7
Part-time	5.4	4.4	14.5	5.3
Total	100.0	100.0	100.0	100.0

Source: author's calculations on the LFS, 2002

that nearly one third of the part-timers in Poland choose this employment form involuntarily, facing no other alternatives, and that the high-skilled are much less likely to work part-time than full-time in comparison to the low-skilled. Nevertheless, it must be taken into account that in spite of the rising difficulties in the labour market, particularly in the case of the low-skilled, the incidence of part-time employment has not risen over the 1990s., suggesting that the labour demand for part-timers is rather low.

5. Concluding remarks

The objective of the study was to investigate whether part-time employment, although relatively low if compared to Western and Northern European countries, has been used in Poland for work and family reconciliation or has been rather taken by the low-skilled facing no other opportunities in the labour market. The results of the multivariate analyses clearly show that in spite of a very severe conflict between work and family part-time employment is rather to a low degree used to combine these two activities. Although the risk of being part-time versus full-time employed is higher for mothers of small children than other women, it is more likely for women to stay out of employment than to switch into part-time if a small child is present in a family. This conclusion is fully coherent with the preferences of the Poles for family and work organization. Although the majority of the Poles would like to live in a couple with both working partners, the preferences for a dual earner model drop if a child aged 6 or less is present. This drop is however compensated in an increase in support for a male breadwinner model, not a model with a man working full-time and a woman working part-time. It means that part-time employment is not only hardly used but is even not seen to be any solution for work and family reconciliation. It refers particularly to the high-skilled women. Such a situation may be a result of the fact that part-time employment has never been promoted as a family and work reconciliation tool or there were long no regulations enhancing its development. Nevertheless, before any further steps in this direction are taken, it should be considered that shortening the working hours may result in human capital depreciation and worsening the situation of an individual in the labour market in terms of pay, access to training or employment security. The analyses presented in this paper indicate that for the time being, the majority of part-time jobs in Poland concentrate among the low-skilled earning on average lower wages, facing higher job insecurity (in terms of temporary contracts) and having poor opportunities for full-time employment. It is particularly true for women, as being full-time employed does not protect men from having a ‘low quality’ job.

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ANNEX

Table 1A Results of the logit models estimation, dependant variable: part-time versus full-time employment, females

		1993				1997				2002			
		exp(τ)	z	p	change in odds	exp(τ)	z	p	change in odds	exp(τ)	z	p	change in odds
Intercept		0.346	-6.794	0.000	0.35	0.438	-5.435	0,000	0,44	0,118	-20,76	0,000	0,12
Being in education				0.000				0.000				0,000	
No		0.289	-8.319		0.29	0.263	-9.181		0,26	0,747	-4,853		0,75
Yes		3.462			3.46	3.795			3,80	1,339			1,34
Partner's labour force participation				0.153				0.488				0,009	
no partner		0.948	1.392		0.95	0.966	1.026		0,97	1,139	1,076		1,14
working		1.077	1.186		1.08	0.958	-0.755		0,96	1,222	2,393		1,22
not working		0.835			0.84	0.973			0,97	0,718			0,72
Education				0.000				0,000				0,000	
tertiary		0.865	-1.46		0.87	0.625	-4.737		0,63	0,398	-7,773		0,40
secondary		0.837	-2.875		0.84	0.774	-4.299		0,77	1,019	0,244		1,02
vocational		1.091	1.27		1.09	1.274	3.896		1,27	1,699	6,676		1,70
primary or lower		1,265			1.27	1.622			1,62	1,451			1,45
Age of the youngest child				0.000				0.000				0,971	
no children or 15+		0.640	-6.469		0.64	0.733	-4.93		0,73	0,986	-0,142		0,99
0-2		1.447	4.184		1.45	1.511	4.653		1,51	1,075	0,35		1,07
3-5		1.384	4.113		1.38	1.038	0.444		1,04	0,931	-0,41		0,93
6-14		0.781			0.78	0.870			0,87	1,015			1,01
Age of the youngest child*Partner's labour force participation												0,008	
no children or 15+	no partner		-				-			1.319	2.084		1.48
	working		-				-			0.673	-3.898		0.81
	not working		-				-			1.126			0.80
0-2	no partner		-				-			0.686	-1.27		0.84
	working		-				-			1.583	2.36		2.08
	not working		-				-			0.922			0.71
3-5	no partner		-				-			1.020	0.091		1.08
	working		-				-			1.021	0.134		1.16
	not working		-				-			0.960			0.64
6-14	no partner		-				-			1.084			1.25
	working		-				-			0.919			1.14
	not working		-				-			1.004			0.73
Age of the youngest child*Education												0,004	
no children or 15+	tertiary		-				-			1.196	1.248		0.47
	secondary		-				-			0.967	-0.353		0.38
	vocational		-				-			0.636	-4.375		0.25
	primary or lower		-				-			1.359			0.53
0-2	tertiary		-				-			0.631	-1.836		0.27
	secondary		-				-			0.862	-0.912		0.94
	vocational		-				-			1.175	0.99		2.14
	primary or lower		-				-			1.563			2.44
3-5	tertiary		-				-			1.179	0.694		0.44
	secondary		-				-			1.265	1.488		1.20
	vocational		-				-			1.471	2.396		2.33
	primary or lower		-				-			0.456			0.62
6-14	tertiary		-				-			1.123			0.45
	secondary		-				-			0.948			0.98
	vocational		-				-			0.910			1.57
	primary or lower		-				-			1.033			1.52
Chi-squared			56.2222 (0.9946)				56.5783 (0.9940)				53.6570 (0.9379)		
L-squared			66.4298 (0.9420)				65.2573 (0.9534)				53.9699 (0.9339)		
Df			86				86				71		

Table 2A Results of the logit models estimation, dependant variable: part-time versus full-time employment, males

	1993				1997				2002			
	exp (τ)	z	p	change in odds	exp (τ)	z	p	change in odds	exp (τ)	z	p	change in odds
Intercept	0,0951	-14,00	0,000	0,10	0,1566	-12,37	0,000	0,16	0,0765	-29,53	0,000	0,08
Being in education			0,000				0,000				0,000	
No	0,449	-5,03		0,45	0,271	-9,655		0,27	0,496	-11,12		0,50
Yes	2,229			2,23	3,695			3,70	2,016			2,02
Partner's labour force participation			0,000				0,000				0,000	
no partner	1,406	3,533		1,41	1,485	4,555		1,49	1,666	5,877		1,67
working	0,776	-3,466		0,78	0,775	-3,661		0,77	0,806	-3,022		0,81
not working	0,917			0,92	0,869			0,87	0,745			0,74
Education			0,006				0,006				0,000	
tertiary	0,865	-1,055		0,87	0,765	-1,936		0,76	0,586	-4,411		0,59
secondary	0,867	-1,583		0,87	1,011	0,134		1,01	0,820	-2,533		0,82
vocational	0,974	-0,338		0,97	0,940	-0,822		0,94	1,141	1,807		1,14
primary or lower	1,369			1,37	1,375			1,38	1,823			1,82
Age of the youngest child			0,509				0,280				0,526	
No children or 15+	1,166	1,422		1,17	1,181	1,634		1,18	1,139	1,24		1,14
0-2	0,872	-1,073		0,87	0,861	-1,11		0,86	0,822	-1,274		0,82
3-5	0,972	-0,23		0,97	0,894	-0,882		0,89	1,048	0,364		1,05
6-14	1,011			1,01	1,100			1,10	1,019			1,02
Chi-squared	48,3257 (0,9997)				33,0693 (1,0000)				78.5370 (0.7037)			
L-squared	45,5648 (0,9999)				33,5495 (1,0000)				92.4857 (0.2970)			
Df	86				86				86			

Table 3A Results of the logit models estimation, dependant variable: part-time employment versus non- employment, females

		1993				1997				2002			
		exp (τ)	z	p	change in odds	exp (τ)	z	p	change in odds	exp (τ)	z	p	change in odds
Intercept		0,095	-18,606	0,000	0,10	0,083	-20,93	0,000	0,08	0,105	-18,258	0,000	0,10
Being in education				0,000				0,000				0,373	
No		1,703	4,603		1,70	2,281	7,667		2,28	1,107	0,89		1,11
Yes		0,587			0,59	0,438			0,44	0,903			0,90
Partner's labour force participation				0,000				0,000				0,000	
no partner		1,000	0,005		1,00	1,043	-1,19		1,04	0,691	-3,005		0,69
working		1,334	4,419		1,33	1,266	3,992		1,27	1,616	3,576		1,62
not working		0,749			0,75	0,859			0,86	0,895			0,90
Education				0,000				0,000				0,000	
tertiary		2,479	7,809		2,48	3,058	9,062		3,06	1,933	5,175		1,93
secondary		0,842	-2,576		0,84	0,761	-4,159		0,76	1,085	1,049		1,08
vocational		0,689	-5,166		0,69	0,711	-5,045		0,71	0,929	-0,946		0,93
primary or lower		0,695			0,69	0,604			0,60	0,514			0,51
Age of the youngest child				0,000				0,000				0,000	
no children or 15+		1,253	3,074		1,25	1,403	5,111		1,40	1,389	4,11		1,39
0-2		0,580	-6,282		0,58	0,623	-5,444		0,62	0,664	-3,403		0,66
3-5		1,037	0,449		1,04	0,840	-2,057		0,84	0,767	-1,98		0,77
6-14		1,326			1,33	1,363			1,36	1,414			1,41
Partner's labour force participation*Being in education												0,001	
no partner	no		-				-			1,476	3,245		1,13
	yes		-				-			0,678			0,42
working	no		-				-			0,938	-0,483		1,68
	yes		-				-			1,066			1,56
not working	no		-				-			0,722			0,72
	yes		-				-			1,384			1,12
Age of the youngest child*Education			-				-					0,036	
no children or 15+	tertiary		-				-			0,952	-0,321		2,56
	secondary		-				-			0,950	-0,534		1,43
	vocational		-				-			0,766	-2,569		0,99
	primary or lower		-				-			1,444			1,03
0-2	tertiary		-				-			0,574	-2,151		0,74
	secondary		-				-			0,886	-0,764		0,64
	vocational		-				-			1,282	1,606		0,79
	primary or lower		-				-			1,533			0,52
3-5	tertiary		-				-			1,604	1,803		2,38
	secondary		-				-			1,181	1,032		0,98
	vocational		-				-			1,163	0,935		0,83
	primary or lower		-				-			0,454			0,18
6-14	tertiary		-				-			1,142			3,12
	secondary		-				-			1,006			1,54
	vocational		-				-			0,876			1,15
	primary or lower		-				-			0,995			0,72
Chi-squared		85.3860 (0.4984)				72.9950 (0.8401)				107.3201 (0.0085)			
L-squared		48.9241 (0.9996)				66.0847 (0.9455)				99.0824 (0.0328)			
Df		86				86				75			

Table 4A Results of the logit models estimation, dependant variable: part-time employment versus non- employment, males

	1993				1997				2002			
	exp(τ)	**z**	**p**	**change in odds**	**exp(τ)**	**z**	**p**	**change in odds**	**exp(τ)**	**z**	**p**	**change in odds**
Intercept	0.104	-14.26	0.000	0.10	0.128	-16.13	0.000	0.13	0.160	-19.703	0.000	0.16
Being in education			0.000				0.000				0.588	
No	2.267	5.571		2.27	2.144	7.351		2.14	1.035	0.542		1.03
Yes	0.441			0.44	0.466			0.47	0.966			0.97
Partner's labour force participation			0.233				0.089				0.000	
no partner	1.042	-0.825		1.04	1.047	-0.991		1.05	1.031	-0.665		1.03
working	1.146	1.706		1.15	1.184	2.2		1.18	1.450	4.913		1.45
not working	0.948			0.95	0.926			0.93	0.733			0.73
Education			0.000				0.000				0.000	
tertiary	1.934	4.109		1.93	2.214	4.653		2.21	2.542	6.919		2.54
secondary	0.959	-0.421		0.96	1.069	0.716		1.07	0.859	-1.857		0.86
vocational	0.764	-3.17		0.76	0.724	-3.819		0.72	0.727	-4.111		0.73
primary or lower	0.705			0.71	0.583			0.58	0.630			0.63
Age of the youngest child			0.689				0.782				0.031	
no children or 15+	0.888	-1.043		0.89	0.917	-0.79		0.92	0.772	-2.34		0.77
0-2	1.108	0.748		1.11	0.990	-0.066		0.99	0.906	-0.61		0.91
3-5	1.068	0.496		1.07	1.025	0.178		1.03	1.311	1.967		1.31
6-14	0.951			0.95	1.074			1.07	1.091			1.09
Chi-squared	66.5769 (0.9404)				39.4705 (1.0000)				88.8520 (0.3952)			
L-squared	58.5311 (0.9898)				35.8770 (1.0000)				82.9645 (0.5727)			
Df	86				86				86			