

FEMALE EMPLOYMENT IN ESTONIA:
FAMILY RELATED DISCONTINUITIES
WITHIN AND ACROSS COHORTS 1924-1973

Allan Puur

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The paper focuses on trends of female labour force participation in Estonia, based on the experience of birth cohorts 1924-1973. Work histories of the referred cohorts provide an individual-level insight into the major stages in the development of female labour force participation in the country: rapid increase until the 1960s, relative stability in the 1960s and 1970s, and a decline which gradually started already in the early 1980s. The paper addresses the key events of working career, paying particular attention to the discontinuities related to family formation and childbearing. Data for the paper are derived from the Estonian Family and Fertility Survey. The paper applies two sets analytical techniques. First, the methods include the reconstruction of time series of main labour market indicators from retrospective event history data, and second, patterns of discontinuities related to childbirth are analysed by means of hazard regression models. The paper has been prepared in the framework of research project 0132703s05, the author gratefully acknowledges the support from ETF grant No.4796.

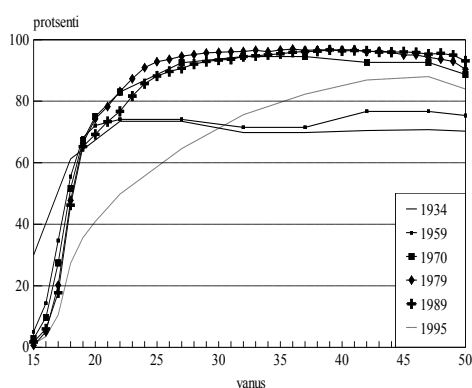
1. LONG-TERM TREND OF FEMALE LABOUR PARTICIPATION

1.1. Age patterns of female labour force participation

The first section focuses on the long-term labour force participation trend of the population; exit from labour force as well as issues relating to aged people have been highlighted elsewhere [Katus *et al* 1999]. Figure 1 presents the process by means of the age curve, based on five population censuses since 1934. The data reveal relatively high rate of female labour force participation between the two world wars. Reflecting the economic structure of those times when the agriculture was the prevailing sector, mostly based on family labour, the proportion of females engaged in paid employment was limited to approximately one third in the working age. Adding to this the non-paid family workerslabour force participation of working-age females reached approximately 70 per cent in the 1930s. Compared to the males of the same age groups whose labour force participation exceeded nine tenths, the female indicators were lower but it should be noted that it is rather difficult to draw a line between economic activity and homework in the case of small-scale agricultural production. The experience in developing countries indicates a frequent underestimation of female employment in the same context [Standing 1983].

Figure 1

Age curve of female labour force participation. Census years 1934-1989



Comparison with the 1922 year census, when Estonia introduced a modern methodology to measure the population's economic activity, indicates a relative stability of the population's labour force participation between 1920-1930 [RSKB 1923-1925; 1934-1937].

The first post-war population census (1959) indicated a steep rise in the proportion of females engaged in paid labour: compared to pre-war period, the employment rate had nearly doubled. The cause of such an abrupt turn can be found in the societal transformation during the 1940s and 1950s, when most of the previous forms of family-based production were simply abolished. In order to get a means of subsistence, the only legal way was to obtain a job in the nationalised sector. The transformation mentioned above was influenced also by the changes occurring in economic structure, first of all the diminishing share of the primary sector and the increase in the share of the secondary and tertiary sectors. Sex-selective war losses have also been specified as a separate factor affecting the growth of female labour force participation as a considerable number of women had to assume the role of the main breadwinner in the family. [Lapidus 1978; McAuley 1981]. At the same time, leaving aside the distinction between paid and non-paid employment, the overall level of female labour force participation was not so strongly influenced by the societal transformation, whilst the rise of participation rate did not exceed 6 per cent in any working age groups. Decrease in the labour force participation among the 15-19 age group occurred due to their longer stay at school and, together with the rejuvenation of exit from labour force, this reflects the concentration of working years in the prime age groups.

Similarly to other population processes special attention should be paid to the age pattern of female labour force participation. The application of demographic methods to the labour force participation and systematic international comparisons started in the 1960s and 1970s pointed to the considerable heterogeneity of female employment across countries.

Unlike the male population, whose labour force participation usually rapidly increases to near-maximum levels after school completion remaining there until retirement, the female employment curve varies markedly from country to country [UN 1962; Durand 1975]. According to one relatively widespread model, the working life of females was concentrated to the phase of life before family formation; after marriage and birth of children, women typically exited from the labour force. According to another model, there has been a return to the labour market after a longer period of home attachment. Both models are reflected in the specific age pattern: the first in the early peak followed by a steep downturn and the second in the pattern with two peaks. Although female employment levels have increased significantly during the past decades and approach the male population levels, both patterns continue to occur [Cesano 1999].

Although the female labour force participation curves of 1934 and 1959 do not indicate strong similarities with either of these models, a closer observation reveals some common features with the second one. Namely, in case of both censuses a small drop in activity rate in the thirties, after the peak of childbearing can be observed. Further, a small rise in the activity rate occurs at about the age of forty. The extent of the decline in between is not big (3.7 and 1.5 percentage points respectively), although, presumably “crude” 10-year age-scale of available census tabulations may allow it to appear smaller than the actual.

This assumption is, *inter alia*, fortified by a recent feasibility study aimed at the computerisation of the 1959 census microdata [EKDK 1998]. A participation curve using a single-year age scale revealed a quite short and sharp peak (activity rate up to 90 percent), shortly after the age of 20. The fall following the peak amounted to 15 percentage points, with a minimum around the age of 30. As mentioned above, this indicates quite a numerous group of women who withdrew from employment and were staying at home after childbirth for a noticeable period. Similar results were achieved in the study of Soviet emigrants in the USA, also reconstructing female labour force participation curves. [Anderson 1987].

The 1960s were the most rapid growth period in female labour force participation in Estonia in the 20th century, it is interesting to note that the rate of change even exceeded the decrease occurring during the period of economic transition. [Puur 1989; 1995]. As a result of the rise in the proportion of the economically active women in the long age range approached 90 percent, getting quite close to the respective male level. The merging of two employment models — male and female — is also underlined by the disappearance of the earlier “two-peak” pattern among women. In the 1970s the upward trend of female employment was continuing to a certain extent, but due to the already high level the gain achieved was small. Growth potential was exhausted by the early 1980s as comparison of the following censuses gives evidence of a downward trend of employment not only among school- age groups, but also in the older age groups. In spite of the turn in the trend, Estonia, together with Latvia and Lithuania, continued to catch the eye with one of the highest female labour force participation rates in international rankings, also exceeding the typical levels for Central and Eastern Europe. (Figure 2). The dotted line in Figure 1 presents the new pattern established by mid-1990s, reflecting the situation during economic transition. However, it is important to remember that due to incompatibility of definitions applied in previous censuses and survey statistics, the recent decline in employment is exaggerated to some extent.

The contribution of FFS to the analysis of labour force participation is the generalisation of employment careers of the population from a life course perspective. The approach used establishes a general framework for analysis of changes of job and occupation, changes in working time or wages, etc., which are not addressed in detail, as they are less important from the point of view of the cohorts under examination, whose working careers used to be strictly regulated under central planning. Nevertheless, it is interesting to note the novelty of such general framework in a case of Estonia, although there are studies on the specific subprocesses. For example occupational mobility and the factors shaping that have been studied [Helemäe, Saar, Vöörmann 2000]. Similarly to the previous chapters also, more attention is paid to the stages where the intertwining with other life careers is most intensive. No special emphasis is put on the changes in the 1990s, while these issues have received a detailed examination elsewhere [Eamets 1999; Puur 1997a; 1997b; 2000a; 2000b].

1.2. Rise and fall of the breadwinner-homemaker system

While analysing the working career of the cohorts, it is appropriate to recall the fact that the Estonian FFS cohort range begins more or less from the end of demographic transition. The fact is important to remember while this period features a peculiarly low level of female employment, especially in the case of a larger asynchronicity between population and economic development. In Western countries the economic modernisation deprived households from the function of a production unit, as means of subsistence were procured outside the home. Accordingly the sharp polarisation of sex-roles took place, resulting in the development of the new breadwinner-homemaker system [Davis 1984; Sogner 1993]. According to this model the main task of a male was to secure income for the family while females were to take care of the home and children.

Table 1
Age-specific labour force participation rate
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

With the development of the clear-cut breadwinner-homemaker model the home attachment of married females became something next to a criterion of social prosperity while working woman was typically associated with material shortage and low social status. However, the blossoming period of this model appeared to be limited — due to the same reasons, which had initially shaped it. Persistence of the arrangement was curbed by the completion of demographic transition establishing the model of family with small number of children. The need for a homemaker became less which, on the other hand, opened the way to female emancipation. These relationships can be confirmed, *inter alia*, by the temporal-spatial spread of the homemaker-breadwinner model that quite closely follows the timing of demographic transition. For example, in the countries of Southern Europe, in Spain, Portugal, Italy and Greece the share of never-working women in the 1990s formed almost one third of the working-age female population, while the same group in the Northern Europe countries was quite marginal already [Kempeneers, Lelièvre 1991a].

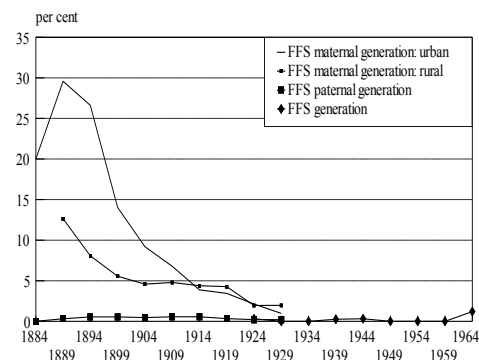
Among the cohorts of Estonian FFS never-working female population is practically missing, other than the youngest cohorts who still are continuing their studies. Nevertheless, the proportion of the respective group among the oldest cohort 1924-1928 remained below

the 0,3 percent level. Evidently the homemaker-breadwinner model had disappeared by the time of FFS cohorts, but there is still a need for an answer concerning the existence and extent of it in pre-FFS cohorts. The pre-war employment pattern that was examined earlier in this chapter indicates the probable existence of the model, but census data for the period does not permit a definitive answer. Using the information about the FFS cohorts' parental generation an attempt has been made to reconstruct the earlier trend: Figure 3 shows the proportion of women who have never been gainfully employed from the late 19th century onwards.

The results of the analysis confirm the existence of the breadwinner-homemaker model in

Estonia. The reconstruction of the trend by urban and rural populations has captured the three different phases of evolution of the model — the final stage of the formation of the breadwinner-homemaker model, the peak and recession. The homemaker-breadwinner model obviously reached its peak in the birth cohorts of 1890s, who entered into adult life during WW I and spent their active years between the wars. Among urban part of these cohorts the proportion of never-working females was close to 30 percent, comparable to that of Southern Europe half a century later [Livi-Bacci 1982]. The peak period of the model still remained short: a rapid fall is starting among the cohorts born at the change of the century and in fact comes to an end among the pre-FFS cohorts. The trend is almost similar among the immigrant population, although the peak and decline occur a little later. In short, figure indicates a rapid decline in polarisation between working and non-working roles of women, as well as a homogenisation of women's work experiences in Estonia in the first half of the 20th century. From the methodological point of view it gives also an appropriate example of the capacity of event-history approach in the reconstruction of past population trends.

Figure 3
Never-worked female population
Native population, birth cohorts
1884-1968



2. DURATION OF WORKING LIFE IN COHORT PERSPECTIVE

The next step in the analysis is to study the length of working life. The duration of working life, in other words the number of years worked, provides a common denominator for different kinds of individual experiences, ranging from continuous employment to temporary or short-term jobs. Also the duration of working life represents an explicit demographic content, similar to that of life expectancy at birth in case of mortality, or total fertility rate in the case of fertility. It should be noted that the corresponding information available from FFS is rather unique — although records on working years were kept by social security institutions for the purpose of pension payments, the recordkeeping was made on the basis of legal and administrative (and partly even ideological) viewpoints.

Figure 4 presents the duration of working life through the FFS cohorts. The approach used clearly reveals the fact that the length of working life is not a predefined value, but is cumulative throughout an individual's life-time. This accumulation starts from zero and, in each age interval, a certain number of working years is added. Theoretically speaking, if all cohort members were working without interruptions, the working career could lengthen exactly by five years in each five-year age group; in Figure 4 this hypothetical maximum is reflected in the diagonal dotted line. Understandably, the actual growth of the length of

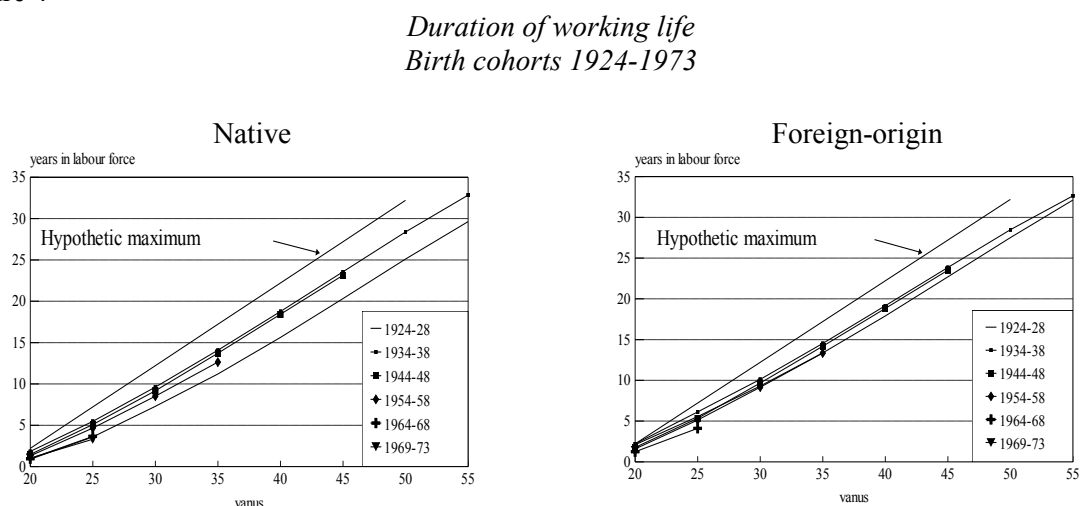
working life is less than the theoretical maximum, and tends to vary significantly with age. In the early stage of the working life the growth appears low, then it begins to rise and, in the prime working age, reaches quite close to the maximum. In the retirement age the rate of increase slows down but never falls to zero as in every cohort some people continue working up to very advanced years. Earlier analysis of economic activity of the elderly population has revealed that the latter fact holds well true in the case of older FFS cohorts, whose working life lasted far over the official retirement age [Puur 1999].

Before proceeding to trend analysis, it is reasonable to take a glance at the terminology. Namely, the total length of working life, like all other indicators used in this chapter, largely depends on what is counted as “work”. It is important to emphasise that this remark should not be perceived as a technical trifle. In statistics, the scope work is generally defined in accordance with the System of National Accounts, and on a more specific level — labour statistics standards agreed at an international level [UN 1968; ILO 1988]. The latter include quite detailed guidelines for defining the scope of economic activity.

In case of the female population, it is particularly important to consider maternity and parental leave. While the corresponding provisions have been gradually extended over the past decades, aside actual working behaviour the duration of working life could reflect also the change of legal provisions [Moss, Deven 1999]. The same aspects have to be taken carefully into account when making international comparisons on female labour force participation. In the opposite case the result may be confusing, as is demonstrated, for example, by an analysis on Sweden, one of the pioneer states in the field of parental leave provisions [Jonung, Persson 1992]. According to the latter the level of female employment, the international rating of the country, as well as the level of gender equality derived from the latter, could be noticeably exaggerated. Even the disappearance of the two-peaked employment curve appears untrue when excluding women at child care leave from the labour force.

A solution for this methodological problem could be the application of a complementary indicator system. The International Labour Organisation’s recommendations to Central and East European countries, by the way, have also taken the same direction [ILO Bureau of Statistics 1995]. Accordingly, longer parental leave, reaching in several countries until the third year of the child, following short-term maternity leave typically lasting for a few months is not considered as employment. The FFS has made a step forward and systematically proceeded from the actual participation in employment [UNECE 1992; 1993]. From the point of view of event-history analysis such approach was inevitable, as proceeding

Figure 4



from the standard definitions in the life course framework could have caused serious difficulties. According to the standard methodology, the majority of women should have been classified among the employed population immediately after the birth of the child, and then after two months reclassified into economically inactive. Clearly this would have been misleading from the viewpoint of working career.

Advancing to the main trends, there are notable differences in the duration of working life across cohorts. Thus, older FFS cohorts are characterised by a prolongation of working life. Comparing the birth cohort 1924-1928 to the 1934-1938 cohort, the average number of years in employment between 15 and 54 years of age has extended by about three years, from 29.6 to 32.8. In the graph the gain seems quite modest, but one has to take into account that the increase is not distributed homogeneously by age intervals, but concentrates in the early stages of the employment career. Addressing this stage separately, the length of working life increased by as much as one third by the age of thirty in these cohorts. In the later phase of working life the difference between the cohorts stabilised, reflecting the rise in employment in the 1960s. In the long-term perspective it implies that the three elder FFS cohorts brought to an end the upward trend in female employment, beginning among the cohorts born in turn of the 19th and 20th centuries.

The duration of working life of the birth cohorts 1939-1948 is quite similar to the previous ones, though cumulatively shorter by about half a year. This minor decrease establishes the female cohorts born in the mid-1930s as the ones featuring the longest working career in Estonia. Their entry into labour force took place mainly in the 1950s and their working career continued through the next three decades, when high female employment had become already a standard. By the 1990s the majority of these women had reached the retirement age, and the sharp decrease in employment opportunities following the economic transition had only a short-term impact on their employment careers. In the following cohorts, especially those born in the 1950s and 1960s, one can notice the progressive decline in the number of working years, in the 1964-1968 cohort the cumulative indicator has reached the level of the first FFS cohort. It is important to note that this downward trend actually started in the mid-1970s. This fact can be also confirmed by the time series of a period indicator, reconstructed on the basis of FFS data [Puur 2000a].

A brief glance at the right panel of Figure 4 reveals the distinct character of the employment curve of foreign origin population. Compared to the native population, the rise in activity rates in elder FFS cohorts is much less apparent, as the labour force participation of the foreign origin population was already very high among the birth cohorts of 1924-1928. Together with the later peak in the proportion of never-worked, it obviously means the compression of time-scale of the growth period of female labour force participation among foreign origin population. The process had almost come to an end by the time the immigrants arrived in Estonia, and thus, the elder immigrants can be considered as importers of a new employment pattern, similarly to the abortion behaviour pattern described in the previous chapters. In any case the difference in activity rates between native and foreign origin women is most pronounced among older cohorts, the following cohorts of both groups experienced gradual equalization of the length of the working life. Due to the greater stability of cohort indicators, the new features, introduced by economic transition in the 1990s, have not yet been reflected in the length of working life of FFS cohorts. The transformation of these changes into cohort experience can be assessed on the basis of the next FFS round.

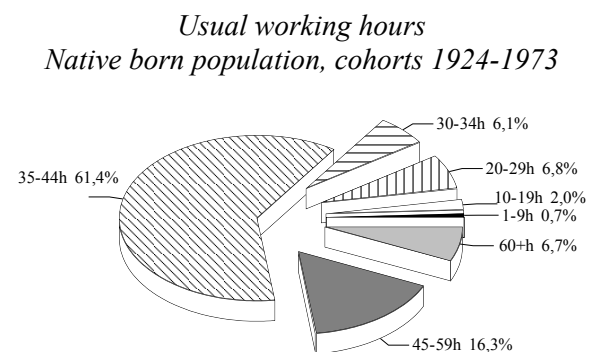
3. CHARACTERISTICS OF FEMALE EMPLOYMENT: WORKING HOURS, OCCUPATION AND STATUS IN EMPLOYMENT

This section highlights the nature of work of FFS cohorts from three different angles – status in employment, occupation and working hours. The study does not attempt to provide an event history analysis of these characteristics, but rather focuses on sorting out a corresponding employment structure of the cohorts.

According to international standards, when classifying the population into employed and non-employed it is sufficient if a person is working at least for one hour a week, to be included into the first group [Husmanns, Mehran, Verma 1990]. Although such a marginal employment seldom occurs, the specification of working hours significantly contributes to the understanding of employment pattern. As the average working hours have shortened in parallel with the narrowing of age limits of labour force participation, this specification is appropriate regarding temporal, as well as spatial comparison. In the context of female employment, the analysis of working hours is mainly concentrated on the proportion of part-time work, particularly considering the compatibility between work and family roles [Neuborg 1985; Beechey, Perkins 1988].

Similar to the Central and Eastern European countries, part-time work has not been wide-spread in Estonia. When applying the 35-hour working week as a cut-off line, only 15 percent of the female population were in part-time jobs at the time of the survey. (Figure 5) Before the economic transition, part-time work was even less common, and over the last decade the incidence has approximately doubled. Part-time work is usually contained in the range of 25-34 weekly working hours, the proportion of individuals working for one half or less of the standard hours is limited to only three percent. By age, the part-time employment is concentrated in the early and late stages of the working age, the prevalence of part-time employment reaches the highest level in retirement age. Part time work is more frequent than average also for women in their twenties and thirties, mainly for family reasons. In spite of that, the separation from labour force appears the dominating means for combining the roles of a mother and a worker during the first years of the child in Estonia. Among young mothers with children less than three years age the relative number of part time workers did not exceed 20 percent. In the EU member states part-time workers comprise about one third of the female labour force; in many countries, e.g. in the Netherlands, in Norway, in Sweden, in the UK and in Switzerland the corresponding number of part-time workers ranges at the levels of 40-60 percent [Punch, Pearce 2000]. Against the background of Central and Eastern Europe, lower prevalence of part-time employment implies statistical exaggeration of standard indicators of female employment rate in the latter countries.

Figure 5



Compared to part-time employment, overtime work appears relatively widespread in Estonia. If one applies the criteria of at least 45 hours per week, it appears that nearly a quarter of women in FFS cohorts were doing overtime. As with part-time work, the incidence of overtime has increased in the last decade [Puur 2000]. In most of the cases it meant ca 50 working hours per week, while 7 percent of women were working 60 and even more hours every week. Although the variation of frequency by age is not very big, a concentration into

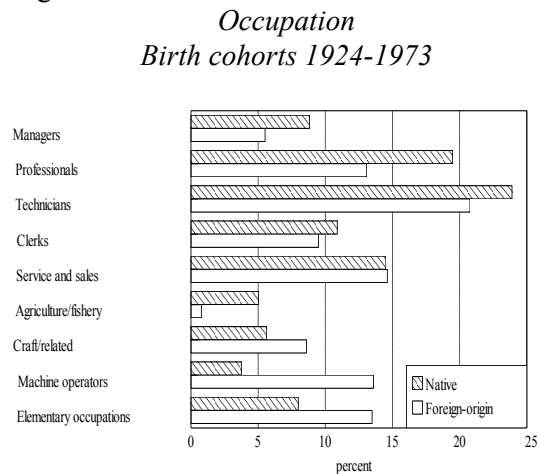
the middle age is still noticeable. As part-time work and overtime balance each other, the average working week among the native population was about 40.9 hours at the time of the survey. The corresponding indicator among the foreign-born population was less by an hour, but more important characteristics for the latter group is the standardisation of working hours on account of the lower incidence of both part-time work and overtime. In the EU countries, the average length of the female working week has varied between 33-34 hours in the 1990s [ILO 1991-1999].

The other characteristic of employment under consideration — occupation — summarises professional skills and also competence and level of responsibility. Under stable conditions, a population's occupational composition is closely linked to the society's social structure, with its established connections to education, income and status [Goldthorpe 1987]. Apart from working hours, the study of occupational structure requires detailed classification which allows the several thousand occupations to be collated into groups having a defined analytical meaning. In the FFS, this was achieved by means of the International Standard Classification of Occupations [ILO 1990; Ametite... 1999].

Figure 6 presents the occupational composition of FFS cohorts by the ten major groups. Among the native population the two biggest groups are formed of professionals and associate professionals. The proportion of those two groups together exceeds two fifths of the female labour force. The common denominator for these two occupational groups, which separates them from others, is the requirement for advanced professional training. Except for a limited number of cases, being employed as a professional requires a university diploma, in the case of associate professionals this connection to education is less strict, but as a rule workers belonging to this group also have acquired some professional education beside general secondary education.. Even if the proportion of professionals and associate professionals is a little overstated, there is clear evidence of a high representation of women in occupations requiring professional training in Estonia. In the context of economic transition, the relatively high proportion of professionals helps to explain the relatively successful labour market performance of females compared to males, among whom the corresponding occupations are less frequent. [EKDK 2003]. Inter alia, the occupational structure was a reason why the wage differences by gender decreased in Estonia in the early 1990s [Noorkõiv *et al* 1998].

The two next largest occupational groups were clerks and sales and service workers, together comprising one quarter of the total number of employed women. Both groups represent more or less traditional female employment areas that in most cases do not require advanced professional training. Approximately nine percent of the FFS female population were employed as managers of various levels; compared to men, women hold managerial posts about two times less in Estonia. The remaining groups — skilled agricultural and fishery workers, craft and related trades workers, plant and machine operators and assemblers and workers in elementary occupations — mainly comprise blue-collar jobs with different level of skills and specialisation. From a point of view of the occupational composition of the population, the representation of these occupations is rather low among females: in total below one fourth of all employed women. As in the group of managers, twice as many men

Figure 6



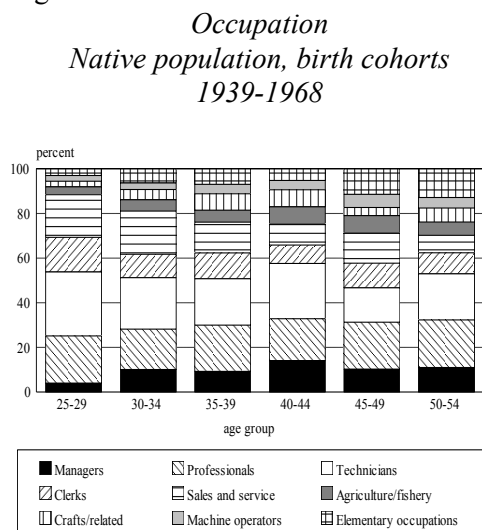
are found in the blue-collar occupational groups. For the tenth major occupational group — military — the very low numbers of women preclude comparison.

In general terms, the occupational structure of foreign origin populations is similar to that of the native population; however, there are also some noticeable differences that deserve attention. On the one hand, the lower proportion of women in professional and in managerial jobs (difference up 7-8 percentage points). On the other hand among the foreign origin population different groups of blue collar workers are more common, but due to their specific settlement pattern, foreign origin population is strongly underrepresented among the group of skilled agricultural and fishery workers. The observed differences in the economic characteristics, however, should not be linked to the discrimination of immigrants in the labour market, as some authors have done [Kroncke, Smith 1997]. In the FFS the differences in the occupational structure of the two population groups can be followed up to the very beginning of the working careers, reaching back, in the case of older cohorts, to the 1940s and 1950s. The pattern also accords with the differences in educational level discussed in the previous chapter.

The occupational structure of the population by age groups appears quite homogeneous, consistent with fairly similar educational attainment across the cohorts. (Figure 7) At the same time there are still systematic differences in the proportions of some occupational groups, either due to individual working careers or due to historical circumstances. Reflecting the advancement in the working career, the proportion of managers increases with age, reaching a maximum among women in their forties. It is interesting to note that this feature has not been overshadowed by the success of the young cohorts (“winners”) who have occupied most of the key positions in new fields of activities which have emerged during the economic transition. Regarding the future, the characteristic feature of these cohorts would probably be limitations in further career advancement beyond the positions already achieved. Another effect of the rapid success of the “winners” relates to the following cohorts, whose career can be slowed down due to the fact that the positions they would like to move to, will be occupied for long periods. If, and to what extent, this restraining influence occurs, will in many aspects depend on the future social and economic dynamics of Estonia.

Compared to managers, the ratio of professionals and associate professionals reaches a peak earlier, in the late twenties and early thirties. The following fall is obviously not caused by a downward mobility of professionals, but by advancement to a managerial group.

Figure 7



Analysis of occupational mobility reveals that movement to managerial jobs mainly occurs through professional occupations. [Helemäe, Saar, Vöörman 1999]. As the entry into the group of professionals occurs seldom after completion of studies, the result is a decrease in their share within the cohorts. The increasing proportion of sales and service workers, and probably of clerks, on the other hand, reflects a transformation of the economic structure in the 1990s, first of all the absolute and relative rise of employment in trade, services and other tertiary branches [Puur 1997a; Eamets, Kulikov, Philips 1997]. A large proportion of the labour force in this expanding sector was recruited directly from the ranks of school graduates. The other side of the structural shift, a

decrease of employment in the primary and secondary sectors, is manifested as an increase in the share of agricultural and fishery workers, craft and related trades workers, machine operators and elementary occupations towards the elderly cohorts. These differences in the occupational structures are similarly revealed in native as well as foreign origin populations, indicating the direction of future changes in the characteristics of work.

Status in employment is centred on the proportion between salaried employees and self-employed. According to the international definition the latter group includes employers, own-account and family workers [Hoffmann 1987]. In FFS cohorts the employees comprised 96 percent of the female labour force in the case of the native population, among the foreign origin population the corresponding number amounted to 97 per cent. Among both groups only about two percent of women worked as employers, the remaining two-three percent belonged to own-account and family workers. Compared to the male population the proportion of self-employed appears nearly two times lower among women, among others this explains most of the gender difference in managerial employment discussed above. Against the background of the EU member states, the proportion of employees among the labour force is considered relatively high in Estonia reflecting the heritage of the central planning [Eurostat 1991-1999].

4. FEMALE WORKING CAREER IN LIFE COURSE PERSPECTIVE

4.1. Entry into the labour force

Understandably, a working career starts with entry into labour force, which also implies an important step towards economic independence. Figure 8 presents timing of entry into the labour force by means of a survivorship function, parallelly for the native and foreign-origin populations. To this end it is important to note that the event under consideration means entry into jobs that lasts at least three months, and excludes various occasional episodes, such as working during school holidays etc.

Judging upon the rapid extension of education among older FFS cohorts, one would also expect similar shift in the age of entry into the labour force. However, the change in the entry into the labour force has been contrary: in the two older cohorts the entry into the labour force was shifted towards younger age. The median age at first job for cohorts 1924-1928 and 1934-1938 declined from 20.8 years to 18.3 years. It is noteworthy that the median of the elder cohort exceeds all younger generations covered by FFS, and interestingly, the analyses using cross-sectional data have completely missed the rejuvenation under discussion [Puur 1991]. The analysis also revealed an increasing concentration of the event into shorter age span. The figure shows how the 1924-1928 cohort clearly differs from the others by a broader spread of the entry into labour force — the transition begins quite early, but comes to an end only after the age of thirty-five.

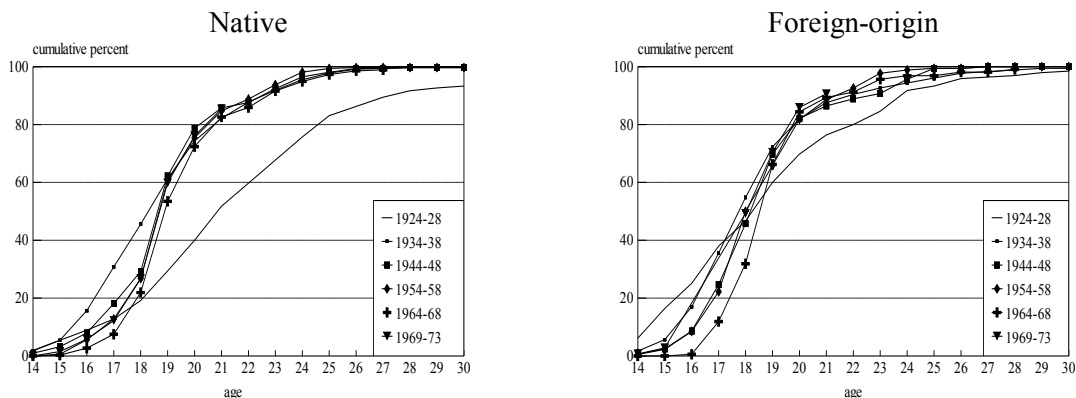
It is worth mentioning that among the pre-FFS cohorts the spread of an event was even larger, demonstrated, *inter alia* by surveys with broader cohort range [Leinsalu *et al* 1999]. It seems that FFS has captured the final phase of a major transformation in the entry into the labour force. Probably this transformation was linked with the disappearance of breadwinner-homemaker model in the same cohorts, born in the first quarter of the 20th century. The late entry into the labour force likely played an important role in reducing the proportion of never-worked women in these cohorts. Among others, this assumption is supported by the reconstruction of the labour force participation in the pre FFS cohorts on the basis of population censuses [Puur 1995].

In the birth cohorts from the 1934-1938, the timing of entry into labour force has undergone only limited changes. The median age at entry into the labour force has ranged between 18.3 and 18.9 years in a slow upward trend. Step by step, starting a job at ages 16-17 has become marginalised. Compared to the native population, the foreign origin population have entered the labour force at continually younger ages. The difference in the median age between the two subpopulations has ranged from 2.7 years in the oldest to 0.9 years in the youngest cohort. The foreign origin population has basically followed the same trend, but the differences between cohorts have been much smaller because of somewhat earlier rise in female employment.

In the broader life course framework, the change in the timing of entry into the labour force implies a closer connection with the completion of education. To better elucidate this

Figure 8

*Timing of entry into labour force
Birth cohorts 1924-1973*



development, the entry into employment and completion of education should be viewed as a congruous event, a transition from school to work. As the incidence of both events is close to one hundred percent, the modality of the school-to-work transition is reduced to the time interval between the school completion and entry into the labour force. Despite the varying societal circumstances which have shaped the entry into adult life, the sequence of the two events have remained without major changes throughout all FFS cohort ranges. More than four fifths of FFS cohorts have followed the common sequence where school completion precedes the first job (Figure 9). The lowest prevalence of that sequence (77.6 percent) was reached in the 1939-1943 cohort, varying between 80-90 between in the other cohorts.

The main change in the pattern of school to work transition concerns the interval between the two events. Accordingly Figure 9 distinguishes the transition, where the entry into the labour force shortly follows the school completion (operationally the interval is limited to 12 months), and a situation where there is a break of several years between graduation from school and entry into employment. In the 1924-1928 cohort, around two thirds followed such pattern. The proportion of the alternative type of transition remained below thirty percent in that

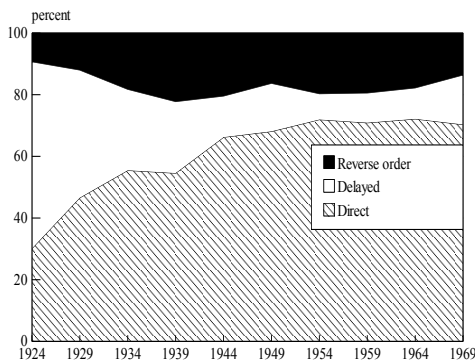
Table 2

Median age at entry into labour force. Birth cohorts 1924-1973

Cohort	Native	Foreign-origin
1924-1928	20.84	18.25
1929-1933	18.85	17.46
1934-1938	18.27	17.74
1939-1943	18.71	18.01
1944-1948	18.62	18.18
1949-1953	18.53	17.82
1954-1958	18.68	18.00
1959-1963	18.76	18.41
1964-1968	18.89	18.51
1969-1973	18.70	17.85

Figure 9

*Transition from school to work
Native population,
birth cohorts 1924-1973*



cohort. These proportions were reversed during the next three-four cohorts, with entry to the labour force directly after finishing school becoming standard. Since the 1944-1948 cohort, the proportion of individuals with a longer interval between completion of education and entry into the labour force has limited to 10-15 percent. Although this pattern is more strongly expressed among the native population, the same development has occurred in the foreign origin population as well.

Speaking about the meaning of the changes is necessary to emphasise that the delayed transition represents a distinct phenomenon. In the life course perspective, the pattern prevailing in the oldest FFS cohort reflects a separate stage of life linking adolescence and adulthood, that disappeared later.

The interval between the end of schooling and entry into employment, which accounted for nearly four years in the oldest cohort, could be mediated by several factors. On the one hand, the youth of these older women coincides with the end of the war and forced societal rearrangements which could have delayed the process. On the other hand, their behaviour could also reflect characteristic features of the previous economic system, a farm-based agriculture and hence important, contribution of unpaid family work. Among others, this hypothesis is supported by a more frequent incidence of the intermediate phase among the rural population.

4.2. Work interruptions

A characteristic feature of a female employment career lies in its discontinuity imposed by family responsibilities. Unlike men, an overwhelming majority of women interrupt their employment for shorter or longer periods at childbirth. From the life course perspective, their typical employment career therefore presents a sequence of work periods and breaks between them. The number and duration of those breaks determines how much of the potential duration of working life is actually realised. No less importantly the interruptions in the working career inhibit the accumulation of general and job-specific work experience. Therefore it is not a surprise that long or/and repeated work interruptions have been established as major factors inhibiting advancement in professional careers, increase of wages, accumulation of pension insurance etc. [Mincer, Ofek 1982; Even 1987; Joshi 1993]. In other words, the interruptions in labour force participation are also considered as one of the major reasons for the weaker position of females in the labour market.

In the Estonian FFS, the aim was set at recording all interruptions in labour force participation lasting three months or longer, for each episode the start- and end dates, reason, and related changes employment were recorded [EKDK 1995]. As work interruptions may recur the cumulative number of events appears the most appropriate measure for making a generalisation about the intensity of the process (Figure 10). The data reveals that in all cohorts, work interruptions tend to be concentrated into the earlier career stage. The most intensive accumulation of work interruptions occurs prior to age 30-35, after which follows a step-by step deceleration, reaching the maximum in the 40s. Close to retirement age an increase of the number of work interruptions accelerates again a little, but in that age interval

it is more appropriate to look at the breaks as a step towards the exit from the labour force followed by a temporary return, rather than an interruption in the working career.

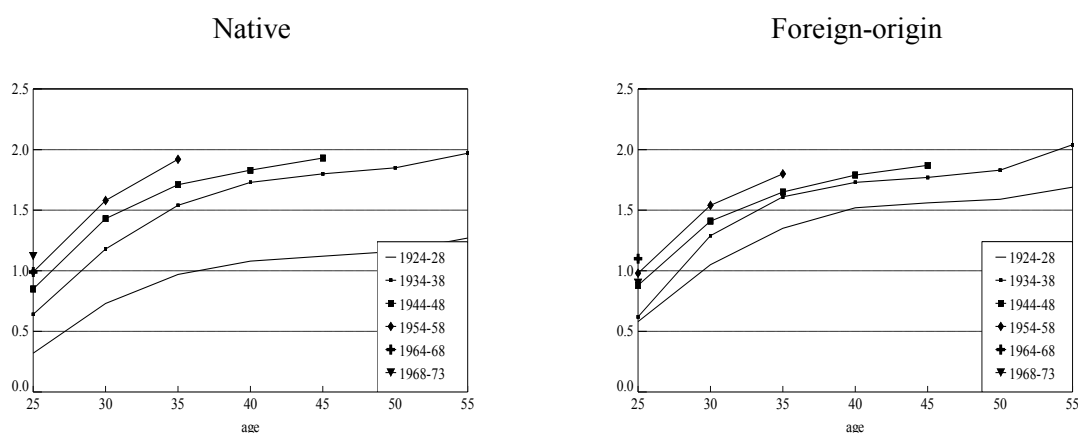
Unlike the length of working life, which increased in older cohorts and then fell, the trend for interruptions in employment has continued in upward direction through all the FFS cohorts. Altogether, the number of interruptions in the working career has nearly doubled. Somewhat paradoxically, the increase in interruptions was most rapid between the 1924-1928 and 1934-1938 cohorts, i.e. among the same cohorts where the most intensive increase in the duration of the working life occurred. Obviously this finding is no coincidence but reflects the transformation in the pattern how female employment and family responsibilities are combined. In earlier cohorts one one hand a significant portion of the female population stayed at home for a extended periods or in the extreme case never-worked during their whole lifetime, whilst another proportion followed a continuous working career with virtually no interruptions at all. Across cohorts, the polarisation in behavioural patterns has diminished and the model of intermittent workforce participation has become prevalent.

The trend described is expressed in the declining proportion of women having an uninterrupted working career. In the 1924-1928 cohort almost 40 percent reported no work interruption up to the age of thirty-five, in the younger cohorts this group formed a minority with less than 10 percent. It is important to note that the data quality evaluation of FFS does not allow to ascribe the lower prevalence of work interruptions with the difficulties of recall among older respondents [Katus *et al* 2000]. The trend in the number of work interruptions is principally the same among the foreign-born population. In accordance with the somewhat earlier rise of female labour force participation the cumulative number of interruptions among the two elder cohorts of immigrants is higher than among the native population. Since the 1934-1938 birth cohort the position of the two subpopulations slightly reverses.

To provide an additional insight into the work interruptions, a breakdown by major

Figure 10

*Age-cumulative work interruption rate
Birth cohorts 1924-1973*



reasons was introduced. In the analysis six groups of interruptions were distinguished: childbirth, unemployment, studies, health, homemaking and other reasons. Although the classification of work interruptions rests on an individual's subjective identification, the types demonstrate quite distinct features relating to the incidence, timing and duration. Figure 11 presents the cumulative number of work interruptions by type for the age of 30.

The data reveal that in all FFS cohorts the birth of a child dominates the structure of work interruptions. Moving from older to younger cohorts, the number of interruptions due to

childbirth has more than doubled, establishing it as the main reason in the rising discontinuity of the female working career in Estonia. In three elder cohorts the second most important reason after childbirth was the status of the housewife. In the 1924-1928 cohort of one in five women had experienced a work interruption for being the housewife. Towards younger cohorts the incidence of work interruptions due to homemaking has declined, and it is worth noticing that homemaking is actually the only one among the main types, where the incidence has diminished clearly over time. Starting from the 1939-1944 cohort, the proportion of those having experienced a homemaker's status (even for a short period) remains clearly below 10 percent. Interruptions related to studies rank as second after childbirth among the reasons for work interruptions. Among younger cohorts the share of study-related work interruptions ranges between 10-15 percent.

All other reasons for work interruptions were relatively uncommon in FFS cohorts. From the population's standpoint the increasing rate of interruptions due to unemployment can be foreseen in the future, however, by the time of the survey the corresponding effect was not yet reflected in cohort experiences

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4.3. (Re-)entry into the labour force after childbirth

From the life course perspective, the timing of return into the labour force is no less important than the number of interruptions. This determines the duration of the break in the career, the possibility to return to one's previous job as well as the need for policies supporting the re-integration into the working life. From the point of view of economic security the timing of return into labour force determines the period when it is necessary for the family to manage with a lower income. The gaps relating to childbirths greatly determine the age at which a child starts kindergarten. Because of these multilateral connections the timing of the return to work after childbirth was given special attention.

Differently from the entry into the labour force, discussing the return to the labour force after childbirth, the time axis does not follow the age of the woman but starts from the birth of the child. In the analysis, the end point of the time axis was set at the sixth birthday of the child which in case of Estonia is sufficient for covering the return to the labour force. It should be noted that the applied time scale does not consider the exit from employment during at the end of pregnancy which follows a different pattern and determination, compared to the return to employment following childbirth [Shapiro, Mott 1979; Bumpass, Sweet 1980].

The analysis aimed at comprehensive account of the (re-)entry into the labour force, covering the births

Figure 11

*Reasons of work interruptions
Native population, birth cohorts
1924-1963*

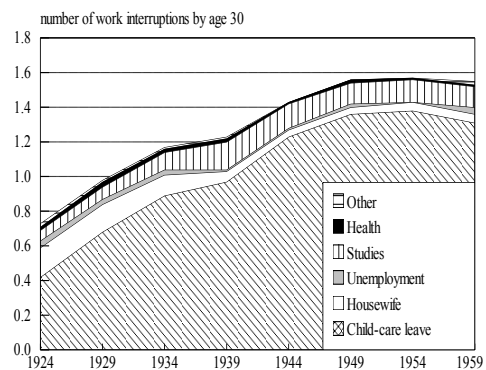


Table 3

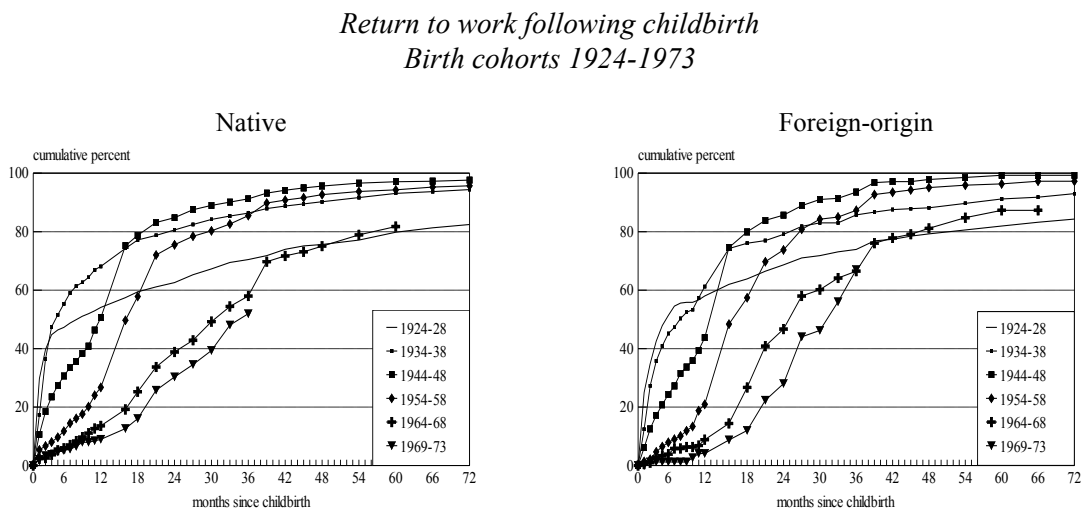
*Duration of home attachment
(months). Birth cohorts
1924-1973*

Cohort	Native	Foreign-origin
1924-1928	8.07	5.62
1929-1933	3.77	6.40
1934-1938	4.62	7.90
1939-1943	7.27	7.40
1944-1948	11.87	12.61
1949-1953	12.94	13.77
1954-1958	15.12	15.54
1959-1963	20.32	19.72
1964-1968	30.45	24.88
1969-1973	34.51	31.16

of different parities. From the technical point of view the task required the transformation of the dataset into another format where each birth provides a basis for a database record, as a result the number of observations increased from five thousand to 8629. The observations were not censored when the (re-)entry into the labour force was preceded by a new pregnancy. On average in the FFS cohorts, 8.5 per cent of woman had yet another birth before the return to employment, 2.2 per cent of women had two or more births before the return to the labour force. To provide a complete account of the process, the small number of cases where a child died at very early age were kept in the analysis. From another angle, the analysis included both women who had worked prior to childbirth and those lacking work experience. Quantitatively the latter group constituted one tenth of mothers in the FFS cohort range.

Figure 12 presents the (re-)entry into the labour force by means of a survivorship function which reveals a significant transformation of the process. A characteristic feature of the 1924-1928 birth cohort is a very strong polarisation of behavioural patterns. On one hand, women in that cohort show very intensive return to employment during the first three months after childbirth. By the beginning of fourth month, for example, close to 40 per cent of women had started to work. On the other hand, however, at the following durations the tempo of entry into the labour slowed down significantly and the remaining inflow was scattered across relatively long time-span. Thus, nearly 20 per cent of women in that generation postponed the (re-)entry into the labour force beyond child's sixth birthday. In the 1924-1928 cohort the median duration amounted to eight months but due to very large variation, median offers relatively poor generalisation.

Figure 12



In the following cohorts two somewhat opposing developments can be observed. Reflecting the introduction of relevant policy measures, the very early (re-)entry into the labour force became less common. In 1956, paid maternity leave was extended from six to eight weeks after which women became eligible for three months of unpaid leave. Furthermore, at the same date, women who left their jobs in connection with a birth were entitled to preserve an uninterrupted employment record for social security purposes if they returned to employment before the child's first birthday [Pöldma 1995]. At the same time, also very late (re-)entry into labour force became less common. As the effect of the latter tendency was stronger, the duration of home attachment at childbirth decreased. The median reached the lowest value (3.8 months) in the 1929-1933 cohort. Although the median duration began to increase in the 1934-1943 cohort it remained below the level of the oldest cohort.

In the 1944-1948 cohort the peaks of the (re-)entry into labour force shifted towards child's first birthday, postponement of the return is reflected also in the median duration of home attachment approaching 12 months. The change again relates to the introduction of new legal provisions. Beginning in 1968, women were entitled to take unpaid leave until the child's first birthday without losing their jobs and maintaining an uninterrupted employment record. As the 1944-1948 cohort had their births partly before and partly after the introduction of new provisions, it represents a mixture of two quite different patterns of (re-)entry behaviours. Figure 12 also shows that the decrease in very long work interruptions became to an end in the 1944-1948 cohort — the proportion of women who postponed the (re-)entry into employment until the school-age of children had reached 1-2 percent. Due to the disappearance of both very short and long work interruptions, the 1944-1948 cohort also stands out for the smallest variation in the timing of re-(entry).

In the younger cohorts the early (re-)entry into the labour force decreased further, for example among women born in 1964-1973 less than 15 percent took up a job before child's first birthday. The (re-)entry has shifted towards later durations, supported by the repeated extension of parental leave provisions. In 1981 the duration of paid leave was extended to one year and unpaid leave to 18 months, since 1989, women have been eligible for a partially paid leave until the child's third birthday. The median duration of home attachment has increased from 14 months in the 1954-1958 cohort to 30 months in the 1964-1968 cohort. In relative terms, younger cohorts have featured particularly large increase in the proportion of women who postpone the (re-)entry into employment for the period of four-five years. In the 1964-1968 cohort the corresponding figure returned to the levels observed at the beginning of the FFS cohort range. Starting from the 1939-1943 cohort the heterogeneity of (re-)entry behaviour has also shown steady increase.

Among the foreign origin population the development has followed basically a similar path. In the oldest cohort foreign origin women feature somewhat shorter duration of home attachment, the same kind of difference can be found in the couple of youngest cohorts. To sum up, the prevailing trend in the FFS cohort range has been towards the increased discontinuity of working career due to childbearing. As the entry into the labour force has not undergone major modification since the 1934-1938 cohort, the extension of home attachment has brought along the decrease in the duration of working life.

5. COMBINATION OF WORK AND FAMILY RESPONSIBILITIES

5.1. Stages of working career in relation to family life cycle

In order to synthesise the various developments in entry into the labour force, work interruptions and (re-)entry into employment, the present section relates the female working career to the key events in family life cycle. In case of Estonia marriage has not introduced noticeable change in female labour force participation, in the FFS cohorts withdrawal from employment relates prevalingly to childbirth. From that viewpoint, female working career can be divided to three main stages — work prior to first birth, in interbirth intervals and after last birth [Elder, Rockwell 1976; Mott 1972; Sørensen 1983]. It should be noted that the characteristics of these stage depend parallelly on two careers, labour force participation and fertility. In such framework parallel careers are not independent from each other but operate interactively: the changes can strengthen as well as cancel out each other. To secure greater

comparability between cohorts, the following discussion focuses mainly on the first two stages which comprise the bulk of variation in behavioural patterns¹.

In the FFS cohorts the entry into the labour force has typically preceded the onset of childbearing. On average the reverse order has been characteristic to 8 percent of women but there has been quite significant variation across cohorts. Such pattern was most common in the 1924-1928 cohort where one in four women entered the labour force only after first birth. Over a couple of cohorts, the incidence of reverse order decreased rapidly reaching the minimum of three per cent in the 1934-1938 cohort. From the life course perspective, the shift resulted mainly from the decrease in the age at entry into workforce. In the younger cohorts the proportion of women who had their first birth before entering the labour force has increased again, reflecting the prolonged rejuvenation of fertility.

Figure 13 presents the duration of working period prior to childbirth by means of a survivorship function. The calculation is performed with monthly accuracy and considers employment interruptions that may have occurred prior to first birth, including the withdrawal from work at the last phase of pregnancy. The data reveal a non-linear trend in the duration pre-birth working period. First a couple of older cohorts featured a slight increase in the length of working period prior to childbirth, the median duration reached a maximum of six years in the 1934-1938 birth cohort. In the following cohorts, however, the trend turned to steady decrease, in the 1964-1968 cohort the median had dropped to 2.4 years. Evidently the latter cohort marks a new turning point as the rapid ageing of fertility is expected to increase the length of working period before childbirth.

Working in the interbirth intervals has followed basically similar trend. In the 1924-1928 cohort working between the first and second birth had already become a prevailing pattern, although two fifths of women did not enter employment in the interval. In some subgroups of population, women who did not work between their first and second birth constituted even a majority. In the following cohorts working in the interbirth interval increased, it reached a maximum in the 1944-1948 cohort where more than 90 percent of women entered employment between first and second birth. In younger cohorts the labour force attachment in interbirth intervals turned to decline again, for example in the cohort 1959-1963 more than one third did not take up a job between first and second birth. definite conclusions on the two youngest cohorts should be avoided as relatively small proportion of women born 1964-1973 had progressed to the second birth by the time of the survey.

Figure 13
*Duration of work prior to first birth
Native, birth cohorts 1924-1973*

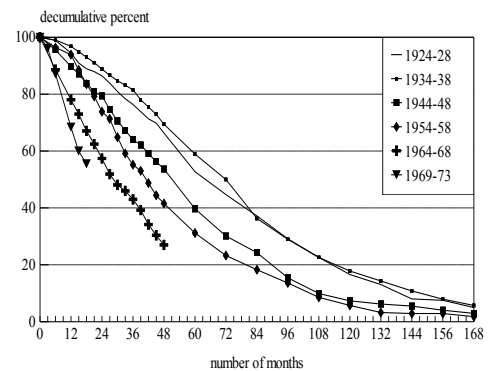
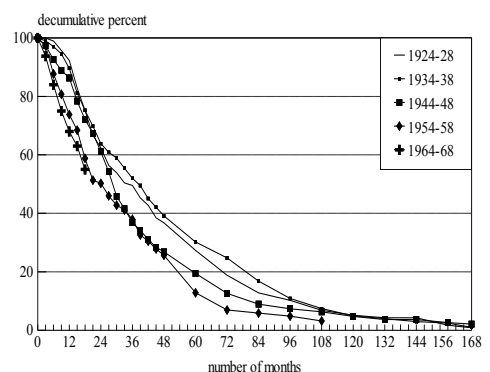


Figure 14
*Duration of work between first and
second birth. Native population, birth
cohorts 1924-1968*



¹ In this section the analysis focused women who have had at least two children.

The length of work in the interval between first and second birth is presented on Figure 14. Similarly to work experience prior to childbirth, an extension in the length of interbirth work period can be observed in a couple of older cohorts. The median duration of work between first and second birth reached a maximum in the 1929-1933 cohort (3.3 years) but decreased thereafter almost twofold. In the cohort 1959-1963 the corresponding figure had dropped to 1.8 years. Besides the growth of home attachment at childbirth, the compression of interbirth intervals has also contributed the trend. Possibly these two developments could be related to each other: from a certain point onwards, the extension of parental leave provisions may have allowed to have the second birth shortly after the first, without entering into employment in between. The cohorts born in the late 1960s and 1970s have likely introduced an increase in the duration of interbirth work periods, the magnitude of that increase depends to an important extent on the timing of birth. In foreign origin population the corresponding patterns have shown lesser over time variation, particularly in the older cohorts.

5.2. Typology of female working career

Labour force participation prior to childbirth and interbirth intervals has been used to develop a typology of female working career [Kempeneers, Lelievre 1991b; Waite 1980]. A simple dichotomy of work and non-work at these stages allows to define four types of working career: (1) continuous career which implies working both prior to childbirth and in the interbirth intervals; (2) interrupted career which implies working both prior to childbirth but not in the interbirth intervals; (3) delayed entry into the labour force which occurs in the interbirth interval and (4) entry into the labour force only after the birth of children. In operationalising the typology, special attention was paid to the duration of work and non-work. The working period prior to childbirth was considered only in case it exceeded two years, shorter episodes were not disregarded because they do not allow the accumulation of sufficient work experience. Regarding interbirth intervals, career was considered continuous in case the work interruption did not exceed twelve month.

Figure 15 shows that during the lifetime of FFS cohorts the distribution of female population by the main types of working career has been subject to continuous transformation. The first stage of that transformation includes the birth cohorts 1924-1938. The oldest of the generations, born 1924-1928, is characterised by the relatively even proportion continuous, interrupted and post-natal working career, the proportion of each of the types ranges between one quarter and one third. The proportion of the third type — entry into the labour force in the interbirth interval — was limited to about 10 percent. The latter proportion has remained more or less on the same level throughout the whole FFS cohort range. The next cohorts 1929-1938 have been characterised by the rapid decline in the proportion of the post-natal work career, by about fivefold, and a parallel rise in the proportion of the continuous work career. The tempo of the change suggests that the respective shift had already begun in the pre-FFS cohorts. On the other hand, it remains a question to what extent the described change is a reflection of the period impact of the post-war societal re-arrangements. Resulting from the change, the continuous career reached its peak in the 1934-1938 cohort, the corresponding proportion rising to 55 percent.

The next phase in the transformation is connected to the birth cohorts 1939-1948. In these cohorts continuous working career started to give way to the interrupted career at a rapid pace and starting from the cohort 1944-1948 interrupted working became the most widespread model. The incidence of interrupted working career reached its peak in the 1954-

1958 cohort where the respective proportion amounted to almost one half. The cohorts 1949-1963 denotes the third stage in the transformation of the female career pattern. On one hand, the decline of the continuous working career carried on, and as a result, the proportion thereof dropped for the first time below 10 percent. Unlike earlier periods the continuous career was not replaced by the interrupted model but by the post-natal working career. Consequently, in the 1959-1963 cohort the incidence of the post-natal career increased significantly and became equal with that of interrupted career. In case of two cohorts 1964-1973 one should avoid making final conclusions as by the time of the survey their working careers were still at very early stage.

To sum up, the development of career patterns reveal the existence of two opposing trends within the FFS cohort range. Up to the cohort 1934-1938 work attachment grew stronger while all the following cohorts have been characterised by the opposite trend. Such result offers noticeable contrast to the widespread opinion of the uniformly high female workforce participation in Estonia, starting from the 1950s and 1960s until the end of the Soviet period. The analysis of career patterns also revealed the two distinct stages of the past transformation. Following the short-term peak among women born in the second half of the 1930s, continuous work career first gave way to the interrupted employment whereas at a later stage work became more and more concentrated in the period following the birth of children. More generally speaking, such development meant the consolidation of the sequence of the life cycle stages *education-children-labour*. In case of such model, working before the birth of children as well as in interbirth intervals was usually limited to short episodes which did not facilitate the formation of a strong position in the labour market, let alone pursuing a consistent professional career. While assessing this trend, it should be taken into account that under central planning for the majority of the FFS cohorts (except a couple of younger ones) the opportunities of professional self-realisation were more restricted than today. Possibly this resulted in the channelling of initiative into other spheres of life which may have contributed to certain increase of birth rates since the 1944-1948 cohort [Katus, Zakharov 1998].

To conclude the analysis of working career the attention is drawn again to the age curve of labour force participation. Using single year groups, Figure 16 presents the cohort age curve of labour force participation. In general, the age curve of the FFS cohorts features growth distributed over a relatively long age range and reaches a peak beyond age forty. The asymmetry of the age curve appears most pronounced in the 1924-1928 cohort where activity rates peaked only after age 45. The increase of labour force attachment experienced by the cohorts 1929-1938 contributed to the increase of participation rates in the twenties and thirties and convergence of the female curve to the male model characterised by the evenly high participation rates throughout the prime working age. In the following cohorts the asymmetry of the age curve again strengthened in accord with the transformation of career patterns discussed above.

Figure 15
*Types of female working career
Native population,
birth cohorts 1924-1973*

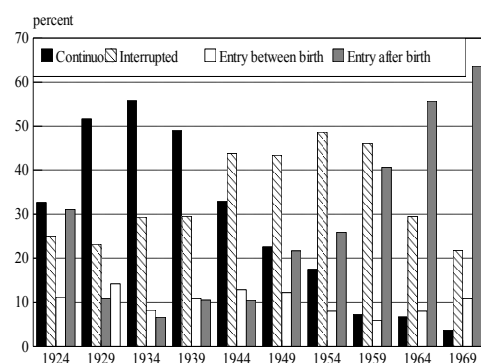
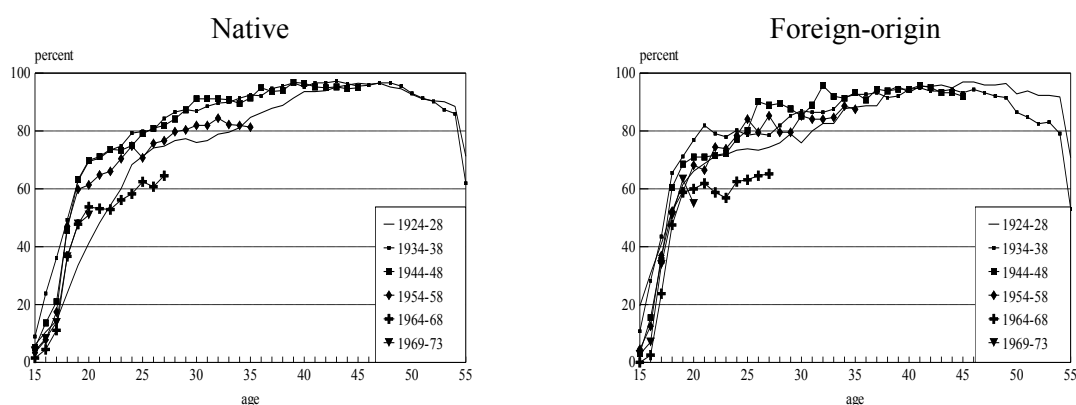


Figure 16

*Cohort age curve of female labour participation
Birth cohorts 1924-1973*



Beside revealing the general age pattern, cohort curves of female labour force participation cast additional light on the development of the process. First, the curve reveals no two-peak pattern in any native cohort that was reflected to a certain extent also in the snapshots of earlier population censuses. The 1924-1928 cohort did experience a minor backdrop in activity rates around age 30, however, this had no decisive importance on the pattern of the employment curve. The above is also true relating to the foreign origin population although in the 1934-1938 cohort a limited inversion of the age curve could be observed. In this cohort the employment curve experienced a slight downturn after the 21st birthday. The extent of decline exceeded 4 percentage points, and taking into account the duration thereof, that cannot be regarded as a random fluctuation. Evidently the occurrence of the regression in the age curve in this cohort is explained by the cumulative effect of the early entry into the labour force and relatively late age at birth. On one hand this cohort marked the end of the rejuvenation of the entry into the labour force, on the other hand the rejuvenation of fertility had not gained its full momentum by that time. More generally speaking, the occurrence of the regression demonstrates the sensitivity of age curve to the changes in the timing of life events.

The absence of a significant regression in the age curve among older cohorts throws new light also on the two-peak pattern revealed by earlier population censuses. At least in the 1959 census the two-peak pattern should rather be interpreted as a specific period effect. In this view, the early peak of labour force participation likely reflects the increased labour market attachment of the cohorts which entered working age in the 1950s, i.e. the birth cohorts of the 1930s. The reader presumably remembers that difference in activity levels between the birth cohorts 1924-1928 and 1934-1938 concentrated precisely in the beginning of the working career, mostly in the twenties. In this age range the birth cohorts of the 1930s featured noticeably higher participation rates than earlier birth cohort. To check the hypothesis, the FFS cohort data was translated into age-specific activity rates as of 1959. The exercise basically confirmed the hypothesis — the age curve from the census and curve reconstructed from the FFS coincided very closely. The difference between the two sources did not exceed 1-2 per cent in the age 20-29. Therefore the decline of activity rates featured in the period data should be ascribed to the rapid transformation of female labour force participation as in the cohort perspective there is virtually no sign of the decrease in the participation curve of the respective cohorts.

It is worth of mentioning that despite the general similarity of the activity curves from the 1934 and 1959 censuses, the interpretation provided above does not necessarily hold true

with respect to earlier cohorts. Thus, further research is required to establish whether the two-peak labour force participation curve in the 1930s also reflects the transformation of behavioural patterns introduced by the new cohorts or is it actually representing a different profile of working career of the pre-FFS cohorts. Naturally, the answer to that question would require the introduction of data sources covering the inter-war period/cohorts.

Separate attention should be also paid to the transformation of the age curve in the two younger FFS cohorts (Figure 16). Compared to the preceding cohorts, a steep downsurge in the employment level reaching to twenty percentage points is revealed. In the twenties activity rates of the younger generations have declined below that of the 1924-1928 birth cohort. In Estonia there seem no serious grounds to link the decrease in employment experienced by the younger women to the gender discrimination introduced/intensified during the transition period. The analysis of labour market position of women confirms the fact that the female unemployment level has been lower compared to that of males throughout the 1990s. It is important to notice that the somewhat more modest level of unemployment of the females does not mean the disguised ousting of females from the circle of job-seekers but is maintained also in case of the extension of the definition of unemployment [Puur 1997b].

According to the analysis the recent decline in female labour force participation, exceeding that among males, mainly results from the extension of home attachment at childbirth and increase in school enrolment. As noted above the extension of home attachment has been under way since the 1970s and therefore can hardly be related to the economic transition. Whatever the causes, it is obvious that the work career of the female cohorts which have reached adulthood in the second half of the 1980s and later will be significantly different from that of the earlier cohorts.

6. SOCIAL DIFFERENTIATION OF WORKING CAREER

To address the intercohort variation of labour force participation, this section focuses on the (re)entry in to the labour force following childbirth. This particular choice mainly rests on two considerations. First, the earlier analysis revealed a relatively large transformation of the process in the FFS cohort range. Secondly, the period following childbirth is definitely the stage in a female life cycle during which the combination of work and family roles is complicated and the corresponding decisions are subject to the influence of different factors.

In order to reveal the patterns in (re-)entry to the labour force, a multivariate event-history model has been applied, in technical terms the model belongs to piecewise constant exponential models. The model builds on event history records arranged by the births of all parities ($n=8629$). The time axis starts at the moment of birth, the observation is followed until the entry into the labour force, or alternatively, is censored at the interview. The time axis of the model is split into eight periods: by six-month step until the child becomes three and thereon by twelve-month step. Altogether nine dependent variables were included in the model. Standard covariates used throughout the FFS analysis included birth cohort, type of residence, educational attainment, religious affiliation, social group and locus of control. In addition standard covariates also the parity and the work experience prior to first birth were included (Table 4). Aside models covering the entire cohort range, to reveal the change of the differentiation models are run separately for individual cohorts.

The table reveals that educational attainment tends to accelerate the (re)entry into the labour force and shorten home attachment: relative risk expressing the tempo of return to employment of the population with less than secondary education appeared almost quarter lower compared to that of the secondary education population. For those with a higher

Table 4
Differentiation of (re-)entry into
labour market. *Native population, birth
cohorts 1924-1973*

	Relative risk	
	gross	net
Type of residence		
urban	1.00	1.00
rural	0.96	1.05
Education		
less than secondary	0.77**	0.76**
secondary	1.00	1.00
higher	1.10*	1.10*
Religious affiliation		
religious	0.83**	0.85**
following customs	0.97	0.97
indifferent	1.00	1.00
Social origin		
self-employed	0.95	0.94*
white-collar	0.97	0.87*
blue-collar	1.00	1.00
Locus of control		
internal	1.17**	1.14**
neutral	1.00	1.00
external	1.03	1.05
Parity		
0	1.00	1.00
1	0.99	0.99
2	0.88**	0.91*
3+	0.89	0.95
Work experience prior to first birth		
yes	1.00	1.00
no	0.64**	0.60**

** p<0.01, * p<0.05

education relative risk appeared higher by one tenth. Such effect employment has been established in virtually studies where educational differentiation has been analysed [Martin 1986; Leličvre 1987; Kempeneers 1991; Hullen 1998; Rynsen 1999 et. al.]. The explanations for the positive association between educational attainment and tempo of return are usually derived from neoclassical economic theory according to which the higher salary of the more educated women stimulates the early return into employment and increases the opportunity costs of home attachment [Becker 1981]. Also, jobs available for women with higher may be more attractive and rewarding in terms of self-fulfilment. . On the other hand, higher demands of more educated women with respect to child care, as well as financial opportunities allowing for the extension of home attachment, could be identified as the factors working in the opposite direction.

Figure 17 reveals a principal transformation of educational difference across cohorts. It should be noted that the transformation concerns not only the magnitude of difference but also the sign of gradients and order between the groups. Educational difference is at strongest and follows the commonly expected pattern in a couple of oldest cohorts who entered labour force in the 1950s. In the following cohorts the educational differentiation gradually weakens until reaching a minimum among women born 1949-1963.

Interestingly, relative risk for females with higher education fell below the reference group as well as women with less than secondary education. Evidently, the reversal of the pattern could be related to two factors. Firstly, the wage system characteristic of the Soviet era favoured clearly blue-collar workers. Secondly, it could be hypothesised that more educated women had greater demands towards the quality of childcare and preferred to avoid very early entry of children into child-care institutions. Regardless of the extent to which these hypotheses hold the result of modeling clearly shows transformation of the meaning of female education in terms of labour market behaviour. In the two youngest cohorts the pattern is changing again, reflecting a turn towards the model commonly observed. The downturn of relative risk characterising the population with less than education conforms to the greater difficulties experienced by this group under market economy. From the methodological viewpoint, the transformation of the educational differentiation described draws attention to the relativity of the results obtained from the analysis of specific cohorts — the results are highly dependent on the choice of the cohort [Titma 1999].

Rural or urban residence made relatively little difference on the duration of home attachment following childbirth. According to the non-adjusted estimates, the home attachment lasted a little longer in rural areas while the adjusted estimates revealed a slightly reversed gradient. The change of the gradient is evidently due to the dissimilar educational

compositions of urban and rural populations. It is interesting to note that the direction of the urban-rural differentiation of the duration of home attachment in Estonia diverges from the respective pattern observed in several other countries. For instance, in United States the behaviour of urban and rural women is more differentiated: urban women returned to work at much quicker pace than their rural counterparts [Bumpass, Sweet 1980; Greenstein 1989].

Religious affiliation has been associated with a slower (re)entry into the labour force in Estonia; a close similarity of relative risk between the adjusted and non-adjusted model underlines an independence of attitudes and value orientations represented by religious affiliation. It is interesting to note that the direction of gradient is quite similar to that observed in Western European countries [Callens, Van Hoorn, Jong 2000]. However, while seeking for explanations for the Estonian situation, it is obviously not appropriate to link the religious affiliation with stronger adherence to norms as it is sometimes done. Rather, religious affiliation in the Soviet period indicated the opposition to prevailing norms and non-conformism. It could be suggested that the longer home attachment of religious people reflects an attempt to transfer values discouraged in society to the next generation.

An internal locus of control was associated with a somewhat shorter period of home attachment. The corresponding effect was statistically significant in both adjusted and non-adjusted models, maintaining the direction of the gradient across the entire cohort range. Similarly to educational attainment, the differentiation appears stronger in the older and younger cohorts while relative risks reach a minimum in the 1949-1953 cohorts. A later return to the labour force is associated with higher social status, reflecting perhaps a certain inter-generational continuity of behavioural patterns: higher social strata featured higher incidence of breadwinner-housewife model in the pre-FFS cohorts. The post-war societal transformation broke up this continuity in terms of social stratification, but the norms and attitudes related to child-rearing and female labour force participation could be transferred and be manifested in the next generation as well.

Regarding the process-specific covariates included in the model, the work experience prior to first birth showed a strong differentiating effect on the duration of home attachment. On average, the entry into first job after childbirth is associated with ca 40 percent lower relative risk which exceeds the effect of all other covariates included in the model. Such association between the pre-natal work experience has been also found by other authors [Greenstein 1989; McLaughlin 1982; Mott, Shapiro 1983]. Usually this pattern is explained by economic considerations: females who have participated in the labour force before childbirth are more advanced in their careers, which gives them an advantage both in

Figure 18

Return to the labour force after childbirth by work experience
Native population, birth cohorts
1924-1973

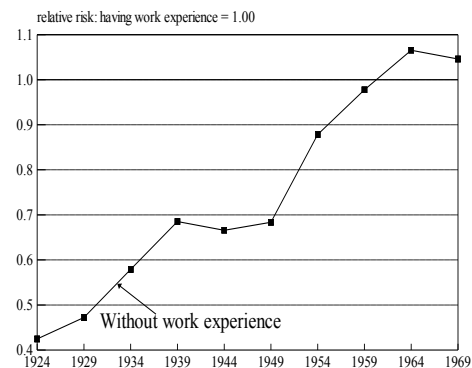
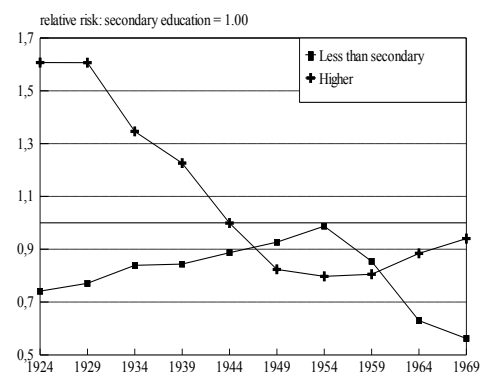


Figure 17

Return to the labour force after childbirth by education
Native population, birth cohorts
1924-1973



obtaining a job as well as a higher income potential. This explanation may not be transferable to Estonia under central planning characterised by an equalised wage distribution and a chronic shortage of labour. The pattern rather reflects a differences in orientation towards work . This hypothesis is, *inter alia*, confirmed by the abrupt change of relative risk across cohorts (Figure 18).

On average the differentiation of home attachment by parity is quite insignificant but this is not caused by the lack of association but the transformation of the association across birth cohorts. In the older generations, up to the cohort 1939-1943, higher parity is related to a shorter home attachment while in the younger cohorts the pattern is opposite. The reasons for transformation should not be sought from the covariate but from the general trend in home attachment. In older cohorts, dominated by a decrease of home attachment, mothers stayed at home with the higher-parity children for a shorter period. In younger cohorts characterised by the gradual extension of work interruptions, an opposite tendency prevails .

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