CHANGES IN ECONOMIC ACTIVITY OF THE POPULATION: CASE OF ESTONIA

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Reforms started Central and Eastern Europe in the early 1990s have led to an extensive change of political, social and economic realities. The transition to democratic society and market economy involves a vast array of institutional changes compressed into a very short period, particularly in comparison with individual life-span or length of generation. Essential role in this systemic transformation is played by the restructuration of labour market mechanisms, aiming at removal of inherited distortions and bringing about more productive and competitive allocation of human resources.

Based on the first round of the national labour force survey, this paper tries to outline the main trends and place them into the comparative perspective of similar developments in Central and Eastern European countries. Compared to earlier analyses on Estonian labour market which have drawn their evidence from administrative sources, establishment surveys and small-scall surveys, the paper's contribution lies with the newly-available individual-level data, allowing for the application of internationally recommended statistical definitions to nationally representative sample. The approach of the paper is exploratory, not attempting to precisely analyse and document all changes but rather helping to sort out the directions for further study.

Since the collapse of central planning, researchers have expended considerable effort in monitoring the progress of labour markets under transition period. For various reasons, the majority have been produced on Central European economies. Consequently, knowledge of labour markets in Bulgaria, Czech Republic, East Germany, Hungary, Poland, Slovakia and Slovenia is fairly advanced and continuously expanding. Among the conclusions that can be drawn from the Central and Eastern European experience is that transition to a market economy requires large redeployment of workers from non-competitive to competitive sectors, that these redeployments can have substantial costs in terms of unemployment and decline in output, and that real wages can drop substantially during in the early years. At the same time, efforts to avoid the costs of transition by encouraging early retirement, maintaining high unemployment benefits, subsidising unprofitable firms, or restricting bankruptcies can make the problems worse by taxing the emergence of new firms and employment opportunities. To the extent that wages for the most productive were suppressed by the egalitarian wage structures, transition has increased wages for the better educated relative to least educated workers.

Aside these as well as other common features, each country's progress towards market economy has been shaped by its experience. Despite the imposition of same principles in all in all today's transition economies, there had always been room for a considerable diversity across national labour markets. Combined with varying pace of reforms and extent of restructuration, this diversity has provided each country with a unique path of labour market transition. Starting conditions have added the Estonian case with several features which make it differ from the experience of Central and Eastern European countries.

First, belonging to the former republics Estonia was much closely tied to the cooperation within Soviet bloc than were the Central European economies. As such, the collapse of trade in this fairly closed market may have generated an even greater shock, particularly as Estonia together with two other Baltic states have stayed outside the CIS. Therefore, the potential scale of labour reallocation and displacement caused by transition may be larger, hardship deeper and more protracted. Second, Estonia opted quite radical free market policies in terms of international trade, layoffs, bankruptcies, foreign ownership of businesses and low payroll tax, minimum wages and government support for workers displaced by the transition were kept relatively low. Countries of Central and Eastern Europe have afforded more generous social safety nets and protective policies, including early retirement programs, longer eligibility and higher replacement capacity of unemployment insurance, higher minimum wage and longer advance notification of layoffs. Third, economic transition in Estonia coincided with restoration of political sovereignty and national governmental institutions had to be created at the same time as market institutions. And finally, due to comparatively early timing of demographic transition Estonia today belongs to the countries of advanced population development. Accompanied with very low fertility, negative natural increase, high proportion of the elderly and other related features, the discrepancy between demographic and economic development generates remarkable pressure for simultaneous allocations for different types of social expenditure.

So far, the evidence on how these features have been translated into labour market outcomes has been very limited in Estonia. Based on the first round of the national labour force survey, this paper tries to outline the main trends and place them into the comparative perspective of similar developments in CEE countries. Compared to earlier analyses on Estonian labour market which have drawn their evidence from administrative sources, establishment surveys and small-scall surveys [UNDP 1996, Venesaar 1995], the paper's contribution lies with the newly-available individual-level data, allowing for the application of internationally recommended statistical definitions to nationally representative sample. The approach of the paper is exploratory, not attempting to precisely analyse and document all changes but rather helping to sort out the directions for further study.

1. ESTONIAN LABOUR FORCE SURVEY 1995

As a constituent part of statistical reorganisation, countries of Central and Eastern Europe have started survey-based data collection on labour force during the past five years. Czech Republic, Hungary, Poland, Russia and Slovenia responded more rapidly and launched their surveys already by 1991-1992. Estonia started its preparations for LFS in the Fall of 1993 when the Governmental Commission for Population and Social Statistics discussed the plan for statistical reorganisation [Katus, Kõre, Pavelson, Puur, Sakkeus 1995]. Commission's report suggested the labour force survey be included in the national programme as one of two periodical surveys. To prepare and implement the Estonian Labour Force Survey (ELFS), the Working Group uniting researchers and experts from various government agencies was established in 1994. Due to the underdeveloped statistical environment, tasks faced in its preparation and implementation often turned to be more extensive than covered normally in the framework of a single data-collection exercise. Being the second national survey in newly-independent Estonia, ELFS's role was to contribute to the development of survey-based data collection in general.

Since its earliest phases, ELFS aimed at meeting the needs for both short-term economic indicators and comprehensive information about labour market mechanisms. The combination of these two objectives, usually realised separately, was motivated by two reasons. First, as the most recent comprehensive individual-level data on labour market dated back to the 1989 population census, an extensive information gap had emerged regarding Estonian labour market. Available data from establishment surveys and labour exchange records could not reflect these developments adequately, thus leaving the most turbulent period uncovered. Application of the conventional LFS approach would have provided only the snapshot picture reflecting the interview period, with no reference to situation's emergence. Aside substantive reasons, under existing budget constraints the combination of approaches was practically the only way to consider the information needs of the research community.

To bridge the information gap, the ELFS questionnaire was added an extensive retrospective section, methodologically building on the event history design [Tuma, Hannan 1984; Blossfeld et al 1989]. In the survey, each individual's labour market

experience was followed during six years, from January 1989 to the date of the interview in January-April 1995. The starting point of the observation goes back to the end of relative stability before the collapse of Soviet economy. Fortunately, it coincides with the date of the 1989 census portraying the Estonian labour market just on the eve of transition. Covering the timespan between the mentioned dates with monthly precision, information was collected on three basic labour market spells: employment, unemployment and out-of-labour-force. For each spell the starting and ending dates, modes of entry and exit were recorded.

Regarding employment, the spell-specific information included characteristics of employer (industry, ownership and size of enterprise, geographic location), occupation, socioeconomic status, usual working hours, underemployment, prevalence of second jobs, and if terminated, the reason for termination. Within employment spells, special provisions were made with respect to temporary work interruptions, transitions between full- and part-time employment, changes in occupation and ownership of the enterprise. As to unemployment spells, information was collected on the methods of job-search, contacts with employment office, sources of income, continuity of job-search, receipt unemployment benefits, participation in public works and training. Information on out-of-labour-force spells was limited to reasons for inactivity and sources of income.

Information on second jobs was collected by means of a separate module, characteristics recorded on second jobs present a subset of those available on main jobs. To provide individual work histories with dynamic context, retrospective event histories were collected on studies, changes in marital status, childbirth and geographic mobility. Indeed, the questionnaire also included traditional LFS sections based on current activity framework, consistent with international recommendations [Hussmanns, Mehran and Verma 1990].

On the sampling side, target population of the ELFS consisted of permanent residents of Estonia born in 1920-1979, who were respectively 15-74 years old in the beginning of 1995. Nationally representative probability sample of 10 thousand individuals was drawn from the microdata of the 1989 census, current addresses of the respondents were verified in the address bureaux. Besides providing a list of individuals, census provided each individual with a set of diverse background characteristics [Katus, Puur 1993]. The sampling frame did not include persons who had migrated into the country since 1989, however this was considered to have only negligible influence on the results.

Fieldwork of ELFS was conducted by the newly-established governmental interviewer network based on county statistical bureaux. The fieldwork resulted in crude response rate of 88.7 per cent with sample distributions closely approximating the target population. To ensure the control over the quality of response, numerous consistency checks were incorporated into the data entry facility. Each time when inconsistencies were encountered they were resolved either by consulting the related answers in the questionnaire or sent back to the interviewer for further clarification. Post-collection checks have indicated rather good accuracy of the data. Analysis revealed extremely low proportions of respondents who could not recall the dates when basic labour market events occurred. When leaving aside systematic differences resulting from unidentical

definitions, quite high consistency was also achieved by the individual-level matching of surveydata with respondents' censusrecords. The same conclusions were provided by verifications against census aggregates and data on registered unemployment [Puur, Noorkõiv 1996].

Currently, the 1995 ELFS is in the stage of processing. Selected results of the survey have been published in monthly bulletin *Estonian Statistics* and international editions. Standard tabulations and Methodological Report of ELFS appeared in early 1997 [ESA 1997a; 1997b].

2. RECONSTRUCTION OF TIME SERIES OF BASIC LABOUR MARKET INDICATORS

Longitudinal design applied in the ELFS allows for a variety of analytical applications from which the present paper takes an advantage of the time series' reconstruction. This simple method builds on the capacity of event history data to provide the status of each surveyed individual throughout the observation period. Computationally it lies in the comparison of consecutive event dates with specified calendar moments. When aggregated the individual statuses allow for cross-sectional distributions of survey population which in turn can be used for the calculation of traditional labour market indicators. Series of such snapshots reveal rich and varied picture of the labour market conveying, among other, information on basic trends, employment, unemployment and inactivity, characteristics and relative position of specific subgroups etc.

In our calculations, retrospective data has been used for the reconstruction of quarterly time series of labour force participation, employment and unemployment rates, distributions of employed by industry, occupation, status in employment, sector of ownership and job origin for the period 1989-1995. For practical reasons, each quarter was represented by its central month. For the sake of comparability, operational definitions of employment, unemployment and inactivity were kept as far as possible consistent with current activity measurement framework which in conventional labour force surveys is applied to short reference period. Still, as a compromise between the recall ability of the respondents and measurement objectives, some departures this framework were inevitable regarding the measurement of unemployment and second jobs. Thus, in the case of intermittent jobsearch, it was considered hardly conceivable to receive reliable information about recurrent changes in the availability for work. Documenting them would have required splitting each respective unemployment spells into several smaller subperiods implying unacceptable respondent burden. To account for the potential impact of this simplification, questions about the continuity of jobsearch were included in unemployment section of the questionnaire. Another modification concerned second jobs which also tend to have a frequently intermittent nature. To keep respondent burden in acceptable limits, information on temporary absences from such jobs was not attempted; regarding casual and temporary second jobs information was limited to start- and enddate of the job, and the number of months actually worked between these dates. Periods of temporary absence from main jobs

exceeding one month were fully documented. Specific references to the treatment of borderline situations are provided below, within relevant sections of the paper.

As the retrospective and current activity frameworks were operationalised in separate sections of the questionnaire, it proved possible to evaluate their mutual consistency. To do this, the distributions of respondents into employed, unemployed and non-active were calculated independently from both sections and compared. As distributions from the endpoint of retrospective measurement and survey week referred to the same time point, they should have been identical. In fact, according to retrospective measurement framework 60.0 percent of survey population was classified as employed, 6.4 per cent as unemployed and 33.6 per cent as non-active. Current activity framework resulted in 60.3 per cent employed, 5.8 per cent unemployed and 33.9 per cent non-active. Compared to the latter, retrospective measurement seems to have somewhat overestimated unemployment against employment and non-activity. Since the time reference for both distributions was the same, discrepancy results entirely from the frameworks. To provide an insight into its causes, a case-by-case analysis of misclassified observations was performed. As misclassification in opposite directions tended to cancel, the reconstruction approach seems to have worked fairly well for characteristics that are relative stable at a particular job. Achieved comparability with conventional measurement framework was considered acceptable, except for temporary absence from employment and other variable characteristics that lie beyound the reach of retrospective measurement [Noorkõiv, Puur 1996].

Apart from this limitation, reconstruction of time series has an advantage of cost-efficiency which is particularly relevant for a small country under strict resource limitations. To collect comparable quarterly data on a continuous basis, one would have had to conduct over 35 thousand interviews each year starting from 1989. From the 1995 ELFS, we have produce time series also on a monthly basis, equivalent to even larger number of yearly interviews. Compared to data collected on a continuous basis, produced time series are not influenced by fluctuations introduced by the rotation of sample population. Perhaps even more important, extending to the early beginning of transition, reconstruction method has avoided the discontinuity which is quite often introduced by the shift from old to new statistical definitions accompanying the transition. Not addressed in this paper, the applied design is particularly suitable for the analysis of labour force dynamics without introducing difficulties that are common to record-linkage from consecutive surveys [Lemaitre 1994].

Since the methodological work on adapting the international definitions to national circumstances is not completed in Estonia, calculated time series may be subject to revision. However, potential revisions will hardly have any substantial impact on basic trends and related conclusions.

3. EMPLOYMENT

Prior to reforms, labour markets of today's transition economies featured remarkably high levels of labour force participation. Proclaiming work both a right and obligation,

socialist development strategy aimed at mobilising all available labour resources and zero unemployment. For enterprises, the system of central planning was a blend of rigid planning and soft budget constraints. To meet established production targets in face of uncertain inputs, enterprises tended to keep substantial reserves, creating thus, an excess demand and widespread labour shortage. In turn, emerging shortages induced firms to reserve inputs to even greater extent which gave labour hoarding a massive scale. It has been estimated that the misutilised labour accounted for 15-30 per cent of total employment [Boeri, Keese 1992].

The introduction of market-oriented reforms brought to the end the incentive to maintain this largely unproductive manpower supply, resulting in significant reductions in demand for labour. In most countries, this coincided with a series of external shocks involving energy supply, price adjustment to world levels and trade losses. Except for major energy exporters, these shocks would have had adverse effects on labour market even without reforms. To capture the net labour market outcome of the transition, employment statistics seems to be the most appropriate starting point. Apart from data on unemployment or economic activity, it is not affected by differential treatment of reasons being out of work.

Estimations based on ELFS suggest that between 1989 and 1995, total employment in Estonia declined by more than 22.4 per cent. In absolute terms translates into reduction by 192 thousand. In the eve of transition, the number of employed accounted close to 860 thousand while by the beginning of 1995 less than 670 thousand were left. According to applied estimation procedure, this figure includes both civilian and non-civilian employment. As ELFS did not cover cohorts born before 1920, employment for population above that limit has been extrapolated building on employment patterns among those aged 65-69. As labour force attachment tends to be relatively low in extreme ages, this is believed introduce little bias into employment aggregates.

From demographic perspective, the decline in aggregate employment can be regarded as a combined result of changes in the size and structure of population on one hand, and employment levels on the other hand. Due to the increased incompleteness of residence registration during the 1990s, the first component should be regarded with caution in the case of Estonia. Recent calculations performed by Statistical Office indicate that regarding the number of population alternative treatment of migration statistics accounts for a cumulative difference of about 75 thousand, however, precise estimates will hardly be available before the year 2000 census. Given the uncertainty related to population aggregates, separate estimation of the effect of declining employment levels was performed. According to this, falling demand and shrinkening employment opportunities brought about the cumulative reduction of 18.9 per cent, or in absolute terms slightly more than 160 thousand. Considering the increase in part-time employment, the volume of employment has probably fallen to even greater extent but data limitations prevent us from the estimation of this additional effect.

Timing of the employment decline reveals that after gradual escalation since 1989 the process peaked in 1992, paralleling with macro-economic stabilisation, introduction of national currency and reorientation of trade flows. By conservative estimates, the net loss of jobs in that particular year accounted for 65 thousand (Figure 1). In subsequent

years the reduction slowed down, reaching the level of just one per cent in 1994. Observed pattern is closely consistent with the changes in GDP which showed progressive decline until 1992. After peaking at -14.2 per cent, the fall of GDP has gradually diminished and in 1995 the statistics showed for the first time a moderate 3 per cent recovery [Ministry of Economics 1996].
To evaluate the labour market adjustment, it should be compared to the experience of other transition economies. In doing so, however, one has to note that due to still diverse methodological and reporting procedures employment is perhaps the most difficult of the major labour market indicators to assess. Official statistics on employment at a shrinking state sector are relatively complete, but the coverage of expanding new private sector and particularly the small sector where the considerable number of new jobs are concentrated is, in general, far from comprehensive. Therefore large falls of employment over may well be overstated in some cases, but it is very difficult to judge the extent to which that may be so. Even with respect to the countries which have managed to develop an advanced system of reporting, upgrading of methodology often prevents us from having consistent time series for the entire transition period.

Keeping in mind these limitations, comparison reveals that the pattern of cumulative employment decline in Estonia has been rather similar to what has observed in the Central and Eastern Europe (Figure 5). Suggesting relatively large redeployments, its extent exceeded the levels observed in Czech Republic, Poland, Romania and Slovenia. Reflecting somewhat later introduction of reforms, the employment reductions in Estonia peaked about 1-1.5 years later than on the average in CEE countries. When started, the decline was not hindered by policies discouraging the destruction of failing and unprofitable firms, which in effect would have meant taxes on newly-established and establishing firms. Also, there was no attempt to avoid lay-offs and set the firms serious barriers in firing the workers by means of extensive severance packages or job placement. Greater adjustment in Estonia is also evident from the decline in real wages which have been considerably steeper, even compared to Russia and Ukraine. Compared to Estonia, employment reductions in Latvia and Lithuania peaked later and had by early 1995 not reached the bottom.

Observed adjustment pattern has been rather different from the experience of CIS countries which have, despite much extensive recession in output, displayed considerably smaller declines in employment. The difference between the decline in GDP and employment suggests a considerable degree of excessive employment in these countries. The reasons for the weak response of employment levels are generally related to the importance of the enterprise as the source of non-wage benefits and social provisions, maintained influence of workers' collective in many voucher-privatised enterprises and ultimately, reluctance of governments to implement strict fiscal policies and bankruptcy provisions at a time when adequate social safety nets are lacking and when public support for reforms is increasingly fragile. From economic point of view, the policy of preserving the redundant jobs clearly protracts the adjustment and delays the resumption of economic growth.

If we now return to employment reductions in Estonia, quarterly time series reveal dissimilar experience of across sex and age. Women in Estonia had reached by

international standards very high levels of labour force attachment already in the 1960s. Despite more generous maternity leave provisions had slightly decreased the participation since the early 1980s, Estonian women in the eve of reforms were characterised by one of the highest activity levels in Europe, with the gender difference in work-life expectancy just less than one year [Puur 1995].

Comparison focusing on the working-age population indicates that the cumulative change in employment has been somewhat more extensive among women. Between 1989-1995 employment rate among working-age men dropped from 85.3 to 74.5 per cent while among women it declined from 80.5 to 68.7 per cent. Aside the excess reduction among females, it is interesting to note that the time pattern of job losses has been not the same for the sexes. In the first years of transition, female employment seems to have shrinkened more rapidly. During 1992 the excessive reduction of female employment ceased, displaying signs of stabilisation. Leaving aside the uncertainty related to population aggregates, calculations show that due to the changing levels, number of employed among women was characterised by a small increase in 1994. At the same time, male employment continued to shrinken, though also at a slowing pace. Relative to males, female employment had recovered about half of its initial excess decline by 1995 (Figure 2). Further analysis is needed to disentangle the extent to which this has been brought about by the favourable shift in sectoral composition, rapid fertility decline or other reasons.

While the dissimilarity in Estonian men's and women's cumulative employment experience can be regarded as relatively minor, the same is not true regarding age groups. Before transition, Estonia was characterised by a fairly high levels of labour force participation among older workers. Unlike in the industrialised market economies, the downward trend in their activity rates ceased in the mid-1970s and was replaced by the increase of economic activity in post-retirement ages. At the time of the 1989 census, the median age of actual separation from the labour force had reached 64 years for males and 59.7 for females, exceeding significantly the age of statutory retirement (60 for males and 55 for females). Aside improving educational composition of new pension cohorts and other reasons, this expansion was probably induced by worsening ratio of the (unindexed) old-age pensions to average wage level [Puur 1995].

Examination of the trends in age-specific employment rates reveals that the negative impact of transition on work-force participation has been strongly concentrated among older workers (Figure 3). In the prime ages, the decline relative to the 1989 level is limited to 5-8 per cent. Among those aged 55-64 the employment dropped by one fourth and in ages 65 and above only 40 per cent of the initial employment has been left. Timing of the decline reveals the peak of job losses being concentrated in 1992, particularly for the age groups with steeper decrease. It is interesting to note that while in age-group 55-64 the downward trend came to an end by 1993, then among the oldest employment rate has continued falling until the end of observation period.

As such, bigger declines among older workers are not surprising. Being entitled to retirement pensions they apart from the younger had a source alternative, though smaller income which made firing them socially more justified and less costly. Structurally, the observed age-pattern of employment reductions has been supported by

lower educational attainment of older workers and their concentration in shrinking sectors. As will be shown in the next sections, once out of employment, older workers have made little effort to return to the labour market.

From social policy perspective, attention is called to the implications of employment decline on retirement age on older workers' income maintenance. Compared to earlier, Above-described adjustments have moved the separation from employment to much younger ages. By 1995, the median age for males had dropped to 62.2 and to 58.0 years for females. At the same time, the pension reform foresees the increase of retirement age by five years for both sexes. Gradual raising was started in 1994 and is to be completed by year 2004. While justified by the need to slow down the increase in social expenditure caused by accelerated demographic ageing, such policies should incorporate the monitoring employment levels and measures to tackle the potential long-term unemployment in pre-retirement ages. If not concern on a general level, the development of actual and statutory retirement age may involve problems for specific groups of older workers (those with less education, in low-skilled occupations, shrinking sectors etc).

Regarding youth, the trend in employment levels has differed from both prime-age and older workers. With seasonal fluctuations, employment of 15-24 year olds dropped until the beginning of 1993. However, unparalleled in any other age group, employment turned into increase since that. Significantly lower prior to transition, in the end of 1992 the youth employment level crossed over with that of older workers. Quite uniquely, the 1995 labour force participation rate of 15-24 year olds exceeds the 1989 level even in absolute terms. Evidently, occuring changes and the emergence of new sectors and occupations had depreciated the relative value of earlier experience against the adaptability of the young, particularly in combination with modern education and entrepreneurial spirit. Specific historical circumstances generated by transition seem to have equipped transition's youth cohort(s) with the perspectives of very rapid career advancement. This favourable situation, however, cannot be expected to be long-lasting. As the turbulence of initial restructuration passes and the development stabilises, the relative advantage of the youth is expected to diminish. Still, the youth cohorts of the 1990s will probably retain the advantage provided by their entry conditions.

Aside age and sex, selective employment experience can also be found across other dimensions of population. To make it visible, for working-age population we have calculated category-specific employment declines relative to 1989 level. Consistent with well-documented findings from other transition economies, education was found to provide relative employment advantage also in Estonia. Referring to working age population, employment has risen for those with university degree, while fallen for all other categories (Figure 4). Emphasising the importance of professional training and skills for maintaining employment, the magnitude of net jobs losses appears directly dependent on the duration of schooling. Among both men and women, the employment of workers with specialised secondary education has fallen only 5 per cent, each step down the education hierarchy involves additional reduction. Employment of workers with just primary education has been halved over six years, partly reflecting their concentration in older age groups. Inter alia, this implies improvement in educational

composition of the employed. Similar conclusions can be reached by examining relative declines by occupation.

Although Estonia is small in territory, considerable differences can be found in employment reductions by region. Reflecting the diversity in starting conditions and variable adjustment potential, biggest employment declines have been observed in predominantly agricultural counties of South-East Estonia (Põlva-, Valga- and Võrumaa) as well as in Jõgeva- and Läänemaa. In all these five counties the employment levels have dropped between 20-30 per cent. Close to 20 per cent decline has occurred also in Ida-Virumaa and Järvamaa. Better than average have fared regions building around big cities (Harju-, Pärnu- and Tartumaa) but also Raplamaa, Lääne-Virumaa and islands. Observed pattern of geographical differentiation seems to a large extent been generated by shifts in composition of employment. Unfortunately, in agricultural counties the biggest declines have coincided with relatively limited employment opportunities in other sectors. The same driving forces are behind specific problems of some local labour markets (one company towns) which have to be addressed promptly by a combination of means of regional development and active labour market policies.

Specific feature of the Estonian population to be considered is the presence of large stock of immigrants from the former Soviet Union, mainly from Russia. Dating back to the timing of demographic transition, native- and foreign-born population have displayed distinct features across a range of demographic and social behaviours [Katus, Sakkeus 1993]. As immigrant workforce had been concentrated into large industrial enterprises producing almost exclusively for the Soviet market, this holds true for as well about their employment. Statistics on working-age population indicate that in general, foreign-borns have been less successful than the rest of the population. By 1995 their employment level dropped more than 17 per cent while among native-born population the decline was limited to 10 per cent. To this end it must be noted that in absolute terms, the post-adjustment difference in employment levels did not exceed 2 per cent. Earlier analyses have attributed this differential adjustment to specific sectoral and occupational distribution of foreign-borns and inadequate knowledge of Estonian language which reduces their choice in the labour market. Still, further analytical effort is required to determine the extent to which the excessive decline among foreign-borns reflects a greater shock in the starting phase of transition and the extent to which foreign-borns have displayed lesser capacity to make return into new positions.

As to family characteristics, employment reductions did not display much variation by civil status, only for middle-aged divorced and never-married males job losses have been somewhat greater. The largest change that can be related to family circumstances has occurred to women with pre-school children. Employment among those having a child under three years has dropped by more than 40 per cent relative to 1989 level. In early 1995 only 25 per cent of women with children under age 3 were currently employed. Given the extent of the decline and its implications to the situation of young families, further analyses is needed on this category. Closer examination of exit and entry patterns surrounding childbirth should reveal the extent to which women have chosen to stay at home themselves and to which they may have been discouraged from

return to employment. Having older children as well as higher parity was much less important.

Basically, the observed employment reductions across population categories have been consistent with simultaneous wage adjustments, suggesting flexible response of markets to changing demand factors.

4. COMPOSITION OF EMPLOYMENT BY SECTOR

Aside large declines in employment, another common feature of transition economies has been the adjustment of its structure. Despite challenging for individuals involved, restructuration is an inevitable precondition of improved allocation of labour and getting workers to benefit from transition. Depending on each country's role in the former socialist cooperation and pace of reforms, the patterns of sectoral adjustment vary. Somewhat paradoxically, the most extensive and painful restructuration is often faced by branches which under previous system were considered the most vital and advanced. As characteristics of the labour force are not similar across sectors, driven by economic realities sectoral shift translates into differential impact on population.

Prior to reforms in Estonia, the primary sector accounted for 21.6 per cent of total employment while 35.7 per cent of jobs were located in secondary and 42.7 per cent in tertiary sector. Relative to the industrialised market economies, particularly high seems the share of primary sector, in geographically adjacent Scandinavia for example the share of primary sector employment ranged between from 3.5 in Sweden to about 9 per cent in Finland. Even among transition economies higher shares could be found only in much southern Poland and Romania. This remarkably high primary sector employment can be explained by the specialisation on agricultural production for Russian market. Secondary sector took comparatively smaller proportion whereas by the share of tertiary activities Estonia was placed just between relatively advanced Hungary and Slovak Republic. Compared to both Latvia and Lithuania, Estonia's employment structure was characterised by excessive concentration into primary and tertiary sectors.

Decomposition of aggregate employment reveals quite diverse pathways of job losses between sectors. Leaving aside the uncertainty of population aggregates, total employment in primary sector dropped by 48 per cent and in secondary sector 29 per cent between 1989 and 1995 (Figure 6). According to similar estimation, the 1995 number of employed in tertiary sector exceeded that in the eve of transition by 4 per cent. In absolute terms, declines in primary and secondary sector turned to be equal, accounting for 89 thousand each. And as we already know, the small increase in tertiary sector (15 thousand) proved insufficient to offset these major reductions.

Among individual branches, the single biggest decline concerned fishing where more than a half of jobs were lost. In agriculture the net losses accounted for little less than a half, however, in absolute terms agricultural employment in Estonia was cut by 73

thousand jobs. Most of this reduction was a consequence of liquidating state-owned and collective farms. Compared to other primary sector branches mining has fared better with suffering only 15 per cent of reduction. In the secondary sector, 35 percent of jobs (78 thousand) were lost in manufacturing and slightly more than 20 per cent (13 thousand) in construction. Employment in gas, electricity and water supply gained more than 2 thousand jobs, evidently thanks to delayed privatisation of key infrastructural enterprises and their monopoly market position. As characteristic to transition economies generally, the most rapidly expanding branches have been formerly underdeveloped finance (doubled, cumulative net increase close to 5 thousand jobs), wholesale and retail trade (increase 53 per cent or 34 thousand) and public administration (20 per cent or nearly 8 thousand jobs). Employment in hotels and restaurants seems to have increased only marginally while transport and communications, real estate and business services (includes research and development), education, health and social care as well as other services have experienced slight decline.

Examination of sectoral employment experience by calendar years reveals somewhat varying timepaths of decline and recovery. Estimations abstracting from the change in population aggregates suggests that, though to a different extent, during 1989-1991 the employment declined in all three sectors. In 1992, net reductions first came to an end in tertiary which has shown moderate employment each following year. In 1994, encouraging signs appeared also in the secondary sector which reached the zero growth situation. The finding is consistent with reported growth in industrial output in 1995 [Ministry of Economics 1996]. Thus, continued decline throughout the period was characteristic only to primary sector. Although at about twice lower rate than in turbulent 1992, the reduction in 1994 accounted still for nearly 8 per cent, predicting the continuation of the decline in the near future.

On a more detailed level of disaggregation, the only branch with practically continuous record of employment growth has been trade. Finance has enjoyed expansion since 1990 when the development of new financial institutions got under way. Re-establishment of national government institutions explains the increase in public administration following 1991. Hotels and restaurants have added employment since 1993. Substantial job creation during 1993-1994 suggests that the growth in these branches may well persist in subsequent years. On the opposite end, continuous decline can be found in agriculture and forestry, fishing as well as in manufacturing. While the former three have showed the continuance of decline, manufacturing ended the 1994 very close to zero outcome. In the same year, construction as well as energy production increased employment for the first time since 1989. As to education, health and social services, real estate and business services, community and other personal services, fluctuations into both directions prevent us from clear-cut conclusions.

As a result of the described trends, sectoral composition of employment has undergone substantial change. By 1995 the share of primary sector had dropped to 13.9 per cent, secondary to 31.2 per cent while tertiary increased its share to 54.9 per cent. Comparison of 1989 and 1995 structures reveals that the structural adjustment in Estonia has been more extensive than in most of transition economies. Measured by the net change (summary reduction in the proportion of declining sectors and increase in

expanding sectors) only Hungary seems to have experienced greater reallocations (Figure 7). The general experience of Latvia has been quite similar to Estonia, however in Latvia, the bulk of adjustment seems to have been concentrated in secondary sector rather than in agriculture. According to the share of tertiary sector, often regarded as an important indicator of modernisation, Estonia holds the third position among transition economies. In 1995 higher proportion of tertiary branches was reported only in Hungary and Latvia.

Concentrating on net changes in sectoral employment, presented analysis did not consider the mechanisms by which it was produced. As generally known, similar net outcome may result from different combinations of component processes. To address this, as the next step the reconstruction of intersectoral flows should be attempted. Further elaboration may also be required with respect to industrial classification, including the evaluation of robustness against enterprise and establishment-level coding.

5. COMPOSITION OF EMPLOYMENT BY OCCUPATION

Another view into the changing demand for labour is provided by occupation, reflecting the kind of work, performed functions and the scope of responsibility. Over long-run, there has been a marked tendency for the occupational structure of jobs to shift towards those with a relatively high skill and responsibility content and away from manual activities. Given the selectivity of employment reductions by education, it would be natural to expect the same development be accelerated during transition.

Reconstructed time series from ELFS reveal that expectedly, the transitional employment reductions have appeared rather selective. Across ISCO-88 major groups, the biggest cumulative decline in Estonia has occurred to machine and plant operators and assemblers (Figure 8). Considering just the change in employment levels and abstracting from the dynamics in population aggregates, between 1989 and 1995 number of such jobs was reduced by 41 per cent or nearly 60 thousand in absolute terms. Net losses in craft and related trade occupations were somewhat smaller, accounting for 27 per cent of 1989 jobs (49 thousand). Evidently, these losses are a direct result of the change in sectoral composition of employment, particularly the decline in primary and manufacturing.

Despite the major redeployment of labour from primary and secondary to tertiary sector, significant reductions have not been limited to blue-collar occupations. Among ISCO-88 major groups, the second biggest losses were observed among clerks whose number decreased by 30 per cent (16 thousand). Quite unexpectedly, jobs were reduced also in professional occupations with net losses accounting to 27 per cent (31 thousand). While the decrease among clerks as among the least qualified white-collar group was highly probable, such an extensive reduction in professional occupations deserves closer attention. For comparison, in Western Europe the number of people working in professional (and managerial) occupations has continued even during recession years, showing lesser sensitivity of changes in the current demand [European Commission

1996]. As it would be inappropriate not to regard transition a major modernisation process, the observed decline in professional occupations should rather be explained as a reaction to the cumulative overstaffing of professional positions under central planning. Requiring more detailed analysis on the level of individual occupations, this decline may to a certain extent prove also a statistical artifact. Under socialism the skill level, range and complexity of the tasks actually performed in these occupations could be rather inferior to what was stated in occupational titles. From this perspective, the adjustment brought about by the transition can be regarded as overcoming the mismatch between the titles of occupations and their functional content. To some extent this hypothesis is supported by nearly twice lower decline in semi-professional occupations (technical and related declined less than 15 per cent) but certainly it requires a lot of careful elaboration of occupational classification. To allow for that, ELFS has applied parallel coding according to old Soviet and new international occupational classification.

As to other occupational groups, the decline has been much smaller. Interestingly, despite massive loss of jobs in primary sector, there has been practically no net reductions in production occupations. Accordingly, the loss of agricultural jobs has been concentrated rather in servicing occupations. Apart from craft workers and machine operators, jobs in elementary occupations have experienced only minor reductions. Relative to 1989, the net loss of jobs in these occupations has been less than 4 per cent (2.5 thousand). Expectedly, the biggest progress has been recorded in service and sales occupations which have gained 25 per cent increase (15 thousand jobs). Managerial occupations experienced a decline of 5 per cent. Considering the simultaneous increase in the number of firms and decline in their size of the firms, it is evident that the net change has been produced by the decline in the number of department. The interpretation of the decline in managerial occupations again rises the uneasy question about the comparability of occupational data referring to centrally planned and market economy settings. As the skill content and responsibility of occupations may have undergone substantial change, the development captured by statistics may to certain extent prove illusive.

An additional insight into the dynamics of labour market adjustment has been provided by the timing of occupational change. During the first three years of transition, the biggest relative declines were observed in professional occupations revealing a substantial overstaffing and redundancy in respective positions. It was only in 1992 when the largest relative declines were observed in blue-collar occupations. With a temporary decline in 1991, the number of jobs in service occupations has increased ever since 1990. Since 1993 the growth has been characteristic to the extremes of the occupational scale - managers and elementary occupations. Gradual reduction of job losses in professional occupations predicts the emerging return to more evolutionary development.

As the declines and increases have progressed at a different pace, direction of shifts in proportions does not necessarily coincide with shifts in numbers. Thus, occupational groups gaining employment share included managers, technicians, service and sales workers and also agricultural workers. The share declined for professionals, clerks, craft workers and machine operators. Drawing the separation line between the service and

sales workers on one hand and clerks on the other hand, the proportion between manual and non-manual occupations has remained largely untouched. To put it in another way, transitional modernisation in terms of occupations has to a greater extent concerned the content of work rather than the proportions between major occupational divisions. More limited shifts, compared for example to sectoral division, should be explained by considerable degree of skill specialisation associated with specific occupations. Required educational qualifications taking years of training, limit or practically exclude several directions of mobility between occupations. The same is not the case for sectoral mobility, as jobs with approximately similar skill level can be found across different sectors. As such, major developmental shifts in occupational distribution are closely linked with improving educational attainment of the population. Unless very extensive programmes of retraining are introduced, the main vehicle for the latter tends to be the cohort flow.

From the viewpoint of labour market policies, further analyses building on 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 downgrading on the individual level, particularly among displaced workers. To reduce such perspectives, more attention on training and retraining may be required.

6. OTHER CHARACTERISTICS OF EMPLOYMENT

Prior to reforms, distinct features of employment structure in former socialist countries included the absence or underdeveloped status of private sector. Respectively, one of the key elements of labour market restructuring has been the growth of private sector employment, both in new firms and privatised enterprises. It would not be a big exaggeration to say that building of a mature private sector to a large extent summarises the pace and success of systemic transition.

According to ELFS, in early 1989 the private sector accounted for slightly more than 4 per cent of total employment, including newly-established cooperatives and self-employment. By the end of 1994, private sectors' share had reached 51.4 per cent, reflecting a simultaneous decline in state enterprises and collective farms but to some extent also the reductions in budget sector. However, compared to other employment characteristics, ownership data requires considerable caution. While newly arising private enterprises usually do no not pose a problem, in bigger firms state may retain part of their stocks, and individual workers addressed by the survey may not necessarily be aware of such details. Regarding agriculture, the biggest uncertainty is related to transformed collective farms which have received differential treatment in national statistics [UN ECE 1995]. Additionally, without decomposition into newly established and privatised businesses, it is difficult to assess the exact extent to which the private sector development has been associated with true creation of new employment opportunities rather than just change in the status of the jobs, formerly classified to the state sector. Still, international agencies have ranked Estonia by it private sectors' share relatively high among transition economies [EBRD 1995]. Compared to some other

countries, Estonia did not put big stake on voucher privatisation of businesses, using it primarily as a supplementary mean when selling the minority stake.

Leaving aside the difficulties related to classification, from employment perspective it is important to notice a differential pace at which the privatisation process has affected different segments of population. Evidently due to varying sectoral composition, the first waves of restructuration have to a greater extent touched native-born population. Thus, by beginning of 1995 the proportion of employment which has been transformed into private sector accounted for 54.3 per cent among native-borns whereas its share did not exceed 45 per cent among foreign-born. As privatisation of large state-run enterprises in energy production and other infrastructure is to be completed last, the conclusive stage of the process will probably involve disproportionate number of foreign-borns.
Concentration of women in health, social care, education and related activities has allowed them to maintain significantly higher employment in public sector. While in the early stage of transition, being employed in private sector provided substantial advantage in earnings, later the earnings premium seems to have shifted to public sector jobs combined with higher job security. From this view, the need for adjustment may have been greater among men. Across age, the share of private sector as a source of employment is clearly at highest among youth. Among population aged 15-19, the private sector accounted for nearly 65 per cent of all jobs in early 1994. In immediate pre-retirement ages its share was close to just 40 per cent. The proportion of budget sector employment was conversely about twice higher among older workers. Evidently, this pattern results from selective recruitment of young and new entrants into private sector jobs while older workers have been less likely to successfully move from the shrinkening state enterprises to private firms. As a result, the transition has led to relatively younger age composition of the private sector workforce, supportive to more energetic and dynamic development.

Closely related to the development of private sector, transition to market economy has been featured by the emergence of self-employment. Being the core of many innovations, this part of the population can be distinguished in terms of their scope of liability and degree of involvement. Reconstructed time series from ELFS reveal that over the years 1989-1995 the share of self-employed in total employment has risen from 1.6 to 8.1 per cent (Figure 9). Consistent with the boom of new businesses, the relative increase in self-employment has been at highest in 1991-1993. Since 1994, however, some signs of slowing the growth can be noticed. By early 1995, the absolute size of self-employed workforce in Estonia can be estimated around 50 thousand. Compared to other transition economies, the share of self-employment has just the average level.

Being opposed to paid workers, self-employed itself form a heterogeneous category. On a more detailed level, ELFS distinguished between employers operating own economic enterprise and hiring one or more employees, own-account workers running a business without paid helpers and contributing family members. No specific provision was made for the members of producers' co-operatives as it could have introduced inambiguity involving the former and transformed collective farms. On that level of detail, employers accounted for 3.3 per cent, own-account workers for 3.6 per cent and contributing family members for 0.8 per cent of total employment.

Similarly to other nations, working as self-employed has typically been more characteristic to males in Estonia. By the beginning of 1994, the share of self-employment stood at 10.5 per cent among working-age males, whereas among females self-employed constituted 5.5 per cent. Women accounted for lower levels in all categories of self-employed, including contributing family members. Given the varying level of commitment in paid and self-employment, this indeed has its implications on the patterns of time allocation. Across age scale, the highest levels of self-employment can be found not among prime-age workers but in the oldest age groups. This somewhat unexpected pattern stems from the considerable engagement of rural elderly in small-scale agricultural production. Ignoring this often self-sustained economic activity would have meant even greater declines in employment levels of older workers. Compared to demographic characteristics, the difference between native- and foreign-born population was minor in respect to self-employment and its subdivisions.

7. UNEMPLOYMENT

At the expense of considerable labour hoarding, low work discipline and distorted incentives, centrally planned economies achieved an extraordinary degree of job security. Once workers had entered a job, their employment was virtually guaranteed until they wanted to leave. Supported with chronic shortage of labour, the legal system made it rather difficult to dismiss employees for redundancy. Additionally, some groups of workers were considered particularly vulnerable and were therefore protected with special provisions. When the reforms in Central and Eastern Europe started, there were certain hopes that despite unemployment will emerge, it will be to a large extent transient and most of the excess labour will soon be absorbed in the expanding sectors. The true development has proved less optimistic and, as a result of deep recession and structural adjustment, unemployment has reached double digit or close levels In the majority of transition economies. Being one of the major economic and social costs of the reforms, coping with unemployment has become one of the most essential challenges for many governments. A large number of job-seekers with limited reintegration into work and the spread of related poverty form a potential threat to the social support gathered around the objectives and pace of reforms.

Statistically, monitoring the trends and levels of unemployment tends to be a complicated in transition economies. As regular labour force surveys have not yet been universally started or available, analysts often draw their evidence, from administrative sources, including international comparisons (for example [Boeri and Keese 1992, Rutkowski 1995]). However, as widely known, registration data is affected by eligibility criteria as well as the scope and efficiency of employment offices which is considerably different across countries.

In Estonia, registration data has been guided by the 1991 *Law on Social Protection of the Unemployed* which considers unemployed only persons eligible for unemployment benefits. Unchanged between October 1992 and July 1996, benefits have been paid at flat rate (60 per cent of minimum wage) with the replacement ratio to average wage

being just around around 10-15 per cent. Unemployed participating at different training schemes received benefits at somewhat higher rates (80 per cent of minimum wage). The maximum duration of eligibility has been limited to six months (with up to three months extension under specific circumstances), provided that the applicant has been employed or in other equivalent status at least 6 months over the last year (full-time student, in compulsory military service, in maternity leave or at home with children up to 7 years, ill or disabled etc). To actually receive benefits, recipients have to report to employment office once in 10 days, occasional refusal of the job offer implies a temporary, repeated refusal a permanent loss of benefits. To this end it must be noted that the income of unemployed' households was maintained via general schemes of income and housing subsidies (for a more detailed overview see [Venesaar 1995]). Despite of some down-scaling in replacement ratios and eligibility durations of unemployment insurance schemes in Central and Eastern Europe, Estonian scheme has clearly been one of the most scantiest among transition economies. In some aspects, provisions appear more generous even in Russian Federation, Ukraine and Belarus [UN ECE 1995].

Providing no incentive of being idle, adopted policy and institutional factors have also kept the registered unemployment at very low levels in Estonia. First reported in May 1991, registered unemployment grew rapidly until April-May 1993 reaching an absolute level close to 23 thousand. With seasonal fluctuations peaking during Spring periods, registered unemployment has not exceeded this level in the following years. In relative terms, however, the proportion of the registered unemployed has never approached 4 per cent. Also reported by Labour Market Board, the number of job-seekers which in addition to benefit recipients includes other non-employed clients of employment offices indicates about twice higher levels. The number of registered job-seekers peaked during Spring 1994 at 45 thousand, in subsequent period it has fluctuated between 30 and 40 thousand. By this low level of registered unemployment, Estonia differs markedly from the countries of Central and Eastern Europe, being rather close to CIS countries. Compared to Latvia and Lithuania, Estonia's experience of registered unemployment has been the lowest. However, as noted above, observed pattern reflects rather the institutional framework than the labour market situation.

As only part of individuals willing to take up employment register, data provided by the Labour Market Board understate the true extent of unemployment. Addressing the issue, ELFS applied the internationally recommended definition which regards unemployed persons currently out of employment, actively searching for work and able to accept a job once provided [Hussmanns, Mehran, Verma 1990]. To match the different approaches, special provisions were made with respect to registration and receipt of benefits. Classifying the future starts, persons with waiting long waiting periods were not included in the number of unemployed. Lay-offs were included only in case the payment was fully suspended.

Reconstructed time series on unemployment reveal that a small amount of open unemployment has existed even prior to reforms (Figure 10). Considering the definition, this result was fully expected since regardless of the economic system, people have always exited and entered employment, implying interleaving periods of job-search. Under prevailing labour shortage, the episodes of job-search were usually

quickly and successfully resolved. The transitional upsurge of unemployment in Estonia begun in early 1991 which only slightly later than in advanced reformers of Central Europe. From the timing perspective, it is interesting to note an about 1.5 years timelag between early job reductions and the increase of unemployment. Evidently, the first adjustments focused on population groups which were in some ways marginally attached to the labour force and therefore likely to leave the market without an instant attempt to return. Apart from the modest replacement capacity of unemployment benefits, data reveal their timely introduction.

Rapid increase in the levels of unemployment proceeded until 1994 when the signs of stabilisation started to emerge. Unemployment rate referring to working-age population in the third quarter of 1994 reaching 9.3 per cent. Thus, the rates provided by ELFS proved slightly lower than indirect estimations by international agencies [EIU 1993]. In absolute terms, the number of unemployed was estimated close 70 thousand in early 1995. Figure 10 reveals that registered and unregistered unemployment are of about equal in size, official unemployment as determined by legislation covers less than one fourth of the phenomenon. Whatever the selection into benefit recipients, to address unemployment as a social issue, the attention should not be limited to its juridically defined part.

Compared to transition economies in Central and Eastern Europe, Estonia has fared relatively well in terms of unemployment. In 1994 only Czech Republic reported (much) lower levels of joblessness. Closest levels were reported in Hungary and Romania, considerably higher unemployment rates were found in Bulgaria, Poland, Slovakia and Slovenia. Evidence from Latvian and Lithuanian LFS conducted in 1995-1996 speaks for relatively modest levels of unemployment in Estonia, particularly in view of experienced restructuration (Figure 14).

When using unemployment as well as related labour market indicators, one should be aware that numerical values of the indicators depend to a substantial extent on how the dividing lines between categories are drawn. Each major category is defined by a combination of several criteria, some of which are fixed but some are open to certain flexibility. Loosening or tightening of such criteria understandingly leads to redefinition of borderlines and, respectively, expansion in some and descalation in other statuses. Applied definitions include therefore a considerable element of convention reconciliating substantive preferences with the need to secure the comparability in time and space.

Returning to unemployment, the biggest single category which affects its levels is discouraged workers. Although varying from country to country, this group generally refers to persons who want a job and who are currently available for job but who have given up any active search for work because they believe they cannot find it. The reason for persons not continuing job-search may be related to situations in local labour markets, such as the absence of employment opportunities within the area, or personal factors such as the belief that they lack qualifications or employers think them being too old/young. The interest in this group stems from the fact that discouraged workers, like unemployed, represent unutilised labour resources and that information on them is needed for a comprehensive measure of the labour market situation.

The arguments for both their inclusion and exclusion depend on the extent to which discouraged workers behave similarly to the unemployed during economic recovery and are particularly likely to enter the labour force. In practice, the decision appropriate to specific circumstances should be based on the comparative analysis of discouraged workers and groups conventionally included among the unemployed. Unless such analyses are performed, the presentation here follows a standard approach and treats them as a specific component of inactive population. Still, one should be aware that the inclusion of discouraged workers would have increased unemployment rate in Estonia close to 12 per cent (Figure 10). Regardless of statistical classification, discouraged workers should not be ignored by labour market policies.

For individuals involved, the severity of unemployment depends to a large extent on the time-span under failures in job-search efforts are experienced. From that point of view, separate consideration is given to long-term unemployment, lasting for more than one year. The emergence and persistence of long-term unemployment relates to structural changes, reducing employment opportunities for entire segments of the labour force. Aside being painful for individuals and a potential source of social instability, long-term joblessness tends to create obstacles for market-clearing mechanisms. The longer a person has been unemployed, the lower are his changes of finding a job: he gradually loses his skills and becomes less attractive for potential employers, finally ceasing to search a work. Therefore, the high and increasing long-term unemployment is difficult to cure.

Time series reconstructed from ELFS indicate that, following total unemployment with certain timelag, long-term unemployment started to accumulate in 1992 (Figure 11). The increase in long-term joblessness persisted until mid-1994 when, for the first time over more than three years, the quarterly rate declined. The level of long-term unemployment reached 3.9 per cent which in absolute terms is equivalent to 30 thousand persons. By 1995 long-term unemployed formed more than 40 per cent of total unemployment. It should be noted that this exceeds considerably the share of official unemployment. Moreover, as eligibility periods are short only a smaller proportion long-term jobless can be found among benefit recipients.

Compared to transition economies in Central Europe, the level of long-term unemployment in Estonia is comparable to what has been observed in Hungary and Poland and less than in Bulgaria, Romania, Slovakia and Slovenia. Figures on Latvia and Lithuania from 1995-1996 also indicate higher levels. Thus, only the Czech Republic was characterised by lower levels of long-term unemployment. Regarding labour market policies, long-term unemployed deserves special attention. Apart from short-term unemployed, this group is likely to remain out of employment unless acquiring better skills. Being found across the entire age spectrum, long-term unemployment emphasises the necessity of labour market training not only at the entry level, but throughout the entire working life-span of the individual. Longitudinal data provided by ELFS offers good possibilities to address the duration and resolution of unemployment spells in greater detail.

Similarly to employment reductions, the influence of emerging unemployment has been selective. Characteristic to both short- and long-term joblessness, women seem not have experienced disproportionate hardship in the course of transition, and apart from declines in employment, unemployment has reached somewhat higher levels among males. Evidently, the most important circumstances favouring women have been the rapid sectoral shift, job creation in tertiary branches and excess of female occupations in less turbulent budget sector. Besides Estonia, lower female unemployment has been found only in Hungary and Slovenia [UN ECE 1995]. To this end it must be noted that the insight revealed by ELFS is markedly different from figures on official unemployment. Due to the eligibility to repeated benefits (women with children under age 7), the number of benefit recipients are dominated by females.

Age-pattern of unemployment displays a classic peak of unemployment in the youngest age group. Youth problem in the labour market stems basically from school-to-work transition which inherently assumes job-search. Therefore, unemployment in the lower end of age-spectrum persists even under the most favourable economic conditions. Potentially stressful on individual level as any other major life transition, youth unemployment may develop into a social problem when employment opportunities prove limited to absorb the number of new entrants with acceptable waiting time. Such situations may occur due to the lack of adequate training and skills among young people, demographic pressure created by numerous birth cohorts and other factors. Downturns in economy compound these problems because young people lack seniority and are therefore more vulnerable to dismissal.

Reported unemployment rate among 15-19 year olds has exceeded 20 per cent which is more than twice higher than the level of unemployment in general population (Figure 12). To some extent, this figure tends to give an exaggerated impression of the problem since only less than third in this age group has actually become a part of the labour force. Decomposition into short- and long-term unemployment reveals that the higher level of youth unemployment results exclusively from short-term unemployment. From other viewpoint, the share of long-term joblessness in total unemployment has been respectively more than twice lower among younger workers than in general. The same tendency is reflected also in administrative statistics which has shown decline in the youth's share among benefit recipients. Although to judge upon its severity, youth unemployment requires the examination of longitudinal experience, the emerging new sectors seem to have provided sufficient opportunities. As mentioned above, according to the stabilisation of development, youth unemployment will require increasing attention.

Along other characteristics, the unemployment experience has been strikingly different according skill level (Figure 13). In general, individuals with better skills did not loose their jobs that easily, but more importantly, if it happened, have had less difficulty in finding a new one. Referring to working age population, unemployment rate among persons with higher education was just 3.1 per cent in early 1995. Each step towards lower attainment added unemployment which among those with incomplete secondary education approached 15 per cent. As the same can be said about education returns to wages, the formerly privileged worker categories have suffered the most during

transition. With lesser sharpness, the same pattern can be traced in occupational differences.

Regionally, the regions with highest unemployment levels are generally those with the largest employment reductions. The only exception from this rule seems to be the Põlva county where the second biggest employment reduction has not been accompanied with the upsurge of unemployment. Probably, this anomaly has to do with small sample size. Rapid reduction in agricultural employment combined with limitations in alternative opportunities explains somewhat higher unemployment rates in rural areas. Due to differences in employment structure, regional pattern of unemployment is likely going to be a persistent concern in Estonia.

Similarly to general pattern observed in Western countries, immigrant population features higher unemployment levels also in Estonia. According to ELFS, in the beginning of 1995 the unemployment rate among working-age foreing-born population stood at 12.2 per cent, among native-borns it averaged only 7.6 per cent. While the unemployment rate was generally found to decline with age, the difference between native- and foreign-borns increased, peaking at age group 40-54. This pattern is not surprising as the large proportion of immigrant population has come to Estonia as work-force for the former all-union enterprises which in the course of transition have lost their markets. Being concentrated into specific areas and less adapted to Estonian society, foreign-borns have evidently had more difficulties in finding alternative employment opportunities. However, the problem related to unemployment of foreign-born population does not stem so much from higher incidence of unemployment among them but from the sheer numbers. Due to the unusual size of foreign-born segment in Estonian population, their presence pushes up Estonia's unemployment record as well as places additional burden on adjustment policies. Moreover, selective impact of transition processes on their sectors of employment can be easily interpreted as a conscious limitation of opportunities and used in a political argument.

Perhaps less important on macro-level, differences in unemployment risk were also found across family characteristics. Regarding civil status, the highest level of joblessness was found among never-married and divorced, the lowest respectively among married persons. As widowhood emerges in older ages where unemployment is already declining, difference between married and widowed is attenuated by the age composition of these two categories. Leaving aside the question about plausible mechanisms behind these differences, unemployment tends to cumulate among persons with less close family ties, considered one of the most important support sources in case of hardship. Differentiation of joblessness across civil status appears much greater among males, implying thus more extensive cumulation of risk factors among them. For example, in age group 40-54 unemployment rate of currently unmarried men appeared on the average three times higher than among married men.

Regarding other characteristics, disproportionate unemployment risks have been associated with having small children. Observed general pattern, however, to a large extent stems from these families coming from youngest age groups generally characterised by higher unemployment rates. A more refined approach concentrating on young women reveals a curvilinear pattern with unemployment initially rising, peaking

among those having children aged 3-6 years and then falling. This in itself is fully consistent with the timing of return flow into unemployment. Again, to judge the severity of the observed double-digit level, closer look at duration and resolution of unemployment spells is required.

8. INACTIVITY

As discussed above, one of the prime consequences of the transition process has been an extensive fall in employment, and therefore, a rapid rise in open unemployment. However, an examination of simultaneous changes in these two labour force components indicates that the increase in unemployment has been lesser than the fall in employment. Accordingly, not all displaced workers have initiated job-search and a substantial part of them dropped out of the labour force, becoming economically inactive (Figure 15). Timing of these two inter-related processes reveals that until the second half of 1990, an absolute majority of employment exits were directed to inactivity. Evidently, it was not because unemployment had not yet been openly recognised and institutionalised but rather because labour shedding started from groups which were most likely to leave the labour market. In later years, exits into inactivity were paralleled with the increase in unemployment, indicating the employment reductions being no more been limited to the margins but having reached the core of the labour force. Simultaneous expansion of unemployment and inactivity lasted until early 1993 when the increase in the latter ceased. Following the same reasoning, by that time the reductions had mostly cleared the less tightly attached segments of active population and further employment reductions exclusively concerned groups which could not afford dropping out of the labour market. Considering the change in activity rates, cumulative number of net labour force exits can be estimated around 93 thousand between 1989 and 1995.

Apart from establishment-level information and administrative records, labour force surveys allow for the coverage not those currently in the labour force but the entire population, including persons out of economic activity. To provide an insight into the conditions of the latter, inactive population can be divided into several subgroups. Distinguishing between these groups becomes particularly important for understanding the development when labour market is undergoing substantial change. For the purposes of the current paper, inactive population has been classified groups, building on the reason for inactivity: studies, illness or disability, family reasons, retirement, discouraged and waiting for a job to be started in future.

Decomposition referring to working-age population reveals that despite increase in the general level of inactivity, its structure has remained relatively stable (Figure 16). Both prior and during the transition, three single most important reasons for being out of labour have been studies, family reasons (mostly taking care of pre-school children) and health. Regarding the order of categories, the change has concerned only the fourth position in which discouragement from continued job-search has replaced retirement.

In relative terms, the smallest change has concerned studies which experienced growth just less than 10 per cent (Figure 17). Inactivity due to family reasons displays an interesting pattern with prevailing upward trend until mid-1991 and continuous fall since that year. Evidently, the explanation for this pattern should be sought from fertility trend which peaked during the late 1980s and turned to steep decline since 1990. Among traditional reasons, the largest increases have been observed for health reasons and retirement. From its 1989 level the rate of health-related inactivity has increased more than 70 per cent and, apart other traditional inactivity reasons, has not started to show signs of stabilisation.

Being virtually non-existent prior to transition, both inactivity to due discouragement and employment waiting periods has risen manyfold (Figure 18). This feature together with the involuntary nature of the situation brings discouragement and job waiting rather close to unemployment. Similar to unemployment seems also the timing of their emergence and dynamics. The shape of the curves indicates that despite the persistently upward gradient, the upsurge in these categories has mainly passed. Despite discouraged workers have not reached very high numbers in Estonia, their existence should not be forgotten when formulating labour market policies. Across categories of population, the patterns on inactivity increase are basically consistent with these discussed in connection with employment reductions and unemployment.

9. SUMMARY

To sum up the substantive developments discussed in the paper, in a very short period of time Estonian labour market has shifted from place suffering from acute labour shortage to the one with demand insufficiently high to meet supply. The most relevant changes have been a significant drop in the levels of employment, emergence of open unemployment and considerable transformation of employment structure. Due to previously tight economic integration with the Soviet Union, required reallocations have been larger than in many countries of Central and Eastern Europe. The complexity of the transition was added by the need to simultaneously re-establish government institutions.

Along with its liberal stance in economic policies, Estonia did not attempt to delay restructuration by putting blocks on international trade, private entrepreneurship, layoffs and bankruptcies. Accumulated adjustment pressure and exercised non-intervention approach led in short time to comparatively large labour market adjustments. Considering the extent of reductions in primary sector and manufacturing, these adjustments did not involve equally high levels of unemployment and labour market slack. On one hand it may be explained with room provided for the development of new employment opportunities. On the other hand, comparatively low level of joblessness may have been brought about by the remarkable modesty of implemented unemployment insurance scheme. As such, it has left very little possibilities of being idle.

As elsewhere, the cost of adjustments has been selective to subgroups of population. Consistent with findings from other transition economies, developments have clearly favoured better educated and more skilled individuals. Women, who are usually considered a major risk group in transition economies, have fared relatively well and recovered half of their excessive employment reduction in the beginning of transition. Largest employment reductions have concerned older workers, bringing the actual retirement close to statutory. Judging upon labour market indicators, a major concern for labour market developments in Estonia is formed by the massive foreign-born population. Being concentrated into specific areas and insufficiently adapted, foreign-borns have found it more difficult to find new employment opportunities. Their unusually high proportion in population pushes up Estonia's unemployment record as well as places additional burden on adjustment policies. Persistent differences can also be found across regions, reflecting the geographic concentration of shrinkening sectors.

The stabilisation observed in the ending part of presented time series suggests that Estonia had by 1995 passed the period of initial labour market adjustment. Along this development, the emphasis is now gradually shifting to more developmental tasks. The main challenge is to allow for the growth become sustainable, addressing at the same time the social cost of the transition. Evidently, this will require an increasing amounts of conscious effort to determine the preferable paths well ahead of time and devise the measures to approach them. An important role in this guiding process has to be played by government institutions, particularly regarding human resources, infrastructure and institutional framework. Among several prerequisites, this requires an appropriate system of statistical monitoring which in Estonia still needs to be developed.

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