FEMALE LABOUR FORCE PARTICIPATION DURING ECONOMIC TRANSITION: THE CASE OF ESTONIA

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The paper outlines the development of female labour force participation in Estonia during economic transition, in the context of long-term trends. The paper belongs to a series of studies at Estonian Interuniversity Population Research Centre, focusing on transition experience of various population groups. The paper applies period perspective and covers diverse aspects of employment, unemployment, economic activity. The target group of the analysis is limited to working-age population, transition experience of older women is discussed elsewhere. The data for the analyses are drawn from several sources, including the microdata of the 1989 population census and two national surveys, the Estonian Family and Fertility Survey and Estonian Labour Force Survey. Aggregate data have been derived from the Estonian Population Databank, developed by the Estonian Interuniversity Population Research Centre. The study has been carried out in the framework of the research theme 0501463s00 and supported by the ETF grant No 2901.

1. INTRODUCTION

On the background of other major population groups, the past century has witnessed a significant upsurge in the labour force participation of working-age women. Given the extent of the change and its implications on the status of women, particularly through enhancing economic autonomy, the development has been often related to the core of the modern construction of gender roles. Across the industrialised world, women in the countries of Central and Eastern Europe and former Soviet Union have exhibited particularly high participation rates in the paid labour, though there has been greater variation across countries than usually presumed. According to statistics, the workforce attachment of women approached close to male levels, with gender gap almost negligible by international standards. Additionally, unlike in Western economies, women, similarly to men tended to work overwhelmingly in full-time jobs.

The remarkably high levels of female workforce participation in Central and Eastern Europe were to a large extent sustained by characteristic features of centrally planned economies. Most importantly, the socialist development strategy aimed at mobilising all available labour resources, including women. Labour-extensive economy generated a permanent need for recruiting additional manpower, jobs were created in abundance, securing full employment for all those willing to participate in the labour force. On the supply side, modest standard of living and maintenance of low wage levels, controlled strictly by the state, also contributed to the growth and high levels of female workforce participation. Single income proved insufficient for an overwhelming majority of households, making the massive entry of women into labour force an economic necessity. These factors were upheld by ideology, that insisted on the value of work in fostering the independence and personal growth of women, as well as various types of affirmative measures.

Societal transition has brought the referred features of labour market situation in Central and Eastern Europe to profound change. The introduction of reforms removed the incentive to maintain large and relatively unproductive manpower supply, resulting in significant reductions in the demand for labour and shrinking of employment opportunities. The state was no longer single and predominant employer, guaranteeing jobs and income. In that new environment, the importance of individual effort, qualifications and resources – which appeared not very important previously – have become crucial for both survival and success. Regarded from population perspective, this typically raises the following questions: What are the implications of transition on the position of different demographic and social groups? How well have these groups managed to cope with new challenges? Which factors/circumstances might have facilitated favourable and less favourable outcomes?

The present paper addresses these questions from the gender perspective, with primary focus on the changes in the labour market position of women. In turn, such focus tackles an entire spectrum of work-related behaviours which have been reshaped during transition. The massive loss of jobs and emergence of more competitive labour markets raises an issue about the capacity of taking the advantage of opening opportunities. How successful have women been in switching to new economic sectors and occupations, avoiding joblessness and "squeeze" from labour market? To what extent

has the decline in centralised regulation led to diversification of employment patterns, concerning the arrangements with working hours, multiple jobholding etc? Given the essential duality of women's role in societal reproduction, separate consideration should be given to the change in possibilities to combine work and family responsibilities.

Across countries of the transition region, these issues have been a subject of substantial scholarly interest. During the past decade, a number of national studies addressing more or less specifically the change in female labour force participation [Heitlinger 1995; Kanopiene 1997; Kowalska 1996; Lakatos 1996; Linz 1996; Meusberger 1995; Orazem and Vodopivec 1995; Szuman 1994; and several others] as well as some cross-national comparisons [Buckley 1997; Lobodzinska 1995; Moghadam 1995; UNICEF 1999] have been prepared. Not attempting to synthesise the findings, these studies have shown both similarities and dissimilarities in gender-specific labour market adjustment between the countries. In several ways, the observed diversity cautions against straightforward generalisations, not rarely based on easily available but crude and incompletely comparable measures, and calls for detailed scrutiny of existing national experiences.

In case of Estonia, the female labour market experience in transition has been analysed to limited extent[1]. Statistical publications and studies addressing the general profile of labour market adjustment have dealt with the issue to certain extent but typically their broader focus has not permitted to concentrate on specific population groups [e.g. Eamets and Philips 1997; Eamets *et al* 1997; ESA 1999; Noorkõiv *et al* 1998; Puur 1997a; 1997b; 1998; Venesaar 1995]. National reports prepared in the framework of comparative research project on the status of women in transition region, coordinated by UNICEF, have compiled available official statistics and relevant legislative information [Kask *et al* 1998; Papp 1998]. More specifically, the gendered outcomes of transition were addressed in the framework of comparative Finnish-Estonian project, titled *Women, Work and Social Stress*[2]. Applying diverse analytical perspectives and resulting in interesting findings, the project, however, did not aim at quantitative generalisation of female labour market experience.

Turning to the present paper, two aspects should be underlined. Firstly, the aim of the paper is to document and analyse the main changes that have occurred in the labour market position of women in Estonia during transition. Such a broader focus implies the use of diverse analytical perspectives and frameworks, and prevents the paper from being centered around a few specific hypothesis. The latter can be addressed after general mapping the landscape of research area. Secondly, to meet its task, the paper brings together and applies aggregate and individual-level data from various sources, including population censuses and survey statistics. Among others, the use of different sources necessitated attention to definitions and measurement issues, which, in parallel with substantive processes, have undergone considerable change. The paper concentrates exclusively on working age-span, transition experience of older population is discussed elsewhere [Katus *et al* 1999; Puur 1999].

Structurally, the paper consists of four sections. Following the introduction, the second section a concise overview of the long-term trend in female labour force participation in Estonia, based on a series of population censuses, and supplemented by the data from Estonian Family and Fertility Survey. Among others, the inclusion of the section has

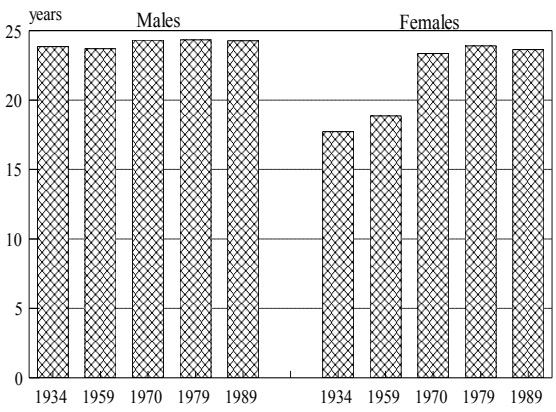
been motivated by new insights provided by survey statistics. Drawing on the microdata of the 1989 population census and FFS, the third section presents the patterns of female workforce attachment, including the variation between subgroups. The fourth section concentrates on the changes in various dimensions female labour market attachment, the data for the section is derived mainly from the national labour force survey.

2. LONG-TERM TREND IN FEMALE LABOUR FORCE PARTICIPATION

To provide the recent developments with relevant background, it proves useful to start from the consideration of longer time period. In case of Estonia, available census data allow to trace the trend in female labour force participation back to the 1920-1930s. The data from the 1934 census[3] revealed comparatively high degree of labour force participation across working ages [RSKB 1934-1937]. Reflecting the structure of economy, with prevailing agricultural sector and family-based farming, the proportion of women engaged in paid employment did not exceed 30-35 per cent. However, adding the category of unpaid family workers, the proportion of economically active women accounted for about 70 per cent across prime working-age. To summarise the labour market experience of women in a given time period, the gross number of economically active years has been applied[4]. Focusing on prime working-age, over the age-span 25-49 women spent an average of 17.7 years in labour force in Estonia during the 1930s. Concerning males, corresponding figure accounted to 23.9 years, rather close to theoretical maximum of 25 years (Figure 1).

Considering the levels, it is important to note that household-based female employment goes often partly unmeasured in agricultural settings [Standing 1983]. This may well be true also about prewar Estonian censuses in which the definition of economically active population was based on gainful activity concept. In other words, observed levels of female labour force participation appears more likely under- than overstated, and presumably, the application of modern activity measurement frameworks would have yielded even somewhat higher participation rates. In comparative terms, it implies that Estonia never developed a full-scale breadwinner system, characterised by significant polarisation of male and female work roles[5]. Under the breadwinner system, which reached the climax in the late 19th – early 20th century in West European countries and United States, men carried the sole responsibility for providing the household with income and only few married women participated in the labour force [Davis 1984].

Figure 1 GROSS ECONOMICALLY ACTIVE YEARS IN AGE 25-49
Estonia 1934-1989



Across age groups, female labour force participation displayed a remarkably flat profile quite similar to that observed among males. Following the entry into labour force, the level of economic activity reached the highest level among women in twenties. Moving to age group 30-39, participation rates showed a decline of 3-4 percentage points, followed by a slight increase among women in their forties. Such pattern has

been classically explained the withdrawal of a part of women from the labour force during the years of childbearing and –rearing, as well as subsequent re-entry at when children no longer require the mother's full-time presence at home [UN 1962; Durand 1975]. Consistent with the conclusion drawn above, the observed age-profile indicates comparatively weak interrelationship between family life cycle and participation in the labour force. To some extent, this may result from crude age classification by which the census data have been tabulated[6].

Regarding the postwar period, the trend in female labour force participation can be followed on the basis of decennial population censuses[7]. The first postwar census in 1959 revealed substantial increase in the number of women employed outside home, compared to pre-war situation their proportion had doubled in prime working age. The rapid growth stems mainly from the societal transformation of the 1940s and 1950s which over a few years abolished virtually all family-based forms of production [Eesti saatuseaastad..., Misiunas and Taagepera 1983]. As a result of Sovetisation, large segment of population, including women, lost its former source of livelihood, and in order to survive, had to enter paid employment. Evidently, part of the increase could be attributed to the decline in the role of primary sector and respective increase of employment in secondary and tertiary sectors which occurred during the postwar decades.

Addressing the factors facilitating the growth in female employment during the immediate postwar period, researchers have also pointed to significantly distorted sex ratios in the population [Lapidus 1978]. War losses transformed a large proportion of wives into widows and the scarcity of men deprived women from the opportunity to (re)marry. The entry into the role of household head affected the supply of female labour obliged a large proportion of women to become self-supporting, thus providing an additional impetus to workforce participation. Evidently, such contribution of demographic imbalance is likely to hold true also in case of Estonia[8]. The losses of Estonia between 1940 and 1953, due to war activities and violent Sovietisation, have been estimated to account for at least 17.5 per cent of the total population [Katus 1990].Although this figure is somewhat smaller than for Belorussia, Poland or Lithuania, however, together with Latvia, Estonia belongs to a few European nations which population has not achieved the pre-war number.

Rapid growth in paid employment, however, did not imply comparable increase in the overall level of economic activity. The inclusion of unpaid family workers limits the change in activity rates between 1934 and 1959 to a mere 2-6 percent points across prime working age. Applying the length of working life, the increase in economic activity translates into additional 1.13 years spent in labour force between ages 25 and 49. Notably, the application of the official Soviet definition, would have yielded even smaller increase of just 0.5 economically active years[9]. In other words, the presented figures caution against the exaggeration of growth in female economic activity in Estonia during the early postwar decades. In fact, the principal change during that period concerned rather the terms under which women entered the workforce than participation itself. This finding appear basically consistent similar conclusions about little change or even slight decline in the proportion of economically active women in Russia prior to 1959 [McAuley 1981].

Consistent with little change in the level of female economic activity since 1930s, the "m"-shaped age-pattern was also maintained until the end of the 1950s. Activity rates reached a peak among women in their twenties, declined thereafter, and increased again when moving to ages over 40[10]. Taking the advantage of a recent pilot study for re-computerisation of the 1959 census [EKDK 1998], it has been possible to reconstruct the pattern of female economic activity by five- and single-year age groups for Läänemaa county in Western part of Estonia. Around age 20, the data reveals a short-term peak in labour force participation, with activity rates approaching 90 per cent. The peak was followed by gradual decline in participation which reaches a bottom around age 30, with single-year activity rates dropping near 70 per cent. In the following ten year age-interval, women's econo-mic activity increased and stabilised in forties at the level well beyond 80 per cent. In other words, extended labour force separation in order to raise a family continued in Estonia at least until the late 1950s. It is interesting to note that this conclusion is basically different from earlier studies, based on official tabulations [McAuley 1981].

Table 1 AGE-SPECIFIC ACTIVITY RATES
Estonia, females, census years 1934-1989

Age group	1934	1959	1970	1979	1989
15-19	61.2	39.9	35.9	28.4	25.9
20-24	73.5	75.5	83.0	83.1	77.5
25-29			92.5	94.4	90.8
30-34	69.8	74.0	94.5	96.2	94.3
35-39				96.7	96.1
40-44	70.7	76.7	92.6	96.4	96.3
45-49				94.2	95.5

Returning to the trend in female economic activity, the increase accelerated strongly during the 1960s, and in case of Estonia, the decade stands out for the steepest growth of labour force participation. Between the 1959 and 1970 censuses, activity rates increased by 15-20 percent points. As a result, leaving aside the youngest age groups which experienced a decline in economic activity due to rising educational enrollment, female workforce participation exceeded 90 per cent. The number of economically active years increased from 18.9 to 23.4 in age interval 25-49. In other words, the level had approached rather close the theoretical maximum and lagged only slightly behind males. The rapid growth of female employment in the 1960s has been usually associated with emerging manpower shortage caused by the declining labour reserves available from other sources [Lapidus 1978]. This explanation seems plausible, particularly considering the entry of comparatively small birth cohorts born during the Second World War into working age, falling labour force participation beyond retirement etc. On the other hand, however, the steepness of growth likely involves the impact of supply side factors.

Aside the level of workforce participation, also the rapid growth in activity rates brought about modification in age pattern of female economic activity. Differently from earlier decades, starting from the 1960s, the age profile does not include a participation trough for the peak childbearing ages. In other words, female economic activity over life cycle had become very similar to that of males with evenly high work-force attachment between the entry into and exit from the labour force. Most importantly, the observed pattern indicates sharp reduction of even disappearance of extended interruptions in labour force participation at childbirth. This assertion has been directly confirmed by the Estonian Family and Fertility Survey (FFS) which collected life

history data for female birth cohorts 1924-1973[11] [EKDK 1995a; 1995b]. Additionally, the extension in the length of schooling and juvenation of fertility have contributed to the referred modification of age pattern. From two ends, these developments have suppressed the labour force participation of young women in their twenties, thus removing the early peak in activity rates.

During the 1970s the upward trend in female labour force participation continued, however compared to the previous decade, the growth slowed down. Reflecting the exhaustion of the reserve of non-employed women, in intercensal period 1970-1979 activity rates in prime working ages increased by only a couple percent points. Female workforce participation had reached the male level: for example, between ages 25 and 49 women spent 23.9 years in labour force, which only 0.5 years less than corresponding male figure. Observed levels appeared extremely high not only in comparison with developed market economies but also in the context of the centrally planned economies. Cross-country comparisons reveal that the level of female workforce attachment in Estonia, together with other Baltic countries, exceeded all countries of Central and Eastern Europe [Puur 1995; UNICEF 1999].

In certain contrast with the common notion about female labour force participation under central planning, census data for the 1980s indicated a cessation of growth in women's workforce attachment and reversal of the previous trend. In some age group, female activity rates dropped more than 5 per cent points in the 1979-1989 intercensal period. Concerning the causes, the observed reversal of the trend is not attributable to any revision of census methodology as the definitions of economic activity remained unchanged between the censuses [NSVL... 1988]. Closer examination of the decline reveals a clear concentration of activity decline in age groups 20-24 and 25-29. The change is less expressed among women aged 15-19, and moving to older ages, the extent of decline gradually decreases, disappearing beyond age 40. The referred age pattern suggests that the observed reversal of the trend is likely associated with childbearing, similar conclusion is supported by the experience of some other countries of Central and Eastern Europe [Bodrova and Anker 1985].

Before concluding the discussion of long-term trend in female labour force participation, measurement issues require some further attention. Namely, the internationally recommended definition of employment includes among the employed certain persons who were not at work during the reference period. These are persons who were temporarily absent from work for various reasons, such as illness or injury, holiday or vacation, strike or lock-out, temporary reduction of economic activity, disorganisation or suspension of work, educational and training leave as well as maternity and parental leave [ILO 1988; UNICEF 1999]. In general, the notion of temporary absence refers to situations in which persons had already worked at their current activity and were expected to return to their work after the period of absence. The international definition also specifies principles for ascertaining temporary absence from work[12].

The provisions for temporary absence from work are included in most existing national definitions, including the Soviet censuses which have been referred to in the present section. For example, the 1989 census included in the labour force individuals who were absent from their work due to participation in training courses, seasonal nature of

employment or move from one job to another (up to three weeks). Regarding women, the census definitions included a special provision for those at maternity/child care leave[13] up to 18 months of child's age. NSVL... 1988]. Similar provisions had been included also in earlier censuses, reflecting the currently enforced legislation. According to the latter, since 1956 women were entitled to paid maternity of 16 weeks (eight weeks before and eight weeks after childbirth), and three months of unpaid leave after the termination of maternity leave, without losing a job. In 1968, women were entitled to take unpaid leave until the child's first birthday without losing either job or uninterrupted employment record. In 1984, partly paid leave was extended to one year, and additionally, mother could take unpaid leave until the child reached 18 months [Põldma 1995].

From the methodological point of view, the referred practice has several undesirable implications. In general, the inclusion of persons at extended leave among employed understandably swells participation rates and number of economically active population. Over time, as the development of family policies has extended the opportunities for the absence from work in many ways, this tends to exaggerate the increase in female workforce participation and transfer of time to labour market activities. Over space, as the generosity national of policies varies between countries, international comparisons reflect not only behavioural patterns but also similarities and dissimilarities in national legislation. And last but not least, since women constitute the majority of beneficiaries, the gender balance of workforce participation becomes also affected. In other words, the value of commonly used statistical measures could be depreciated.

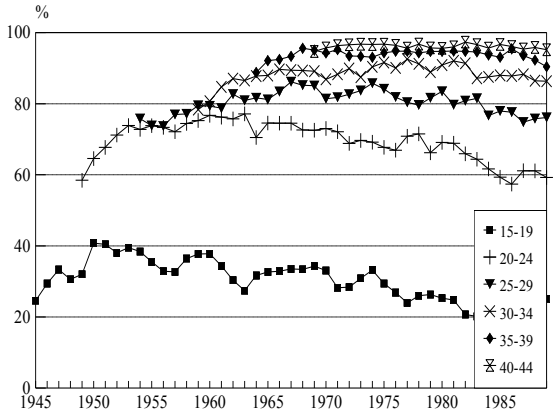
The fact that treatment of extended leaves may have significant impact on the findings has been convincingly demonstrated by a study from Sweden, the country with one of the most generous maternity and child care provisions. Using time allocation approach, Jonung and Persson showed that the increase in female labour supply has been much less than normally supposed. Also, differently from the reported, the actual age profile of female labour force participation has retained its two-peaked [Jonung and Persson 1992]. Given the comprehensive maternity and child care leave programmes in the countries of transition region, in the mid-1990s the issue was addressed specifically by International Labour Office. The issued recommendations stipulated the persons on maternity leave to be considered as in employment, provided they maintain formal job attachment. On the other hand, persons on child care leave should not be classified as in employment and included in the labour force [ILO Bureau of Statistics 1995].

Returning to the trend of female labour force participation in Estonia, the referred discussion calls for alternative measures in order to provide a more truthful account of the process. To introduce corrections into officially reported activity rates, earlier attempts have relied on the number of births from vital statistics and assumptions about the extent to which women had taken an advantage of existing legal provisions [Puur 1989]. Multiplying the number of births by assumed average duration of leave provided the estimate of the number of women which should be subtracted from the labour force[14]. The present paper, however, uses a different approach, based on a newly available data from the Estonian Family and Fertility Survey. Specifically, event history data from the FFS have been used to reconstruct[15] the continuous time series in age-specific activity rates. Reflecting the nature of retrospective data collection and the

target population of the survey (birth cohorts 1924-1973), trends in different age groups have been monitored over different time-span.

Reconstructed time series in activity rates for the first six five-year age-groups are presented on Figure 2, in order to capture the period effects with greater precision, the indicators are provided by single calendar year. Compared to decennial census data, the continuous time series reveal more clearly the alteration of growth and decline in female labour force participation in Estonia. Comparing workforce attachment across age groups, it is interesting to note substantial differences in the development of economic activity over time. Starting from the younger end, the proportion of 15-19 year olds working peaked already in the first half of 1950s, after a short peak participation rates entered a steady decline. Participation rates in age group 20-24 culminated towards somewhat later, at the end of 1950s, followed by a continuous downward trend since the early 1960s. Concerning the 20-24 year olds, the peak was preceded by remarkably rapid growth of female employment which can be traced back at least until 1950.

Figure 2 AGE-SPECIFIC EMPLOYMENT RATE
Estonia, females 1945-1989



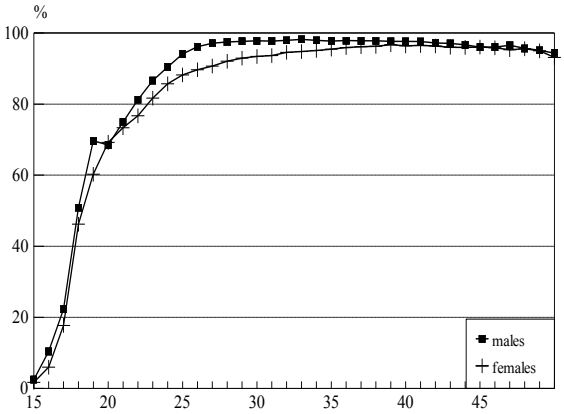
Moving to older age groups, the upward trend in economic activity continued longer. Among women above age 25, participation rates continued to increased until the late 1960s. After a short plateau, the mid 1970s witnessed activity decline in age group 25-29. Among women in their thirties and forties, data reveal marked reduction in economic activity neither in the 1970 nor in the 1980s. In general, these findings appear basically consistent with the results based on census data, however, the reconstruction of time series has allowed for more precise specification of turning points in female economic activity. Corresponding time series disaggregated by characteristics of women and reasons of economic inactivity, not presented in the paper, confirmed the leading role of the extension in child care leave in bringing about the decline of female labour force participation. Understandably, in the youngest age group the fall in participation rates was dominated by the increase in school enrollment. Regarding the pattern across age groups, the juvenation of fertility should also be taken into account [Katus 1997], strengthening the change particularly in age group 20-24.

To sum up, differently from to common notion, female labour force participation has not been invariable during the period of central planning. Regarding the prime childbearing ages, relatively short plateau achieved in the 1960s was followed by gradual decline starting in the middle of 1970s and continuing until the eve of economic transition. From cohort perspective, the alteration of upward and downward moves in activity rates resulted in specific patterns of female labour force participation across generations, discussed specifically elsewhere [UNECE 2000].

3. PATTERNS AT THE EVE OF ECONOMIC TRANSITION

The main purpose of the present paper is to map the changes that have occurred in female labour force participation during the period of economic transition. To serve this goal and establish a certain benchmark for the following discussion, the present section briefly summarises the pattern of economic activity which had emerged at the eve of transition. Considering Central and Eastern Europe as a region, the starting point of comparisons is usually set to 1989 which has been regarded the onset of societal transformation and principal economic reforms [e.g. UNECE 1995-1997; UNICEF 1995; 1998]. The selection of 1989 for the benchmark appears justified also in case of Estonia, where it marked the end of relative economic stability. Although the first cautious steps towards marketisation and increased economic autonomy had been taken during a couple of preceding years, in early 1989 the old economic structures were still in place and largely functional [Taaler 1995].

Figure 3 AGE-SPECIFIC EMPLOYMENT RATE Estonia 1989



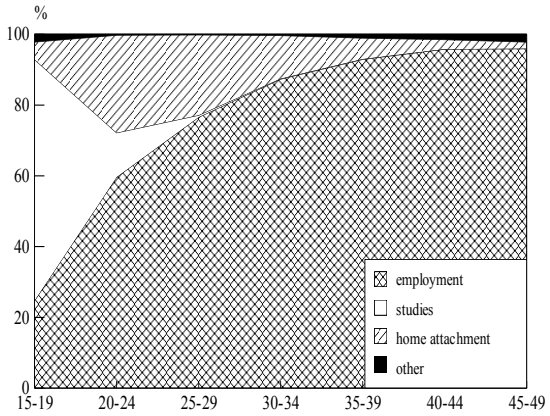
Regarding the data sources, the onset of societal transformation coincided precisely with the timing of decennial population census. Therefore, the 1989 census provides a comprehensive account of the pattern of economic activity just before the major changes[16]. Based on the census microdata, Figure 3 presents the cross-sectional profile of female workforce participation by single-year age groups, for the purpose of comparison the data are presented also for males. The data reveal the sharpest increase in the level of economic activity in late teens. In subsequent age groups the growth in activity rates slowed down gradually, however, it did not come to a complete halt until age 35-40. Compared to men, among whom the labour force participation reached a ceiling shortly after age 25[17], the increase in female economic activity was strecthed over much longer age-span. Correspondingly, the gender gap in workforce participation appeared at largest around age 25-26, and later, in forties and early fifties, activity rates virtually converged between men and women.

In interpreting the observed pattern, one should note that the cross-sectional profile represents a snapshot picture of labour force participation at a given time. In reality, at each point individuals are moving in and out the labour force, and correspondingly, the increase, stability or decrease in age profile reflects the changing balance between these different flows and the influences shaping it. Turning to the pattern of female labour force participation in Estonia, the prolonged increase in activity rates results from the combination of two distinct processes. Understandably, the rapid increase in labour force participation reflects the completion of education and entry into employment. The impact of that process, however, is limited to late teens and early twenties. According to the data from the FFS, for example, the completion of full-time education has rarely been extended beyond age 25 in Estonia [UNECE 2000].

In later ages, the increase in activity rates reflects primarily the return of women to employment following childbirth. As a result of prolonged juvenation of fertility, the beginning of which can be traced back to the 1940s-1950s, childbearing occurred comparatively early in Estonia in the 1970-1980s [Council of Europe 1999]. The maximum level of fertility was transferred to age group 20-24, and for example, the mean age of mother at first birth accounted for just 23.4 years at the end of 1980s. Additionally, the closer spacing of births concentrated childbearing further in younger age groups. Regarding the age pattern of economic activity, the referred developments in demographic behaviour are responsible for the absence of early peak in female work-force participation. Although in the individual activity histories of women, childbirth had been typically preceded with some labour force experience, the initial entry and separation from work-force cannot be distinguished in the age profile.

The previous section identified the overstatement of female work-force participation in census definitions, related to the classification of women at extended child-care leave. Therefore, the discussion is supplemented by corresponding age profile from the Estonian FFS, representing the second half of the 1980s[18]. Taking the advantage of greater opportunities offered by the survey, information on various non-activity/non-employment statuses is also added (Figure 4). To summarise the findings, the FFS data reveal basically the pattern of economic activity with the increase in participation rates stretched over long age-span and the maximum work-force attachment beyond age 40. Compared to the census, the survey indicated a more gradual growth of economic activity and lower participation rates across prime childbearing ages. Expectedly, the difference between the two sources reached maximum in age groups 20-24 and 25-29, with 17.4 and 13.8 percentage points respectively. Moving towards the end of fertile age-span, participation rates derived from the census and FFS virtually converged beyond age 40[19].

Figure 4 MAIN TYPE OF ACTIVITY
Estonia, females 1989



Translated into the length of working-life, even according to more conservative estimate from the FFS, at the end of the 1980s Estonian women spent 25.7 years working between age 20-49. Corresponding number for males accounted for 28.3 years i.e. only 2.6 years more. From the remaining 4.3 years, the average of 3.7 years was spent at home taking care of children and 0.7 years in all other statuses combined (mostly studying). In comparative perspective, despite gradual decline in work-force participation in prime childbearing ages since the 1970s, Estonia had maintained its high international ranking [ILO 1989-1991]. Regarding the comparisons with developed market economies, great difference in the spread of part-time employment should also be considered.

Among women, the likelihood of being employed is for long known to depend on marital status and the presence of children [UN 1962; Sweet 1973 and many other]. Therefore, the analysis of female labour force participation by family characteristics has

become a traditional way in providing a closer look into the interaction between women's work and family role. Against that background, it is interesting to note that despite the accumulation rather of extensive body of literature, the referred aspect of female workforce participation has been virtually neglected in the studies concerning female economic activity in the countries of former Soviet Union (reviews by [McAuley 1981; Ofer and Vinokur 1983]). Evidently, a direct reason for such neglect has been the absence of relevant tabulations in the programme of Soviet censuses. The following discussion, therefore, takes an advantage of the newly processed microdata. Similarly to the discussion of long-term trend and general age pattern, the data from the census and FFS have been used in parallel. Because of greater sensitivity, however, the survey data has been selected for presentation (Figure 5).

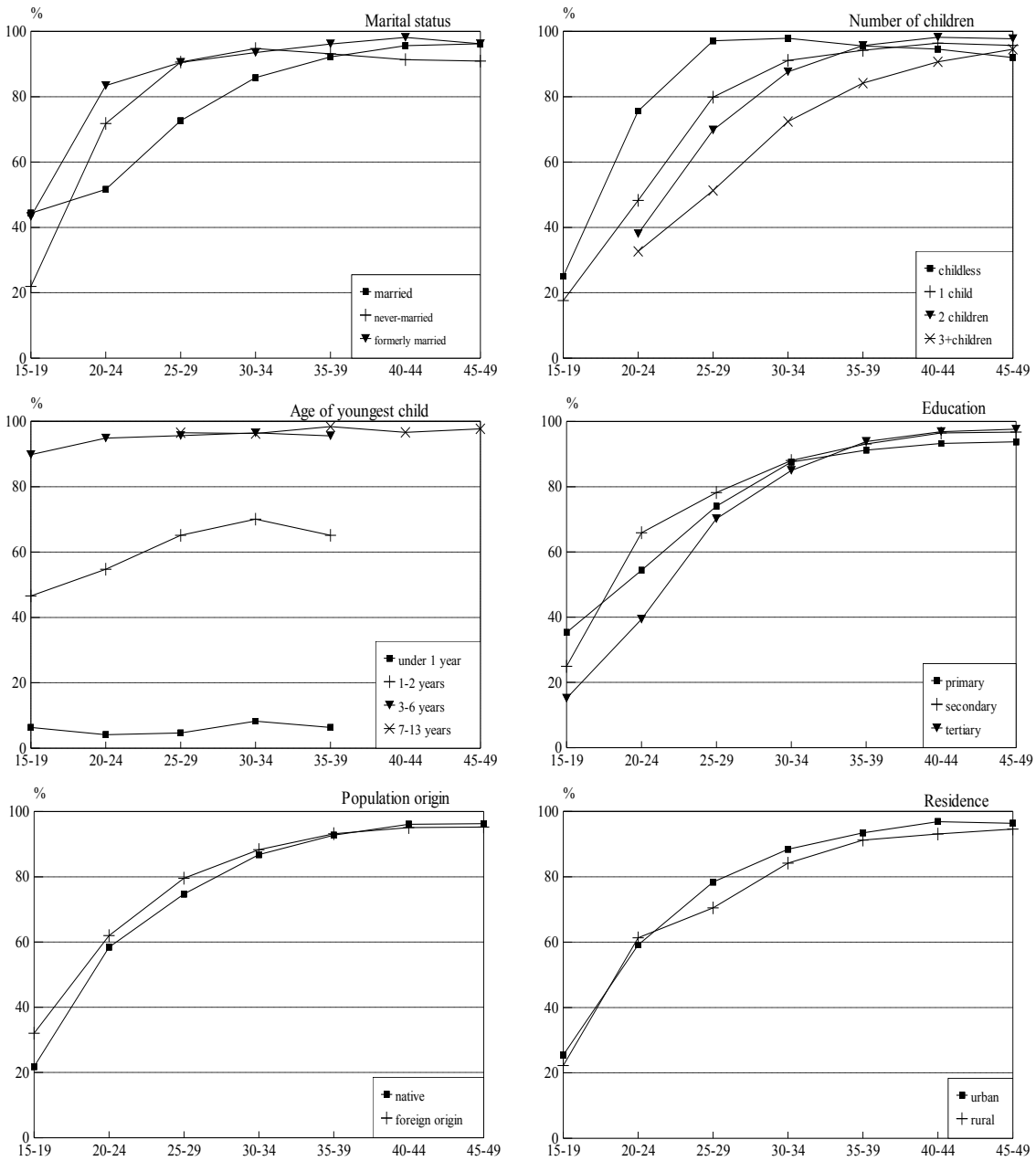
Regarding marital status, the differentiation between single, married, and formerly married women varies according to life cycle, cautioning against straightforward generalisations[20]. Quite expectedly, married women have been characterised by the lowest degree of workforce attachment in prime childbearing age. The difference with women in other marital statuses reached a peak in age groups 20-24 and 25-29, accounting for 20 percentage points. At the same time, in age group 15-19 married women featured participation rates significantly above population average. At first glance, one could attribute this finding to a structural effect resulting from different age distribution of married and non-married within five-year groups. Closer examination, however, related the observed pattern to the synchronisation between different individual careers. Women who tend to start partnerships early in their life course are also more likely to enter labour force, and conversely, women who stay longer in education are more likely to postpone the family formation.

The highest rates of work-force participation age was displayed by formerly married women, though in age group 25-29 and 30-34, the level was caught up by never-married. Moving towards upper end of childbearing age the differences in economic activity between marital status groups gradually decrease. Formerly married, mostly divorced and separated women retained the highest degree of labour force attachment, however, around age 40 their participation rates converged with married women. From that age onwards, participation rate of single women lagged clearly behind all other groups. The general age pattern of economic activity was understandably determined by participation rates among married women who dominate female population in prime childbearing age. The census data revealed a basically similar pattern, however, leaving the lower work-force participation of married women significantly less expressed. Regardless the source of information, the situation is markedly different from male population among whom married men feature the highest labour force attachment.

To summarise the extent of activity differentials, the gross number of economically active years have been calculated for each status group. Understandably, such measures should be regarded chiefly illustrative, as during their life course, an overwhelming majority of individuals moves, often repeatedly, from one status to another. Nevertheless, over age interval 20-49 activity rates of formerly married women translated to average of 27.9 working years, followed by never-married (26.6 years) and married women with shortest employment record (25.4 years). While interpreting the observed differential, it is important to note that under modern conditions, the entry into partnership *per se,* of course, does not imply change in women's labour force

attachment. In reality, the differences by marital status reflect the effect of maternal status and childbearing. For example, the link is clearly demonstrated the gross duration of home attachment[21]: in age interval 20-49, it translates into 4.7 years among married women, 2.6 years among formerly married and 0.9 years among never-married.

Figure 5 AGE-SPECIFIC EMPLOYMENT RATE BY MAIN POPULATION CHARACTERISTICS
Estonia, females, second half of 1980s



The impact of maternal status on women's participation in labour force is more explicitly presented on the next panel of Figure 5. Concerning the number of children[22], the data reveal marked difference in economic activity between childless women and those having children. Further, there appears to be a decline in work-force attachment with each additional child. The largest difference according to maternal status is found in prime childbearing age, and similarly to the distinction between married and non-

married women, the differentiation decreases while moving towards the end of fertile age-span. Closer examination of the pattern reveals that difference between childless women and those having children reaches a peak in age group 20-24 whereas the difference between women with three or more children and those having less peaks at a later age and is maintained until retirement. Differently from marital status, the census data by did not yield consistent estimates according to maternal status, and therefore, should be used for analysis. Also, the construction of summary by the number of children indicators makes little sense on cross-sectional basis as women progress from lower to higher parities.

The increase in the number of children doubtlessly adds to the demands of care by a woman. The observed of patterns economic activity by marital and maternal status, however, should not be reduced to the referred influence. By far more important appears the effect of the age of children, typically quantified as of the age of the youngest child. Until the present time, women bear the greater part of the responsibility for the care of young children, particularly infants. As children grow older, the need for care decreases rapidly and children no longer require constant attention from the mother. The third panel of Figure 5 demonstrates that effect by distinguishing between mothers with the youngest child under 1 year of age, 1-2, 3-6 and 7-14 years old. Moving from the first category to the second, and from the second category to the third, activity rates jump from the level below 10 per cent to the level above 90 per cent. Starting from women with youngest child aged 3-6 or older, activity rates display no further increase and match closely with that of childless women. Additionally, observed profiles display only limited variation by age of mother.

To sum up the discussion of family dimensions, the pattern of female workforce participation was shaped primarily by age of children in Estonia at the eve of transition. The analysis of the relative importance of the three variables on women's working shows, as would be expected from the above results, the age of the youngest child have been by far the most important determinants of whether or not the women is at work, the presence of children and marital status had secondary, if any, significant effect at all. Therefore, from the methodological point of view, the study of female workforce participation should apply the age of the youngest child as an independent time axis, complementary to age of mother. In the present paper, corresponding results are presented in later sections[23].

Figure 5 also presents the differentiation of female labour force participation across other major population dimensions: educational attainment, native-foreign origin and urban-rural residence. Regarding the education[24], each additional step up in the educational hierarchy understandably delayed the entry into employment and decreased the economic activity in younger age groups. Beyond age 30, the referred effect gradually disappeared and was replaced by slight inverse relationship, strengthening towards the age of retirement [Puur 1999]. Translated into summary measures, in fertile-age span women with secondary education spent the longest number of years in the labour force. The shortest participation record was characteristic to women having tertiary education, those having not completed secondary education hold the intermediate position. In general, however, the difference by education appeared rather limited in Estonia.

The comparison of female population of native and foreign origin showed, in ages below 30, somewhat higher participation rates among the latter. The observed difference stem primarily from educational system [Puur and Sakkeus 1999]. Most importantly, throughout the postwar period there has been a constant one-year difference in the duration of secondary education, also mirrored in the age of graduation from tertiary education. In age group 25-29, lower economic activity of native women was related to their slightly higher home attachment, evidently reflecting differences in fertility. According to the FFS, particularly the proportion of foreign-origin women having three children has been twice or even more lower compared to native women [Katus 1997]. In the census, the corresponding impact was masked by non-restrictive definition of economic activity. Towards the end of fertile age-span, the excess labour force participation of foreign-origin women became replaced by slightly inverse relationship. Translated into the number of economically active years, the difference between women of native and foreign origin was less than a year.

Along the urban-rural divide, in Estonia rural women showed lower participation in the labour force. With the exception of age group 20-24, in which the pattern had been shaped by spatial distribution of tertiary education institutions, higher participation rates among urban women were maintained until the end of fertile age, although reversed later. Given the difference, by age 50 urban women would have spent one more year working than their rural counterparts. The examination of main reasons of economic inactivity attributed the difference primarily to greater home attachment of rural women. Structurally, the strong concentration of immigrant population in urban settlements had also contributed to the observed pattern. Compared to family characteristics, the differences by education, origin and residence appear fairly small, suggesting considerable homogeneity of female work-force participation in Estonia at the eve of transition.

4. LABOUR MARKET EXPERIENCE OF WOMEN DURING ECONOMIC TRANSITION

As elsewhere in former the centrally planned economies, in Estonia the recent decade has been characterised by considerable decline in the level of employment and economic activity, emergence of unemployment and related types labour market slack, re-allocation between economic sectors, diversification of work patterns etc. Compared to several other countries of Central and Eastern Europe, for several reasons the scale of required adjustment turned to be more extensive in case of Estonia [Ministry of Economy 1994-1998; Lugus and Hatchey 1995]. Firstly, belonging to the former republics of Soviet Union, Estonia was more exclusively tied to the cooperation within Eastern bloc. Collapse in that rather closed system generated substantial economic shock, particularly as Estonia, together with Latvia and Lithuania, stayed outside the CIS. Secondly, starting from 1992 the country opted quite radical free market policies in terms of privatisation, international trade, foreign ownership and low payroll tax. The stance of economic policies implied no attempt to delay the restructuration and preserve jobs in declining sectors. Liberal economic policies were paralleled with comparatively modest social safety net, low minimum wages and replacement capacity of pensions

etc. Additionally, in Estonia the transition to market economy coincided with the restoration of statehood.

To account for the labour market experience of women during transition, the paper draws on the data from the first round of national labour force survey[25]. Apart from a conventional labour force survey, the programme of the Estonian LFS included an extensive retrospective section building on event history design [Tuma and Hannan 1984; Blossfeld and Rohwer 1995]. In the survey, each respondent's labour market experience was followed from January 1989 to the date of interview in January-April 1995. With monthly precision, information was collected on three basic types of labour market spells: employment, unemployment and inactivity. For each spell, starting and ending dates as well as relevant spell-specific information was recorded. To provide individual work histories with dynamic context, relevant information was collected also on geographic mobility, changes in marital status, school enrollment and geographic mobility. Indeed, the survey included traditional LFS sections, based on current activity framework and focusing respondent's status during short reference period [Noorkõiv and Puur 1996; ESA 1997a; 1997b].

The applied survey design and the observation period of more than six years allows to follow the change in the female economic activity through all major stages of transition. The starting point of observation in 1989 refers to the situation where societal changes had already commenced but had not entered the stage of radical economic reform [Taaler 1995]. The latter was launched shortly after the restoration of national independence in 1991, and the couple of following years marked the period of most turbulent transformation. The endpoint of the observation in 1995 reflects the situation which had developed after the principal labour market adjustment. The data from the later rounds of the labour force survey have indicated relative stability of labour market conditions in Estonia in 1995-1998 [ESA 1999]. From the methodological point of view, the applied survey design is particularly appreciable in its capacity to avoid the discontinuity in concepts and definitions. The latter develops easily into a problem in the studies of transition since changes in substantive processes have paralleled with the transformation of statistical methodology.

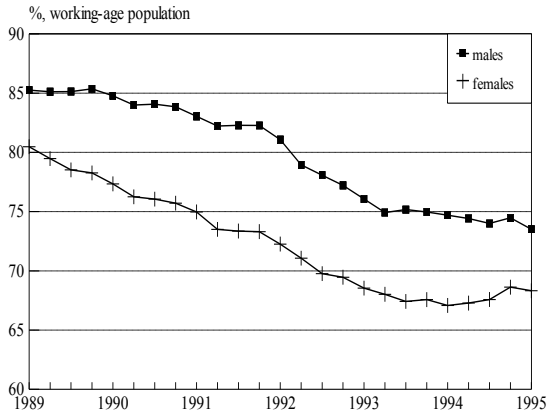
4.1. Decline in employment

To capture the extent of shrinking in population's work opportunities, employment statistics likely offers the most appropriate framework. Decline in labour force participation does not fully reflect the transformation in economic realities since it incorporates the ranks of unemployed, a new category which lacks a parallel under the former system.

Quarterly time series of labour market indicators reconstructed from the LFS reveal that between 1989 and 1995, the number of employed declined by more than 22 per cent. In the eve of transition the number of employed in Estonia accounted close to 860 thousand of which less than 670 thousand was left by early 1995[26]. In 1989-1991 the employment decline gradually escalated, culminating in 1992. Paralleling with macro-economic stabilisation and re-orientation of trade flows, net loss accounted for more than 7 per cent (65 thousand) in that year. In subsequent years the reduction slowed

down, reaching the level of just one per cent in 1994. The observed reduction temporal pattern of labour market adjustment appears closely consistent with the dynamics of GDP which showed progressive decline until 1992. After peaking in 1992, the fall in GDP decreased and in 1996-1997, economic growth was restored [Ministry of Economics 1994-1998]. Close similarity between the dynamics of production volumes and the employment suggests a flexible labour market response, markedly different from the experience of several CIS countries, indicating considerable amount of excessive employment [UN ECE 1995-1997].

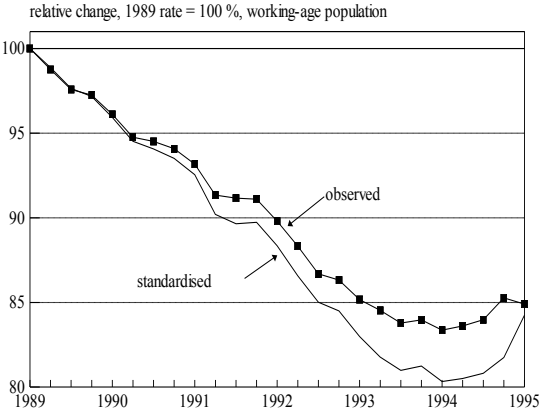
Figure 6 EMPLOYMENT RATE
Estonia 1989-1995



Turning to female labour market experience, the comparison focusing on working-age population reveals that in Estonia the cumulative reduction in employment has been slightly greater among women (Figure 6). In 1989-1995 employment rate[27] among working-age women dropped from 80.5 per cent to 68.7 per cent. In the same period, men experienced the decline of employment rate from 85.3 to 74.5 per cent. Aside that, the time pattern of employment reductions appears different between sexes. During the first years of transition, female employment shrunk more rapidly than that of males, however, by the late 1991 this excess reduction came to an end. During the late 1991 – early 1992, the decline in employment continued closely in parallel. Female employment reached its lowest point in the late 1993. In the following year the reduction ceased and the female employment rate showed even a slight recovery while male employment continued slow decline. Correspondingly, the gender gap in employment increased until the late 1991, stabilised in 1992, and narrowed slightly thereafter. Translated into the length of working-life, among women the number of years spent in employment in age interval 20-49 dropped to 22.3 years i.e. by four years. Among males, the corresponding figure was reduction accounted for 3.9 years, reaching the level of 24.6 years.

Considering the dynamics of female employment, it is important to note extensive changes in demographic processes that have occurred during the recent decade. Most importantly, all countries of Central and Eastern Europe have experienced a sharp decline of fertility to extremely low levels [Council of Europe 1999]. In case of Estonia, the extent of recent fertility decline has been strengthened by comparatively high starting level. Unlike other nations with early fertility transition, native population of Estonia witnessed an increase of fertility in the end of 1960s and close-to-replacement fertility level was maintained until the end of 1980s [Katus 1997]. Period fertility indicators peaked in 1988 when the population of immigrant origin had caught up the fertility level of native population. For a couple of years the

Figure 7 EMPLOYMENT RATE
Estonia, females 1989-1995

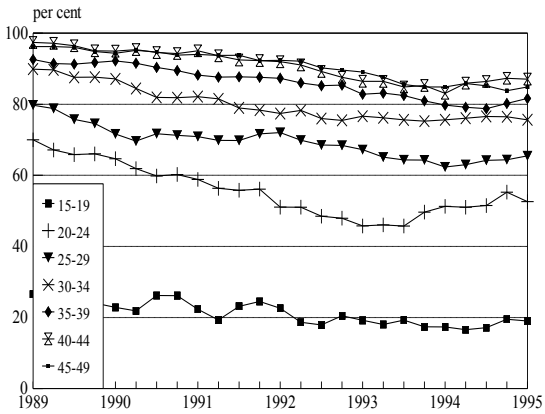


period total fertility rate exceeded even 2.2, the highest level recorded in the country over the past 80 years. The following decline brought the period TFR down to 1.2-1.3 by the mid-1990s and the referred level has been maintained until the end of the decade.

Leaving aside the question to what extent these changes reflect a turn towards unsustainable fertility or a rapid ageing of childbearing, fertility decline has undoubtedly affected the home attachment of women. Aside parity distribution, it has reduced the number of mothers with very young children who under modern conditions form a main limitation to employment among working-age women. In other words, it seems plausible that rapid downturn in fertility has tempered decline in female employment. Observed deceleration of employment decline in 1991-1992 and modest recovery thereafter could have well been a reflection of falling fertility. To test this hypothesis, standardisation of female employment rate was undertaken[28]. The data presented on Figure 7 indicate that without fertility decline employment losses among women would have markedly greater. The difference between standardised and non-standardised curves started to emerge in 1991 and increased during a couple of following years. On the other hand, however, both curves demonstrated stabilisation and slight recovery of employment rate towards the end of observation period.

To provide an additional insight into the pattern of female employment decline, differential experience among the subgroups of women should be examined. The quarterly time series of age-specific employment rates reveal that larger part of the fall has been concentrated among young and retirement-age women. Focusing on the fertile age-span, the largest decline has been observed in among 20-24 olds in which nearly third of the initial level has been lost (Figure 8). Notably, it is also the same group in which the reversal of the trend and recovery in employment rate has been most clearly expressed. In relative terms, comparable reduction of employment has been characteristic also to age group 15-19. Considering the still low proportion of employed below age 20, however, the latter fact should not exaggerated. Moving towards middle-age women, decline in employment rates grows gradually smaller, both in absolute and relative terms. The change reaches minimum in group 40-44 in which the reduction is limited to ten percent points, declines observed among older age groups are discussed elsewhere [Puur 1999]. Among male population, decline in employment displayed much less selectivity across prime working age.

Figure 8 AGE-SPECIFIC EMPLOYMENT RATE
Estonia, females 1989-1995



The concentration of largest employment reductions in prime childbearing age points to a likely link between childbearing and participation in the labour force. To examine the referred connection, time series of employment rate have been disaggregated by marital status, number of children and age of the youngest child (Figure 9). Regarding marital status, the changes have not been markedly different between the groups and the ordering has been sustained. The data reveal that in absolute the reduction of employment rate has been the largest among married women, followed closely by

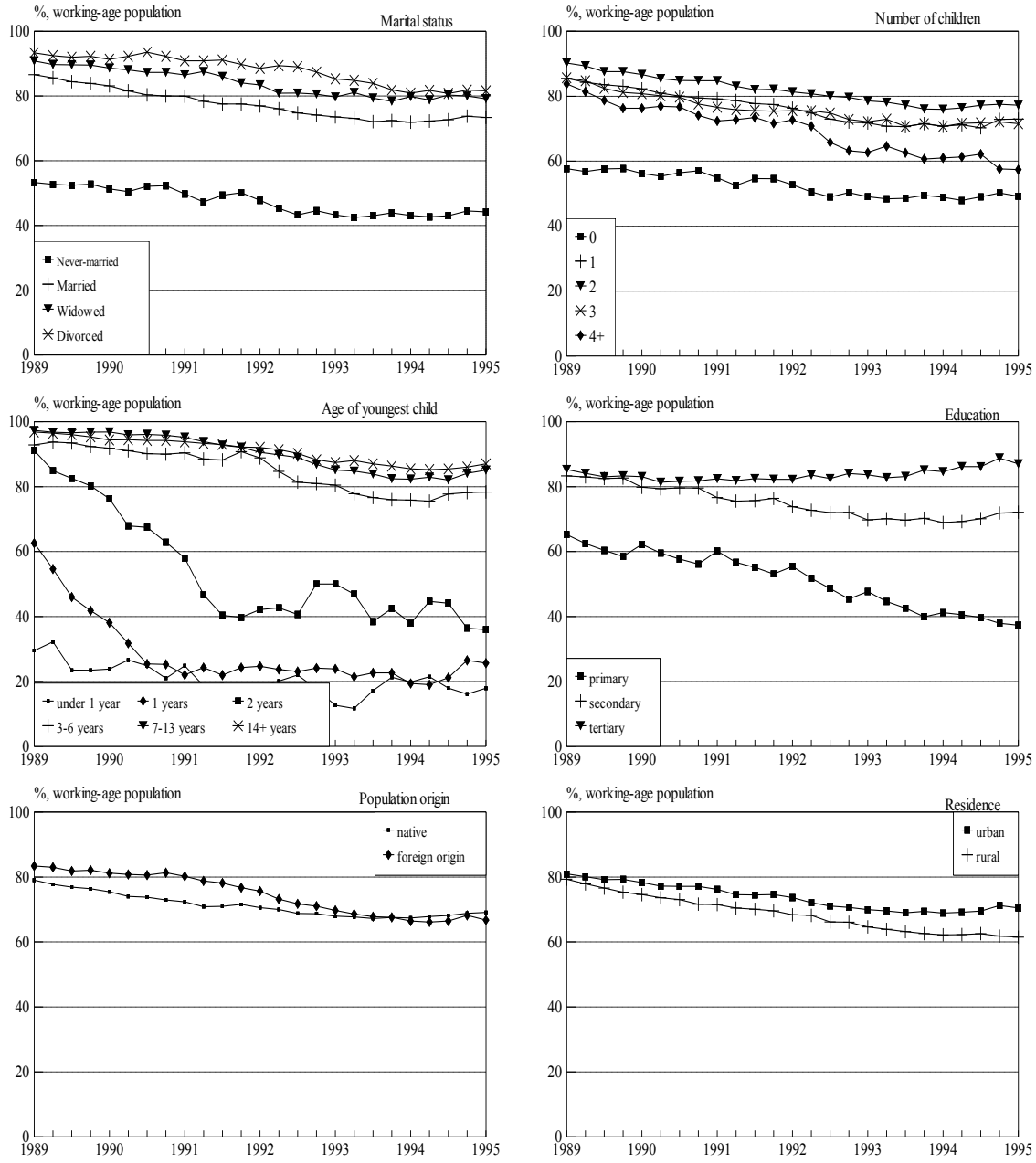
never-married. It is interesting to note that the reversal in the trend and recovery of employment levels has been also most clearly expressed among married women. Widows and divorcees have experienced less extensive losses of employment. Notably, the observed pattern appears markedly different from the male population in which married men witnessed the smallest employment decline.

Turning to the number of children, the data shows great similarity between the experience between childless women and those having one, two and three or more children[29]. In other words, the number of children *per se* has not significantly increased its importance as an obstacle to employment. Only starting from parity four and higher, some excess reduction in employment level could be detected. This finding, however, could easily reflect characteristics other than the number of children as women with large number of children form a fairly small and selective group under modern fertility. The data also revealed that the curvilinear dynamics of the gender gap in employment, discussed above, has been exclusively limited to women with children. Among childless women, the gender gap has shown a slow decline throughout the observation period. The curvilinearity of gender gap has been most clearly expressed among women having one child. Notably, this correlates with the sharpest reduction in the second order births during the recent decade [Katus 1997].

Compared to marital status and number of children, employment experience of women shows remarkable diversity across the age of the youngest child. The decline in employment level has been strongly concentrated among women having a one or two years old child. During the transition, employment rate for these groups has dropped more than twice: from 62 percent to below 30 percent and from 90 percent to below 40 percent. It is interesting to note that the referred decline occurred almost completely in 1989-1991, i.e. before the principal re-orientation towards market economy and the onset of radical reforms in Estonia. Later years witness virtually no change in the level of employment. Regarding women with child under one year of age, employment level has also declined, but as it was very low already prior to transition, the decline appears not particularly extensive in absolute terms[30]. Women with children aged three years or older have experienced comparatively small reductions in employment, with limited and decreasing differentiation by age of children. The concentration of employment reductions among with very small children necessitates closer examination of women's return to employment, undertaken in the following sections.

Similarly to the previous section, Figure 9 compares female employment experience also by educational attainment, native-foreign origin and urban-rural residence. Emphasising the role of human capital and professional skills, the extent of employment reduction appears inversely proportional with the duration of schooling. Accordingly, working-age women with tertiary education have witnessed no decline in employment level, comparing the employment rate in the early 1989 and 1995, their job attachment has even slightly increased. During the same period, the employment of women with secondary education decreased by more than 10 percentage points, and for those with primary or incomplete secondary education, the decline accounted for nearly 30 percentage points. The examination of gender gap points to excessive employment reductions among women with lower educational attainment. Women with university education have maintained their employment level relative to men, each step down the educational hierarchy, however, involves an increase in gender gap.

Figure 9 EMPLOYMENT RATE BY MAIN POPULATION CHARACTERISTICS
Estonia, females 1989-1995



The comparison between the populations of native and foreign origin shows somewhat greater decline in employment rate among immigrant women. In 1989-1995, employment rate among the latter decreased by more than 15 per cent whereas women of native origin experienced a decline of 10 per cent. Basically, this pattern has been repeated also among men, although its extent has been slightly lesser. Excessive employment reduction among immigrant population stems mainly from their specific employment composition which translated the economic adjustment to differential population outcomes. In case of Estonia, immigrant workforce was concentrated in large industrial enterprises, specialised in the production for the Soviet Union. In the

course of transition, these enterprises were hit particularly hardly and proved less successful in adapting to new market realities [Eamets and Philips 1997; Puur and Sakkeus 1999].
Even greater differences have been observed in the experience of urban and rural population. In Estonia, the employment among rural women has decreased nearly twice as much compared to urban women. Also, the stabilisation and slight recovery in employment rates, discussed above, has been characteristic exclusively to urban women. Interestingly, among men the employment decline has proceeded closely in parallel among rural and urban areas, with difference in employment rates not exceeding 2-3 per cent. As a result, gender gap in employment has been sharply widened in rural areas whereas in urban areas, after temporary increase in the early 1990s, the difference had returned to its initial level by 1995. Evidently, the observed pattern should be also attributed to ongoing structure change, particularly the concentration of expanding tertiary branches with diverse job opportunities for women, in urban areas.

4.2. Shift in employment composition

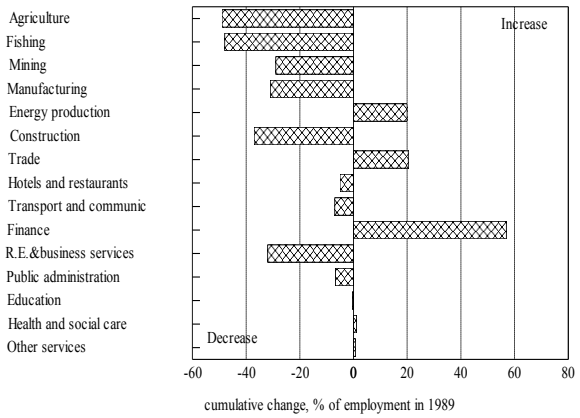
Aside large declines in employment, transition has implied considerable structural adjustment and re-allocation of labour force between economic sectors. Relative to industrialised market economies, in Estonia the most specific feature of employment structure has been the remarkably high share of primary sector employment. Reflecting the specialisation on agricultural production for the Russian market, it accounted for 21.6 per cent of total employment in 1989, and differently from the general trend, the proportion had even increased during the 1980s. Among transition economies, only Romania and Poland had greater proportion of employment in primary sector. Another specialisation of Estonia in framework of the Soviet economic cooperation concerned industrial sector, ranging from energy production, metalworks, machine-building, electronics and chemical industry to textiles and food processing. Understandably, the collapse of the old economic ties and re-orientation to new markets brought the existing sectoral structure to a rapid change.

The most extensive restructuration has somewhat paradoxically occurred namely in branches which were considered the most advanced and vital under the former regime. In Estonia, the number of employed in primary and secondary sector dropped by 48 and 29 per cent respectively between 1989 and 1995. According to similar estimation, tertiary sector experience cumulative net growth of 4 per cent over the same period. Across individual branches, the biggest relative employment decline concerned fishery were more than a half of jobs were lost. In agriculture the net losses accounted for little less than a half. In the secondary sector, roughly one third of jobs were lost in manufacturing and close to one fifth in construction. On the other hand, the clearly expanding branches have included the formerly underdeveloped finance, wholesale and retail trade as well as public administration. The rest of branches have displayed relatively little change [Puur 1997a].

Turning to the experience of women, the sector-specific change in employment have followed quite closely the general pattern (Figure 10). Estimation based on working-age population reveal that between 1989 and 1995, female employment in agriculture

dropped 49 per cent from the initial level. Comparable reductions can be found in fishing industry. In manufaturing, the decline appeared smaller accounting for 31 per cent. Mining industry has experienced 37 per cent decline of female employment and construction 30 per cent, whereas the energy production has witnessed a slight increase. In tertiary sector, the biggest increase has been observed in financial intermediation (57 per cent) and trade (20 per cent). Employment in traditionally female branches such as education, health, social care and services has undergone virtually no change. On the other hand, decline in employment has been observed in transport and communication (7 per cent), hotels and restaurants (5 per cent), business services (32 per cent) and public administration (7 per cent).

Figure 10 EMPLOYMENT CHANGE BY SECTOR
Estonia, females 1989-1995



Comparing the male and female experience across economic sectors, data reveal high similarity of gender-specific employment reductions in agriculture and manufacturing which represent the bulk of net job losses in Estonia. Among other branches of primary and secondary sector, women have fared better in fishery but suffered greater job losses in mining industry and construction, however, the share of these branches in total female employment is very low and does not shape the general pattern. In the fastest growing branches of tertiary sector, trade and financial intermediation, the growth of female employment has been generally slower than that of males. To an important extent, the referred pattern reflects very limited of male employment in these branches prior to transition. Women have done somewhat worse in hotels and restaurants as well as in public administration, but the absolute difference in gender-specific employment change appears fairly limited in these branches. In other word, the comparison of male and female experiences in various economic sectors does not reveal systematic advantages or disadvantages across gender. Considering the greater concentration of male workers in primary and secondary sectors implies greater re-allocation of labour among male population.

An alternative insight into the changing employment composition is provided by occupation, reflecting the kind of work, scope of responsibility and functions performed by an individual worker. Consistent with sectoral pattern of employment reductions, reconstructed time series reveal that across major groups of occupational classification, the biggest reduction has occurred among machine operators and assemblers and agricultural occupations (Figure 11). Eliminating the influence of changing population number, employment in such occupations was reduced by 42 per cent and 32 per cent between 1989 and 1995 respectively. Net losses in craft and related occupations have been somewhat smaller accounting for 19 per cent. Understandably, losses in the referred groups of occupations are a direct result of the change in sectoral composition of employment, particularly the decline in agriculture and manufacturing.

Despite excessive re-allocation of labour from primary and secondary sectors, reductions have not been limited to blue-collar occupations. Of the ISCO major groups, the third largest employment loss have been observed among clerks (28 per cent). Somewhat less expectedly, significant reductions have been observed also in the category of professional and technical occupations. It is interesting to note that in developed market economies, the number of persons engaged in such occupations has continued to increase even during the periods of economic recession [European Commission 1996]. Evidently, the observed decline represents an adjustment to former overstaffing of professional positions. On the other hand, the referred decline may to a certain extent prove a statistical artifact. In particular, the skill level, range and complexity of the tasks actually performed in these occupations could have been actually lower than reflected in occupational titles. The elaboration of this hypothesis requires careful elaboration of occupational composition.

Figure 11 EMPLOYMENT CHANGE BY OCCUPATION
Estonia, females 1989-1995

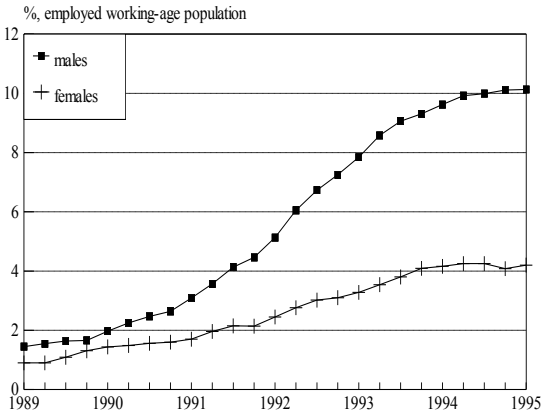
Regarding other occupational groups, women have experienced a decline also in managerial occupations, however, the extent of decline has been smaller than that of general employment reduction. On the other hand, the increase of employment has occurred in two groups. Reflecting again the direction of sectoral shift, 30 per cent increase can be observed in sales and service occupations. Another increase (22 per cent) has been observed among elementary occupations. The referred development again rises the uneasy question of comparability of occupational data between centrally planned and market economy settings. Further analysis focusing on labour market flows in and out of different occupations are required to judge upon the extent to which the increase in elementary occupations and decline in skilled manual and professional occupations has involved occupational downgrading on the individual level.

Compared to women, men have shared the declines among machine operators and assemblers, in craft and related occupations as well as professionals, and the increase in elementary occupations. Bigger or smaller dissimilarities in occupational experience are observed in five occupational groups. Differently from women, men have experienced a slight increase in managerial occupations, evidently reflecting their greater involvement in the development of new businesses. Also, men have not experienced reduction but increase in technical and agricultural occupations. To a large extent, the latter reflects the shift towards farm-based agriculture, in that process men have moved to the new sector in a greater extent than women. The increase of male employment among clerks should not be exaggerated because of relative smallness of the group.

Closely related to the re-emergence of private sector, transition to market economy has featured the emergence of self-employment. Reconstructed time series reveal that in 1989-1995, among women the proportion of self-employed rose to 4.1 per cent of total

employment, and 10.1 per cent among men (Figure 12). Consistent with the boom in the establishment of new businesses, the relative increase in self-employment has been at highest in 1991-1993, later the number of self-employed gradually stabilised. Being opposed to paid workers, the self-employed themselves form a heterogeneous category. On a more detailed level, usually the distinction is made between employers operating own business and hiring one or more employees, own-account workers running a business without paid helpers, and contributing family members. On that level of disaggregation, in early 1995 employers accounted for 1.4 per cent, own-account workers for 2.0 and unpaid family workers to 0.7 per cent of total female employment. The comparison with males reveals that the lesser incidence of self-employment among women stems from their lesser engagement as employers and own-account workers. Among men, both employers and own-account accounted for 4.7 of total employment.

Figure 12 SELF-EMPLOYMENT
Estonia 1989-1995



4.3. Diversification of work patterns

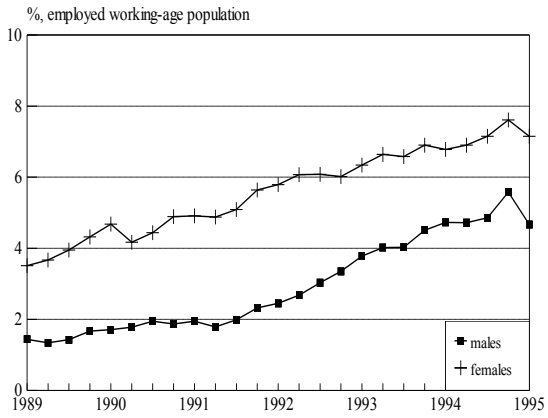
Among the various dimensions of employment, the issue of working hours has been paid increasing attention from several perspectives [Beechey and Perkins 1988, Tam 1997]. In the context of business cycles, part-time work may be considered as an instrument for labour market flexibility to distribute employment among wider segments of labour force. On the other hand, part-time work has been recognised as an important way to limit the amount of work performed by workers in relation to their other commitments and needs. Regarding women, work on part-time schedules have proved helpful to facilitate the combination of work and family responsibilities. It has frequently been often pointed out that women would have greater employment opportunities if part-time jobs were widely available, but obviously, these opportunities are important to anyone, such as students or beneficiaries of phased retirement schemes, who cannot or does not want to opt for a full-time job commitment .In addition to these groups, there is a category of visibly underemployed persons who are working less than full time because they cannot obtain full-time employment.

Turning to the diffusion of part-time employment, a prominent feature of women's work patterns in the countries of the Central and Eastern has been comparatively low prevalence of part-time employment. Estonia formed no exception from that rule, and for example according to time-use surveys, women's working hours were only 5 per cent less that those of males [Puur 1989]. Under the circumstances of prevailing labour shortage, the governments in the region emphasised rather on the extension of maternity leave provisions than the introduction of large-scale flexibility in working-time arrangements. Generally, such path of development differed markedly from the experience of developed market economies. In the EU countries, for example, nearly a third of women are engaged in part-time jobs and there are several countries in where

over a half of female employment is part-time [Cesano 1999]. Considering the extinction of old labour market mechanisms in the course of transition, an essential question is whether and to what extent the recent changes have increased part-time employment and bridged the gap with Western Europe.

Compared to other aspects of labour market behaviour, the study of change in working hours has been hampered by the discontinuity of data collection. In the Central and Eastern Europe, the labour force surveys which typically provide the relevant data were started at the earliest in 1992-1993, and therefore, it proves difficult to obtain comparable information covering the developments since the onset of transition. In case of Estonia, the design of the Labour Force Survey has provided means to overcome these difficulties and reconstruct the trend from the beginning of societal transformation, including the incidence, reason and duration of part-time employment[31]. For the definition of part-time employment the cut-off level of 35 hours per week was applied, except for specific occupations. Additionally, based on the current activity framework the survey provided information on working hours in early 1995, shift-work as well as work on weekends.

Figure 13 PART-TIME EMPLOYMENT
Estonia 1989-1995



The data presented on Figure 13 demonstrate a steady increase in the incidence of part-time employment during transition. Among working age women, part-time employment rate increased from 3.5 per cent to 7.4 per cent of those currently employed. During the same period, the rate grew from 1.5 to nearly 5 per cent among men. In relative terms, the two-fold growth may be considered substantial, however, in absolute terms, the incidence of part-time work is still very low in Estonia. In fact, the incidence must be regarded even lower than the referred figure does not consider the reason for shortened working hours. In fact, the standard definition of part-time employment considers only work carried out on regular and voluntary basis. Involuntary working less than normal duration and seeking/being available for additional work is regarded as visible underemployment [ILO 1988]. Considering the distinction between the two categories, in 1989-1991 involuntary reasons, such as lack of work, clients, materials and temporary disorganisation of work, accounted for approximately one third of the incidence short-time work referred above. Starting from 1992-1993, the contribution of such reasons even increased accounting for about half of working less than full hours.

Another dimension of work patterns, in some sense opposite to part-time employment, is represented by multiple jobholding. Although multiple jobholding may occur in different situations, it usually refers to particularly strong commitment to labour market, reflected in extended working hours as well as work in evenings and weekends. Compared to part-time work, however, evidence on the dynamics of multiple jobholding during economic transition appears even more scarce. To cast light on the issue, the programme of the Estonian Labour Force Survey was included a special

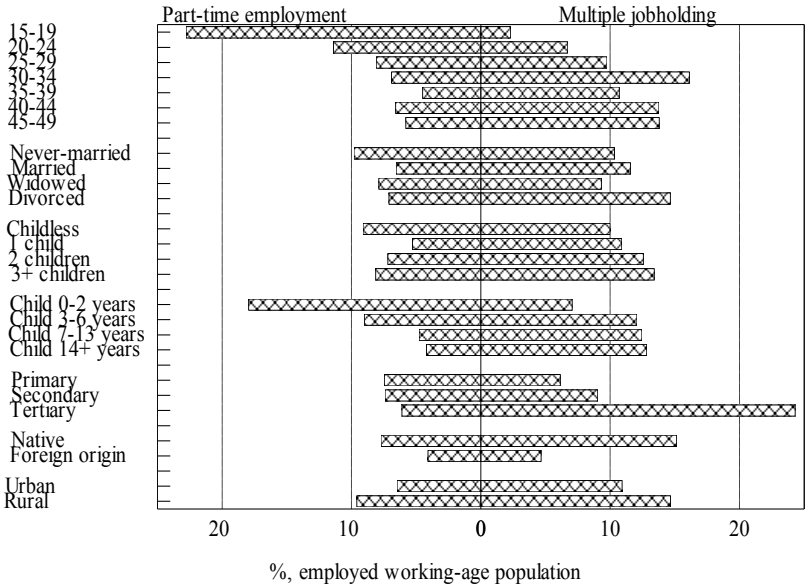
event-history module for secondary economic activities. The information was collected on all second jobs in which the respondents were engaged, including startdates, enddates and main characteristics. Based on the collected information, Figure 14 presents the reconstructed trend of multiple-jobholding rate between 1989 and 1995.

Figure 14 MULTIPLE JOBHOLDING
Estonia 1989-1995

The data clearly demonstrate an increase in multiple jobholding during transition. Among working age women, the rate engaged in second jobs increased from 8.5 per cent to 11.8 per cent of those currently employed. In relative terms, this translated into the growth of nearly 40 per cent. It is interesting to note that most of the upward trend reflects the increase regular rather than seasonal or casual secondary employment. Comparing men and women, the experience of multiple jobholding has appeared closely similar. Among men, the rate increased from 9.3 to 12.3 per cent, translating in relative terms to even lesser growth than observed among women and reduction of gender gap. When combined together, the increase in part-time employment and simultaneous growth in multiple jobholding indicates a tendency towards diversification of work patterns during economic transition. Indeed, the diversification becomes more strongly expressed while the reduction of employment levels is taken into account.

In respect to both part-time-employment and multiple jobholding, the data reveal the highest labour market attachment among middle-age women (Figure 15). Moving to older age groups, the proportion of those working part-time declines from 25 per cent among 15-19 olds to a minimum of less than 5 per cent in age group 45-49. Expectedly, multiple jobholding displays a reverse pattern with lowest level of 2.5 per cent in the youngest age group and highest levels among those between age 30 and 50. Compared to men, the decline in part-time employment and growth in multiple jobholding appears stretched over somewhat longer age-span, reflecting the impact of family-related circumstances among women in their twenties. The latter is most clearly visible in the differentiation according to age of children. The rate of part-time

Figure 15 PART-TIME EMPLOYMENT AND MULTIPLE JOBHOLDING BY MAIN POPULATION CHARACTERISTICS
Estonia, females 1995



employment peaks among women having a child under three at levels above 20 per cent, declining rapidly as children grow older and reach school-age. The difference in multiple jobholding is less expressed, but consistently, women with young children are least likely to hold multiple jobs.

Noticeable difference into the likelihood of women to be engaged in multiple jobs is introduced by educational attainment. Most importantly, women with higher educational have experienced considerable increase in multiple jobholding with nearly 25 per cent of them working in more than one job. The corresponding level for women with secondary education is almost three times lower. Although part of the difference stems from the difference in the types of occupations held by highly educated women, the finding once again stresses the importance of education and training in transition economies. Another striking difference in multiple can be observed between women of native and foreign origin. In multiple jobs, native women have been almost three times more frequently. It is interesting to note that the referred pattern has not emerged during transition but existed already earlier, reflecting persistent differences in behavioural patterns between the two subpopulations [Puur and Sakkeus 1999]. Notably, at the same time the proportion of part-time employment appears also higher among native women, suggesting greater diversification of work patterns in both directions.

Across urban-rural divide, both part-time work and multiple jobholding appear more common among rural women. The difference in part-time work is largely of involuntary nature and reflects more extensive reduction of employment opportunities in rural areas. Higher incidence of second jobs, on the other hand, mirrors mostly engagement in home-based agricultural production which lacks parallel in urban setting. Closer examination of the pattern revealed that the observed increase of multiple jobholding has been driven exclusively by urban women. Among rural women the incidence of second jobs has slightly declined during transition, and without the structural effect introduced by the overwhelming concentration of immigrant population in urban areas, multiple jobholding rates would have converged among urban and rural women.

4.4. Emergence and expansion of unemployment

Transition to market economy brought an end to impressive job security which had been previously advertised as one of the key advantages of central planning. Although large-scale displacements in response to macro-economic adjustment were expected, the excess manpower in declining industries was assumed to be absorbed by expanding sectors, moderating the growth in unemployment. Since the major reason for the initial upsurge of unemployment had been the transitional recession, stabilisation in macro-economic indicators could have, at least to some extent, alleviated the problem. In reality, however, relatively high unemployment has persisted in Central and Eastern Europe, and despite recovery in output, developed towards a more structural character [UN ECE 1995-1997]. Representing one of the major social costs of transition, unemployment implies considerable amounts of social stress and adaptation pressure for the individuals involved.

The discussion of unemployment in transition economies has been sometimes confused by notable discrepancies between official registration and survey-based measures.

Understandably, the reasons for such discrepancies are rooted in different methodologies applied in labour force surveys and administrative record-keeping [Hussmanns, Mehran and Verma 1990]. While the former builds on internationally harmonised criteria, levels of registered unemployment are shaped varying national legislation which determines the scope of services available for the unemployed, entitlement conditions, duration of eligibility, amounts of benefits, anticipated effectiveness of provided service etc. Regarding Estonia, the introduced scheme of unemployment insurance has been one of the scantiest in Central and Eastern Europe [Venesaar 1995]. For example, the duration of eligibility for unemployment benefits has until recently been limited to six months, with up to three months extension under specific circumstances. The amount of unemployment compensation has been very low, and revised on irregular basis, benefits have retained a largely symbolic value. Additionally, the effectiveness of job placement and the role of active labour market policies have been modest [Puur 1997b].

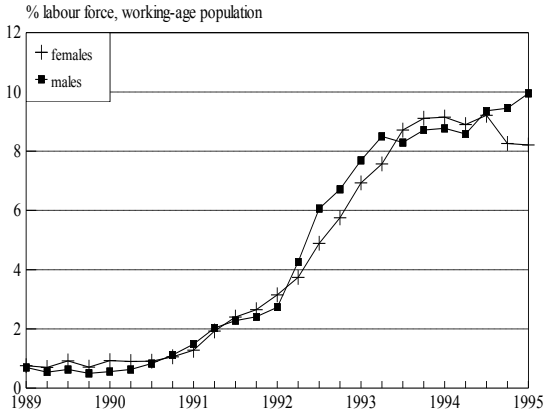
Limiting both the eligibility and incentives of individuals, the enforced scheme has kept the officially registered unemployment relatively low in Estonia. Following the introduction of legal provisions, the registration of unemployed was commenced in May 1991. The following months, however, did not witness a dramatic increase and by the end of the year, local employment offices listed less than a thousand benefit recipients. The increase in registered employment accelerated in early 1992 and the number of benefit recipients grew rapidly during the next 15 months. In April-May 1993, the number of registered unemployed peaked at 22 thousand (less than 4 per cent of labour force), the number of registered job-seekers[32] reached 44 thousand (7 per cent of labour force). Disregarding extensive seasonal variation, in the following years registered unemployment in Estonia more or less stabilised. The referred figures were first exceeded only in Spring 1999, reflecting the deceleration of economic growth in 1998 and a wave of labour-saving rationalisation in private sector.

Estimates based on internationally comparable definition reveal that the transitional upsurge of unemployment begun in Estonia in early 1991. From the viewpoint of timing it is interesting to note that growth in unemployment followed employment reductions with 1-1.5 years time lag. Evidently, the first adjustments focused on population groups which were less tightly attached to labour force and therefore likely to leave the labour market with no attempt to return. As reforms progressed, the referred adjustment capacity became exhausted, opening a way to the expansion of unemployment. A major increase in the level of joblessness in Estonia took place between the early 1992 and mid-1993. In these months, unemployment rate among working-age population more than tripled. In absolute terms, the number of unemployed grew from ca 20 thousand to over 60 thousand over the same period. In 1994-1995 the increase of unemployment levelled off, showing a tendency towards stabilisation. In the following years unemployment rate fluctuated on the level of 9-10 per cent, except 1999 which witnessed a new increase of unemployment to the level of 13 per cent [ESA 1999].

In several transition economies, women have been found at higher risk of joblessness compared to males [UNECE 1995-1997; UNICEF 1999]. Figure 16 indicates that in case of Estonia the unemployment experience of men and women has been closely similar. Quarterly time series of gender-specific unemployment rate display identical starting levels and synchronous timing of transitional upsurge, the similarity is

underlined by repeated cross-overs between the curves. By the end of the observation period, unemployment has reached even higher level among men and later rounds of the labour force survey have confirmed the persistence of the referred feature [ESA 1999]. Against the background of greater decline in female employment, male excess in unemployment suggests some dissimilarity in the nature of gender-specific employment reductions. Among others, it could reflect a different balance between voluntary and involuntary exits from employment. Correspondingly, lower pressure to return to jobs could indicate higher contribution of voluntary component. According to alternative explanation, women may be also discouraged from jobsearch as they believe no jobs are available. These hypotheses are elaborated further below.

Figure 16 UNEMPLOYMENT RATE
Estonia 1989-1995

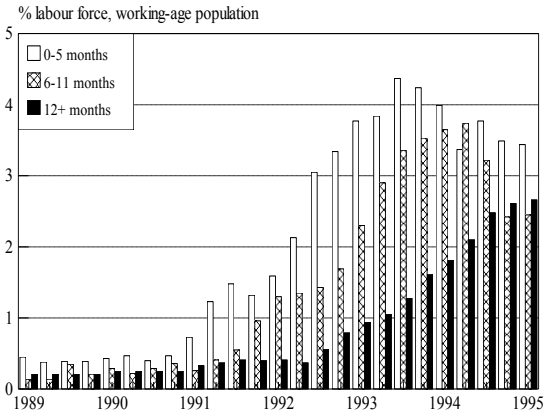


Regarding the observed gender difference in unemployment rates, it must be noted that the pattern revealed by official registration appears the opposite. The relative number of registered unemployed, particularly those receiving unemployment benefits appears considerably higher among women. Higher propensity to register at employment office could in some cases be an indication of greater severity of unemployment, however, this appears not the case for women in Estonia. In reality, the surplus of number among benefit recipients results from the eligibility conditions[33] which give women with young children certain advantage (raising a child under seven years of age is considered equivalent to employment in applying for benefits). This connection is, for example, demonstrated by age pattern of registered unemployment rate which peaks among women in age groups aged 20-24 and 25-29, in older age groups the gender gap in registered unemployment declines. Among others, the referred discrepancy underlines the importance of survey-based measures which reveal a more complete picture of labour market phenomena.

The severity of unemployment depends to a large extent on the duration of time-span under which failures in job-search are experienced. For the individuals concerned, particularly great strain is implied by long-term unemployment, usually considered as joblessness lasting over one year. From the economic point of view, the emergence and persistence of long-term unemployment is associated with structural change and technological innovation. Due to these features, long-term unemployed typically face substantial difficulties in their returning to labour market, unless provided with (re-)training and new skills. In transition economies, the situation of long-term unemployed is complicated by limited availability of training and less generous schemes of income maintenance. In Estonia, for example, the prevailing support scheme has until recently restricted the payment of unemployment benefits to six months (with possible extension for additional three months). Under such circumstances, only a smaller part of long-term unemployed are registered and receive some compensation.

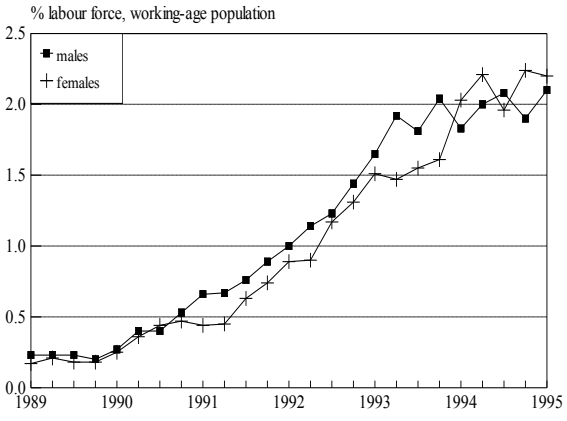
Figure 17 presents the dynamics of duration-specific unemployment rates for women. The data reveal that the increase in long-term joblessness followed the transitional upsurge in unemployment with certain time lag. The increase in long-term unemployment persisted until 1995, since that year the proportion of long-term unemployed has stabilised at level of 40-50 per cent. Compared to men, the rate of long-term unemployment has been slightly lower among women, however on the other hand, the proportion of long-term unemployed has been for a couple of percentage points higher among females. Similarly to employment and participation in the labour force, unemployment experience can be translated into cumulative life-time measures. Applying that perspective, under the observed levels of joblessness women in Estonia would spend 1.9 years in unemployment between ages 20 and 49. At the same time, the corresponding experience of men would account for 2.6 years.

Figure 17 DURATION OF UNEMPLOYMENT
Estonia, females 1989-1995



Considering the presented findings, one should note that unemployment estimates according to standard international definition refer to persons who were out of employment, actively seeking and available for work. The analyses of labour market have often emphasised the importance of a broader measurement framework [OECD 1987-1995]. Regarding unemployment, the attention is called primarily to the group of discouraged workers who would like to take up an employment but who have given up an active job-search. The reason for such behaviour may be related to the characteristics of local labour markets, such as the absence of employment opportunities within the area, or personal factors, such as the belief that employers prefer workers with different charcateristics, qualifications etc. Figure 18 reveals that in Estonia, the inclusion of such persons would push the unemployment rate up by less than two per cent. As the relative number of discouraged workers would, however, not alter the gender gap in unemployment.

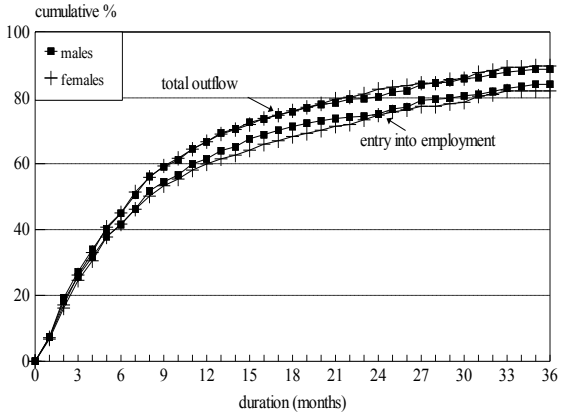
Figure 18 DISCOURAGEMENT RATE
Estonia 1989-1995



From the analytical perspective, unemployment rate represents a combined outcome of two different processes. First, it reflects the intensity at which the population enters the state of unemployment, and second, it depends on rate at which individuals who have become unemployed exits from joblessness, either by starting a job or quitting job-search. The longitudinal design of the Estonian Labour Force Survey allows to disentangle these processes and follow the progression of individuals between different labour market states. Pooling the information on over two thousand unemployment

episodes recorded by the survey between 1989 and 1995, Figure 19 presents the outflow from unemployment. The latter is considered particularly for the individuals concerned, as it determines the time-span under which the person is out-of-employment and looking for a job. Reflecting the successfulness of effort, aside the total outflow, the flow to employment has been specified separately. In terms of state space, the difference between the two represents economic inactivity.

Figure 19 OUTFLOW FROM UNEMPLOYMENT
Estonia 1989-1995



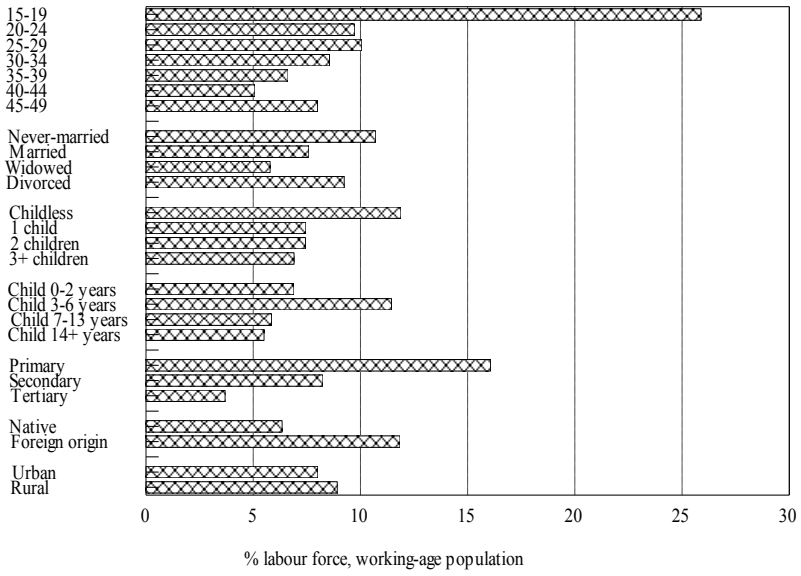
In general, the data reveal considerable similarity in the chances of re-employment between men and women. For both sexes, the probability of getting a job stands at highest during first half-year of unemployment spell, gradually decreasing thereafter. For example, for the first 20 per cent of unemployment cohort it takes less than three months to find a job while the increase in the proportion of leavers from 60 to 80 per cent takes about 1.5 years. In the three years of observation, 90 per cent of women and 89 per cent of men had exited from unemployment. Of those, 82 per cent of women and 84 per cent of men had returned to employment, and correspondingly, 8 per cent of women and 5 per cent of men had quitted job-search and become economically inactive. The median duration of unemployment episode appeared 6.9 months among females and 6.8 months among males. To generalise the presented flow data, women in Estonia have been characterised by lower risks of becoming unemployed, however once jobless, men have slightly better changes of re-employment. Considering the unemployment rates referred above, female advantage in the entry into unemployment has clearly overweighed the disadvantage in the outflow.

Compared to small gender difference, much greater heterogeneity of unemployment was found across other characteristics, within both female and male populations. To shed light on these differentials, a set quarterly time series of unemployment rate were constructed. Additionally, a corresponding set of survivorship functions were calculated for outflows from unemployment. Aside providing a measure of labour market transitions, greater robustness of survivorship functions against random fluctuations proved particularly helpful in identifying the existing patterns. In another perspective, survivorship functions form a necessary step towards the application of multivariate techniques and event history modeling [Blossfeld and Rohwer 1995].

The age pattern of female unemployment displays a classical peak in the youngest age group (Figure 20). In early 1995, unemployment rate among 15-19 year olds exceeded 20 per cent which is more than twice above the level of general population. To some extent, this figure exaggerates the impression of joblessness among youth since only less than a third of population has become economically active in that age. Additionally, the proportion of long-term unemployment is comparatively low. Moving to 20-24 old women, unemployment rate decreases more than twice. In age group 25-29, however, the rate slightly raises, followed by new decline thereafter. For several

reasons, the referred increase deserves closer attention. Most importantly, as such peak does not exist among males, it likely represents a feature which is specifically characteristic to female unemployment. The age-profile of male unemployment declines smoothly, approaching nil in post-retirement age.

Figure 20 UNEMPLOYMENT RATE BY MAIN POPULATION CHARACTERISTICS
Estonia, females 1995



Also in quantitative terms female unemployment reaches rather high levels among 25-29 year olds. In terms of unemployment-to-population ratio, the observed level appears even higher than among 15-19 years olds. Perhaps more importantly, however, in Estonia 25-29 olds represent the only age group in which female unemployment rate has exceeded that of males. Precisely the same pattern is repeated in the outflow from unemployment. In younger and older age groups, except those of retirement age, women have returned to employment more rapidly than in age group 25-29, and also, this is the only age group in which the return of women lags slightly behind males. The observed age pattern of female unemployment was hypothesised to have some relation to women's family life cycle. To explore that connection, differentiation by marital status, number of children and the age of the youngest child was examined (Figure 20).

Regarding marital status, reconstructed time series revealed the highest level of joblessness among never-married women while the lowest record of unemployment was characteristic to widows. Evidently, both findings reflect primarily the general age pattern, however, limited number of never-married women in older ages and widows in younger ages makes it difficult to be directly shown in surveydata. Turning to other groups, unemployment rate of divorced and married women positioned between the two extremes. Still, when compared to men, married women turned to be the only group in which female unemployment rate exceeded that of males. Also, the relative disadvantage was revealed by flow data according to which only married women demonstrated slower return to employment. For all other statuses, women demonstrated better chances of re-employment. Interestingly, the opposite pattern among married population resulted from the somewhat greater likelihood of women to give up job-search and become economically inactive.

The number of children had relatively little bearing on unemployment among women. Reflecting the younger age composition, highest unemployment rate was observed among childless. Women with one, two and three or more children demonstrated a

closely similar level of joblessness. Still, moving to higher parities, unemployment rate increases. Among women with 4 or more children in household, for example, the level of joblessness approached 15 per cent, exceeding the level of childless women. On the other hand, however, it should be noted that under modern fertility, parity distribution shows strong concentration around two-child family and women with large number of children likely form a select group. The flow data demonstrated a slightly inverse association between the number of children and return to employment: each additional child spread the return to employment over longer time-span.

Similarly to employment reductions, age of the youngest child seems to exert the strongest influence on female unemployment. Apart from the latter, however, the reconstructed time series of unemployment rate revealed the highest level of joblessness not among women with very young children but among those having children aged 3-6. Notably, during some time unemployment rate among the mothers of pre-schoolers even exceeded that of childless women. The differences between other groups have been smaller, the lowest unemployment rate (less than 6 per cent) has been characteristic to women with children aged 14 and older. The flow data demonstrated generally similar pattern with slowest return to employment among women with children aged 3-6, and also, the comparison with males revealed the greatest excess of female unemployment precisely in the referred group.

Compared to other family-related dimensions, the examination of female unemployment by age of children has been hampered by limited number of economically active women among those having very young children. In fact, the limited number of cases and resulting random variation has prevented us from developing the time series of unemployment rate by single year groups of child's age and forced to use the relatively crude age classification. In constructing the survivorship functions, the situation was further complicated by the transition of women from one status group to another, as the duration of unemployment spell increased. Still, to increase the number of observations and shed some additional light on the unemployment experience of women with young children, household data from four national surveys were pooled, re-arranged according to the age of the youngest child[34].

The data presented in Figure 21 reveal somewhat more sophisticated pattern of unemployment rate. Somewhat surprisingly, the highest level, exceeding 25 per cent, was found among mothers having children under one year of age. As child grew older, unemployment rate sharply declined, reaching a minimum among women having a one-year old child. Followingly, unemployment rate increases reaching a peak among women having a three-year old child and declines again. After children reach school-age, unemployment rate tends to stabilise. At first glance, the highest level observed in the youngest age group contradicts to the findings above, however, the referred early peak is

Figure 21 UNEMPLOYMENT RATE BY AGE OF YOUNGEST CHILD
Estonia, females mid-1990s

entirely attributable to very low level of economic activity among the mothers having children one year of age. The observed increase which culminates around the child's age of three years represents the return of women to labour market after childbearing. The same process also explains the general age-pattern and most of the differentiation across other family-related characteristics.

Regarding other characteristics, consistent with the pattern of employment reductions, unemployment appears strongly associated with education. Referring to working-age population, unemployment rate of women having completed secondary education was more than four times higher than that of university graduates. Women with secondary education have been hold the middle position. Data on labour market flows reveals that better educated individuals loose their jobs less easily as well as they have better chances of finding a new one. Similarly to employment reductions, unemployment appeared higher among rural women. Turning to the population origin, it is interesting to note a diverse gender gap in unemployment among native and foreign population. Among native population, women have displayed clear advantage both in respect to unemployment rate and labour market flows. In the population of foreign origin, however, the opposite has been true. Considering the increasing role of training, this fact could be partly related to gender differences in educational attainment between the two populations. Thus, among native population, women have exceeded men in tertiary education since the birth cohorts of the 1930s, whereas among immigrants, men have had higher educational attainment in all birth cohorts [UNECE 2000]. However, perhaps more importantly, the observed difference reflects the specific patterns of job destruction and creation during transition.

To conclude the discussion of unemployment, the risk of women to be fired or prevented from return to previous job in case of pregnancy and childbirth is shortly examined. The issue deserves attention for the increased vulnerability of women in the referred life stage, however, there have been no quantitative assessments of the extent of such concerns. In the Labour Force Survey, women currently at maternity/child care leave were addressed a special sequence of questions on their chances and intentions to return to previous employment. Of the responding 282 women, 59.8 per cent considered the return certain or likely. Among the remainder, 7.1 per cent reported that the employer had precluded return after childbirth. The most common reason why women could not return was that the workplace was no more in existence (16.9 per cent), 6.4 per cent of women had quitted the job and 9.8 per cent mentioned some other reason. Thus, the data confirmed the need for improved social protection of women, however, the extent of risks related to childbearing seems to be overestimated by the media [Lauristin 1997].

4.5. Growth in economic inactivity

Regarded from population perspective, the reduction of employment opportunities could lead to two different outcomes — the increase of unemployment and growth in economic inactivity. Reflecting considerable urgency of the issue for both individuals and governments, unemployment has evidently received relatively greater attention in the labour market studies on transition economies. To a certain extent, the same order of priorities is also mirrored in the standards activity measurement framework in which

persons out of the labour force are defined as a residual category [Hussmans, Mehran and Verma 1990]. To reach a more complete understanding of labour market developments, however, closer examination of the economically inactive population appears necessary. Compared to unemployed, for example, inactive population forms a remarkably heterogeneous category and the growth in its size may be regarded differently, depending on the specific composition. In general, the concentration of work into shorter age-span in human life cycle has underlined the important roles of inactive population [Cesano 1999].

Figure 22 INACTIVITY RATE
Estonia mid-1990s

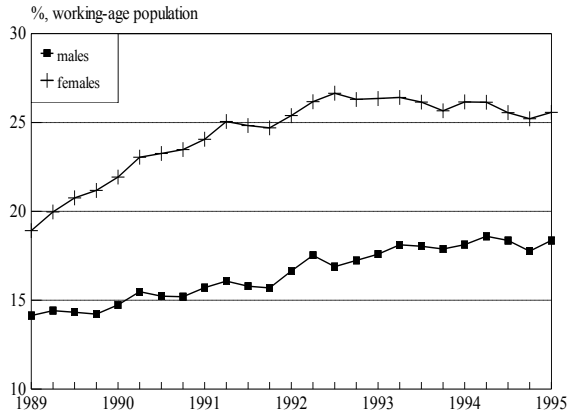


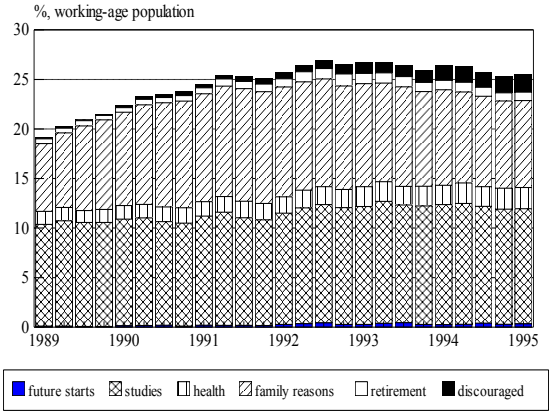
Figure 22 presents the trend of economic inactivity for working-age population. The data reveal that in Estonia the increase in inactivity preceded the upsurge in unemployment and begun already in the first years of transition. In 1989-1990, the majority of employment exits were directed to inactivity. The flow into economic inactivity became paralleled with that into unemployment over the next two years, and starting from 1993, the increase in economic inactivity slowed down. Comparing the male and female experience, aside general similarity, the data also indicate some noticeable dissimilarity. Among females, the growth has been strongly concentrated in the early stage of transition. Thus, in 1989-1990 inactivity rate increased from 19 per cent to 24 per cent whereas the following two years added less than two percentage points. Starting from the late 1992, however, the trend reversed, and by the end of observation period, inactivity rate returned to the early 1991 level. Among males, the growth continues longer, and regardless of deceleration, displays no reversal. Both in absolute and relative terms, the increase in inactivity rate has been somewhat greater among women.

A further insight into the observed pattern could be sought in several ways. Similarly to the analysis of employment and unemployment, it could imply a focus on inactivity differentials across various population groups. In such case, the aim would be identification of groups which play key role in shaping the levels and trends. An alternative approach concentrates on the composition of economically inactive population by causes of inactivity. In our opinion, the latter approach appears more fundamental as differentials between population groups are largely determined by the change in causal composition over individual life cycle as well as over time, not *vice versa*. Additionally, and perhaps more importantly, economic inactivity forms a remarkably heterogeneous category. Its constituents differ significantly in prevalence, duration, social and implications for the individuals involved etc. Due to these differences it would be appropriate to avoid straightforward generalisations across the entire category.

In the labour market studies on transition economies, the cause-specific approach to economic inactivity is not very often applied, particularly in comparative studies

[UNECE 1995-1997, UNICEF 1999 and other]. One likely reason for such situation could be somewhat poorer availability of the data, and possibly, a less strict standardisation of inactivity classifications. The following discussion relies on the series of cause-specific inactivity rates, constructed for working-age population combined and five-year age groups. The causes for economic inactivity were grouped into six main categories — studies, family reasons, health, retirement, discouragement and future starts[35]. All other causes of inactivity (for example inprisonment, unwillingness to take up employment etc) formed a residual category. It should be noted that in case of Estonia, such data are available for the first time since previous sources, including the population censuses, did not allow to address the issue specifically.

Figure 23 REASONS FOR INACTIVITY
Estonia, females, 1989-1995



Regarding women, decomposed economic inactivity rate is presented on Figure 23. The data reveal that in the working-age, studies form the single most important reason for being out of labour force. During the economic transition, inactivity rate due to attendance in educational institutions has increased from the level of 10 per cent to the level of approximately 12 per cent. The growth concentrated in tertiary education, and correspondingly, the inactivity due to studies has almost doubled in age group 20-24. It should be noted that the change in economic inactivity for the referred reason does not imply equivalent change in educational enrollment as combination of tertiary studies and employment has become increasingly common during transition. Leaving for further analysis the question to what extent the referred increase in inactivity could reflect increasing difficulties in entering the labour force, the observed shift goes generally in positive direction. It can be regarded as a development to overcome the lag in the prevalence of tertiary education with developed market economies which had emerged in Estonia since the 1970s [EKDK 1996-1998]. Regarding men, inactivity due to studies has not increased but even somewhat declined, and as a result, corresponding female inactivity rate has exceeded that of males.

Among working-age women, inactivity for family reasons appears the second major reason for being out of labour force. The category is strongly dominated by women at maternity and child care leave, housewives and women taking care of old/disabled household members form a rather small minority. A short glance on the figure is enough to reveal that the curvilinearity of the general pattern of economic inactivity relates exclusively to the referred group. In 1989-1991, the inactivity rate for family reasons increased from 7 per cent to 11 per cent, temporarily exceeding the inactivity due to studies. Following the peak in late 1991, inactivity for family reasons started a decline which continued until the end of observation period (8 per cent in early 1995). It is interesting to note that the same temporal pattern is repeated through almost entire childbearing age, however, only in age groups 20-24, 25-29 and 30-34 inactivity for family reasons appears sufficiently strong to shape the general pattern. Among younger and older women, the general pattern has been dominated by other reasons of economic

inactivity. The virtual non-existence of inactivity for family reasons among males (0.3 per cent) does not allow for the respective comparison across gender.

Regarding other reasons for economic inactivity, poor health appears the single most important cause preventing from labour force participation. In 1989-1995, health-related economic inactivity rate increased from 1.3 per cent to 2.1 per cent, following a largely linear pattern, and understandably, concentrating among older age groups. Although comparable data for other countries are not readily available, prolonged stagnation in mortality and health status of the population suggests that in Estonia health is likely a more frequent reason for being out of labour force than in most European countries [Katus and Puur 1997; Katus 1999]. In the structure of economic inactivity established in the course of transition, health-related reasons are followed closely by discouragement (1.7 per cent in early 1995). As discussed in the previous section, being virtually non-existent at the eve of transition, the dynamics of discouraged workers resembles closely unemployment. Also, the upward trend has been characteristic to inactivity for retirement, future starts and other reasons, however, each accounts for one per cent or less of working-age population.

To summarise the developments in female economic inactivity, it is important to note that transition has not altered the general structure of the phenomenon. Studies and family reasons still account for most of economic inactivity among working-age women. Despite some decline in their proportion during transition, studies and family reasons still accounted for four fifths of total female inactivity in the mid-1990s. Although the relative increase in non-participation for reasons such as poor health, discouragement, early retirement etc. has been noticeable or sometimes even dramatic, such reasons did not account for more than one fifth of the total. Translated into life-time measures, between age 20 and 49 the observed increase in economic inactivity is equivalent to additional 2.4 years out of labour force. Keeping the levels of economic inactivity established by 1995 constant, in Estonia women would spent 5.9 years out of labour force in the referred age interval.

Comparing the observed pattern to males, it is interesting to note that leaving aside studies, discussed above, and family reasons, lacking a parallel among males, cause-specific inactivity rates tend to be higher among males across most categories of non-participation. This holds true for future starts, health-related inactivity, retirement and the residual category. Across all these groups, males feature both somewhat higher starting level as well as more extensive growth of economic inactivity during transition. As already told, the experience of discouragement has been largely similar across gender. Taking this into account, it should not be very surprising that excluding family reasons, economic inactivity actually turned out slightly lower among women. Interestingly, the finding appeared rather persistent, being observed before as well as after the societal transformation. Keeping the 1995 pattern constant, the difference is translated into additional 0.6 years of economic inactivity among males in age interval 20-49. From the methodological point of view, the presented findings underline the productiveness of cause-specific approach.

In other words, in addition to specific curvilinear trend in female labour force participation, family-related reasons also explain the prevailing gender difference in economic inactivity, discussed in the beginning of this section. Beyond the referred

work interruptions for child-bearing and -rearing, in Estonia women have been less likely to drop out from labour force. Equal or even somewhat better performance in respect to involuntary reasons (such as non-participation for discouragement, poor health, retirement etc) suggests that similarly to unemployment, women have not necessarily done worse in respect to economic inactivity. In our opinion, increased home attachment of women with small children truly indicates greater polarisation of male and female work roles at specific life stage. The referred development, however, does not necessarily imply deterioration in the labour market position of women. The latter would be the case only if all the observed increase in home attachment has involuntary nature, which is hardly true. Still, given the potential vulnerability of women having very young children, the issue surely deserves further examination.

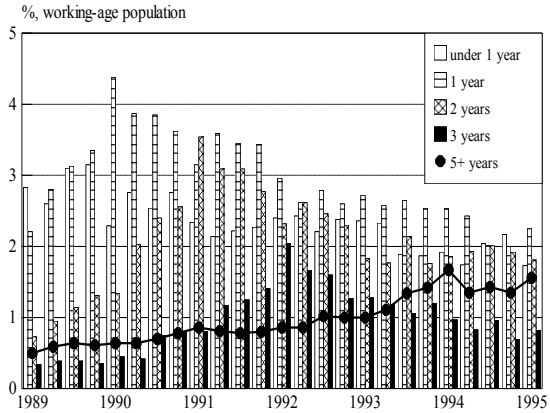
Methodologically, there are several ways to proceed. In the first glance, the most convenient could be to address women with direct questions about their experiences and feelings during maternity/child care leave. Despite the appealing simplicity, however, the referred approach has not been used in this paper. In terms of practical feasibility, none of the available datasets included relevant information. And even if they had, retrospective questions concerning motivational, attitudinal, cognitive, or affective states are particularly problematic because the respondents can hardly recall the timing in these states accurately. This type of data is not verifiable in principle as these states exist only in the minds of the respondents and are only directly accessible, if at all, to the respondent concerned. Moreover, even questions pertaining to respondents current situation or near future may be grossly misleading[36]. Therefore, the following analysis gives preference to indirect evidence.

Let us consider first the measurement framework commonly applied in the labour force surveys [Hussmans, Mehran and Verma 1990; ILO 1988]. The cornerstone of the referred framework is the trichotomy of employment, unemployment and economic inactivity. In that framework, persons out of employment who are willing and ready to take up a job are found in the category of unemployed. The person's intention to enter employment is identified according to objective criteria, the active steps to seek work. In our opinion, there seems little ground to believe that the referred framework applies to other groups of population except women at maternity and childcare leave. The analysis by age of children, presented in the previous section, demonstrated the concentration of unemployment among those having three-year old children. The peak was followed by a decline and the unemployment rate levelled off, suggesting more or less successful return to employment. If the opposite had been the case, joblessness would have persisted or been converted into discouragement. The data on the resolution of unemployment spells, however, did not support such course of developments[37].

To cast further light on the issue, the dynamics of women's home attachment was examined more closely. Building on the longitudinal design of the Estonian Labour Force Survey, a series of duration-specific inactivity rates was constructed. The episodes of home attachment were split into discrete single year intervals which allows to visualise the progression of women from shorter to longer durations (Figure 24). Starting from the first duration interval (0-11 months), the data reveal a peak in the beginning of observation period and a decline of short-term home-attachment since 1989. In the longitudinal perspective, the referred interval represents the inflow to inactivity for family reasons, and understandably, the decline in the number of new

entrants reflects almost exclusively the decrease in fertility. Also, as in Estonia the period fertility peaked in 1988-1989 and employment of mothers having children under one year of age was below 20 per cent already in the late 1980s, the rate also sets a kind of benchmark for the maximum level of duration-specific inactivity.

Figure 24 DURATION OF HOME ATTACHMENT
Estonia, females 1989-1995



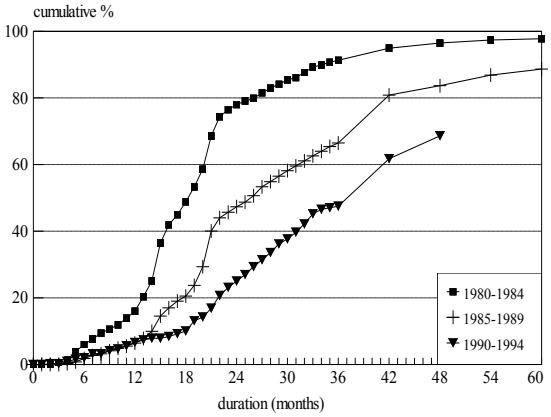
Turning to the next duration interval (12-23 months), several features deserve attention. The prevailing pattern of inactivity rate appears closely similar to the previous interval, except that the peak is reached one year later (1990). In fact, the referred similarity is not accidental: the observed difference in timing of peaks in successive intervals reflects the progression of women from the first duration interval to the next. What is interesting is that starting from early 1990 to almost the end of observation period the inactivity rate for the second duration interval exceeds that for the first interval. Notably, in 1990 it also exceeds the benchmark referred above. In our opinion, the seeming contradiction in the findings and the remarkably high level of home attachment at the second duration in 1990 must be explained with the cumulative effect of two processes. Firstly, the inflow of women, who had been observed at the previous interval in 1989, and of whom very few had returned to employment. And secondly, the change in the behaviour of women passing through the second interval towards postponing their return to employment.

Regarding the next duration interval (24-35 months), home attachment peaked at 1991. Differently from the situation discussed in the previous paragraph, the peak in the interval of 24-35 months did not exceed the earlier peak. In other words, this suggests a net decrease in home attachment between the two intervals. Basically similar pattern of growth and decline, with the next peak lower than the preceding, is repeated at higher durations of 36-47 and 48-59 months. The comparison of inactivity rates at these higher durations in the beginning of transition, on one hand, and in the mid-1990s, on the other hand, gives and idea of the change that has occurred in long-term home attachment. Although the corresponding inactivity rates in early 1995 are not very high in absolute terms, there has been a clear increase in the prevalence of respective behaviour. Considering the figures, it should be noted that the increase long-term home attachment has been, to a certain extent, tempered by fertility decline which has reduced the number of women at potential risk of prolonged home attachment.

The tendency towards longer home attachment was confirmed also by the examination of labour market flows. Based on the Estonian FFS, Figure 25 compares the return from home attachment to employment in the 1980s and the first half of 1990s. In the early 1980s, the median duration of home attachment accounted for 18.3 months. In the late 1980s, the duration had increased to 25.7 months, and in the early 1990s, on the average it took 37.1 months for women to return to employment[38]. Statistically, the median refers to a typical duration at which the transition from home attachment to employment

occurs. As for an individual the transition could be regarded as more or less instantaneous event, for a cohort it means rather a period during which its members gradually move from one status to another. To account for that perspective, median can be supplemented with the measure of transition spread. The spread refers to the period under which some central part of the cohort experiences an event [Modell, Furstenberg and Hershberg 1976]. Taking the central 50 per cent of the cohort, the data reveal that in parallel with increase in median duration, return to employment has been spread over much longer period. In the first 1980s, it took about 8.3 months for a central 50 per cent of the cohort to re-enter employment. In the second half of the 1980s, corresponding measure had reached 20.3 months.

Figure 25 RETURN FROM HOME ATTACHMENT TO EMPLOYMENT
Estonia, females 1980s and 1990s



Regarding women having a child and returning to employment in the 1990s, the FFS data allowed to trace the return until the fourth year of duration. By that time nearly 70 per cent of women had re-entered employment. In order to explore the developments in the 1990s, the data from the Estonian labour force survey were used to compare the return patterns among women who had a child in 1989, 1990, 1991, 1992, 1993 and early 1994. At lower durations which could be observed, the data revealed no major dissimilarities between the cohorts. The upward slope of the survivorship functions suggests the continuation of return flow also at higher durations. Some idea of the patterns can be derived from the experience of women who had a child at the second half of the 1980s. Of those women, more than 10 per cent had postponed the return to employment beyond child's fifths birthday. Although the referred proportion does not seem particularly high, prolonged home attachment had been much more unusual yet a decade earlier. Turning to the 1990s, the proportion of non-entrants will be likely greater than the referred 10 per cent, however, the true level cannot be estimated unless the data from later some date will become available.

It is obvious from the evidence presented above that in parallel with the shift towards later return to employment, transition to market economy has introduced substantial heterogeneity in women's home attachment following childbirth. Further research is necessary to cast light on circumstances which have contributed to the emergence of particularly prolonged withdrawals from economic activity and what will be the likely implications on women's work and family careers over lifetime.

Notes

1. Since early 1990s, in Estonia the funding for research projects has been channeled through National Science Foundation. Each year the Foundation has awarded ca 30-40 new grants in the field of social sciences. The records for the period 1994-1999 revealed no research projects with explicit focus on female labour market experience during economic transition.

2. The project *Women, Work and Social Stress* addressed diverse aspects of gendered outcomes of transition, including the definition of gender roles, pay differentials between men and women, division of domestic tasks, level and sources of work-related stress etc. Quantitative data, obtained from the *Estonia '93* survey, conducted by Institute for International and Social Studies, covered a nationally representative sample of the 18 to 70-year-old section of native population. The analyses relied on the information from 342 currently employed men and 339 women in age range 18-54(59) respectively. Quantitative data was supplemented with the results of 30 qualitative interviews, focusing on women's psychological coping strategies and feelings about the change occurring in their daily life.

3. The 1934 census applied the concept of economic activity, in broad terms comparable to the modern classification and allowing for the distinction between economically active and passive population. Regarding economically active population, extensive information on industry, occupation and status in employment was recorded, covering for both main and second job [RSKB 1934-1937]. The referred concepts were for the first time introduced at the 1922 census, however, the absence of tabulations by age groups does not allow them to be used in the analysis [RSKB 1923-1925]. Still, the comparison based on crude activity rates suggests no significant change in activity levels between 1922 and 1934. Extension of the trend to 1881 and 1897 censuses is hindered by discontinuity in definitions as well as the absence of tabulations by age groups [Jordan 1886; Jung-Stilling and Anders 1883-1885; Troinitski 1905a; 1905b].

4. The gross number of economically active years or gross length of working-life represents the average number of years spent in labour force for a hypothetical cohort of population, subjected at each period of their life to a given set of age-specific rates of labour force participation. Differently from the net length of working life, derived from life table calculation, the measure is determined exclusively by the level of economic and does not consider the loss of working years due to mortality. The calculations of the number of gross years of active life provides a convenient summary measure of economic activity, independent from other demographic processes and the age-structure of the population. The measure has an advantage over standardised activity rate in the latter is affected by the selection of standard [Durand and Miller 1968].

5. The hypothesis about breadwinner system could be further elaborated on the basis of individual-level records from the 1897 census for the city of Tartu, discovered recently in the National Archive of Estonia. The records have been computerised and analysed by historical demographers [Berendsen and Maiste 1999]. Authors calculations based on the referred data reveal that in age range 25-49 between 40 and 50 per cent of women participated in the labour force.

6. In the 1934 census, the data on economic was tabulated by 10-year age groups, except for the youngest age group 15-19. Against that background, it is interesting to note that the newly computerised data for the 1897 census in Tartu, which have been published by five year groups, indicate a clearly expressed peak of female labour force participation in age group 20-24 [Berendsen and Maiste 1999]. The peak is followed by a decline of ca 15 percent points over a couple of next five-year age groups. Differently from national data from the interwar period, the Tartu data do not reveal the second peak, and after a plateau in ages 30-45, activity rates turn to decline.

7. During the postwar period, there have been four Soviet population censuses covering Estonia: 1959 [TsSU ESSR 1962-1964], 1970 [TsSU ESSR 1972-1974], 1979 [TsSU SSSR 1980-1983] and 1989 (publication by county volumes in progress [EKDK 1996-1998]). Although planned and implemented by different statistical institution, the comparison of census methodology and definitions revealed acceptable comparability between pre-war and post-war censuses in respect to economic activity. Data on female workforce was reported annually by labour statistics, however, due to several deficiences this source has not been used in the paper. Most importantly, labour statistics did not provide dissagregation of labour force by age groups, preventing its proper relation to population numerators [McAuley 1981].

8. The contribution of increased widowhood and shrinked opportunities to marry have not been estimated as the programme of the 1959 census did not include tabulations by marital status. In 1998, the Estonian Interuniversity Population Research Centre initiated a pilot project to assess the possibility of (re)computerisation of the 1959 individual census records, preserved in the National Archive of Estonia [EKDK 1998]. The newly computerised data reveal quite substantial differences in labour force participation between married and non-married women. For example, in age groups 20-24 and 25-29 the difference in activity rates between the two groups accounts for almost 30 percent points.

9. The official Soviet definition of labour force considered employment only in socialised sector of economy. Individuals employed in and receiving their main income from private subsidiary agriculture — so-called individual auxiliary farms — were classified neither economically active nor employed. From the viewpoint of internationally recommended definition of economy activity, the latter should have been included in the labour force [Hussmans, Mehran and Verma 1990]. Also from an economic viewpoint, small-scale private agricultural production continued to be crucially important throughout the Soviet period. At the eve of transition, for example, the sector accounted for 49 per cent of potatoes, 22 per cent of milk, 18 per cent of meat etc produced in Estonia [ESA 1991]. For presented considerations, the population engaged in subsidiary agriculture has been re-classified into economically active.

10. Differently from the 1930s, the second peak in age pattern of economic slightly exceeded the first one in the 1959 census. It is interesting to note that this holds true only if the extended definition of economic activity is applied. The exclusion of employment in subsidiary farming sector would led to an opposite result. Although the numerical difference between alternative estimates is relatively small, in our opinion, the result underlines the importance of careful attention to definitions. Also, there are distinct differences in the shape of participation profile but their detailed discussion goes beyond the scope of present paper.

11. Estonian Family and Fertility survey is a national project in the framework of the 1990 round of European FFS, coordinated by United Nations Economic Commission for Europe. The survey collected event history information on main life careers of the population, including partnership formation and dissolution, fertility, education, work, migration and residential mobility etc. Based on a nationally representative sample of 5,021 female and 2,511 male respondents, the survey covered birth cohorts 1924-1973. Main publications include *Methodological Reports*, *Standard Tabulations* and *Country Report* [EKDK 1995a; 1995b; 1999; UNECE 2000].

12. The principles, ascertaining temporary absence from work are specified separately for paid employment and self-employment. In the case of paid employment, these principles are paid on the notion of "formal job attachment", which is to be determined, depending on national circumstances, according to one or more of the following criteria: (a) the continued receipt of

wage or salary; (b) an assurance of return to work following the end of contingency, or an agreement as to the date of return; (c) the elapsed duration of absence which, wherever relevant, may be that duration for which workers can receive compensation benefits without obligation to accept other jobs [Hussmans, Mehran and Verma 1990].

13. Regarding temporary absence for family reasons, international standards distinguish between maternity and child care leave. Maternity leave is the length of time off for childbirth, usually determined as a minimum period considered necessary for the rest and recuperation of the mother. Depending on national circumstances, this period can vary from a few weeks to several months, and is often divided into two parts before and after the birth. Child care leave is a period of leave available to mothers (optional maternity leave) or to parents (parental leave) in order to take care of their child, or adopted child (adoption leave), usually on unpaid basis [ILO Bureau of Statistics 1995].

14. Alister McAuley has applied similar approach to determine whether the female labour force participation has been excessive in the republics of the former Soviet Union [McAuley 1981].

15. The reconstruction of time series builds on the capacity of event history data to reflect the labour force status of each surveyed individual continuously over the retrospective observation period. When aggregated, individual statuses of respondents can be aggregated into cross-sectional distributions of survey population and used for the calculation of labour market indicators. In case of Estonia, the approach has been applied in labour market studies [Puur 1997a; 1997b; Sakkeus and Puur 1999; Puur 1999] and in the study of national minority populations [Katus, Puur and Sakkeus 2000]. The value of the referred application of event history survey needs to be particularly underlined in the context of transition economies, often lacking longer time series, based on internationally comparable definitions.

16. The 1989 census programme included three questions on economic characteristics: the source of income (up to two sources were recorded), industry and occupation [Katus and Puur 1993]. In the framework of the cross-nationally comparative research project *Dynamics of Population Ageing in the ECE Region*, coordinated by UNECE, the original Soviet definitions and classifications of the 1989 census have been harmonised with international standards [Puur 1994; Botev *et al* 1995].

17. Irregularity in the shape of male force participation profile in ages 18-19 represents the effect of military service. Differently from international recommendations, conscripts in armed forces were only partially included in economically active population in the Soviet censuses. The labour force status of conscripts was determined according to their main activity prior to service which caused the observed freezing of participation rates.

18. In the calculations based on the Estonian FFS, women temporarily absent from the labour force due to maternity or child-care leave have been excluded from the number of economically active regardless of their duration of absence. Thus, the applied approach yields a conservative estimate of work-force participation, quantitatively close to at-work rates.

19. Regardless of different definitions of economic activity, performed analyses have revealed relatively good consistency between the census- and FFS-based labour force information. On the aggregate level, the inclusion of temporary absentees in the number of currently employed bridged the gap between two sources. The use of the 1989 census microdata as a sampling frame allowed to compare the labour force status between the two sources also on individual level. The examination survey responses, calculated back to January 1989, and census records revealed that mismatch between two sources was overwhelmingly limited to women at

maternity/child care leave. Re-classification of the latter resulted in highly consistent figures from both sources [EKDK 1995a].

20. In analysing survey data, legally married and cohabiting women have been included in one group. Similarly, the widowed, divorced and separated have been combined, as each is a fairly small group and their labour market behaviour does not differ markedly.

21. The calculation of the number of years spent at home taking care of children follows the similar procedure as calculation of the gross length of working-life i.e. the sum of age-specific rates multiplied by the duration of age interval [Durand and Miller 1968].

22. The number of children refers to biological children of the respondent, living in the same household, regardless of their age. Children of the respondent who have died or live in separate household, are not considered. Similar criteria have been applied to the definition of the age of the youngest child.

23. The 1989 census data was also arranged according to the age of the youngest child. The analysis was based on the 25-percent census sample which provided necessary information to link women and their children [Puur 1994]. Due to the inclusion of mothers at extended maternity/child care leave in the labour force, however, the results proved inconsistent and are not reported in the paper. Among mothers with the youngest child under one years age, for example, activity rates reported by the census exceeded 80 per cent. Moreover, the rates calculated on monthly basis revealed a decreasing trend during the first year of child's life with minimum at 12 month.

24. The educational attainment of women refers to the period of data collection (1994) which allowed the specification of activity rates in youngest age groups for all categories of education.

25. The target population of the Estonian Labour Force Survey covered permanent residents of Estonia who were 15-74 years old in the beginning of 1995. A nationally representative sample was drawn from the 1989 census, altogether 10,955 cases were assigned to the interviewer network. Of those, ultimately 9,608 (87.7 per cent) individuals were interviewed. Non-response resulted mostly from non-location (5.1 per cent), emigration (3.7 per cent) and refusals (1.9 per cent). On the whole, the distribution of respondents approximates closely the target population [Noorkõiv and Puur 1996]. The methodological report and standard tabulations of the survey have been published in 1997 [ESA 1997a; 1997b]. In the following years, the survey has been repeated in three rounds (in 1997, 1998 and 1999). Because of several modifications in survey methodology, however, the data from the later rounds require harmonisation and have not been used in the present paper.

26. From the demographic perspective, the decline in aggregate employment can be regarded as a combined result of changes in the size and structure of population, on the one hand, and employment levels on the other hand. Leaving aside the first component, the fall employment rates has brought about the cumulative reduction of the number of employed by 18.9 per cent [Puur 1997a].

27. The indicator is sometimes also referred as employment-to-population ratio.

28. The standardisation of employment rate applied direct technique. The distribution of women by the age of the youngest child (including childless as a separate category) in the first quarter of 1989 was applied as a standard.

29. Similarly to the previous section, the number of children refers to biological children of the respondent, living in the same household, regardless of their age. Children of the respondent who have died or live in separate household, are not considered. Similar criteria have been applied to the definition of the age of the youngest child.

30. Comparing figures 5 and 7, an observant reader will notice a difference in employment rate among women having a child under one year of age. The difference stems from the definitions applied in the two surveys. As noted above, in the FFS women at maternity and child care leave were classified as non-employed. In reconstructing the time series from the LFS, a more refined classification was applied in order to secure international comparability. In particular, following relevant ILO recommendations for transition economies, the period of maternity leave under which women are entitled to full payment (56-70 days after delivery) was regarded as temporary absence from employment whereas the following period was classified into inactivity [ILO Bureau of Statistics 1995]. As the referred definition has been used consistently for the period 1989-1995, it does hamper the analysis of trends.

31. In Estonian Labour Force Survey, for each respondent the characteristics of main job included information on whether the person had usually worked full-time or part-time, and in the latter, also the reason and duration of part-time work. For those working part-time on intermittent basis, dates of starting and ending part-time employment were recorded. The retrospective measurement of working hours indeed raises a question about data quality. In case of Estonian LFS, several arguments can be put forward to support the use of the data. Firstly, the retrospective observation was limited to six years and involved a fairly limited number of job episodes. Secondly, in the Estonian setting part-time work appeared relatively untypical arrangement, generally supporting the recall. Thirdly, the retrospective measurement was performed also on wages and salaries which have, despite extremely rapid inflation, provided meaningful results [Noorkõiv *et al* 1998]. And finally, the consistency of retrospective measurement framework was verified against the estimates based on current activity framework. The comparison revealed remarkably high consistency between the two types of estimates.

32. The category of *registered job-seekers* refers to persons registered at employment offices but not eligible for unemployment benefits.

33. According to legislation introduced in 1991, to determine the eligibility for unemployment benefits, person's activity during the past twelve months is considered. To be eligible, employment or some equivalent activity is required at least during 180 days during the last twelve months. Activities considered equivalent to employment included full-time studies, military service, staying in medical or punitive institution, registered guardianship to chronically ill, disabled or old persons and parenting children under seven years of age. Initially, parenting of children age 7-14 was also considered, however, in June 1992 the age limit was dropped to 7 years.

34. The surveys which provided the data included Estonian Family and Fertility Survey (1994), Estonian Labour Force Survey (1995), Estonian National Minority Survey (1997) and Estonian Health Survey (1997). All the referred surveys have been based on event history methodology, applied harmonised definitions of main life course events/populations characteristics and procedures of sampling, data collection, coding, editing etc. Although each survey focused on specific aspect of societal processes, information on major population characteristics appears closely comparable between [EKDK 1999]. The present exercise relies on household modules of the referred surveys, providing information on all household members and their main characteristics (relationship to the respondent, sex, birth date, marital status and main type of activity). The data were arranged according to the age of the youngest

child, altogether on more than 13 thousand female respondents. Compared to the Labour Force Survey, pooled data indicate somewhat higher female unemployment rate. The reason for the discrepancy between the two sources is less refined measurement of economic activity in household modules, compared to a specialised survey.

35. Future starts forms a borderline category between employment, unemployment and economic inactivity. It consists of a relatively small number of persons who had made some arrangements to take up paid employment or undertake self-employment and were looking for a job to start in the future. The group could have been alternatively classified into unemployment, however, low prevalence of the referred category (0.7 per cent of male and 0.3 per cent of female working-age population in the mid-1990s) does not introduce any substantial ambiguity in the results.

36. A recent example concerning the reliability of non-factual questions comes from Estonian FFS [EKDK 1995a; 1995b]. In the survey, women in reproductive ages were asked the number of children, conformity of childbearing plans as well as the age at which the first/next child was expected. Responses concerning future childbearing were considered only in case the respondent answered positively to the question on intentions to have (more) children, and indicated the time (age) of the first/next child. The responses were ignored if the respondent was not certain or could not specify the time of intended birth. Applying the referred conservative definition, the data predicted above-replacement fertility for the second half of 1990s. In reality, however, the period TFR dropped to the levels of 1.2-1.3.

37. In the course analysis, successive episodes of inactivity and unemployment were linked, providing a deeper insight into their resolution. Among others, it became possible to check the success rate of job-searches started after maternity/child-care and see which proportion of the referred episodes ended up in discouragement.

38. The period refers to time when the episodes of home attachment begun. Therefore the profile for 1985-1989 likely reflects some influence of the transition period, correspondingly exaggerating the change during the 1980s and underestimating the change during 1990s.

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