Ministry
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and Labour

Employment in Poland 2005

Department of Economic Analyses and Forecasts

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edited by Maciej Bukowski

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Introduction

Over a year after the EU accession, Polish economy is at a crossroads. In the next couple of years it will be decided if Poland turns to full account the development opportunity brought about by European integration. The challenges facing the economic policy are related especially to the labour market. The highest unemployment rate and the lowest employment and economic activity rates among the EU member states demonstrate the distance Poland has to traverse not only to achieve the Lisbon Strategy goals and the level of development present in the EU15, but also to draw alongside the other nine new member states.

It is undoubtedly possible to reach the objective of full employment, reduction of unemployment to one-number values, and reduction of poverty threat in a couple of years. To achieve these goals, the emerging positive changes on the Polish labour market should become more dynamic and permanent. The support that strengthens positive transformations in Polish economy and levels its weaknesses must come from the socio-economic policy, and especially – labour market policy. Effective actions can only be undertaken if a comprehensive diagnosis is available, describing the sources of the problems and defining the areas, where the introduction or modification of an existing public intervention will bring the best results. The existing analyses of the Polish labour market are very limited; they usually tackle only a small portion of problems in this area. There are relatively few works that offer a rigorous statistical and econometric analysis combined with qualitative and institutional analysis to confront Polish experiences with international empirical and theoretical studies in labour economics.

The Report seeks to fill this gap. The aim was to provide an analytical study based on scientific approach. It presents a synthesis of research on the Polish labour market and poses an attempt to enrich the present knowledge concerning the phenomena of Polish unemployment with the results of statistical and econometric analysis conducted on both individual and aggregated LFS data. The Report was written in the Department of Economic Analyses and Forecasts in the Ministry of Economy and Labour, in the Labour Market Analyses Section. The researchers from the Warsaw School of Economics made a significant contribution to this Report as well. The Report is addressed at the researchers in the labour market economics area, students interested in these issues, as well as at the experts and policymakers at the central, regional and local level. The authors hope that both the analytical approach and the conclusions for the labour market policy formulated on the grounds of it will become a valuable point in the discussion concerning the optimum public intervention in this area.

The Report is composed of four parts. The first one offers a detailed analysis of the reasons of the rapid decrease in employment and increase in unemployment at the turn of 1998-1999. It also examines the high persistence of the consequences derived from these changes in the following years. The most important result of this analysis is the documentation of relatively limited ability of Polish labour market to rapid absorption of negative demand and supply shocks, to a large extent responsible for the negative changes on the Polish labour market after 1998. At the same time, the presented arguments prove that the characteristics of the labour force in Poland, together with sectoral structure of the economy and adopted institutional solutions, significantly influenced the strength and the persistence of the effects of the Russian crisis and of the technological shock. Particular attention was paid to analysing the Polish labour market ability to absorb the consequences of both shocks in the years 1999-2004; the focus was on various age and educational cohorts, and also on regional differentiation. The vital element of the analysis offered in this section was the identification of feasible reasons for different adaptation strategies acquired by various groups in the reaction to deteriorating labour market conditions. Thus another important component of the study was the analysis of the consequences such adaptation strategies had for employment, unemployment and economic activity, and the changes in the employment structure and labour force in that period.

The second part focuses on the structural characteristics influencing the mismatches between labour demand and labour supply. The starting point of the performed analysis is the observation that over two thirds of the difference in the employment rates between Poland and EU15 is caused by a lower economic activity among the youngest and the oldest age cohorts. The provided arguments prove that the late entry to the labour market of the individuals under 25 is conditioned mainly by the sectoral structure of the Polish economy, especially by low productivity in the industry that is decisive for the limitations encountered in the service sector development. However, the early withdrawal from the

labour market of the people over 45 is promoted mainly by the institutional factors; their influence is strengthened by a low average level of educational attainment of this group. A detailed analysis of the demographic structure proves that a different size of respective generations in Poland and in the EU15 lowers the employment gap in the youngest and the oldest cohorts, and increases it in the prime-age group. In the second section, the role of education is also recognized, as a factor strongly differentiating individual situation on the labour market. It is also claimed decisive for a swift reconstruction of the sectoral structure of the Polish economy and absorption of the excess employment in agriculture and industry by the service sector.

The third part includes a detailed analysis of the role played by the Polish educational system in the accumulation of the human capital by young people, and the evaluation of the life-long learning system, which creates opportunities of complementing the knowledge attained in the process of formal education by the individuals over 24. This section analyzes the strong and weak points of the Polish education, focusing primarily on its quality. The most important outcome is the observation that Polish schooling system has serious problems to shape the skills of independent thinking and ability to solve problems exceeding schematic procedures and algorithms. The consequences of this phenomenon for the labour market in a long-term are also discussed. What is interesting, the educational boom at the tertiary level in Poland only to a limited degree concerned the study areas which are especially important for productivity growth in the long-term perspective, as sciences and technology. The third section also indicates the mismatches between the educational structure and the labour demand on various levels of education, and it analyzes the sources of such situation.

In the fourth part, the focus is on the influence the most important elements of institutional setting of the Polish labour market have on unemployment, employment, and economic activity. The presented arguments prove that an extraordinary high percentage of the inactive people over 45 has been almost entirely caused by an easy access to the social security payments for this group of people. The main points raised in the section show that there are significant differences between the influence of the labour taxation on the labour supply and demand among individuals with different skills. Also important are the institutional solutions in the sphere of wage bargaining, social transfer system, and minimum wage, and particularly their weight for the influence of taxes on different perspectives of employment in different groups. An important element of the analysis was estimation of the influence of legal provisions included in employment contracts on the structure and the level of employment in Poland. The analysis focused on the observable and soon expected consequences of the significant flexibilization of the Labour Code provisions in the recent years. The last part of the fourth section offers the analysis of the Polish Active Labour Market Policy and its efficiency. The section looks into the difficulties encountered by the public employment services to address and profile the started activation actions that would account for the specificity of the local labour markets and the changes in the labour demand.

The arguments have been summed up in the final conclusions for the labour market policy. These conclusions, which are not strict recommendations, are in line with the series of recommendations given by the European Commission and the General Secretariat of OECD, and they constitute their further specification and adaptation to the Polish reality. They emphasize the importance of the mutual interactions between Polish market institutions and its structural characteristics. It is stressed that the actions undertaken within the framework of the labour market policy must be coordinated, so as their positive effects could strengthen and the negative weaken each other.

1.

Employment and Growth

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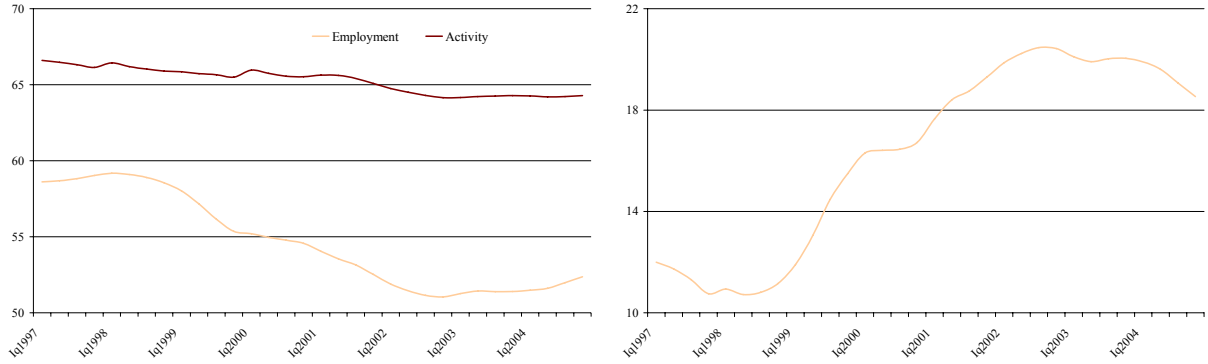
1. Introduction

Since early 1990s the Polish labour market has experienced profound transformations in terms of employment, unemployment rate and activity rate. This process, however, has varied strongly over time as one can distinguish five principal stages of labour market transformations after 1989. In the beginning of transition, i.e. until 1994-1995, both employment and the number of people active on the labour market was declining while unemployment was rising. It was largely due to the restructuring in state enterprise which revealed hidden unemployment, that could not be absorbed in a short term by dynamically emerging private enterprises. As a result, in 1994 the employment rate for the group aged 15-64 years stood at 58.3%[1], the activity rate at 68.4% and the unemployment rate at 14.8%.

Fast economic expansion of 1995-1998 saw a gradual improvement of labour market situation. Employment rose to round 14.8 Mio and unemployment rate fell to 10.8%; on the other hand activity rate dropped to 66.1%. The third stage of changes on the labour market started in late 1998, when the trend was abruptly reversed despite the fact that year-to-year economic growth continued to be high. In the course of 1999 employment fell by almost 700 000 persons, reducing employment rate by about 4 percentage points to 54.9% and raising unemployment rate by more than a half to 16.4%. These strong, abrupt, labour market changes ceased in the following year, when all basic aggregates stabilised for a moment. The 2001-2002 cyclical slowdown of the economic growth brought about a new deterioration of general labour market situation, even though the impact was clearly less dynamic than in 1999. Between 2001-2002 employment rate fell by 3.5 percentage point while unemployment rate increased by more than a quarter, reaching 20.1% in 2003. In these years unemployment rose in total by almost 600 000 while employment fell by about 760 000; one of the reasons for a less intense decline than in 1999 was that the process was distributed over two years. Unlike 1999 the cyclical slowdown was associated with an accelerated decrease in activity rate, deepening the decrease in employment rate; on the other hand unemployment increased relatively less rapidly than in 1999.

Polish economy entered the last phase of the post-1989 labour market transformations in the end of 2002– beginning of 2003. The analysis of seasonally and methodologically adjusted data indicates that the negative trend on the labour market was stopped already in the last quarter of 2002 (Figure 1), when both activity rate and employment rate stabilized. At the moment of writing, for more than a year a clear increase in employment and in employment rate have been observed, together with a notable decrease in unemployment and in unemployment rate. In the fourth quarter of 2004 employment was higher by almost 340 000 (2.5%) and unemployment lower by 192 000 (5.9%) than in the previous year.

Figure 1. Employment and activity rates (left figure) and unemployment rate (right figure) in the age group 15-64 in Poland between 1997–2004.

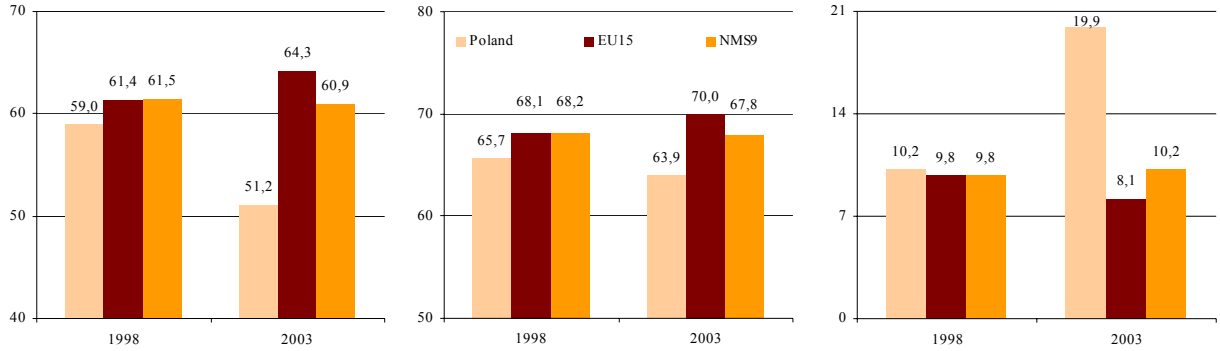


Source: LFS data seasonally and methodologically adjusted

[1] Basic LFS data on the Polish labour market presented here (and in the whole Report as well) are based on the time series, adjusted seasonally and methodologically by the DAE MGiP. The Eurostat data and some more detailed LFS data are in an unadjusted form. Most important statistical data used in the Report are presented in Annex 2.

The scale of changes on the Polish labour market after 1998 is particularly well illustrated by comparing Poland to other EU member states. Back in 1998 Polish situation was in nominal terms still comparable to that of – 15 at that time – EU members. The abrupt fall in employment in 1999 and in subsequent years resulted in a huge gap between Poland and EU15, where, with all the big heterogeneity, an increase in employment and activity and decrease in unemployment were observed. Correspondingly, the gap between Poland and other new EU member states widened, though to a smaller degree (Figure 2). At this moment, despite the improving situation reflected in a relatively high dynamics of employment and a significant fall in unemployment, it is obvious that it will take many years before labour market situation becomes comparable to that of EU15. Meeting the Lisbon goal of 70% employment rate in the group between 15-64 years is just as far away.

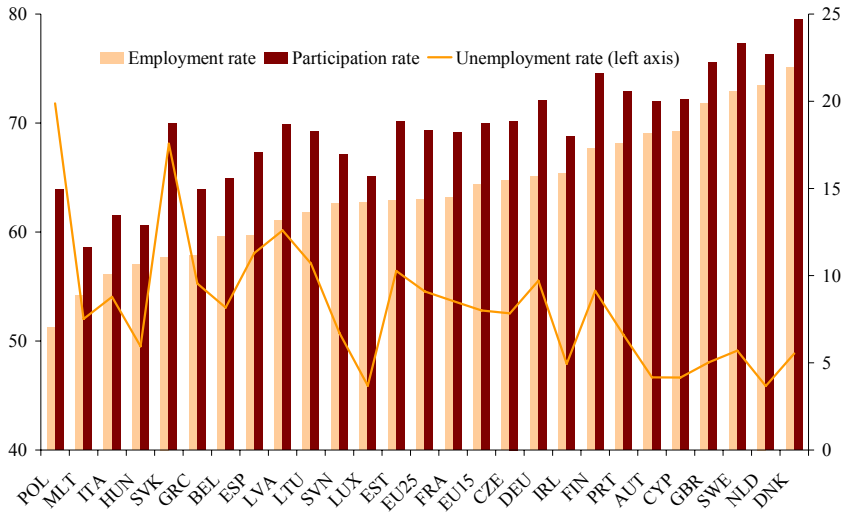
Figure 2. Employment rates (left figure), activity rates (central figure) and unemployment rate (right figure) in the age groups 15–64 in Poland, EU15 and NMS9 in 1998 and 2003



Source: Employment in Europe 2004, European Commission

It should be stressed that deep changes on the Polish labour market between 1999-2002 resulted in employment and activity levels that were extremely low not only as compared to the highly productive economies of EU15 and of the new EU members states (whose development level is similar to the Polish one), but also to the less wealthy states who are still candidates for the EU membership such as Bulgaria or Romania. Also the Polish unemployment rate is the highest in Europe, comparable only to that of Slovakia; however in Slovakia high unemployment rate is accompanied by much higher employment and activity rates than in Poland. This finding clearly illustrates that the scale of challenges Poland faces in the area of the labour market significantly exceeds that of other European countries.

Figure 3. Employment, activity and unemployment rates in the age group 15-64 in 2003



Source: Eurostat

In view of this, it is particularly important to understand the main factors behind the so different labour market developments in Poland and in other European countries especially the new EU member states after 1998. This part of the Report serves exactly this goal. Further aims of this part of the Report are: to answer the question on the sources of improvement that has been observed in Poland for more than a year, and on the prospects of the Polish labour market in the nearest future; and to formulate basic recommendation for the economic policy conducive to a greater job creation, increase in activity rate, employment growth and unemployment decline. Next section presents arguments proving that although the factor that triggered the avalanche of adjustments on the Polish labour market was the adverse demand shock of 1998, the reasons for its so significant impact and, most of all, its so enduring results, are to be sought among the structural and institutional factors. Analysis in the next section focuses on description of the impact of that demand shock and of its absorption, while stressing the key role of the supply-side factors in shaping the relative labour market situation in the recent years. An important supplement of the analysis is the discussion of sectoral and regional changes in the labour market.

2. Causes of the labour market changes after 1998

When trying to unveil direct causes of deterioration of the Polish labour situation market after 1998, one has to note, in the first place, that a large part of the total fall in employment and increase in unemployment occurred in two, relatively short phases: in the end of 1998 - beginning of 1999, and between 2001-2002. However the dynamics of the negative labour market phenomena was clearly higher in the former period than in the latter; although both of them saw a transitory economic slowdown, they differed in its scale and in the time it lasted. The slowdown of 2001-2002 stretched over eight quarters when the GDP growth was reaching merely 1% p.a. By contrast in 1998 GDP growth fell no more than to 4 percentage points and the slowdown lasted only three quarters. Also the supply-side and demand-side sources of slowdown were different in both periods. The end of 1998 - beginning of 1999 saw a certain decrease in individual consumption. However it was relatively small and short-lasting: the contribution of consumption to the GDP growth was more than 3 percentage points both in 1998 and 1999 (as compared to roughly 5 percentage points in the previous period). As a result also the dynamics of the market services remained high and their contribution to the GDP growth between 1998-1999 was exceeding the level of 2 percentage points. On the other hand investment and export dynamics fell significantly, reducing the contribution of industry, construction and agriculture to the creation of aggregate value added.

Economic changes looked differently in the period 2001-2002, when not only investment but also consumption slowed down noticeably and more substantially than in 1998. As a result dynamics of sales in trade and transport sectors was also much smaller and so was the dynamics of industry- and construction output whose contribution to GDP growth became negative. Unlike 1998/1999 the 2001-2002 slowdown of private consumption and the very deep investment slowdown resulted in a clear reduction of import volume, which was not accompanied by an adequate decrease in exports. Therefore the contribution of net exports to GDP growth, negative in 1998-1999 due to the fall in exports, became clearly positive in 2001-2002. Different causes of the economic slowdown in both periods are also reflected in different patterns of growth in labour- and capital productivity. Although labour productivity rose significantly in 1999 as a result of the large scale of layoffs, it was not accompanied by a total breakdown of the capital productivity growth that remained positive. It was different in 2001-2002. Despite layoffs the yearly growth of labour productivity was much slower than between 1994-2000, even if it was clearly faster than the GDP growth (especially in 2002); at the same time capital productivity was falling (particularly rapidly in 2001).

Table 1. Rates of growth of: GDP, labour productivity, fixed assets per person employed and fixed assets productivity between 1994-2004 (in percent)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
GDP	5.2	7.0	6.0	6.8	4.8	4.1	4.0	1.0	1.4	3.8	5.4
Labour productivity	4.2	5.1	4.0	3.9	2.4	7.0	6.4	1.6	3.7	4.3	5.8
Fixed assets per person employed	0.9	0.8	0.2	1.9	1.2	6.8	6.3	4.8	5.0	2.8	2.3
Capital productivity	3.2	4.3	3.8	1.9	1.3	0.2	0.1	-3.1	-1.3	1.5	3.5

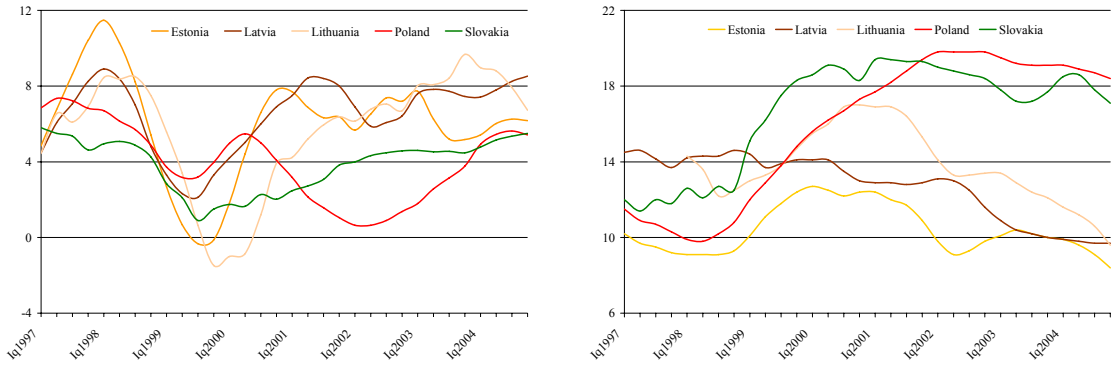
Source: GUS data and DAE MGIP calculations

The different character of economic slowdown in the two periods under consideration suggests that a likely cause of the changes on the Polish labour market after 1998 is the influence of two adverse shocks which affected the Polish economy. While the first one brought about a short-term breakdown of product markets especially in export resulting in a certain fall in investment and in labour demand, the second one was a supply shock reducing capital productivity, and consequently, impacting negatively on all the major macroeconomic aggregates. Another argument in favour of this interpretation is the finding that the labour market breakdown of 1998 was not limited to Poland only, whereas the slowdown of growth between 2001-2002, even if noticeable also in other Central European countries (and in EU15 as well), was nowhere as deep and enduring as in Poland [2].

[2] It must be stressed that business cycles of the developed countries are strongly and positively correlated.

Indeed, Poland was not the only country of the region, which faced a transitory (and a very short-lasting) weakening of the GDP dynamics in 1998, accompanied by a significant fall in employment, increase in unemployment or a significant reduction of economic activity. At the same time countries as Lithuania, Latvia, Estonia and Slovakia experienced changes of a very similar nature.

Figure 4. GDP growth rate (left figure) and unemployment growth rate (right figure) in Poland, Slovakia and in the Baltic states between 1997-2004



Source : Eurostat and ILO. Seasonally adjusted data

In most of these countries growth slowed down significantly by the end of 1998, and subsequently, after 2-3 quarters, the economies returned to previous paths of development. It is worth stressing that developments of basic aggregates describing the labour market situation were generally similar also in other Central European economies (Hungary is an exception). Employment decreased by roughly 4 percentage points (only in Latvia the fall was smaller) while unemployment rose and/or activity rate fell. Consequently, while Poland and Slovakia saw significant increases in unemployment rates and small changes of activity rates between 1998-2000, a smaller increase in unemployment in the Baltic states was possible only at the price of an commensurate decrease in activity rate.

Table 2. Changes of unemployment rate, employment rate and activity rate in Central European countries and in EU15 between 1998-2003 (in percentage points)

	Unemployment rate		Employment rate15-64		Activity rate15-64	
	2000/1998	2003/2000	2000/1998	2003/2000	2000/1998	2003/2000
Czechy	+2.3	-0.9	-2.3	+0.3	-0.7	-1.1
Estonia	+3.3	-2.4	-4.2	+2.5	-2.0	-0.1
Litwa	+3.9	-3.0	-3.2	+2.0	-1.3	-0.9
Lotwa	-0.6	-3.2	-2.4	+4.3	-2.6	+2.0
Polska	**+6.2**	**+2.8**	**-4.0**	**-3.8**	**-0.1**	**-1.9**
Slowacja	+6.2	-1.6	-3.8	+0.9	+0.6	+0.1
Wegry	-2.1	-0.5	+2.6	+0.7	+1.4	+0.5
EU15	**-1.6**	**+0.3**	**+2.0**	**+0.9**	**+0.9**	**+1.0**

Source: DAE MGiP calculations based on yearly average Eurostat data

Universality of the post-1998 labour market changes in Central Europe and similarities in their character unequivocally point to an adverse supply shock. Indeed, one can attribute so fast changes in labour demand, occurring in parallel in several countries, neither to macroeconomic policy (fiscal nor monetary) nor to labour market inelasticities (e.g. changes in the labour law) nor to any other institutional factors. As a matter of fact, in Poland between 1998-1999 there was neither a significant reduction of the general government deficit (which rose from about 2.6 percent of GDP to 3.2%[3]), nor a rise of interest rates (which fell nominally by about 7 percentage points and in real terms by about 3 percentage points), nor an increase in fiscal burden (general government revenue in both years slightly exceeded 41% while expenditures rose, increasing deficit), let alone a rise in direct taxes on labour. It seems that the exogenous supply shock that led to a fall in labour demand in the Central European countries can be unequivocally attributed to the financial crisis in Russia in mid-1998, which resulted in a breakdown of foreign trade (as well as border trade) in the countries neighbouring the Community

[3] In terms of the actual result of the general government. The economic result, corrected by the contributions to OFE (which can be regarded as a form of savings) changed to a lesser degree.

of Independent States. Note, that at the same time the Czech Republic and Hungary, whose foreign trade to a much lesser extent relied on the Russian market, experienced neither a significant slowdown of economic growth, nor a deterioration of the labour market situation.[4]

Box 1. Impact of shocks on the labour market in the short run and in the long run

Principal shocks modifying the labour market situation include: demand shocks (reducing or raising labour demand), supply shocks (altering labour productivity), or shocks responsible for internal shifts on the labour market (changing capital/labour ratio). Transitory shocks, both demand- and supply-side, can impact on employment and unemployment only in a short run (significantly shorter than a full business cycle i.e. 8-10 years). This is because wages are flexible in the long run, and consequently they fully absorb impact of the shock on labour market by enabling employment and unemployment to return to the equilibrium level.

In turn, the state of (long-run) equilibrium can change only in response to internal labour market transformations depending on structural characteristics of labour force (e.g. human capital determining the degree of complementarity between capital and labour), effectiveness of the product markets, or the institutional framework of labour market (e.g. the shape of social protection system, effectiveness of job-search assistance etc.).

The finding that the labour market changes in Poland after 1998 were caused directly by an exogenous, transitory demand shock has important implications for how one should asses the effects of the shock in a later period. A demand shock cannot have a long-lasting impact on employment or unemployment levels, because in medium run wages adjust to the equilibrium level (cf. Box 1). Thus effects of shock should subside after 2-3 years since its outbreak, and that was exactly what happened in all the Central European countries except Poland. However, Poland was a unique case not really because of the scale of labour market impact of the Russian crisis in 1999, but because of the later absorption of that shock. Poland is the only country from the above-mentioned, where in 2000-2003 unemployment continued to grow while professional activity and employment continued to fall. Slovakia was the only case where unemployment rate remained at the level it reached directly after the shock for more than two years; but it was only in Poland that it continued to grow also after 2000 while employment and economic activity was falling.

An important cause of this asymmetry is undoubtedly the pattern of business cycle fluctuations in Poland, distinct from other countries affected by the Russian crisis. While in most Central European countries economic growth stabilized on a high level within 1-2 years after the subsidence of the Russian shock (e.g. in the Baltic states, Slovakia or Hungary), Poland (and slightly later and to a lesser degree also the Czech Republic) entered another, this time longer phase of growth slowdown that had a cyclical character. The slowdown made the return to work for people who lost their jobs as a result of the shock all the more difficult; it also added to problems of young labour market entrants in finding a job.

Although it seems that the character of this slowdown exhibits all the characteristics of a periodic fall in productivity, translating into a breakdown of investments, a curb on wage increases, and a fall in consumer demand and impacting on all the principal macroeconomic aggregates, one could ask if the slowdown was not deepened by external factors (among other things, the economic slowdown in the EU countries, especially in Germany, changes in prices of power raw materials) or by internal factors (tougher monetary policy in 2000). But the impact of these factors does not seem to have been decisive: for one thing, any external shock would have touched all the Central European countries to the same degree, for another, toughening Polish monetary policy was accompanied by loosening fiscal policy (budget deficit reached 4.3% of GDP in 2000 to exceed 5.1% in the year after). By implication, the 2001-2002 economic slowdown should be regarded as a transitory supply shock, and its impact on

[4] In late 1997, the Czech Republic experienced a financial crisis of a similar character (albeit smaller scale) as in Russia. Similarly, it impacted negatively on the Czech labour market yet its first results could be seen in the unemployment and employment statistics about two quarters earlier than it was the case with other countries of the region (with the exception of Hungary, that felt hardly any results of the Russian crisis, due to its scant trade integration with CIS countries).

the labour market can be expected to be short-lasting, as the influence of changes in productivity dynamics on employment is zero in the long run (cf Box 1). [5]

Extraordinarily high inertia of unemployment and employment rates, visible also when the economy gained pace again (i.e. between 2003-2004) indicate that changes on the Polish labour market after 1998 cannot be fully attributed to demand- or supply shocks, which suggests that they have also a structural character, independent from cyclical fluctuations.[6] Time series being too short, one cannot identify the structural component of unemployment by means of rigorous econometric methods, [7] what one can do, however, is to illustrate the scale of structural unemployment by estimating the equilibrium unemployment (see Annex 4) representing the unemployment level implied by the intensity of flows between the three basic states (employment, inactivity, unemployment), registered on the labour market. Although equilibrium unemployment contains also a cyclical component, it should not exceed 3-5 percentage points. Therefore a high level of equilibrium unemployment is a good picture of the persistence of labour market changes after 1998 and thus of the scale of structural transformations.

Table 3. Equilibrium unemployment rate calculated on the basis of yearly flows (in percent)

	1997/1998	2000/2002	2003/2004
Equilibrium unemployment	7.2	19.5	18.8
Actual unemployment (in the final year of each panel)	10.8	19.4	19.2

Source: DAE MGiP calculations based on LFS. Men aged 15–64, women aged 15–59

Low flows into unemployment and relatively high flows from unemployment to employment in the period of 1997/1998 are reflected in the rate of equilibrium unemployment of 7.2%, which is lower than the actual unemployment rate calculated on the basis of LFS.[8] Starting from 2000, equilibrium unemployment rate has been significantly higher than before the shock of 1999 and it reached its highest level for the period 2000/2002 [9] Initially the growth of this rate was mainly a result of increased percentage of people losing jobs; once this proportion stabilized, it reflected mainly the very low outflows from unemployment (after 2000 the unemployed were finding jobs less often than it was the case in 1997 and 1998), a phenomenon that contributed to an increase in unemployment and its persistence. The equilibrium unemployment rate calculated on the basis of the 2000/2002 flows is equal to the actual rate, mainly due to low outflows from unemployment in this sample. The flows of 2003/2004 suggest an improving labour market situation: the percentage of people losing jobs was the lowest since late 1990s. Stabilised outflows from unemployment in the period of 2003/2004 made for a rate of equilibrium unemployment that was relatively high but still lower than in the years before.

Table 4. Average job-search spell (in months)

1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
13.0	14.3	14.8	14.5	13.6	12.8	12.4	13.5	14.2	15.5	16.2

Source: DAE MGiP calculations based on LFS

[5] As evidenced e.g. by the lack of a relationship between the rates of labour productivity growth and employment growth in US or EU in the long run.

[6] Because productivity fluctuations or supply shocks determine the cyclical component of employment and unemployment, not the structural one.

[7] The article of Gradzewicz and Kolasa (2004) is an attempt of such estimation. However it seems that the amount of ad-hoc assumptions that authors had to made to obtain the results significantly limits the credibility of their estimations of structural unemployment.

[8] Given that equilibrium unemployment rates calculated in a flow analysis show the unemployment level implied by year-to-year changes, and because of the inertia of the labour market processes, one should compare the equilibrium unemployment rate with the actual unemployment rate in the last year of a given panel.

[9] The equilibrium unemployment rate was calculated on the basis of the 2000/2001 and 2001/2002 flows and compared to the average unemployment rate between 2001-2002.

The analysis unequivocally indicates that the main cause of trebling the equilibrium unemployment between 1998-2001 was a substantial increase in unemployment persistence. By implication, Poland, unlike other Central European countries with the exception of Slovakia, experienced a significant increase in structural unemployment, and as a result, a long lasting shift in the capital/labour ratio in the economy. The reason was an inefficient absorption of the demand shock caused by the Russian crisis, additionally weakened by the strong fall in productivity dynamics in 2001-2002. The question, to what extent is the high level of structural unemployment in Poland determined by the characteristics of the labour force, and to what extent it is impacted by the institutional framework of the labour market, is analysed in the remaining parts of this Report. However before addressing this problem, the next section investigates more in-depth the absorption of the Russian shock between 1999-2004, and how it was influenced by subsequent economic slowdown; the asymmetric impact of the shock on groups differing in age and educational attainment is paid a special attention.

3. The shock of 1998 and its subsequent absorption

This section discusses the changes that took place on the Polish labour market after the 1998 Russian crisis, while focusing both on its direct and delayed effects. The emphasis is on a relative analysis comparing the situation before and after the shock. On the other hand, many characteristics of the Polish labour market such as low exit age, low average level of the human capital, substantial agricultural employment are of structural nature and they have been apparent both before and after 1999. The shock merely intensified existing processes revealing the scale of hitherto hidden problems. That is why the next section is dedicated to the structural characteristics of the Polish labour market, while this one focuses only on answering the question, if the Russian crisis affected evenly the whole labour market or if there were internal asymmetries in scale and intensity of the impact on different groups as well as in the sectoral and regional dimension.

3.1 The shock and employment by age

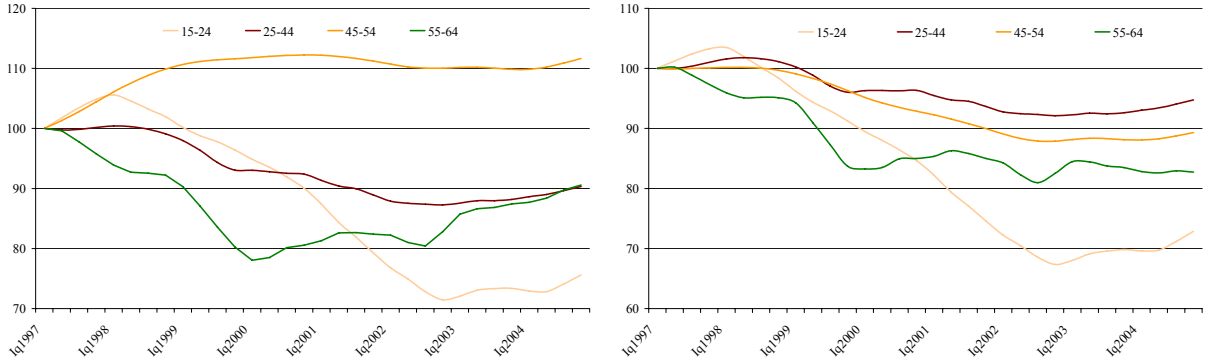
Age is one of the most important factors differentiating the behaviour of individuals on labour market. Situation of the eldest and the youngest labour market participants is relatively worse than that of other age groups, because they are often less productive, either due to worse health (in case of older people) or lack of work experience and identified skills (in case of young labour market entrants). In a transforming economy the relative position of individual cohorts can be subject to substantial, periodic, changes, caused also by external factors. The way the Russian crisis and the subsequent slowdown of economic growth impacted on employment, unemployment and activity rates of persons in different age groups after 1998 is characterized in the following subsection.

3.1.1 Economic activity and employment

The impact of the Russian crisis on economic activity and employment did not spread evenly over the age groups; some cohorts were affected more strongly than others. In 1999, when employment was falling and unemployment rising fastest, outflows from employment were particularly strong for people aged 55 and more, who were losing jobs much more often than younger persons. Upon leaving employment, such people in most cases became inactive, just as in the years before (see section 4.1).

However, while the capacity of this age group, diminishing between 1997-1999, left the total number of the inactive persons aged 55-64 without significant changes until 2001, their activity rate fell during that period from 35 to 31 percentage points, with most of the decrease occurring in 1999. Starting from 2000, this group has been entered by the people born during the post-war baby boom. The shock of 1999, apart from intensifying the phenomenon of early withdrawal from the labour market, led to a doubling of unemployment and unemployment rate among people over 55. Nevertheless, one should bear in mind that in 1998 only 2% of such people were unemployed, and the unemployment rate in this group did not exceed 6%. As a result, the increase in unemployment rate by more than a half in 1999 translated into an absolute rise of merely 35 000 persons, which is slightly more than a half of the increase in the number of the inactive.

Figure 5. Employment (left figure) and employment rates by age groups, 1q1997=100

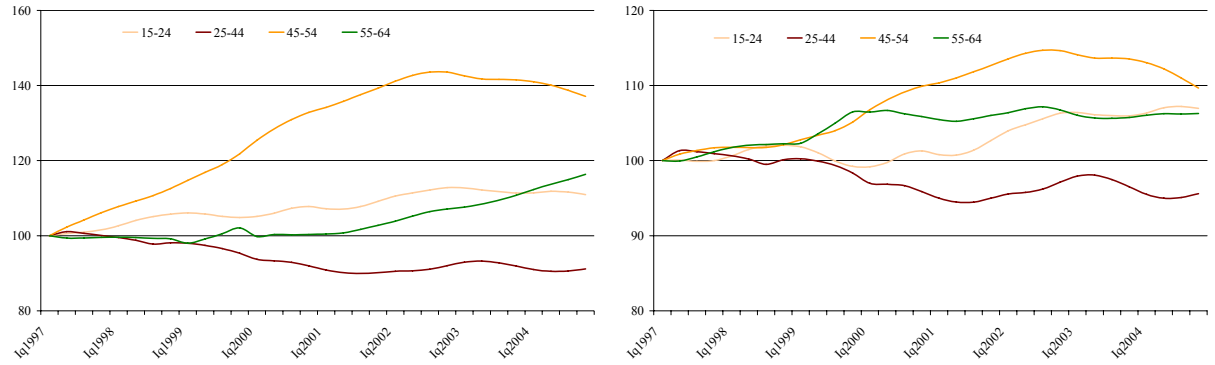


Source: DAE MGiP calculations based on LFS data seasonally and methodologically adjusted

The direct influence of the shock on people aged more than 55 was intense yet transitory and relatively short-lasting. Starting from the turn of 2000-2001, both employment rate and activity rate stabilized and they did not change significantly until 2004. Note that the economic slowdown of 2001-2002 was associated with only a minor fall in employment, resulting from a growth in unemployment of less than 10 000 people. This means, however, that the main reasons behind the long-lasting impact of the 1999 shock on people between 55-64 years were the permanent fall in employment rate and the intensification of early withdrawal from the labour market in this group. Moreover, the unemployed from that group were finding new jobs far less often than younger people. They also exhibited a shorter persistence of unemployment: in 2000-2001 more than a half of them finished their economic activity.[10] The reasons for that are to be sought mainly among institutional factors, discussed more extensively in part IV.

The second group that was particularly strongly affected by the 1999 shock were young labour market entrants. Employment in this group was continuously falling between 1999-2002, both due to a prolonged average education spell – which was often related to inactivity – and because of the increase in unemployment rate. Between the end of 1998 and mid-2004 employment in the group under 25 years fell in total by roughly 480 000 while unemployment rose by 300 000 and inactivity by 215 000. Consequently, inactivity was an important (yet not dominant as it was the case with people over 55) source of the employment decrease among young persons; on the other hand, some of the active people in this group were finding it increasingly difficult to get a job.

Figure 6. Inactivity (left figure) and inactivity rate by age groups, 1q1997=100



Source: DAE MGiP calculations based on LFS data seasonally and methodologically adjusted

Note that at the moment of the direct impact of the shock, the percentage of unemployed in the population of young people rose by about 60%, while the share of inactive practically did not change (nor did their number). No later than in 2002-2003, however, a predominant contribution to the decrease in the employment of young people was made not by an increase in unemployment, but by a fall in activity rate, resulting from growing aspirations for education and increase in tertiary-level enrolment rate. In other words, while the shock of 1999 affected mostly employed young people as well as graduates who encountered more difficulties in finding a job, it did not raise the scale of young peoples' inactivity; this would require finding an alternative to remain active, just as in the case of older people. For youngsters this alternative was a prolonged education, which however could not be realised immediately after the outbreak of the Russian crisis due to natural inertia of education process. This is clearly an argument for the role of institutional factors as disincentives to participate in the labour market for the youngest and the oldest labour market participants. It is worth stressing, that the economic slowdown of 2001-2002 triggered an opposite reaction in labour market participation of young people. There was only a minor increase in unemployment, while more frequently than in 1999 was the moment of entering labour market postponed by continued high-level education.

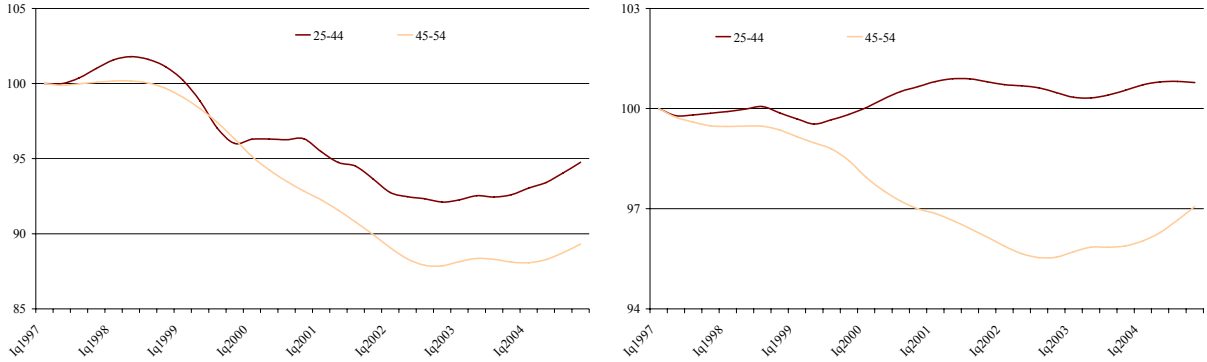
Relatively least affected were the prime-aged workers, i.e. aged 25-44. The fall in employment rate in this group was relatively smallest; one could also observe a certain increase in activity. Comparing

[10] DAE MGiP calculations based on the LFS.

changes in the labour market situation of people aged 25-34 and 15-24 reveals different sensitivities of both groups to the deterioration of market prospects. In 1997 the unemployed aged 15-24 had bigger odds of finding a job: a flow analysis based on LFS indicates that more than 40% of them became employed within one year, as compared to 36% in case of the unemployed aged 25-34. Then again, in 2000 this difference faded out completely, to be reversed in 2001. At the same time, the proportion of people who kept their jobs one year after the outbreak of the shock decreased stronger in the 15-24 group. By implication, only a few years of difference in professional experience resulted in a substantial variation in the relative market position of people younger than 35 years.

Particular were developments in the group of employed aged 45-54. While the fall in employment rate was not as noticeable as among the youngest and the oldest people, it was accompanied by a major increase in inactivity, much higher than in the remaining age groups. Flow analyses indicate that as compared to the 35-44 group, both the employed and the unemployed aged 45-54 were becoming inactive twice as often. It seems that it is this group – older workers but those younger than 55 – which experienced the most permanent changes as a result of the shock and a relatively easy access to some of the social protection transfers (more on that in part 4.1).

Figure 7. Employment rate (left figure) and activity rate, 1q1997 =100



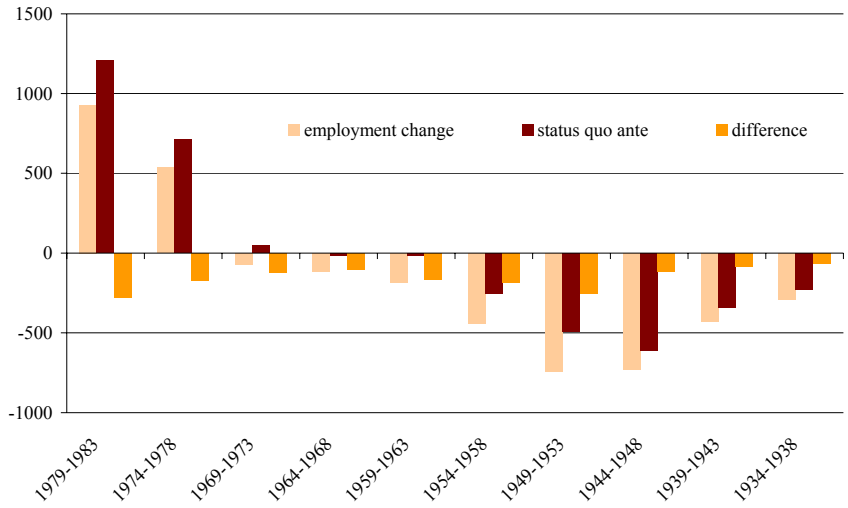
Source: DAE MGiP calculations based on LFS data seasonally and methodologically adjusted

Demographic factors had a certain impact on observed changes in employment and participation. Numerous cohorts of young people entering the labour market made the absorption of the shock in this age group more difficult, while the cohorts born during the post-war baby-boom, becoming older workers, intensified early labour market withdrawal in reaction to the shock. One can assess the medium-term impact of the shock on individual cohorts by comparing their labour market situation in 1998 and 2003 with a hypothetical *status quo* state, i.e. with a state that would have occurred if there had not been a fall in employment rates in individual age groups between 1998-2003 accounting for demographic effects (see Figure 8).

Such analysis indicates that between 1998-2003 employment of people born between 1974-1983 grew substantially (by nearly 1.5 Mio), nevertheless the growth was short of 300 000 to make the situation of the 15-24 group at least not worse than it was in 1998. The reason was, to a certain extent, the increase in the number of people taking full-time education and being inactive at the same time – in the age group 20-24 the number of such people grew by almost 130 000 between 1998-2003; then again, unemployment rate in this group also increased significantly. All other cohorts saw a fall in employment during the period under consideration; however it was not even among the groups. The decrease was particularly significant for people born between 1939-1958, i.e. aged 40-60 years in 1999. One should stress that for people younger than 45 years a fall in employment could have been observed also in the years before 1999. Consequently, this process was merely intensified in 1999-2003. Within the age group 45+ the biggest difference between the change necessary for maintaining *status quo* and the actual change was observed for people born between 1949-1958, for whom it reached 437 000 jobs. Hence, the group most affected by the 1999 shock was, apart from the young people, the group of people aged 40-50 years at that moment. It is worth observing that people, whose whole carrier took place after 1989 and who were present on the labour market in 1998, had least

problems with adapting to the new conditions, i.e. people born between 1964-1973, who were 25-34 at that time.

Figure 8. Employment in 2003 as compared to 1998, by cohorts



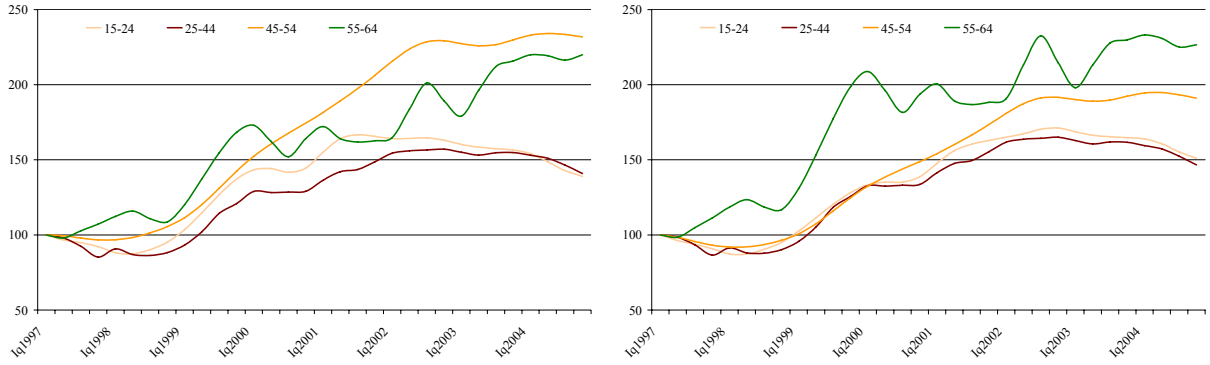
The figure shows: the difference in employment in a given age group between 2003 and 1998 (*change in employment*); the number of jobs that would have had to be created if the employment rate in this age group was to remain the same in 2003 as in 1998 (*status quo ante*); and the difference of the two numbers (*difference*)
Source: DAE MGiP calculations based on Eurostat data

3.1.2 Unemployment

Abrupt fall in employment in 1999 affected all the age groups participating in the labour market. As presented above, that impact was to a certain extent asymmetric with respect to the role played by withdrawal from the labour market and to a lesser degree also in terms of employment changes. Changes in unemployment rate were outcomes of these two processes. Right after the shock, when the direct effects were apparent and employment fell by more than 710 000 people, unemployment grew by as much as 800 000; at the same time inactivity increased by 140 000 and labour force by 222 000. Consequently it was the flow from employment to unemployment, combined with a fast increase in labour force (which the labour market was not able to absorb to a satisfactory degree), that was the main cause of the fall in employment rate observed at that time. Although in relative terms the surge in unemployment was biggest for people aged 55 and more, due to the very low reference base in that group, more than 95% of the persons who became unemployed after 1999 were members of younger age groups (65% of the 25-54 group and roughly 30% of the youngest group). In fact, the direct impact of the shock on unemployment was similar for people aged 15-24, 25-44 and 45-54. However, the groups differed to a certain extent in their reaction to the economic slowdown of 2001-2002 (which affected stronger younger people at first), and to the economic recovery of 2003-2004. While unemployment rate in the group of people aged no more than 45 has been gradually falling since mid-2001, in case of the group 45-54 one can only speak of a stabilisation.

Additional information on the causes of such a substantial increase in unemployment after 1999 can be obtained from a quarterly decomposition of net inflows into unemployment, based on seasonally adjusted LFS data (Box 2). By differentiating between the three sources of inflows into unemployment – resulting from the demographic factors (change in the number of people in a given group), from changes in activity rate, and from the changes in employment – this decomposition makes it possible to assess their relative impact in individual age groups and at different points of time. It clearly confirms that the abrupt surge in employment took place in 1999 and to a lesser degree between 2001 - 2002. The next period was a time of stabilisation on a new level of unemployment, nearly twice as high as before. Demographic processes had only a minor influence on the number of unemployed at that time, much smaller than had the changes in activity level. The most important role was played by abrupt changes in employment translating directly into changes in unemployment. Flows from employment to unemployment exceeded several times the effects of labour market withdrawals and demography. What is more, the two latter factors were cancelling out.

Figure 9. Unemployment (left figure) and unemployment rate by age groups, 1q1997 =100



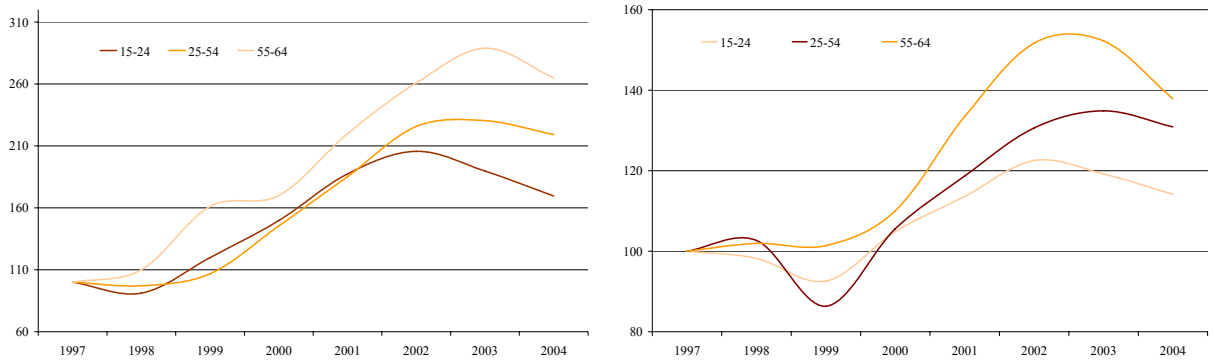
Source: DAE MGiP calculations based on LFS data seasonally and methodologically adjusted
Substantial quarter-to-quarter changes in unemployment of the group 55-64 are a consequence of its small size

It should also be observed that while the total impact of change in demographic structure on unemployment was more or less constant throughout the considered period, the influence of transitions to inactivity was particularly high only in 2002 and 2004. However, if in 2002 this phenomenon was determined mainly by the delays in labour market entrance of young people (related to the prolongation of average education spell), then in 2003 one could also observe a more intense withdrawal from the labour market of older people, partly counterbalanced by changes in the younger age groups. Then again, during the period of the direct impact of the shock, one could observe an increase in economic activity of the young (who did not manage to react to the deteriorating labour market situation by prolonging their education), and on the other hand an intense labour market withdrawal of people aged 45 and more, who were on a large scale using the opportunities offered by the social protection system. Increase in the scale of transitions to inactivity was particularly high and long-lasting in the 45-54 group, where it was accompanied by strong demographic factors (as mentioned before, people born during the post-war baby-boom were entering this age group in ever-greater numbers). On the other hand, for the prime-aged people (25-44 years), changes in economic activity had a minor influence on changes in unemployment; the impact of demographic factors was actually negative, since the baby-boomers were moving to the 45-54 group and the prime-age group declined in relative terms.

An important result of a double increase in unemployment rate between 1998-2002 was that the share of long-term unemployed (i.e. longer than a year) in total unemployment also doubled. As said in the previous section, the reasons were a high persistence of unemployment after the 1999 shock and a longer average job-search time. It should be stressed that the share of the long-term unemployment in total unemployment grew similarly in all age groups. Only in the group of people aged 55, which was hit the strongest by the shock, the dynamics of the long-term unemployment was slightly higher.

At the same time, one has to stress that the above mentioned asymmetric effect of the shock on the age group 55+ and younger was relatively insignificant as compared to the scale in the increase in the long-term unemployment in all the age groups. In 2003 a half of all unemployed had been without a job for more than a year, implying an increase of more than 10 percentage points as compared to the situation before the outbreak of the shock. It is worth observing that while the intensification of inflows to unemployment between 1998-1999 reduced the proportion of long-term unemployed both in the whole population and in the stock of unemployed under 55, the moment the shock subsided this share grew again, though on a smaller scale than in the group aged 55-64. The latter group experienced a minor increase in inflows to unemployment as result of the shock. More strongly were hit the unemployed in this group whose odds of finding a job declined and average unemployment spell became longer.

Figure 10. Index of the share of long-term unemployed in population (left figure) and in total unemployment (right figure) by age groups (1997=100)



The long-term unemployed are: persons over 25 who have been unemployed for at least 12 months, and persons aged 15-24 who have been unemployed for at least 6 months

Source: DAE MGiP calculations based on the LFS data

Table 5 presents changes in unemployment rates of individual age groups between 1998-2000, and frequencies of flows from unemployment in 2000-2004. These frequencies illustrate outflows from unemployment in the period following the shock but not directly after its outbreak. By far the smallest increase in unemployment rate occurred in the group of people aged 15-24 years. Nonetheless, this group had the highest fraction of unemployed who found the job after 2000, indicating a higher frictional component of unemployment than in other groups. However, flows within this group are extremely heterogeneous with respect to another factor determining the level of human capital: that is educational attainment. In the period of 2000-2004 about 44% of the unemployed with tertiary education started working within a year time, whereas for people with secondary or post-secondary education, basic vocational education, and primary education, this percentage was 25.8, 20.7 and 16.5 respectively. The shock of 1998 did not affect most of these people, least of all the individuals who entered labour market after 2000. On the other hand, pertaining consequences of the shock have worsened the labour market prospects of many; this applies especially to less educated young people whose start became more difficult. One can thus say that a slow absorption of the Russian shock on the Polish labour market made the situation of less educated young labour market entrants significantly worse as compared to the older age groups, who had been active already in the period 1998-1999.

Table 5. Frequencies of flows from unemployment between 2000 and 2004 (in percent) and change in the unemployment rate between 1998 and 2000 (in percentage points) by age groups

	Employment	Unemployment	Inactivity	Change in unemployment rate between 1998 and 2000
15–24	22.9	65.9	11.2	11.9
25–44	20.7	67.8	11.4	4.8
45–54	13.6	67.3	19.1	3.7
55–64	7.0	53.3	39.7	3.4

Note: Men aged 15–64, women aged 15–59. 1-year transitions considered. Presented figures are percentages of people flowing from a given initial state to each of the three final states.
Source: DAE MGiP calculations based on LFS

Box 2. Decomposition of the sources of unemployment

Decomposition of the sources of unemployment illustrates to what extent is the change in unemployment caused by demographic factors, economic activity and changes in employment.

By demographic factor, the change in the number of population of a given age is meant. Provided that there is no change in employment rate, activity rate and unemployment rate, an increase in number of a given age group should translate into a proportionate increase in employment, activity and unemployment. For instance, the baby-boomers reaching a working age cause a strong demographic effect.

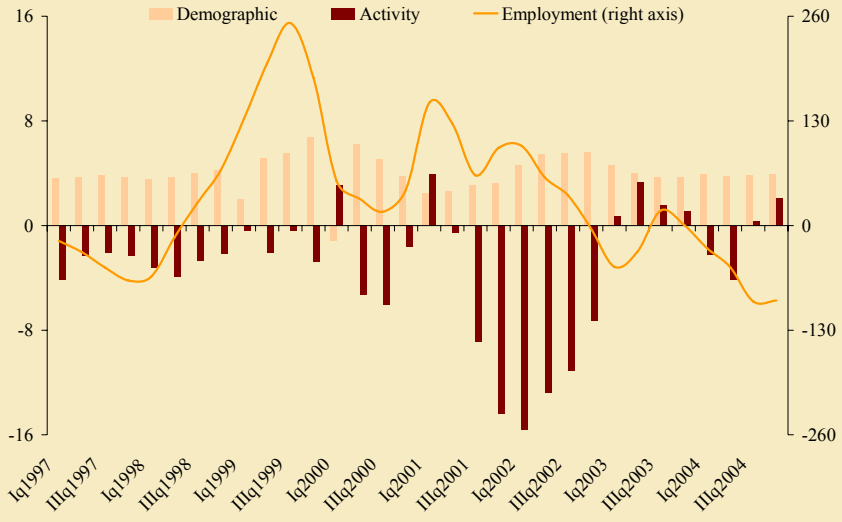
By impact of economic activity, the changes in proportion of the inactive people in population is meant, which, assuming no change in activity rate, must necessarily result in a change in unemployment. For example, a massive early retiring may evoke this effect.

By impact of employment, the change in the unemployment rate holding a given activity rate is meant. For instance, an abrupt fall in employment rate as a result of the restructuring processes will make for a decrease in unemployment.

As shown by the figure beneath, in recent years the impact of employment changes on unemployment was several times higher than that of other factors. At the same time, one can notice that demographic factors contributed to a slight increase in unemployment and early retirement incentives to its small decrease.

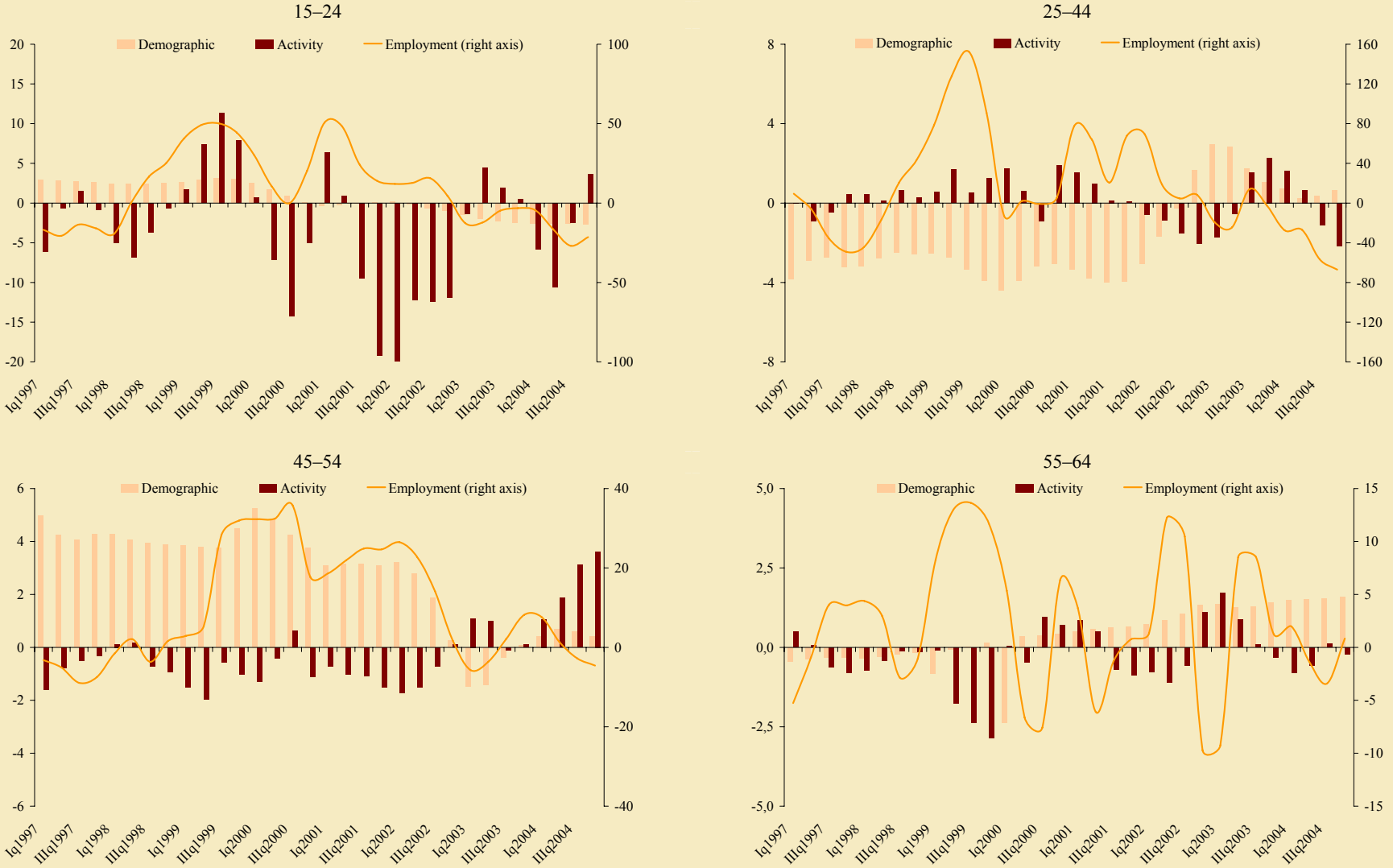
Decomposition broken down by age groups is presented in the next page.

Figure 11. Decomposition of the sources of unemployment: quarterly changes in the number of unemployed aged 15-64 resulting from: demographic factors, changes in economic activity, changes in employment (in thousand of unemployed persons)



Source: DAE MGiP calculations based on LFS data seasonally and methodologically adjusted

Figure 12. Decomposition of the sources of unemployment: quarterly changes in unemployment resulting from: demographic factors, changes in economic activity, changes in employment (in thousand of unemployed persons)



Source: DAE MGiP calculations based on LFS data seasonally and methodologically adjusted.

In older age groups one can observe a decrease in share of unemployed who became employed, resulting from an increase in their inflow to inactivity. Then again, outflows from unemployment of people between 25-44 years are relatively similar to those observed for the youngest group, and the difference in favour of the younger people declined as a result of the shock. It confirms that prime-aged people adapted to new conditions most easily. It is noticeable that in all the age groups under 55 about two thirds of the unemployed remained without work also one year later. Combined with outflows to employment, it becomes obvious that facing pertaining labour market stagnation the unemployed aged 45+ were following the institutionally conditioned incentives for leaving the labour market. These were particularly strong for the oldest people. In their case the shock of 1998 had long-lasting consequences: upon becoming unemployment and encountering problems in coming to terms with the new conditions they were often leaving the labour market. Unemployment was a stage leading directly to inactivity for almost all of the unemployed over 55 years of age; in the group between 45-54 years this process was slightly less intense.

Differences in the labour market flows of different age groups are further reflected in different rates of equilibrium unemployment, showing not only different scales of unemployment, but also the role of its frictional and structural elements. Equilibrium unemployment rates decline with age; an exception is the group of people between 45-54 years that exhibits an unemployment rate lower only than that of the youngest group (cf. Table 6). The evidently higher unemployment rate of people under 25 reflects high frictional unemployment in this group, which is characterized by the highest intensity of outflows from employment into unemployment and from unemployment to employment. Substantial increase in unemployment rate after 2000 was mainly a consequence of higher outflows to inactivity among young people (suggesting an increase in their educational activity), and a result of significantly lower outflows from unemployment in the period of 2000/2001. Subsequently, the equilibrium unemployment fell in this group, which was related to the generally improving labour market situation.

Table 6. Equilibrium unemployment rates calculated on the basis of yearly flows, by age groups (in percent)

	1997/1998	2000/2002	2003/2004
15-24	13.9	34.2	27.9
25-34	6.4	17.4	18.1
35-44	5.8	16.9	14.5
45-54	6.8	18.0	20.2
55-64	4.2	11.1	16.5

Source: DAE MGiP calculations based on LFS. Men aged 15-64, women aged 15-59

Evolution of equilibrium unemployment rates is similar for all age groups, especially directly after the shock, though the relative increase in equilibrium unemployment rate for people aged 25-54 years is higher than for younger people: numbers for 2003/2004 are roughly the triples of those from 1997/1998. The 45-55 group experienced the highest relative growth in equilibrium unemployment rate, which also did not exhibit any decreasing tendency after 2002 contrary to the 15-24 and 35-44 groups. One can draw the conclusion that the shock of 1999 and subsequent slowdown of the growth rate in 2001-2002 have most permanently impacted the individuals older than 45 years. It was mainly the more intense outflows to inactivity, accompanied by a significant fall in activity and in equilibrium employment that was responsible for high levels of equilibrium unemployment in the 45-54 and 55-64 groups in the period 2003/2004.

Comparing theoretical values with actual ones indicates that for people between 25-34 years, the (actual) unemployment rate was by a few percentage points higher than the equilibrium unemployment rate throughout the whole investigated period. By contrast, in groups aged 35-44, 45-54 and 55-64 actual unemployment rate was lower than theoretical one only between 1997/1998, then the relation reversed. As regards actual activity and employment rates, in the 25-44 group they were similar to, or slightly exceeding, those calculated on the basis of the flow analysis. However people older than 45, theoretical rates were less than a half of actual ones, indicating a high scale of outflows from labour market, confirmed also by a decreasing number of the economically active in this group.

3.2 Education and relative labour market situation

Education was, apart from age, a crucial factor differentiating labour market impact of the 1998 shock. However, the role educational attainment played directly after the Russian shock and in a later period was slightly different.

In 1999 the relative risk of losing a job (as compared to other subgroups) by age and education was similar to that of 1997. Despite an abrupt fall in employment resulting from the shock, the structure of outflows from employment remained similar (Table 7). One can notice an increase in relative risk of losing a job mainly among young people with tertiary or secondary education.

Differences between the layoff structure by education before and after the shock are not substantial; in the case of younger people one can believe that one of the results of the 1999 shock was the "last in, first out" effect i.e. the people made redundant were the youngest ones, who, most likely had not worked for a long time, and whose layoffs cost firm least.

For the same reason, young people with tertiary education ran a higher layoff risks than their peers with secondary or vocational education, who had a longer employment record at the moment of the shock. Moreover, a part of the stronger direct impact of the shock on the people with tertiary or secondary education can be associated with quite significant reaction to the abrupt fall in demand in such sectors as financial intermediation, real estate, renting and business activities, which had the highest proportion of employees with secondary and tertiary education, and which had been engaging people rather than laying them off before 1999. What made 1999 different form the year before, was the scale of the outflows from employment, not its structure.

Table 7. Structure of the population of the people by age and educational attainment at the moment of dismissal

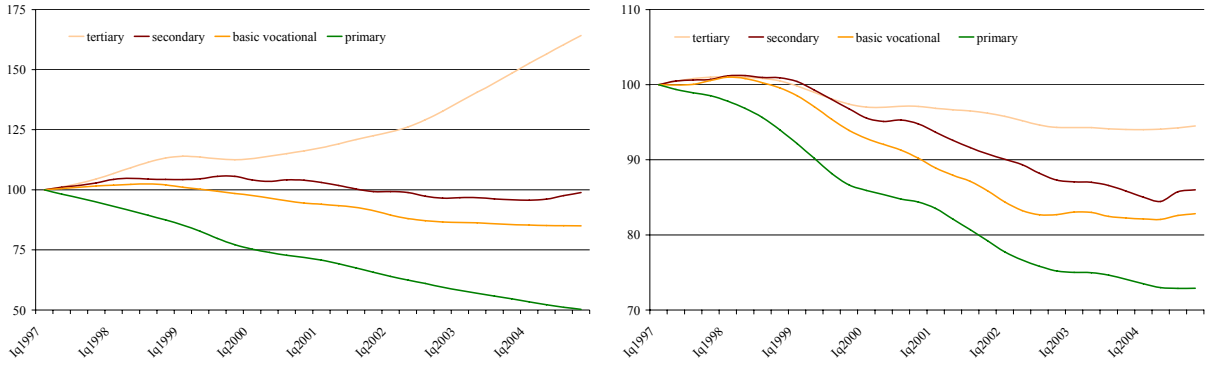
	15 – 24	**25 – 34**	**35 – 44**	**45 – 54**	**55 – 59/64**	**Total**
Structure of the population of the people who lost their jobs in 1997 and remained unemployed in 1998 (A)						
Tertiary	0.2	1.2	0.5	1.2	0.9	**3.9**
Secondary	7.7	6.9	7.2	6.8	3.2	**31.8**
Basic vocational	8.6	10.3	9.2	8.4	3.6	**40.1**
Primary	3.4	3.5	4.2	7.5	5.5	**24.1**
Total	**19.8**	**21.9**	**21.1**	**24.0**	**13.2**	**100.0**
Structure of the population of the people who lost their jobs in 1999 and remained unemployed in 2000 (B)						
Tertiary	0.8	1.3	0.6	1.1	0.9	**4.7**
Secondary	10.4	7.9	7.4	7.9	3.0	**36.6**
Basic vocational	8.7	10.8	9.6	8.5	2.0	**39.5**
Primary	2.9	3.3	4.1	6.0	2.9	**19.2**
Total	**22.7**	**23.3**	**21.6**	**23.5**	**8.8**	**100.0**
Change of job-loss structure between 1998 and 2000 (B/A)						
Tertiary	4.0	1.1	1.2	0.9	1.0	**1.2**
Secondary	1.4	1.1	1.0	1.2	0.9	**1.2**
Basic vocational	1.0	1.0	1.0	1.0	0.6	**1.0**
Primary	0.9	0.9	1.0	0.8	0.5	**0.8**
Total	**1.1**	**1.1**	**1.0**	**1.0**	**0.7**	**1.0**

People who lost their jobs in the initial periods and remained inactive or unemployed in the final one, by age and educational attainment at the moment of survey. Surveys from 1998 and 2000 were used and the information referring to the moment of dismissals were considered.
Source: DAE MGiP calculations based on LFS data

On the other hand, there were considerable differences in the way different groups were absorbing the shock between 2000-2004, and in their capabilities to react to the economic slowdown of 2001-2002. While young or well educated people adapt to the labour market situation more easily, one can identify groups, for whom the general deterioration of the labour market situation, and in particular the

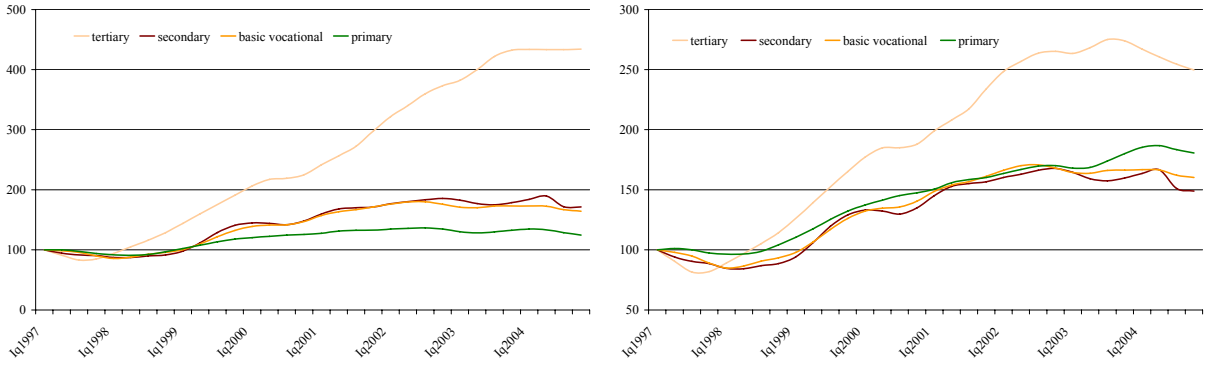
abrupt fall in employment in 1999, meant a significant increase in their odds of a losing the job permanently.

Figure 13. Employment (left) and employment rate of people 20-64 by educational attainment 1q1997 = 100



Source: DAE MGiP calculations based on LFS data seasonally and methodologically adjusted

Figure 14. Unemployment (left) and unemployment rate of people 20-64 by educational attainment 1q1997 = 100



Source: DAE MGiP calculations based on LFS data seasonally and methodologically adjusted

When observing absolute numbers one can notice a significant growth in the employment of people with tertiary education, and at the same time a fall in the employment of persons with primary education. The surge in employment of the better educated groups was mainly the result of the increasing number of better educated people and the decline in the number of the less-skilled ones. As it can be observed in Table 13, under the consideration of the demographic effect the shock of 1999 translated into a fall in the employment rate of all the groups, independent from the level of education. However the scale of decline did depend strongly on education and it was smaller for people with better education.

All the groups experienced a surge in unemployment, but the process was not even, due to changes in employment, in activity and in the number of individual groups. In particular, the significant increase in unemployment of the people with tertiary education and the growth in the unemployment rate in this group (see Figure 14) was a consequence of the substantial increase in enrolment rate in an earlier period. As it can be seen in Table 8, the growth in the number of people economically active with tertiary education (and to a certain extent also of those with general secondary education), exceeded by far the increment in unemployment in these groups. Among the people with vocational secondary, basic vocational and primary education, unemployment was growing despite a decline in activity.

As evidenced by these data, in the time of declining employment between 1999-2002 the labour market situation of persons with tertiary education (and to a certain degree also with secondary education) was substantially better than that of other groups. Less-educated people could not cope with increased labour market pressure and the fall in their employment was disproportionately significant as compared with the decline in activity; on the other hand, the group of people with tertiary education experienced a higher surge in the share of employed than did the whole population, or the labour force.

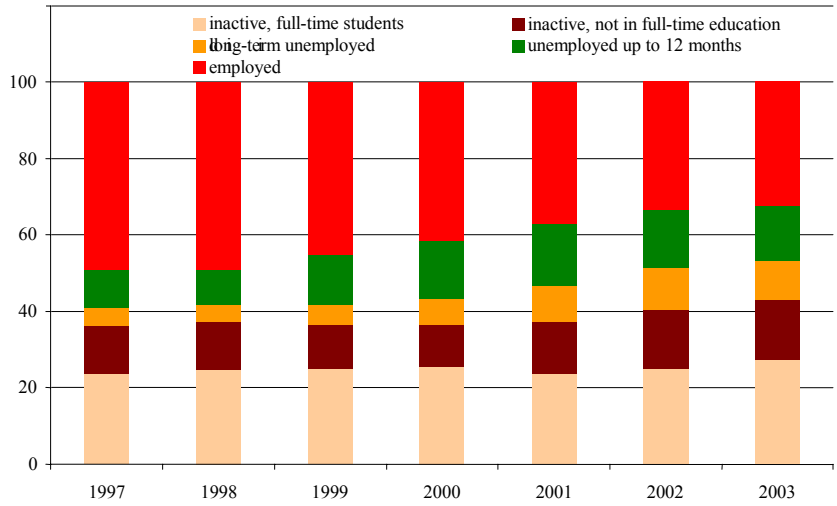
Table 8. Change in the structure of the active, the employed and the unemployed between 4q1998 and 4q2003 (in thousand of persons) and the structure of employed by educational attainment in 1998 and 2003 (as percentage of total employment)

	Tertiary	Post-secondary	General vocational	General high school	Basic vocational	Primary
Scale of change in thousands of people						
Active	749	48	–148	234	–256	–839
Employed	601	–3	–487	76	–865	–984
Unemployed	147	51	338	157	608	145
Structure by educational attainment						
1998 structure	12.5	3.4	25.8	6.3	34.4	17.6
2003 structure	18.2	3.9	25.7	7.6	32.4	12.3

Source: DAE MGiP calculations based on LFS data seasonally and methodologically adjusted

Comparing the frequencies of flows between labour market states for different age groups in 1997/9 and 2000/2001 also proves that the situation of persons with better education has deteriorated the least, especially considering the increase in the number of people with tertiary education in that time.[11] Data in table 9 indicate that the decline in employment was the higher, the lower the education level; the same applies to the change in unemployment rate and for the fraction of inactive who found a job within a year time. Admittedly, the frequency of flow from employment to unemployment grew the most among the people with the tertiary education, but it was due to its very low value before the outbreak of the shock. Differences in the frequency of this flow among different groups remained considerable – in the period of 2000/2001 only 1.3% of employed with tertiary education lost jobs, whereas for the people with secondary or upper secondary, vocational or primary education the numbers were respectively 4.0%, 5.2% and 4.1%. Changes in the frequency of flow from employment to unemployment and vice-versa and in the recurrence of unemployment were strongest for the people with secondary and upper secondary education, who were also the only group to exhibit an increase in the flows to inactivity. Thus it seems that as a result of the shock this group was hit by unemployment much more strongly than the people with tertiary education; the situation of persons with secondary and upper secondary education became more similar to that of people with basic vocational education. Consequently, the increase in the number of unemployed with tertiary education after the shock is a result of the increasing proportion of this group in the labour force and in the whole population, and differences in the labour market situation associated with education actually increased in favour of this group.

Figure 15. Structure of the population aged 20-24 years by activity and educational involvement



Source: DAE MGiP calculations based on LFS data

[11] Because of the break in the realisation of the LFS in 1999, it is not possible to set up the panels and to calculate the yearly flows for the 1998/1999 and 1999/2000 periods. This is why one compares the available flows of the last period before the shock and the first period after.

Table 9. Changes in the frequencies of flows on the labour market between the 1997/8 and 2000/1 periods by educational attainment (in percent)

Initial state	Final state		
Tertiary			
	Employment	Unemployment	Inactivity
Employment	99	337	115
Unemployment	88	116	108
Inactivity	97	267	105
Secondary and post-secondary			
	Employment	Unemployment	Inactivity
Employment	98	224	86
Unemployment	62	136	90
Inactivity	74	190	99
Basic vocational			
	Employment	Unemployment	Inactivity
Employment	97	184	105
Unemployment	58	128	109
Inactivity	67	181	108
Primary or lower			
	Employment	Unemployment	Inactivity
Employment	97	168	114
Unemployment	67	113	98
Inactivity	83	153	105

Men aged 15–64, women aged 15–59. 1-year transitions considered. Presented figures are ratios of percentages of people flowing from a given initial state to each of the three final states in the period 2000/1 to the respective percentages in the period 1997/98.
Source: DAE MGiP calculations based on LFS

Although the youngest labour market participants experienced the smallest fall in employment and the surge in unemployment after 1998, these processes had a different character than it was the case with persons over 24 years. The first crucial factor impacting on the activity and employment rate of young people was a substantial surge in enrolment rate in the recent years – especially on the tertiary level. It is the growth in the number of people between 15-24 years receiving education, that can be made responsible for the fall in activity in this group of 140 000 persons (responding to a 2.5 percentage point fall in activity rate).[12] The effect of business cycle, enhanced by demographic factors, made the entrants' job-search time significantly longer (which resulted in an increase in the unemployment rate). Along with the increase in the number of unemployed with tertiary education, the age structure of this group shifted significantly in favour of the young (in 1997 the median age of an unemployed, with tertiary education was 40 years and the mean age 40.7; in 2000 the number were 26 and 32.1 years respectively). However the younger within the group continued to find jobs more easily: the difference in frequencies of the flows from unemployment to employment between the people under and over 30 years did not change between 1997/1998 and 2000/2001. It indicates that an increased inflow of the graduates to the labour market played a decisive role in the surge in unemployment in this group.

Supposedly, a certain deterioration of the situation of young people is associated with the 'depreciation' of tertiary education. In response to the changing structure of the labour demand young peoples' aspirations for education grow. Pressure on the education market is to a certain extent caused by the relatively slow adjustment of curricula and practice of the Polish secondary schools to the demands of the labour market (it applies to general secondary schools, as well as to technical secondary- and basic vocational schools). At the same time the access to institution offering high level education remained rather limited. That was why many people decided to start a study, which later turned out to be unmarketable.[13]

[12] It has to be emphasised, that as evidenced by the experience of the developed countries, a high level of enrolment rate does not have to translate into a low employment rate, because young people work during their studies. However, young people still at school prefer flexible work times and part-time jobs. The relatively poorly developed service sector in Poland limits the demand for this type of work. What is more, the low wage limits the attractiveness of part-time jobs. The phenomenon of combining study and work can be observed mostly among extramural students (in the 3rd quarter of 2004 merely 70 000 out 964.000 that is 7.3% of students attending full-time courses worked, for extramural students it was 550.000 out of 866 000, which is 63.5%)

[13] A similar effect, called "credential education" and "over–education" was discussed in the OECD Employment Outlook 2002 (p. 41).

Tertiary education increases the odds of exiting unemployment significantly less than for the older age groups for the younger age groups. In the period of 2000-2004 the shares of the unemployed under 45 years taking a job within a year time were: 42.4% for people with tertiary education, 23.6% - secondary or upper secondary education, 20.2% - basic vocational education, and 15.7% - primary education. For the unemployed aged 45 or more the numbers were respectively 21.1%, 13.3%, 13.7% and 10.2%. By implication, older workers with tertiary education were finding jobs more frequently than their less-educated peers, and they were losing jobs less often yet as compared to the younger people their labour market situation was worse, as shown also by their (progressing) transitions to inactivity. Frequencies of the flows from unemployment calculated on the basis of the LFS from 2000-2004 presented in Table 10 when compared with changes in the unemployment rate in 1998-2000, prove the importance of the human capital for the persistence of unemployment in Poland. Also the increment in the unemployment rate would be the bigger the lower the educational attainment. Then, in 2000-2004, the proportion of the unemployed remaining in unemployment[14] would be the bigger and the frequency of taking a job the smaller, the lower the education attained. Presumably, the skills and capability to adapt to employers' requirements decline with longer unemployment spell, especially for the less-educated people, who have before worked in sectors undergoing restructuring or experiencing a fall in demand. Consequently, these people run a risk of a permanent exclusion from the labour market and social marginalization.

Table 10. Frequencies of outflows from unemployment between 2000–2004 (in percent) and change in the unemployment rate between 1998 and 2000 (in percentage points) by educational attainment

	Employment	Unemployment	Inactivity	Change in unemployment rate between 1998 and 2000
Tertiary	38.5	48.8	12.7	2.3
Secondary or post-secondary	21.5	64.2	14.3	5.2
Basic vocational	18.9	69.0	12.1	6.8
Primary or lower	13.8	69.5	16.7	6.9

Men aged 15–64, women aged 15–59.
Source: DAE MGiP calculations based on LFS

The key role of human capital for the labour market situation is confirmed by the equilibrium unemployment rates, presented in Table 11. Theoretical rates decline as the educational attainment decreases. In the second half of 1990s persons with tertiary education exhibited very low outflows from employment to unemployment, and that it why the estimates for 1997/1998 are much lower than the actual unemployment level in that group. Afterwards, in the beginning of the current decade the equilibrium unemployment rates grew, and then fell in the period of 2003/2004. Theoretical value was lower than the actual one by roughly 2 percentage points. This evolution being similar to that observed in the age group 15-24, the graduates seeking the first jobs are supposedly a big fraction of the unemployed with tertiary education.

People with secondary or upper secondary education exhibit equilibrium unemployment rates that are closer to that of persons with basic vocational education than that of people with tertiary education. Theoretical rate for that group grew with the actual rate, which remained higher by roughly 2 percentage points, with the exception of the period 1997/1998. As a result of the shock persons with basic vocational education experienced a major surge in equilibrium unemployment rate, which in 2000-2001 was higher than the actual rate. The falling unemployment in that group after 2002 indicates its more frictional character, depending stronger on the labour demand than it is the case with the group of people with secondary education.

The equilibrium unemployment rate for persons with at most lower secondary education was higher than the actual rate and after 2001 it stabilized on the high level of 28%. This group has the lowest proportion of employed and lowest outflows from unemployment and inactivity. Consequently, the high equilibrium unemployment rate in this group is a sign of permanent unemployment and hysteresis, rather than of high rotation and frictional unemployment.

[14] Throughout the one-year period between participation in the two Labour Force Surveys.

Table 11. Equilibrium unemployment rates by educational attainment calculated on the basis of yearly flows (in percent)

	1997/1998	2000/20012	2003/2004
Tertiary	0.9	6.1	3.9
Secondary and post-secondary	5.3	16.6	17.8
Basic vocational	8.1	26.7	22.2
At most lower secondary	12.7	28.7	28.0

Source: DAE MGiP calculations based on LFS. Men aged 15-64, women aged 15-59

As indicated above, education is a factor clearly differentiating individual odds of finding a job by an unemployed person, or losing a job by an employed person, in all age groups. It plays a particularly important role for the youngest and the oldest labour market participants.

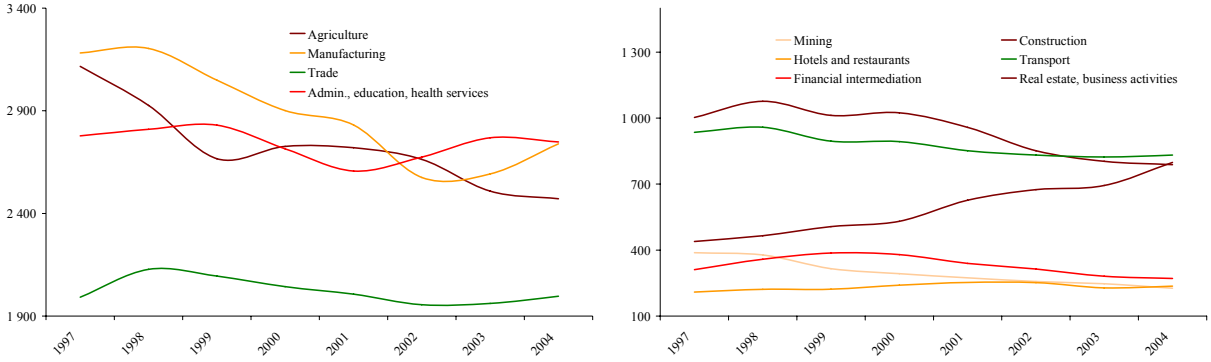
Although the labour market situation of the young people is relatively good, with unemployment having to a large extent a frictional character despite its high level, one can still identify groups with the lowest qualifications (people with basic or basic vocational education) whose chances for finding a job are significantly lower than those of their peers. The difficult labour market situation of the youngest cohorts seems to be a transitory phenomenon, and an overwhelming majority of the people entering the labour market finds employment after a few months the latest (though the jobs often do not come up to initial expectations). By contrast, the fall in employment of the persons aged 45 and more in 1999, is to a large degree irreversible. This goes especially for the people between 55-64 years, for whom the education factor only to a minor extent differentiated their odds of early labour market withdrawal, even if persons with better education were relatively less likely to lose the job. Consequently, the outflow of the older people to inactivity was much stronger conditioned by institutional factors than the structural characteristics of the labour supply.

3.3 Sectoral and regional impact of the 1999 shock

The abrupt fall in employment in 1999 affected all regions of the country, though to an uneven extent. Decline was biggest in Dolnoslaskie and in Slaskie voivodeships (respectively 20% and 17% between 1998-2001), and less significant in Wielkopolskie voivodeship (0.8%). In whole Poland employment fell by 8.2%, but variation in this phenomenon by voivodeship was substantial, reaching 5.5 percentage points. Changes in employment structure of a given region were to a large extent determined by the character of its economy and its sectoral structure.

Significant fall in employment in Slaskie voivodeship was related, on one hand, to decline in mining employment (by 170 000 between 1q1999 and 1q2000), resulting from restructuring of this sector, and on the other hand to fall in employment in services. The lowest decrease in employment was observed in relatively more developed voivodeships (Malopolskie, Wielkopolskie) and in Kujawsko-Pomorskie voivodeship. Further more, the decline was relatively lower in regions with a high share of employment in agriculture (Lubelskie, Podlaskie, Podkarpackie and Swietokrzyskie voivodeships), what was to the same extent a result of the decrease in agricultural and industrial employment (especially in Lubelskie and Podkarpackie voivodeships). Mazowieckie saw a relatively substantial decline in employment in industry and services. The highest proportionate fall in industrial employment was observed in Swietokrzyskie voivodeship (29% of manufacturing employment), however in absolute numbers most people lost jobs in Slaskie (82 000, that is 27%) and in Mazowieckie (57 000, 20%) voivodeships. Lodzkie experienced characteristic changes: employment in industry and agriculture fell substantially while employment in services grew. This region has seen in recent years a dynamic development of companies “exporting” services (e.g. phone services realised by call centres, or financial services delivered by accounting departments of international concerns).

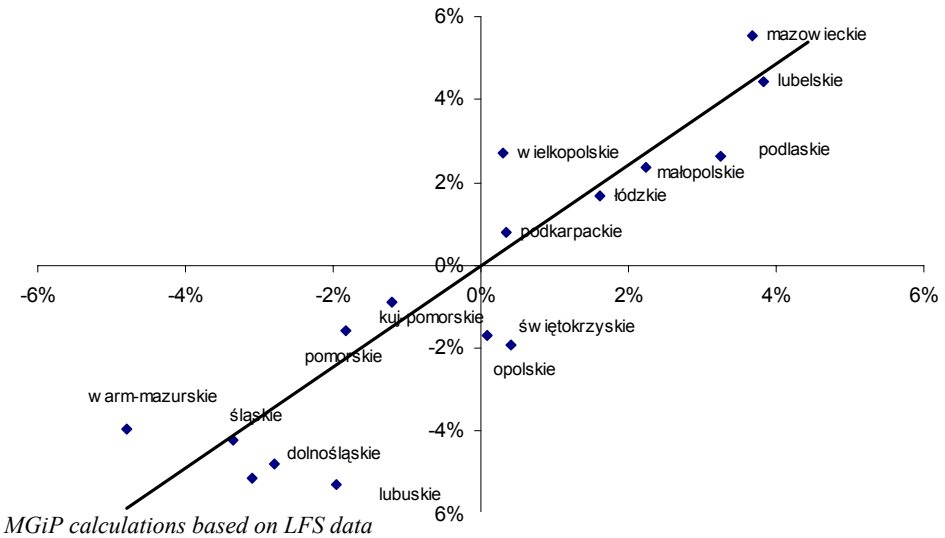
Figure 16. Employment by NACE sectors between 1997–2003



Source: DAE MGiP calculations based on LFS data

The fall in employment resulting from a demand shock and subsequent economic slowdown affected most strongly industry, including manufacturing. Between 1998-2002 employment in this sector fell by almost 700 000 persons i.e. by 21%. These changes were deeply differentiated both by region and by branch. While employment in apparel industry fell substantially (by about 40%), it slightly rose in rubber industry (1.5%). In 1998 employment in textile and apparel industries was concentrated in Dolnoslaskie, Lodzkie, Slaskie and Wielkopolskie voivodeships, and that is why these voivodeships were more strongly affected by the Russian crisis, the breakdown of demand and sectors' exports. Employment in enterprises that manufactured machinery and equipment declined by roughly 30%, with most of this production being concentrated in Slaskie, Dolnoslaskie, Mazowieckie and Wielkopolskie regions. Manufacturing of rubber and plastic products was the only industry which experienced an employment growth in 1998-2002. Economic crisis was also striking in the construction sector, in which the decrease in employment, while evenly distributed in the whole country, was most apparent in the voivodeships that had most people working in this industry i.e. Slaskie, Mazowieckie, Malopolskie, Dolnoslaskie and Wielkopolskie. It is worth observing that Wielkopolskie experienced a minor fall in unemployment, despite having a significant share of industries in which employment was falling country-wide, which indicates a better adjustment of the market to new environment and a more easy absorption of the shock than the rest of the country. Enterprises from the real estate, renting, and business activities sectors, definitely stand out in the Polish economy as ones that increased employment both in the critical year of 1999 and in the years after.

Figure 17. Deviations of the employment rates from the country average in 1998 (x axis) and 2003r (y axis)



Dane: DAE MGiP calculations based on LFS data

Changes that took place in the Polish economy in 1999 deepened differences in the economic activity of inhabitants of individual regions. The figure beneath presents deviations of the employment rates from country's mean in 1998 and 2003. The Mazowieckie, Wielkopolskie, Slaskie, Dolnoslaskie, Zachodniopomorskie and Lubuskie voivodeships increased their distance from the average Polish rate; there was no voivodeship that would significantly reduce the deviation. The demand shock of 1999 and the subsequent processes affected Polish regions unevenly: those voivodeships that had had a low proportion of employed in the population before 1998 experienced a substantially deeper fall in employment rate.

Along with growing variation of the employment rate, the regional variation of unemployment rates declined, and so did the proportion of unemployed in population. Coefficient of variation of the activity rates increased only insignificantly. In 1998 it was four times as high as the coefficient of variation of employment rates; this ratio fell to two in 2003. Moreover, frequencies of flows from employment to unemployment or inactivity, calculated on the basis of the LFS, exhibit much weaker variation by voivodeships than do the flows from unemployment to employment or inactivity. Nevertheless, in the logit model presented later in this Report, voivodeship-specific factors are much less significant in explaining outflows from unemployment than outflows from employment. All these findings indicate that, although when it comes to change in unemployment the shock affected individual voivodeships more or less evenly, there were differences in potential for job creation among them. But this potential was in the first place dependant on the quality of human capital and on the structure of local economy. At the same time, it is still too early to assess the regional variation in absorption of both labour market shocks identified in Poland after 1998. Moreover, it seems that the fall in variation of unemployment rate and proportion of unemployed in population, indirectly confirm the existence of hysteresis that appears on the Polish labour market and is manifested in stagnating unemployment levels.

4. Conclusions

Between 1998 and 2003, the Polish labour market experienced the biggest fall in employment rate and activity rate and the biggest surge in unemployment rate out of all current European Union member countries. Difference in employment rates between Poland and EU15 increased by roughly 12%, and between Poland and other new member states by almost 9 percentage points. Only in 2004 the situation slowly started to improve.

All the regions of the country were hit by a significant fall in employment. The weakest decline was observed in relatively more developed regions as well as in regions with a high proportion of farmers in total employment. Then again, the strongest decrease occurred in voivodeships where industrial branches requiring restructuring were dominant. Along with growing variation of employment rate, regional variation of unemployment rates declined, while no significant regional asymmetry in changes of activity rate were observed. Industry, including manufacturing, as well as construction, was most strongly affected by the fall in employment. Employment changed relatively less significantly in market services and administration; services experienced also an internal change in the structure of employment, which was falling in transport and financial intermediation and growing in real estate and market activities as well as in hotels and restaurants.

Indirect causes underlying such deep transformations distinguishing Poland from both old and new EU members, are the two shocks, of which the first one was an external demand shock, resulting from the Russian crisis, and the second was an internal technological shock, reducing capital productivity in Poland.

Poland differs from other countries of the region primarily in a slow absorption of the labour market results of the Russian crisis. One can assert that deterioration of labour market situation caused by the transitory, external shock was later deepened by a negative technological shock. It was also related to a permanent change in capital/ratio proportion resulting in a considerable increase in structural unemployment, a permanent fall of activity rate and employment rate. Such developments in Poland were favoured by the characteristics of labour force and by the institutional framework of labour market, as well as by a specific macroeconomic situation in recent time.

Effects of the Russian crisis hit especially hard the youngest and the oldest labour market participants. The prime-aged people (i.e. between 25-44 years) were affected relatively least. Employment rate of people over 45 years declined permanently, to a large extent due to intensified early withdrawals from the labour market that were made easier by the access to some social benefits. Main source of the fall in employment of young people was an increase in inactivity caused by prolonged education spell. Prime-aged people rarely faced incentives to withdraw from the labour market and in most cases they were becoming unemployed when losing a job. Main sources of increase in unemployment were outflows from employment and a substantial prolongation of average job-search period, while the inflow of young people to labour market played a less important role.

The fall in employment after 1998 affected most strongly people with primary education, which in most cases became inactive and relatively less often became unemployed. However, the relative increase in unemployment rate was the biggest for persons with tertiary education. The reason was the fast increase in the proportion of such persons in the population entering the labour market and in the whole population. Nevertheless, people with best education have the highest odds of finding a job and by far the shortest average unemployment spell in the whole population. Consequently, education is a factor that strongly differentiates individual's chances of finding or losing a job in the face of supply or demand shocks. The better the educational attainment the better the relative labour market situation.

2.

Structural characteristics of the Polish labour market

Maciej Bukowski
Piotr Lewandowski
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Julian Zawistowski

1. Introduction

It has been shown in the preceding part of this Report that the rapid drop in employment in 1999 resulting from the negative demand shock (resulting from the Russian crisis) was of principal importance for the current situation in the Polish labour market. Changes taking place in 1999 would not have had such negative consequences if it has not been for a range of factors that made it more difficult to absorb the shock in the subsequent period by way of strengthening and consolidation of the influence of its immediate effects. One of such effects included slowdown of economic growth in 2001-2002. However, it was not the only factor decisive of the intensity of stagnation of the unemployment and employment after 1999 although other countries in the region similarly affected with the Russian crisis managed to retain a higher level or employment and a lower level of unemployment than in Poland, and the shock was of a much more transitory nature. It also resulted from the fact that the majority of such countries – contrary to Poland – did not experience a drop in productivity dynamics in 2001-2002.

Structural and institutional factors and their interactions were of significance for the varied absorption of the Russian shock in Poland and in other countries of the region. The first category includes individual features of labour force in Poland and in other European countries and a different specific sectoral structure of the Polish economy. In turn, the other category includes institutional framework of the labour market such as: the social security system structure, scope and effectiveness of active labour market policies, flexibility of the labour law, level of the minimum wage and labour taxation. Due to the importance of institutional factors and their close connection to the labour market policy, they are discussed in a separate part of the Report. This part discusses structural factors creating important external conditions of the labour market policy in the medium term, decisive of the extent of the employment gap, i.e. the difference in employment rates between Poland and the EU15.

Decomposition of the employment gap between Poland and the EU15 is accompanied by the results of the logit model of the Polish labour market identifying most significant characteristics of persons flowing from employment and unemployment to other states in the labour market. The logit model makes it possible to specify what factors are of the greatest importance for changes of state of an individual in the labour market. It also identifies structural features of the Polish labour market decisive for the low economic activity and employment and high persistence of unemployment.

2. Structural characteristics of the labour market

2.1. Employment gap determined by the characteristics of labour force

The first group of structural factors decisive of international differences in employment levels includes factors related to different availability, utilisation and quality of labour force. Due to a relative prevalence of people aged 25-49 (in comparison with other age groups) in the labour market, the country, in which the majority of the population belongs to that group, will have a higher employment rate (with other factors identical) than a country with numerous generations of labour market entrants or those who leave the labour market. Equally, out of two countries with identical demographic structure, the employment (ceteris paribus) should be higher in the country having better human capital, because employment rates are usually higher for better-educated persons. Everything that cannot be explained with a different demographic structure or the quality of human capital should be contributed to the different intensity of labour force utilisation resulting, most of all, from institutional and structural factors including above all the quality of human capital, not fully reflected by nominal educational categories.

A properly constructed formula[15] can constitute a basis for decomposition of the difference between employment in the EU15 and in Poland into elements related to demographic factors, quality of human capital and institutionally determined differences in the intensity of labour force utilisation. As shown in Box 3. the lower stock of human capital and a different demographic structure explain about 20% of differences in employment rates in Poland and the EU15 as well as over 10% of the gap growth between 1998 and 2003. The remaining part resulting from the lower intensity of labour force utilisation in Poland originates mostly from factors conditioning lower activity and employment in the youngest and the oldest cohorts while differences in the nominal level of education only explain about 8% of the whole gap.

It is worth noting here that a different demographic structure of the population in Poland in comparison with the population in the EU15 is the reason why, while less numerous generations aged 30-44 cause a relative decrease in total employment in Poland and an increase in the dimensions of the gap by ca. 4 percentage points, more numerous generations of people aged below 30 and aged 45-54 reduce the gap by 3.5 percentage points. Thus, the net effect is an increase in the total distance between Poland and the EU15 by 1.5 percentage point (including the effect related to a slightly lower number of people aged 55-64). In turn, a prompt increase in the enrolment rate of the youngest makes the quality factor slightly reduce the employment rate in Poland in comparison with the employment rate in the EU15, especially because of those aged more than 30. It means that, as a result of gradual demographic changes and an enrolment rate increase, one can expect about 30% of the employment gap in comparison with the EU15 to be closed within the next few years.

Causes of its remaining parts can be found, in particular, on the side of structural features of labour force and their interactions with the sectoral structure of the economy as well as institutional conditions in the labour market. Subsequent points of this part and, with respect to institutional factors, also parts III and IV of the Report identify causes of such a situation.

[15] A detailed description of the decomposition is included in the appendix and in the paper by Bukowski, Lewandowski and Zawistowski (2005)

Box 3. Decomposition of the Poland-EU15 employment gap

Demographic structure and education are factors co-decisive of the employment level in a country. Basing on the Eurostat data concerning employment and employment rate, the employment gap (i.e. a difference between employment rates in the 15–64 age group) between Poland and the EU15 was decomposed. The analysis was conducted with the use of data for Q2 2003 (the latest data available in the required scheme for the entire EU15).

Differences in the population structure by age (see figure 22) and differences in employment rates by age and education level (see figure 23) were considered. Table 12 and figure 18 present the decomposition of the gap in percentage points of the employment rate. It can be concluded on the basis of the presented data that:

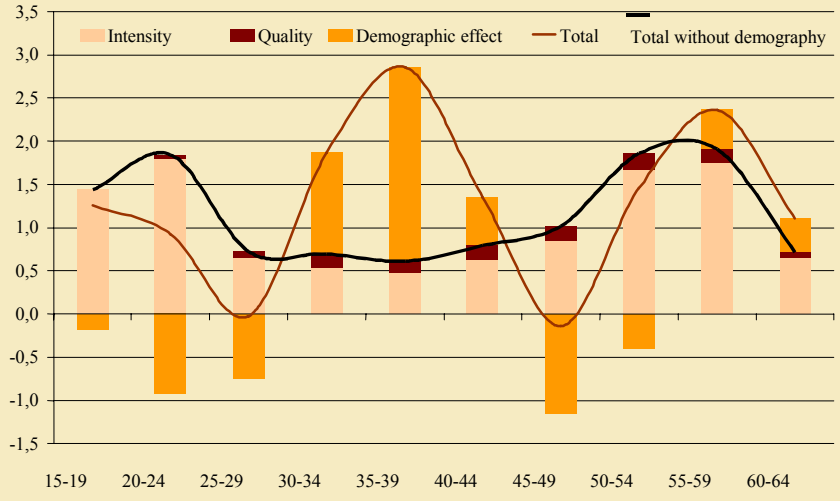
- the main factor decisive of lower employment in Poland is the lower intensity of labour utilisation but education and demography are responsible for ca. 1/5 of lower employment rate;
- the status of women in comparison with men is relatively better in Poland than in EU15; women's contribution to the gap is twice as small as men's;
- the demographic factor is determined by the smaller size of groups aged 30-44 characterized by similar employment factors in Poland and in the EU15. and thus the smallest contribution of varied labour intensity;
- low labour intensity among people aged more than 50 and less than 25 has a decisive influence on the lower employment level (10.5 percentage points) in Poland while the lower average level of education of people aged more than 30 reduces employment rate in Poland by about 1 percentage point.

Table 12. Decomposition of Poland-EU15 employment gap by gender

	1998			2003		
	Women	**Men**	**Total**	**Women**	**Men**	**Total**
Intensity	-0.96	1.95	**0.99**	3.63	6.87	**10.51**
Quality	0.53	0.16	**0.69**	0.58	0.40	**0.98**
Demographic effect	-0.37	0.68	**0.31**	0.31	1.23	**1.54**
Total	**-0.80**	**2.79**	**2.00**	**4.52**	**8.50**	**13.02**

Source: Bukowski, Lewandowski, Zawistowski (2005)

Figure 18. Decomposition of the Poland-EU15 employment gap by age in 2003



Source: Bukowski, Lewandowski, Zawistowski (2005)

2.2. Gap determined by the sectoral structure of economy

Additional light can be shed on the causes of the considerable employment gap between Poland and the EU15 thanks to the analysis of its sectoral dimension. A different employment structure by sectors to a considerable extent reflects differences in the economic development of two countries and to a lesser extent differences in their institutional structure (determined, among other things, by the scale and area of activity of the public sector in the economy), the role played in the international division of labour (specialization in the global trade) and other factors such as demography, culturally determined labour division in a family, etc.

On the highest level of aggregation, the sectoral structure of the economy is defined by the contribution of agriculture, industry and services to the aggregate value added. Economies on varied levels of development also have distinct structures of GDP, differing especially in the relative contributions of traditional sectors with the lowest productivity (especially agriculture) to the value added.

In most developed countries, the share of agriculture in the creation of value added dropped in the last few decades from the number reaching several dozen percent to only 2-5 percent[16] while the share of services increased to 60-70 per cent. Such a situation resulted, in particular, from the growing productivity in the industry enabling gradual increase in the importance of services in the creation of added value and reduction of labour consumption by agriculture. Increase in the labour productivity in industry is a necessary condition of an increase in the importance of the service sector both in the creation of added value and, most of all, in employment.[17] This is because productivity in the service sector grows much more slowly than in the industry or, in many segments of services, does not grow at all. As a result, technological progress and increasing labour productivity in industry leads to an increase in relative prices of services compared with industrial products; this in turn, enables an increase in the relative importance of services in economy and an employment increase in that sector. However, it also means that countries in which the industrialization process started later (which results in the industrial sector being less developed and, in particular, less effective), also have a significantly less developed service sector and higher employment rate in agriculture. Within that group, Poland has a special place among European countries, as the Polish agriculture, despite producing only ca. 3% of added value, employs as much as 17.2% of all employed in the economy (table 13), which is a much higher share than in the EU15 and NMS9. In the group of EU states, only Greece, Latvia and Lithuania have such a high share of agriculture in total employment.

Table 13. Sectoral structure of employed and value added in EU15, NMS9 and in Poland in 2003

		EU15	NMS9	PL
Agriculture	value added	2.0	3.4	3.0
	employment	3.7	7.1	17.2
Industry	value added	26.6	32.7	30.5
	employment	28.4	35.2	29.0
Services	value added	71.4	63.9	66.5
	employment	67.9	57.8	53.7

Source: European Commission (2004)

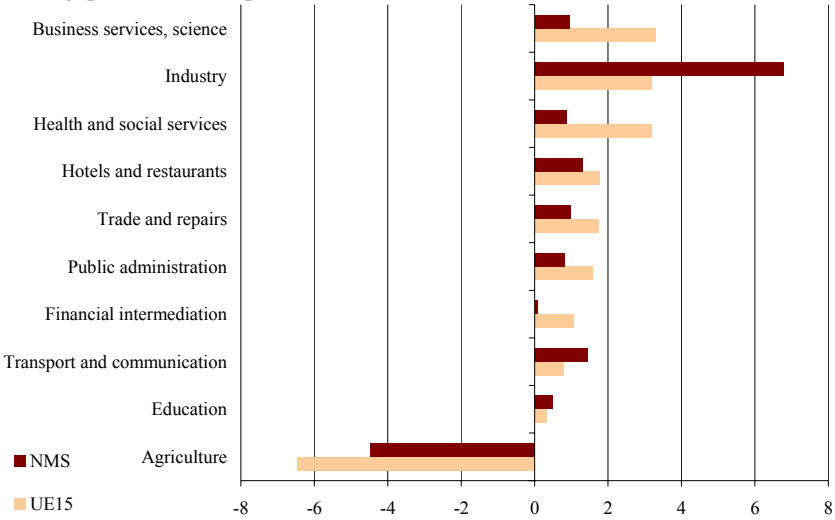
The comparison of the sectoral gap between Poland and the EU15 and NMS9 illustrates that phenomenon. Low total employment and an uncommonly high level of employment in agriculture are closely related to the dimensions of employment gap in other sectors of the economy. In comparison with the EU15 or NMS9, all sections in Poland except agriculture have lower employment rates (figure 19). In comparison with the EU15, the following sectors most significantly contribute to the gap: business services, the industry and health care. Relatively low employment in the industry results, on the one hand, from the restructuring of employment in industrial enterprises within the last few years (resulting from the need to modernize traditional branches of industry) and, on the other hand,

[16] In some countries in Western Europe, that share reached 3-5% already in the 1970s.

[17] Countries with a well-developed tourist sector can partially import the demand for services from countries having a more productive industrial sector.

from generally low employment rate in the economy and relatively low industrialization in many regions of the country.

Figure 19. Employment gap – Poland compared with the EU15 and NMS9



The figure presents the difference between employment rate in a section (the share of the number of employed aged 15–64 in a section in the whole population aged 15–64) in the EU15 (or NMS9) and Poland
Source: European Commission (2004)

Low employment in the service sector, in particular, in simple services (trade, transport, hotels and restaurants) is a consequence of low employment and productivity in the industry. Development of the service sector – at least those of its parts that produce non-tradable services – depends on the product manufactured by the industry. Low employment in the service sector is a consequence of low total employment but the share of service employees in total employment is low in comparison with the EU15 and NMS9 is also related to the high share of agriculture, which is a natural source of future employed for the developing sector of low-pay services for people. As a result, regions with a particularly underdeveloped industrial sector are also regions with high employment in agriculture and low employment in services (except for tourist regions, which import the demand for services from industrial regions).

Low average productivity of the Polish industry in comparison with the productivity of services (see figure 20) is the reason why consumers and entrepreneurs can assign a relatively smaller part of their incomes for the purchase of services and thus services are less developed. Productivity increase in the industry will lead to a drop in prices of industrial goods in comparison with services and, as a result, will make development of the service sector possible. The figure shows that industrial productivity gradually improves in comparison with services but it is still much lower than in the EU15.

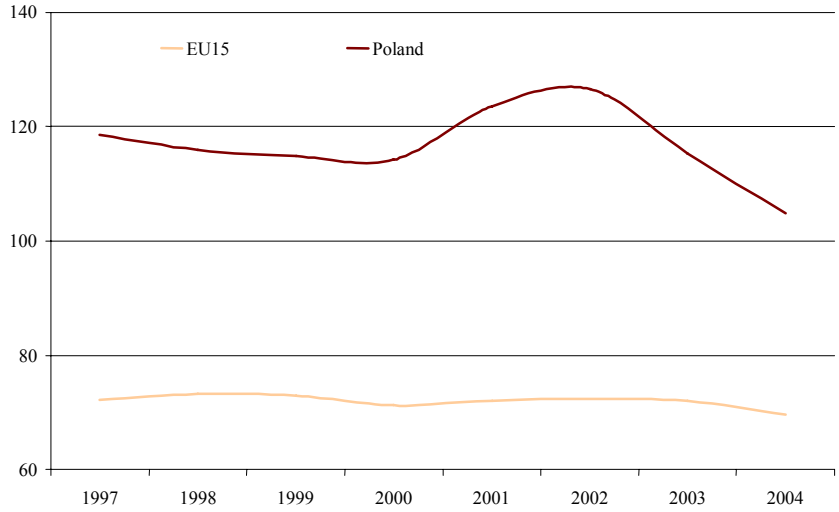
In turn, lower employment in the health care sector is an immediate consequence of the fact that public and private expenditure for health care as a percentage of GDP is significantly lower in Poland than in the EU15. Such a situation results from lower social-economic development and from the public choice in Poland, whereby transfer expenditures are dominant in social expenditures, to the detriment of health care, among other things.[18] It is also worth noting that employment in the public administration (including the police and the army) is lower in Poland than in all the other countries of the European Union (except for Lithuania) or in the United States.

However, the employment gap is relatively small in the educational sector, which is a consequence of the relatively high employment in the basic, secondary and tertiary education resulting partially from a different demographic structure and partially from regulations concerning teachers' working hours.

[18] Public expenditure for social transfers in Poland (mainly for retirement pensions, disability pensions and survival benefits) reaches 18.6% of the GDP and expenditure for health care reaches 4.4% of the GDP. 6.1% of the GDP is spent for health care including private expenditure. In OECD countries, these respective figures are: 14.9%, 6.0% and 8.4% while, in the EU15: 17.7%, 6.1% and 8.1% of the GDP (2002 data after the SOCX database prepared by OECD).

However, employment in university education and science is lower than in the EU. A slight gap can also be observed in sections such as transport and communication and financial intermediation.

Figure 20. Productivity (value added per one employee) in simple services as a percentage of productivity in the industry for the EU15 and Poland



Simple services – trade and repairs, hotels and restaurants, transport and communication
Source: DAE MGiP calculations based on Eurostat data

Summing up, the sectoral decomposition of the Poland-EU15 employment gap illustrates the following phenomena:

- considerable differences in employment in agriculture related to the historically conditioned dispersed agrarian structure and a much lower productivity of that sector in Poland.
- low employment in the industry resulting from low industrialization of many regions in Poland;
- relatively low productivity in the industry resulting from its internal structure with a considerable share of declining low-productivity branches of industry;
- low employment in business services related to low employment and low productivity in the industry;
- low employment in services for people resulting from an insufficient purchasing power of households caused by low employment and productivity in the industry as well as unproductive employment in agriculture;
- different than in the EU15 preferences (and capabilities) of allocation of public funds influencing employment in the health care, education, science and administration.

It should be stressed that differences in the sectoral structure of the Polish economy in comparison with economies of the EU15 (as well as new member states) are also determined in the medium term by structural factors, in particular, by maladjusted skills. It happens so due to the complementarity of physical capital and human capital. People employed in agriculture usually have a different range of skills than required in the industry or in the service sector. Because of that, closing of the sector gap is a process covering not only the creation of industrial and service enterprises as well as improvement of their productivity, but also changes in competences and skills of the Polish citizens – those already employed as well as within the progressing replacement of generations, which is demographically conditioned.

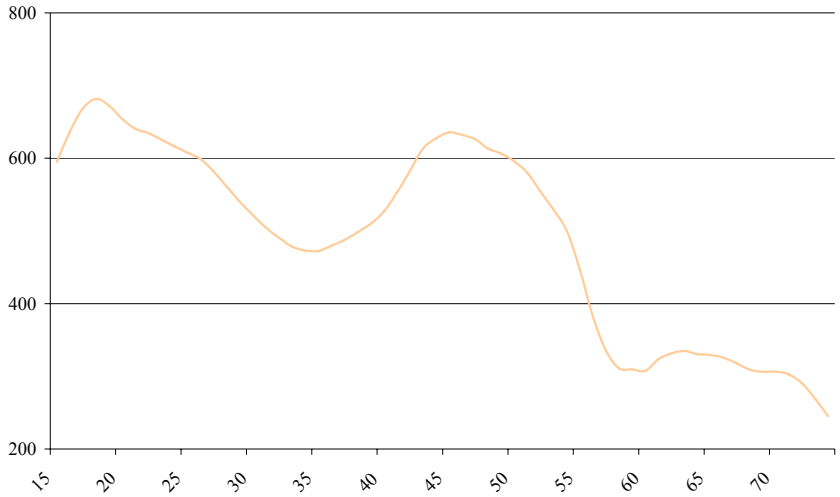
The presented statistical illustration describes the problem on a high aggregation level. It should be observed that important differences also exist on the level of individual sections. For example, the industry or transport, apart from the existing gap in comparison with the EU15, have a different employment structure than the respective sectors in the EU15: more people are employed in declining sectors – restructured or more labour intensive – and less people are employed in specialist and modern sectors that require high skills.

2.3. Demographic conditions of the labour market in Poland and EU15

Demography is one of the factors co-shaping labour market situation in the long term. A great number of people in the working age, in particular, a great number of young people contribute to an increase in the economic activity and employment in the medium term. In turn, numerous older workers contribute to its drop. In the situation characterized by an uneven distribution of the population by age (existence of peaks and declines), demographic changes can have a transitory positive or negative influence on employment.

Currently in Poland there are two cohorts of working-aged baby-boomers (see figure 21): people born in the post-war decade (especially in the first half of the 1950s) and at the threshold of the 1980s. At the same time, cohorts born in mid 1960s and currently in the age of the most intense economic activity are less numerous than younger baby boomers by over 200 000 people. As a result, two important demographic phenomena influence the Polish labour market. Firstly, people from the older demographic boom who just turn fifty enter the group entailing higher risk of moving from employment to inactivity or unemployment. Secondly, people from the younger demographic boom have been entering the labour market for a few years.

Figure 21. Population aged 15-74 by age in 2002 (number of people in an age group in thousands)



Source: NSP 2002

The demographic structure of the population is substantially different in Poland than in the EU15. In particular, it is apparent that the share of people aged 30–44 in the population is much smaller, while shares of people aged 15–29 and 45–54 are higher, as presented in figure 22.

Other countries in Central Europe have demographic structures similar to Poland but the scale of variation between the numerousness of the youngest and the oldest generations and the *prime age* generation is not as great as in Poland in any of them. Therefore the resulting employment gap between other Central European countries and the EU15 caused by demographic factors is lower nearly by half than in case of Poland.

The population distribution observed in Poland reduces overall employment rate in the 15-64 age group in comparison with the EU15. Age groups with the highest employment rates are relatively small in Poland while they are most numerous in the EU15. In turn, groups with employment rates usually lower than average are numerous in Poland and include young people (studying and entering the labour market) and older workers (older than 45) when the risk of transition to inactivity grows quickly.

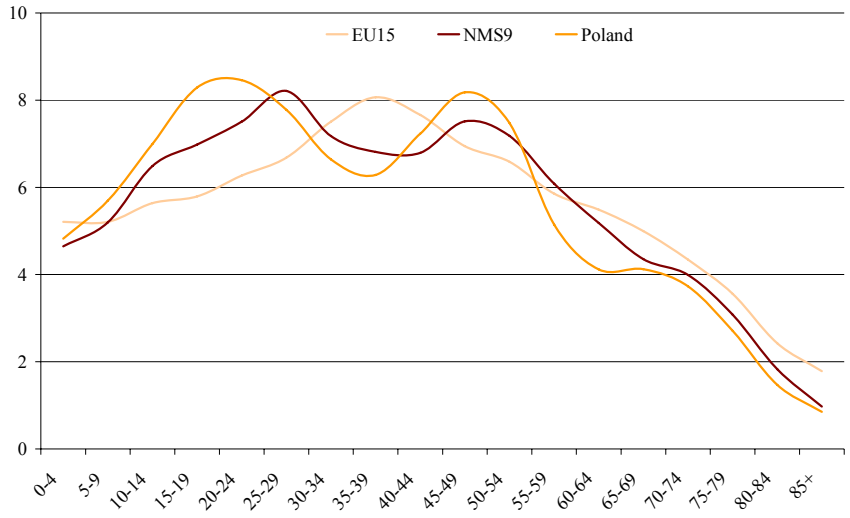
In particular, it should be stressed that a large number of people currently aged 15-24 will enter the period of their highest economic activity within several years and increase employment (*ceteris*

paribus) by 0.2 percentage point.[19] At the same time, the relative labour market impact of the early transitions to inactivity of older generations whose numbers will gradually decrease will weaken solely for demographic reasons. However, it does not mean that Poland will not face problems related to the growing demographic burden and ageing of the society. But it will affect Poland much later than the EU15 even though the demographic structure of Poland and the EU15 will become similar about 2050.

Estimates show (see Box 3) that about 1 percentage point out of the 10% increment of the employment gap between Poland and the EU15 observed in 1998–2003 can be ascribed to demographic factors. However, the influence of demography is transitory.

According to GUS demographic forecasts, the number of people in the working age (15-64) will increase. However it should be stressed, that although the number of people in the working age grew by ca. 2 million people within the last decade, the number of economically active people remained practically unchanged. It results, in particular, from the considerable reduction of activity among older people (early withdrawal from the labour market as a reaction to its difficult situation) and an increase in the enrolment rate among younger people (entailing later entry to the labour market). The enrolment rate increase is a positive phenomenon while the low economic activity of older people in the ageing society is worrying. The problem has been described in detail in sections 4.1 in Part I and 3.3. in Part II of the Report but it should be observed that baby boomers from the middle of the 20th century attain the age entailing an increased risk of transition to inactivity and thus the problem of a drop in the economic activity among the population of persons of working age will quickly increase unless measures promoting the activity of older people are initiated.

Figure 22. Population structure by age in 2003 (population in an age group as a percentage of the entire population)



EU15 without Great Britain and Greece. NMS9 without Estonia
Source: Eurostat

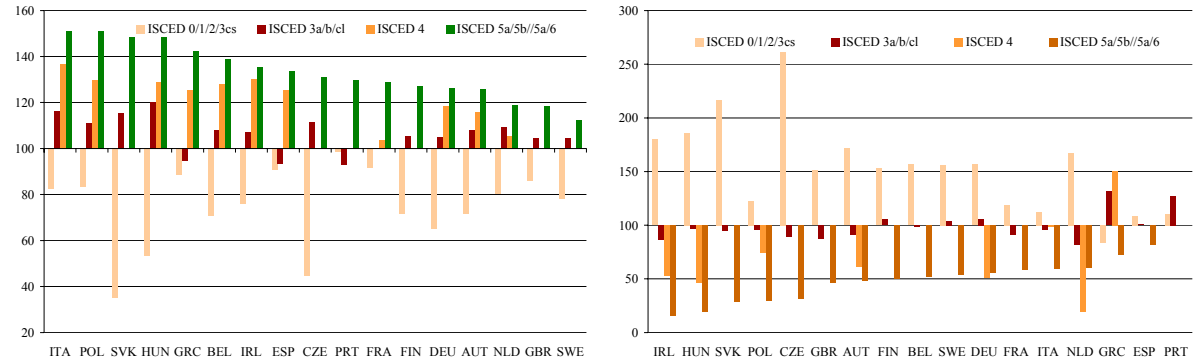
[19] Estimation based on a demographic forecast and employment rates characteristic for 2002 (according to NSP 2002).

2.4. Factors decisive of different quality of human capital in Poland and the EU

Apart from demography, the second factor influencing the difference of employment level in Poland and the EU15 are differences in the average level of human capital. Their impact should be analyzed from two perspectives. The first one takes into account the relative labour market position of people with nominally better or worse education levels; this approach is used in the estimates of the pure contribution of different quality of human capital to the employment gap presented in Box 3. The second perspective – and one that is more difficult to estimate – is about relative differences in competences (within the same nominal level of education) among different countries. The first one, discussed in this chapter, makes it possible to explain how strongly different levels of nominal education determine the relative labour market position of individual groups that indirectly but to a relatively slight degree influence the total level of employment and unemployment in the economy. The second one makes it possible to estimate the scale of influence of structural mismatches between the needs of employers and existing human capital resources in economies undergoing quick restructuring and modernization. That perspective is discussed in part III of this Report.

An observation, common for economies of OECD and the European Union countries, that a person's relative labour market situation improves with an increase in such a person's professional skills, is one of the best documented empirical dependencies in the labour market. In other words, an individual with higher skills[20] has a better chance to find and retain a job and also to get higher wage for the job done. Figure 23 shows that employment rate for people with the lowest skills in the majority of countries in the EU25 (education level ISCED 1–2)[21] is much lower than total employment rate. For people with higher skills, employment rates tend to equal the average for the entire population and they exceed it considerably for people with the best skills. The situation is reversed for the unemployment rate. In many countries of the EU25, the largest group of the unemployed includes people with low skills while the unemployment rate in that group is frequently much higher than the total unemployment rate.

Figure 23. Deviation of the employment rate (left figure) and unemployment rate (right figure) from the average in selected countries in EU25 (1997-2002 average)



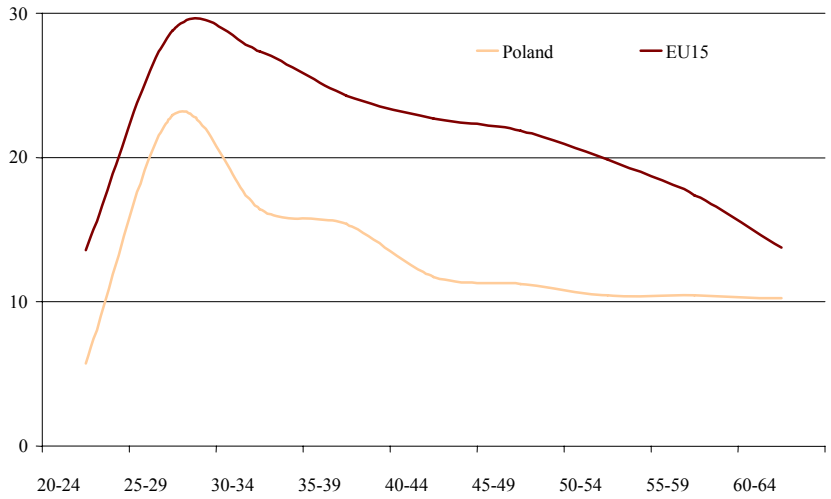
Source: OECD

[20] It should be stressed that the nominal level of educational attainment is a much better measure to estimate differences between the skills of individuals in the labour market of one country than in international comparisons. It happens so because, despite the progressing standardization, the structure and quality of education systems can vary substantially from one country to another.

[21] ISCED – International Standard Classification of Education – a classification of level of educational attainment defined by UNESCO and approved in 1978 to unify the statistic of educational programmes on the national level and to guarantee their international comparability. The latest classification update (introduced in 1997) defines 7 educational levels: ISCED 0 – pre-primary school education; ISCED 1– primary training or the first stage of primary education; ISCED 2 (2A, 2B, 2C) – education on the lower secondary level – lower level or the second stage of the primary education; ISCED 3 (3A, 3B, 3Cl, 3Cs) – education on the upper secondary level – upper level (in Poland, 3A corresponds to the general secondary school, specialized secondary school and technical secondary school level, 3Cs corresponds to a vocational school (basic vocational school)); ISCED 4 – upper secondary education – without university education (post-secondary schools in Poland); ISCED 5 (5A, 5B) – education on the university level (in Poland, 5A is equivalent to master studies, professional university studies, supplementary vocational studies and postgraduate studies while 5B is equivalent to a teachers' college); ISCED 6 – second level of education on the university level (doctoral studies).

It is worth noting that, for both employment rate and unemployment rate, a relatively privileged labour market situation of best educated people and a relatively worse situation of people with the lowest skills, are particularly significant in Central European countries, including Poland. In countries of our region, deviations of employment- and unemployment rates of people with low up to medium skills from the respective average rates reach a few dozen and sometimes even over one hundred percent. These differences are smaller in old EU member countries yet only in few of them education does not differentiate labour market situation of individuals to any great extent. Such differences can be only partly ascribed to a higher general level of unemployment.

Figure 24. The share of university graduates in individual age groups in 2003



Source: Eurostat

Given comparable labour market situation of university graduates in Poland and EU15 (at least in the majority of age groups), different structures of population by level of education are very important. It mainly applies to elderly people; differences in the percentage of university graduates, although still significant, are not as considerable in younger cohorts.

When compared with other EU15 member countries, the average (nominal) quality of the human capital is relatively low in Poland.[22] Poland has a considerable percentage of people with the lowest level of education as well as a relatively small group of people with highest skills. In 2003, 24% of the population of people aged 15–64 included people with at most lower secondary education while people with vocational education constituted 30%. A comparable indicator[23] in EU15 countries reached ca. 40%. Thus, the percentage of people with nominally low skills is higher by 14 percentage points in Poland than in the EU15. At the same time, despite a great commitment of young people to university education in Poland the share of people with the highest skills (education equivalent to ISCED 5 and 6) in the population aged 15-64 is still low. Only less than 12% of Polish citizens aged 15-64 are university graduates while their share in EU15 countries amounts to about 20% on the average.

[22] The chapter mentions differences in the nominal structure of education neglecting potential differences between Poland and EU15 with regard to competences of people on the nominally identical levels of educational attainment.

[23] The period of vocational training longer by one year in Poland than in the majority of European countries is the reason why vocational education in the majority of them is classified in ISCED statistics as 1-2 and as ISCED 3 in Poland. This fact should be considered in international perspective; otherwise it can lead to misunderstandings.

Box 4. Education level and relative labour market situation

The relatively worse situation of people with lower education has a few potential causes:

- better educated people are more **mobile** thanks to their better skills related to the collection and processing of information including job offers; low skills frequently accompany the reduced ability to improve them in line with changing requirements of employers and, as a consequence, the abilities of low-skilled people become outdated more quickly;

- people with lower levels of professional skills have a reduced **range of possible choices** among the existing job offers, which – accompanied by their reduced mobility and more infrequent participation in life-long learning – makes it more difficult for them to find jobs. They remain unemployed longer or give up searching for jobs;

- people with higher professional skills are usually more productive at work thanks to which they can expect higher **wages** and thus are more willing to be economically active than people with lower skills;

- **alternative sources of income**, in particular, social transfers are an attractive solution for people with low skills: often enough employment does not result in any notable improvement of the financial situation of such a person or that his/her family and thus such people are particularly prone to incentives to leaving the labour market;

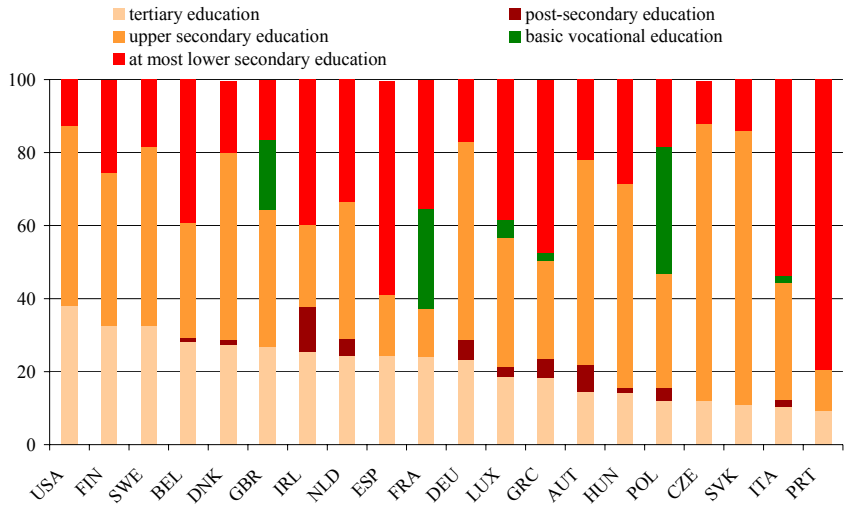
- **minimum wage**, if defined in relation to an average wage that is influenced by remunerations of better educated people, can be a barrier in the employment of people with low skills, thus discouraging employers from recruiting them;

- people with low skills more frequently work on the basis of fixed-term employment, their work is characterized by a **high degree of instability** and, as a consequence, the average employment spell is shorter than for people with higher skills.

- people with low skills much more frequently work within the shadow economy hiding their true earnings, which makes it more difficult to evaluate their labour market situation.

The average low quality of human capital in Poland impacts the labour market. The group most prone to unemployment and economic inactivity in Poland, as in other countries, consists of poorly educated people (basic vocational or lower education level). Such people constitute as much as 59% of all the unemployed, 67% of those economically inactive and only 43% of employed while their share in the entire population constitutes 56% (in 2004). It means that people with low professional skills are strongly underrepresented in employment and over-represented among those economically inactive. In other words, the share of people with low skills in the total number of the unemployed and economically inactive is much higher than their share in the entire population. People with low skills in all age groups are the only group underrepresented in employment and over-represented in inactivity. The situation is reversed for people with secondary or higher education.

Figure 25. Education structure in selected countries in 2002



Note: For other EU countries, lower secondary education is equivalent to the education on the basic vocational level in Poland (ISCED 3Cs).
Source: OECD

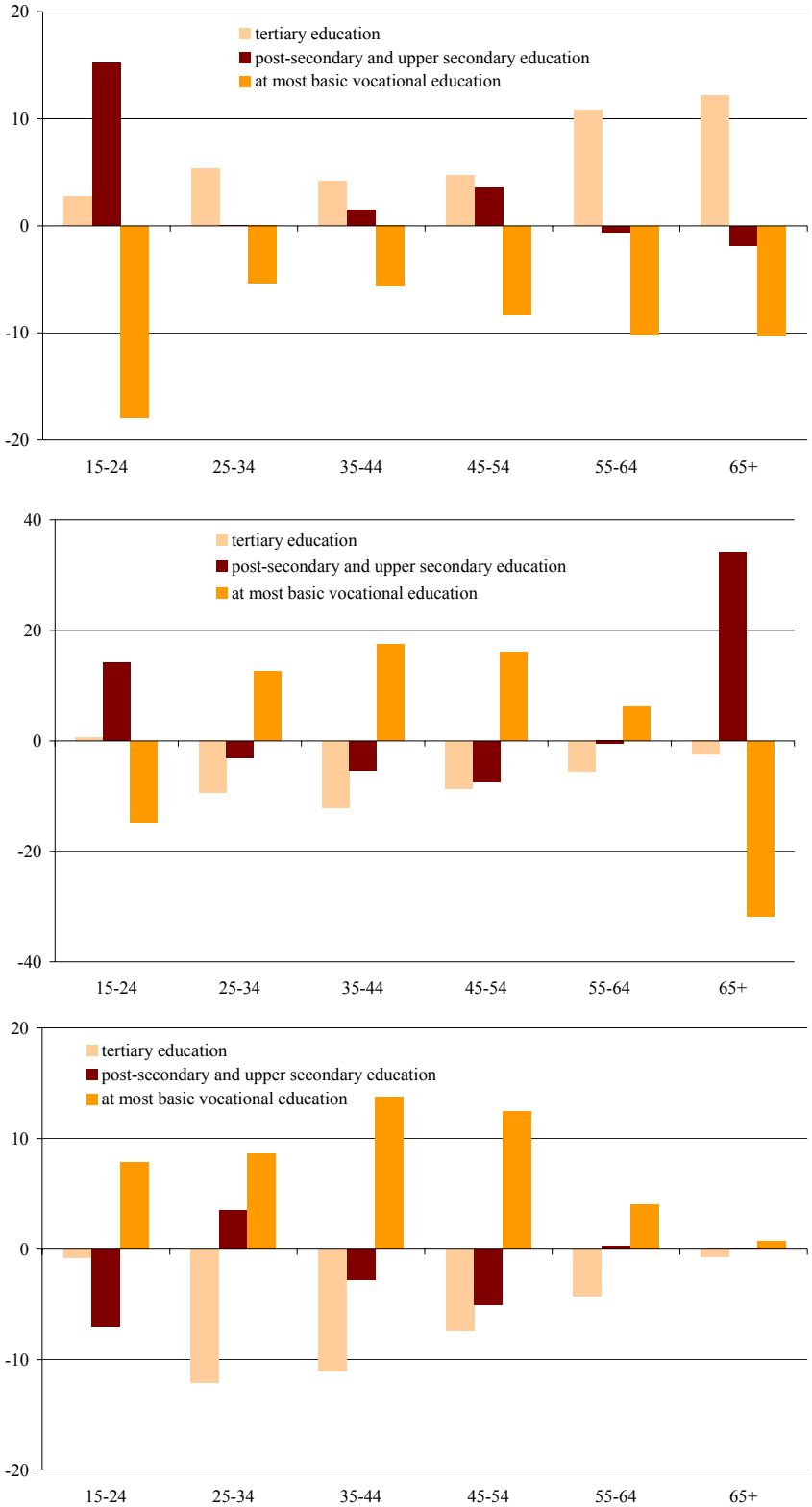
People with low education levels include people with not more than lower secondary education[24] as well as people with vocational education. It is true that both these groups are underrepresented[25] among the employed but they differ with regard to reasons why they are not employed: people with basic vocational education much more frequently remain unemployed while people on the lowest education levels prevailed among those economically inactive (until 2003). It is only among the unemployed aged more than 55 that the number of people with at most basic education exceeded the number of people with vocational education in the recent years. The share of people with at most basic education among those economically inactive diminishing each year reflects their considerable over-representation among elderly people and the diminishing percentage of people on such an education level in the entire population; however, people on the lowest education levels are first to leave the labour market while people with vocational education much more frequently remain unemployed, which is also confirmed by flow analyses presented further in this chapter. In 2004, people with basic education constituted 35.5% of those economically inactive, people with vocational education constituted 18.5% and, for the unemployed, respective values were 17.6 and 40.8% while, for employees: 10.5 and 31.8%.

The high share of people on low education levels among the unemployed is translated into the considerable unemployment rate in that education group. Apart from young people, the highest level of unemployment is characteristic for people with basic professional education and lower, aged 25–54. i.e. those most economically active. Differences between the unemployment rate of university graduates and people with basic vocational education in that age group range from 14 to 19 percentage points and, in comparison with the unemployment rate of people with at most lower secondary education, from 20 to 30 percentage points.

[24] I.e. mainly people with the primary educational attainment.

[25] In the 15-64 age group.

Figure 26. Over-representation and under-representation in employment (upper figure), unemployment (middle figure) and inactivity (bottom figure) of people by education level and age in 2004



Figures above show the difference between the share of people on a given education level. A negative value means that a group of people is underrepresented among the employed, unemployed or economically inactive. A positive value reflects over-representation.

Source: DAE MGiP calculations based on LFS.

Figure 27. Unemployment rate and employment rate (left axis) and the unemployed and employed total (right axis) by education level and age in Poland in 2004

Source: LFS, DAE MGiP calculations

As shown in part I, changes of the risk of a job loss as a consequence of the Russian crisis and changes in chances of the unemployed to find job varied considerably depending on an education level. The analysis of LFS data for 2000-2004 presented in table 14 shows that the education level is the fundamental factor determining the structure of flows in the labour market.[26] The percentage of people employed for at least one year grows while the outflow to unemployment diminishes with an increase in the education level. Such outflow is highest among people with basic vocational education, which partly results from varied sectoral structure of employment in individual groups. In particular, people with vocational education relatively more frequently work for the industry where employment reduction was in progress in the analysed period, in the construction industry and simple services with their characteristic rotation of employment higher than in other areas of the economy. Varied perspectives of a job loss by employees are also intensified because of considerable variation of the frequency of flows from unemployment where differences related to education are even more marked. The percentage of the unemployed who remain unemployed diminishes considerably with an increase in the education level while the frequency of flow to employment rises. As a result, lower-educated people more frequently lose their jobs and, subsequently, start to work less frequently. It shows the fundamental importance of education for the persistence of unemployment in Poland.

Education also differentiates transitions between economic activity and inactivity. The percentage of the inactive returning to activity grows with an increase in the educational attainment; also outflows to inactivity seem to be of a different nature in each group. University graduates less frequently lose their jobs and, even if they do, they tend do leave the labour market rather than become unemployed. Job finishing (or discontinuation) is much more frequently voluntary in their case than in the case of low-skilled workers. In turn, people with at most lower secondary education (the great majority of them only have basic education) were also more frequently flowing to inactivity after losing a job and we can assume that such a situation resulted, in particular, from a small chance to find employment and from institutional factors encouraging them to become inactive. Extremely low outflow from unemployment to employment and a high percentage of unemployed among the people with the lowest level of educational attainment translate into high unemployment stagnation. Then again, people with vocational education who also most frequently flow from employment to unemployment are more resistant to labour market withdrawal than people with lower secondary and basic education level.

[26] Flow frequencies before the shock, e.g. in the 1997/8 period, show the same dependence on educational attainment. Thus, there was a change in the intensities of flows from employment (an increase in outflows to unemployment) and from unemployment (its higher persistence, lower outflow to employment) but differences resulting from individual characteristics remained very much alike.

Table 14. Frequencies of flows in the labour market in 2000–2004 by educational attainment (in percent)

Initial state	Final state		
Tertiary			
	Employment	Unemployment	Inactivity
Employment	96.7	1.4	1.9
Unemployment	37.1	50.3	12.6
Inactivity	8.7	5.4	85.9
Secondary and post-secondary			
	Employment	Unemployment	Inactivity
Employment	93.2	3.5	3.4
Unemployment	21.1	64.5	14.4
Inactivity	6.2	6.8	87.0
Basic vocational			
	Employment	Unemployment	Inactivity
Employment	91.8	5.0	3.2
Unemployment	18.9	69.1	12.0
Inactivity	5.3	7.9	86.8
At most lower secondary			
	Employment	Unemployment	Inactivity
Employment	89.7	4.1	6.2
Unemployment	13.5	70.0	16.5
Inactivity	3.3	4.2	92.4

Remarks: men aged 15-64 women aged 15-59. 1-year transitions considered, percentages of people flowing from a given initial state to each of the three final states are presented.
Source: DAE MGiP calculations based on LFS

The intensity of flows in the labour market determines whether unemployment is largely frictional or structural for a given group or, according to a different criterion, whether it is long-term. Data included in table 15 make it possible to evaluate such effects. A relatively low unemployment rate for university graduates compared with a minor share of people flowing to unemployment in the group of the economically active, high (reaching one third) share of the "new" unemployed and relatively short periods of unemployment show that nearly entire unemployment in that group is frictional. It is related to the search for a first job by university graduates or to a job change by older people. People with secondary or post-secondary level of educational attainment show a much lower dynamics in the labour market, which is reflected in their three times as high unemployment rate, notably longer periods of unemployment, higher inflow to unemployment from employment in comparison with the active but also their lower share in the group of the unemployed flowing to unemployment. Thus, higher unemployment in this case results, in particular, from its greater persistence and relatively lower flow dynamics although higher inflow is also of significance. That group also shows a relatively higher flow from inactivity to unemployment resulting from the fact that nearly a half of such people are below 25, which indicates problems of young people finishing their education on the secondary school level and entering the labour market. Thus, the structural component of unemployment is high for that group.

People with the vocational level of educational attainment show the highest flow from employment to unemployment in comparison with economically active. Average unemployment spell longer than in the case of better-educated people make the share of such inflow in the unemployed group relatively lower. As inflows from inactivity (people aged below 25 constitute 30% of them) are of lesser importance for that group, one can conclude that unemployment in that group results from inflows from employment to a greater extent than from young people's difficulties when entering the labour market. However, that group is probably not homogenous: some of the unemployed rotate considerably in the labour market (persons employed in services, communication and transport) while some of them are affected by long-term unemployment (restructured sectors that reduce employment).

Table 15. Unemployment rate, intensity of inflow to unemployment and unemployment spell by educational attainment in 2000–2004

Educational attainment level	Unemployment rate (in percent)	Flows from employment to unemployment (as percent of the economically active)[i]	Flows from employment to unemployment (as percent of the unemployed)[ii]	Median of unemployment spell (in months)[iii]	Average spell outside employment (in months)[iii]
Tertiary	6.7	1.3	25.8	9	16.7
Secondary and post-secondary	19.2	2.9	17.3	17	27.8
Basic vocational	22.5	3.9	17.8	21	31.2
At most lower secondary	24.3	2.9	10.8	32	40.6

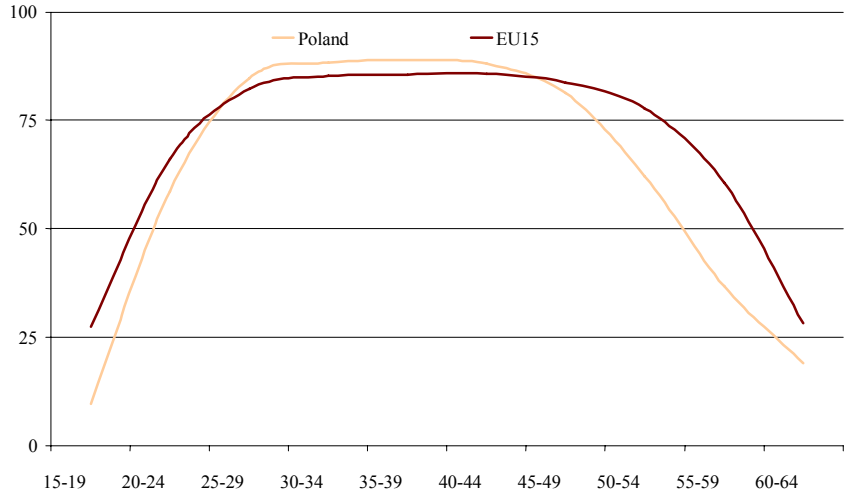
Men aged 15-64, women aged 15-59. 1-year transitions considered.
i) The number of employed flowing to unemployment in 2000-2003 to economically active people in 2001-2004
ii) The number of employed flowing to unemployment in 2000-2003 to the unemployed in 2001-2004
iii) The variable was defined for the unemployed as the length of the period between the moment of the research and a declared moment of the loss of the last job or completion of education (for people not previously employed). Statistics were calculated without people not employed for longer than 10 years.
Source: DAE MGiP calculations based on LFS

Unemployment of people with the lowest level of educational attainment has an even more dual character, although, as it has already been observed, very low activity is the primary problem in that group. The flow from employment to unemployment is relatively lower in their case, in particular, in relation to the number of the unemployed. However, spells outside employment are higher than in other groups. It is a symptom of the permanent nature of unemployment and permanent exclusion from the labour market leading to inactivity, which has already been observed during the analysis of data in tables 14 and 15. However, consideration of the flow from inactivity to unemployment increases the share of the „new" unemployed in the total number of the economically active and the unemployed to 10.0% and 37.3% respectively. Besides, 70.0% of such people are less than 25 years old, which means that such poorly educated people have a very low chance to enter the labour market and it is not profitable for employers to recruit young and low-productive people. Thus, unemployment in that group, on the one hand, is most permanent and related to the risk of social marginalization of the unemployed and, on the other hand, it applies to young people who can be discouraged when faced with the inability to enter the labour market.

2.5. Factors decisive of different labour utilisation in Poland and EU15

The different demographic structure of Poland and the EU15 can explain only about 1/10 of the employment gap between Poland and the EU15 countries. The most important factor decisive of its dimensions is the much lower intensity of labour force utilisation in Poland resulting from the lower average activity of all age groups and higher unemployment. Weak economic activity of the youngest and the oldest generations has a particularly great influence on the 13 percentage points gap in employment between Poland and the EU15. For labour market entrants, dynamics of the growth of employment between the 15 and 25 years of age is comparable in both cases. The Polish problem involves a lower value of that rate in all generations between 15 and 24 years resulting, in particular, from the fact that young Poles are much less active than their European peers (among other things, as a consequence of weaker development of the service sector in Poland, which enables students to find jobs). The employment gap between Poland and the EU15 is reduced among people aged 25-29 to remain unchanged until 40 years of age. At the same time, the activity rate for people aged 25-40 is even higher in Poland than in the EU15. Particularly rapid growth of the employment gap and differences in activity rates can be observed among people aged more than 45. The reason is that the period of transitions to inactivity for older workers begins about 5 years earlier in Poland than in the EU15. Other than that, the economic activity of all generations over 55 falls as fast in Poland as it does in EU15. Therefore employment rates for people aged more than 45 are notably lower in Poland.

Figure 28. Economic activity by age in Poland and the EU15 in Q2 2004 (percentage of the active in the population)



Source: Eurostat

Education is a factor strongly differentiating an individual labour market situation in Poland and the EU15 and it is strongly related to age. It was shown in the previous chapter that this factor has a decisive influence on the variation of individual chances to find and retain employment. University graduates in Poland and the EU15 have higher than average employment rate and, as a rule, remain active longer than people with secondary school, vocational or basic education (see figure 29). In Poland, university graduates in the prime–age group, i.e. 25–44 years, have higher employment rate than their EU15 peers, which mainly results from considerably higher employment rate of female university graduates in that age group, but total employment rate in that age group is lower in Poland than in the EU15 because of women and men without university education.

While education strongly differentiates employment in the prime-age group, it has a relatively low influence on the transitions to inactivity of people aged more than 45 whose intensity of withdrawal from the labour market grows rapidly in comparison with younger people; the transitions to inactivity of university graduates intensify a bit later. However, even if such people remain active for the longest period of time and have highest employment rates out of all education groups, their activity and employment after the 50th year of age are notably lower than in the EU15. To understand the process of transitions to inactivity of these groups and differences in the international context, one should refer not to structural features of Polish labour force but to the institutional framework of the labour market.

Deterioration of the labour market situation entails higher probability of unemployment and inactivity for older people. Protracted job-search spell usually increases the inclination to withdraw permanently from the labour market, in particular, when the structure of the social security system makes it possible for an older worker to earn some income in a relatively simple and prompt manner, such as a disability pension or early retirement pension. Earlier withdrawal from the labour market in Poland is largely a consequence of structural and institutional factors and, to some degree, constitutes one of the undesirable effects of the system transformation. Economic activity of the 55-64 age group in 1994 reached ca. 38% while it amounted to 31–33% in 2000 and has remained within that range since that time. High probability of unemployment encouraged the elderly to become inactive even with the relatively low financial attractiveness of benefits and the relatively low replacement rate. This problem is described in more detail in part IV.

Box 5. Influence of age on the relative labour market situation

Age is a feature significantly differentiating individual's position in the labour market. It is so for many reasons, e.g. of a competence, cultural or health nature. The group whose position in the labour market is best includes people in the age implying the highest economic activity (prime age), i.e. between the 25th and 44th year of age. The group whose situation in the market is relatively worse includes labour market entrants (under 25) and people gradually leaving the labour market (over 50). The relatively worse situation of such people in the labour market originates from a few main sources:

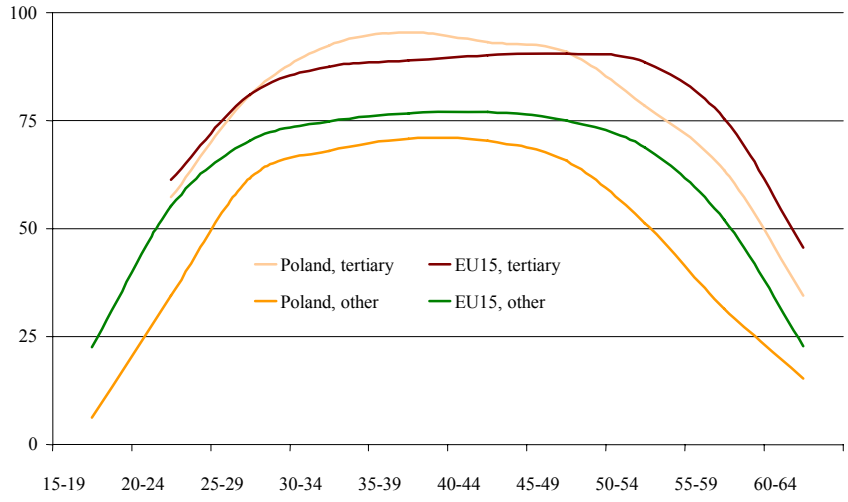
- on the one hand, young people who start to work have better health and higher abilities related to concentration and intense effort than many elderly people, especially those aged more than 50. which is a trait appreciated by employers. On the other hand, their professional experience is very limited and their competences are more difficult to recognize than in the group of people with some professional experience; this, in turn, has a negative impact on their relative labour market situation.

- Because of their active participation in the education process and entry into adulthood, young people are also more willing than the elderly to change jobs and places of living following available employment; thus, they are more mobile – spatially and professionally.

- At the same time, people over 50 in the last few years of their professional careers are usually less spatially and professionally mobile than younger people and base their job on acquired experience to a greater degree than on innovative activities; their average health is also worse than young people's health.

For these reasons, the most economically active age group with the highest employment level and highest wages in all countries of the world consists of people aged 25-44 (i.e. prime age) with more experience and higher education level than young people, more flexible and healthy than older age groups (see figure 29) and also, to some extent, more competent.

Figure 29. Employment by educational attainment and age in Poland and EU15 in 2003Q02



Source: Eurostat

The analysis of labour market flows depending on age confirms that there is a considerable drop in the economic activity among people over 45 – outflows beyond the labour market are more frequent than flows between employment and unemployment. Percentages of the employed and the unemployed who become inactive, grow abruptly in comparison with the 25-44 age group and also the percentage of inactive people returning to the labour market drops considerably. These trends intensify in the oldest age group confirming that the withdrawal of people over 45 is permanent, which is reflected by a strikingly low economic activity of these groups. Prime-aged people have the most stable position with regard to employment but, in comparison with the group aged 15–24, their flows from unemployment to employment are slightly lower. This situation reflects the highest flow dynamics characteristic for the labour market entrants but one should also remember the low economic activity of that group in international comparisons. It is also worth stressing that highest outflows from inactivity of people aged 25-34 in all age groups correspond with an increase in economic activity of women aged 25-45.

Figure 16. Frequencies of flows in the labour market in 2000–2004 by age (in percent)

Initial state	Final state		
15–24			
	Employment	Unemployment	Inactivity
Employment	84.8	10.2	5.0
Unemployment	22.4	66.3	11.3
Inactivity	5.0	6.1	88.9
25–44			
	Employment	Unemployment	Inactivity
Employment	94.4	3.7	1.8
Unemployment	20.7	68.0	11.3
Inactivity	8.2	12.8	79.0
45–54			
	Employment	Unemployment	Inactivity
Employment	93.4	2.5	4.1
Unemployment	13.2	67.8	19.0
Inactivity	3.1	3.8	93.1
55–64			
	Employment	Unemployment	Inactivity
Employment	86.1	1.3	12.1
Unemployment	7.1	54.1	38.8
Inactivity	2.3	0.9	96.8

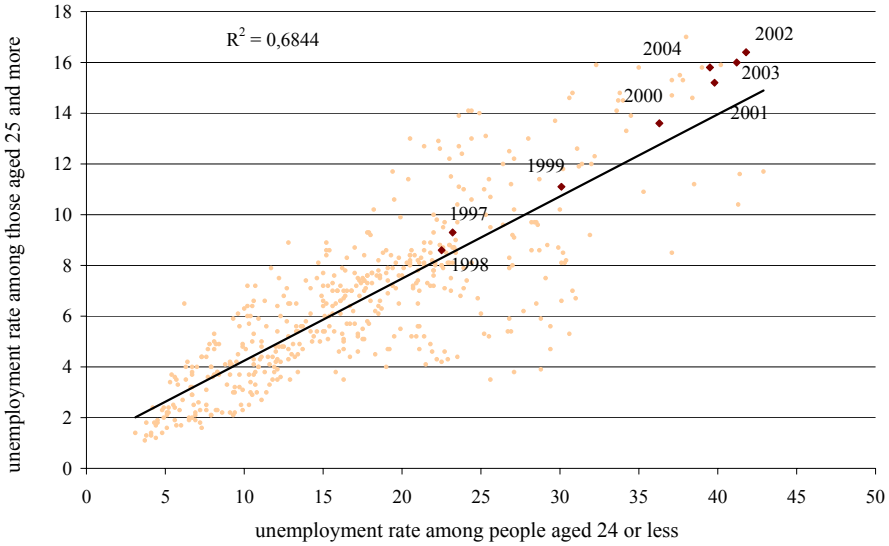
Men aged 15-64, women aged 15-59. 1-year transitions considered. Percentages of people flowing from a given initial state to each of the three final states possible are presented.
Source: DAE MGiP calculations based on LFS

Low economic activity is the main reason behind low employment rate of elderly and young people (under 20) while, for other people, high unemployment rate is an important factor influencing employment rate. The highest unemployment rate still pertains to young labour market entrants. Unemployment rates reaching 30–50% in the 15–24 age group seem to reflect a particularly difficult situation of that group in the Polish labour market, resulting from mechanisms other than in the EU and OECD countries. However, this is not so. Empirical observations show some analogies: a majority of developed countries has the unemployment rate of the young people about three times as high as the rates in other age groups. From the point of view of statistics, there is a certain permanent handicap of the young in comparison with the elderly, related to the search for the first job.

Young labour market entrants looking for their first jobs constitute a considerable percentage of the relatively small group of young people (and an even greater percentage of economically active young people) while the search for the first job usually entails a shorter or a longer spell of unemployment; on the other hand, elderly people more frequently change jobs than lose them and become temporarily unemployed. It is important about young people that their unemployment is frictional, constitutes an inherent feature of the labour market and is a normal economic expense of the job search. Subsequent job changes take place, as a rule, without a period of unemployment (i.e. the majority of flows in the labour market – except for the oldest and the youngest age groups – are flows from one job to another) but it rarely happens that a graduate can find a job immediately after entering the labour market. It is the main factor decisive of the fact that the unemployment rate among people younger than 25 is

higher than in other age groups, as evidenced the ca. threefold relation of these rates in all OECD countries. Some deviations from that dependency (in plus or in minus) are possible and they depend, in particular, on the demographic situation, quality of the education system and applied active labour market policies. They are also reflected in an increased variation of that statistical relation with the growth of unemployment (compare figure 30). However, the general labour market situation is decisive of the unemployment rate among the young in OECD and EU countries and thus the high level of unemployment among the young people in Poland corresponds with the current generally high level of unemployment. Contrary to the popular belief, it is not a unique feature of the Polish labour market in which it is particularly difficult for young people to find jobs.

Figure 30. Relationship between unemployment of people aged 25+ and of young people in 1983–2004



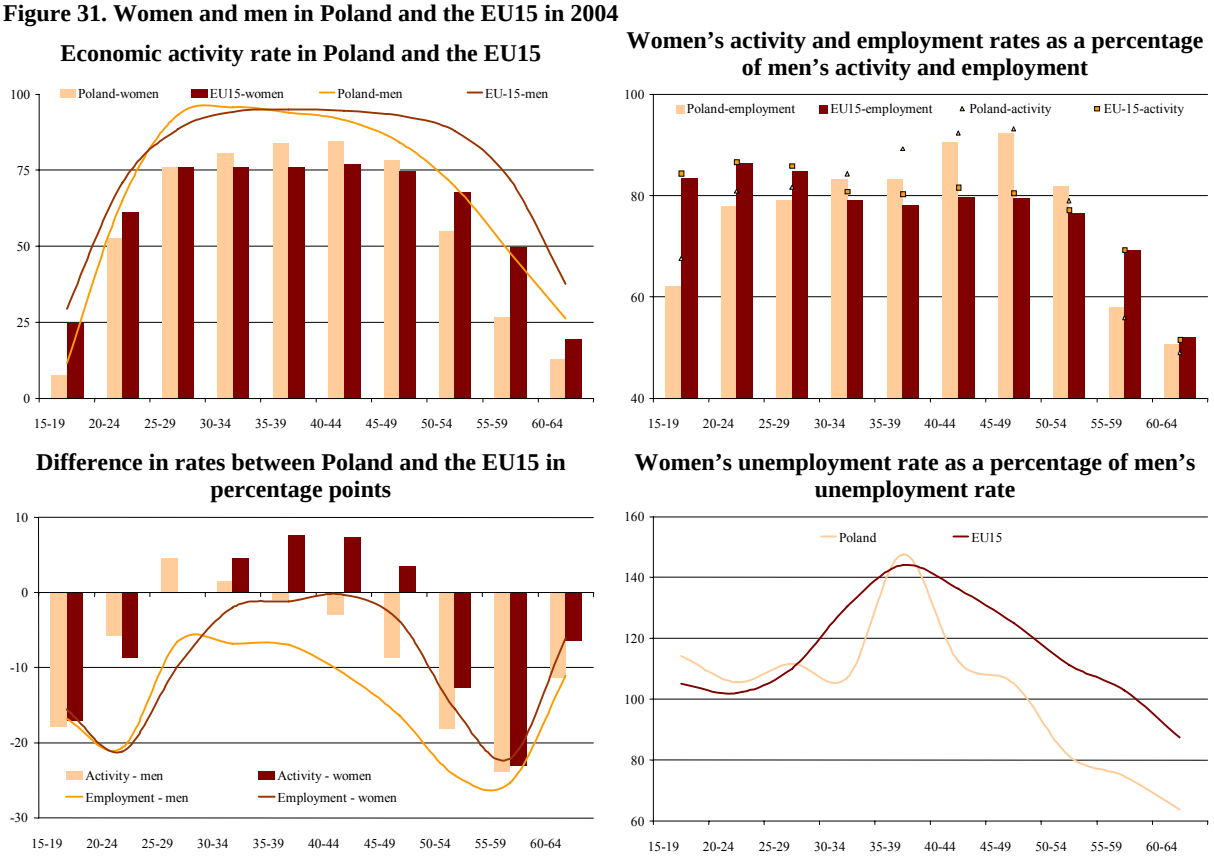
Each point denotes an observation in a single country for a given year; all states for which Eurostat publishes a harmonized unemployment rate were considered, i.e. all EU25 countries, Norway, Bulgaria, Romania, Turkey, USA and Japan. Observations for Poland (available since 1997) were marked red with a year of observation added.
Source: Eurostat

Gender is a significant factor differentiating an individual labour market situation apart from age and education. In general, women end their economic activity earlier than men; they also frequently start it later and have lower employment and activity rates in all age groups. The greatest employment gap between men and women is related to the period in which they give birth and raise children, i.e. between the 25th and 30th year of age.[27] At the same time, many women aged 30-39 who did not work earlier or discontinued their employment due to the birth of children return to economic activity, whose culmination takes place at the age of 40-44. It should be stressed that, although the situation of women in the labour market is worse than the situation of men, the difference between the employment rate of women and men in Poland and other EU countries is comparable or even lower (see figure 31).

Both EU15 and Poland saw the reduction of differences between employment rates for women and men within the last few years; in the EU15 it was taking place via the faster increase in employment for women than for men while, in Poland, the general employment drop in 1998-2003 affected men to a much greater degree than women (respective employment rates dropped by 10.0 and 5.7 percentage points between 1998 and 2003). It resulted, in particular, from a more intense influence of the 1999 shock and restructuring processes on sections employing men (such as construction, mining or manufacturing) rather than women (services, public sector) so that the influence of gender on chances in the labour market was rather indirect there. As a result of that process, about 2/3 of the employment gap between Poland and the EU15 should be ascribed to disproportions in the employment of men and only 1/3 to women.

[27] The median of women's age at the moment of birth of their first child in Poland is 24.7 (2003).

Figure 31. Women and men in Poland and the EU15 in 2004



Source: Eurostat

Different situation of women and men in the labour market is confirmed by the equilibrium unemployment rates calculated for both genders, which are higher for women (see table 17). Women had lower outflows from unemployment before the 1999 shock but the relation was reversed later. However, the outflow structure remained unchanged: unemployed men were much less frequently leaving the labour market. On the other hand, men more frequently flowed from employment to unemployment than women who rather became economically inactive if they lost a job. What is more, outflows from inactivity to employment were more frequent for women with similar percentages of individuals remaining inactive for both genders. Thus, men show higher rotation between employment and unemployment while women – higher rotation between activity and inactivity. It is reflected in higher divergence in activity rates and equilibrium employment rates than in the case of presented unemployment rates. It should also be stressed that divergence in equilibrium unemployment rates for women and men was lower in the analysed period than divergence in actual rates.

Table 17. Equilibrium unemployment rates for genders calculated on the basis of annual flows (in percent)

	1997/1998	2000/2002	2003/2004
Total	7.2	19.5	18.8
Men	6.7	19.1	18.1
Women	7.7	19.8	19.7

Source: DAE MGiP calculations based on LFS. Men aged 15-64, women aged 15-59

2.6. Regional differences

Differences between regions of Poland with regard to the level of economic development, sectoral structure and basic labour market indices originated in the 19th century, during the period of the Partitions of Poland by the three aggressors. The contrasts were deepened via the inclusion of western territories after the WWII and the policy implemented during the times of centrally planned economy, e.g. involving support of the industry in existing well-developed areas and collective agriculture in the northern and north-eastern parts of the country. Economic transformation and changes taking place in Poland within the last several years changed the specificity of regional development of the country only to a moderate degree.

To illustrate regional variations of the labour market situation, five clusters[28] of voivodeships were distinguished by similarity with regard to the following features:[29]

- the share of those employed in agriculture / industry in the total number of employed;
- GDP per employee;
- employment rate;
- share of people inhabiting cities with more than 100 000 strong population;
- share of inhabitants of rural areas;
- share of inhabitants being university graduates.

Table 18. Regional variation in Poland in 1998

Cluster	Voivodeships	Share of agricultural employment (in percent)	Share of industrial employment (in percent)	GDP/employee (in thousand PLN)	Employment 15-64 (in percent)	Unemployment rate 15-64 (in percent)
Mazowiecki	Mazowieckie	19	26	51.5	62.7	9.2
Slaski	Slaskie	5	47	45.6	55.6	9.7
„Agricultural”	Lubelskie, Podlaskie, Podkarpackie, Swietokrzyskie	35	25	28.2	60.9	10.8
„Post-PGR”	Dolnoslaskie, Lubuskie, Pomorskie, Warminsko-Mazurskie, Zachodniopom.	12	32	38.7	56.1	14.0
„ G5”	Kujawsko-Pomorskie, Lodzkie, Malopolskie, Opolskie, Wielkopolskie	20	34	35.4	59.7	10.1

Data presented in the table are average figures for each of the clusters.
Source: Own calculations of DAE and MGiP based on LFS and GUS data

GDP per employee and employment seem to be good variables illustrating the general economic condition of a region while the percentage of people leaving in the cities with over 100 000 inhabitants is a way to consider historically conditioned differences in development among individual regions of the country. The percentage of rural inhabitants plays a similar role, besides, when combined with the share of agricultural employment, it makes it possible to control for the importance of the Polish employment structure; the latter is unique in the European scale, however it varies from one region to another. The share of industrial employment plays a similar role, which is important also in the context of the progressing restructuring of that sector. In turn, consideration of the percentage of inhabitants being university graduates is dictated by the importance of that factor on an individual level shown in earlier sections. Table 18 shows results of the classification based on the above-mentioned variables.

[28] Here, a cluster is an observation group distinguished on the basis of the cluster analysis.

[29] The analysis of 1998 data based on GUS data.

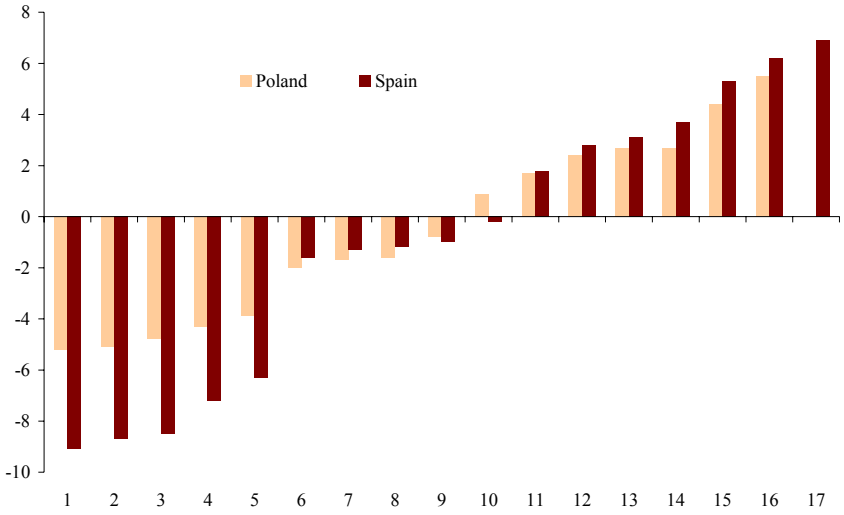
The Mazowieckie voivodeship markedly differed from the rest of the country in 1998. In particular, it had a very high GDP per one employee and a relatively low share of agricultural and industrial employment in total employment. As a result it showed a high share of the service sector and relatively high employment rate. The second voivodeship with a unique structure was Slaskie with its very high share of the industrial sector and high GDP accompanied, however, by very low employment rate. The third of the distinguished clusters contained typical agricultural voivodeships with a very high share of farmers in total employment, high share of rural inhabitants in the population, high employment rate (related to activity in agriculture) and the lowest GDP per employee in the entire country. Voivodeships in the fourth of the defined clusters had a historically high share of State Agricultural Farms in employment and agricultural activity. However, they had the highest share of the service sector employed (55%) in Poland, high share of people living in small towns (up to 5 000 inhabitants) and, in particular, the highest unemployment rates out of all the distinguished clusters in 1998. However, the high share of the service sector in employment seems to be qualitatively different than in the Mazowieckie voivodeship where employment rate was high and the unemployment rate was lower than the country average. What is more, that group of voivodeships has, in particular, the lowest levels of economic activity in the country, which is evidence of prolonged structural problems and withdrawal from the labour market of a considerable group of people for whom it is difficult to adapt to the modified structure of economy, in particular, those inhabiting infrastructurally deficient areas. The last of the distinguished groups of voivodeships is most differentiated internally. It contains industrialized voivodeships but with varied quality and structure of the industry and thus with varied levels of GDP per one employee (from 31 000 PLN in Lodzkie up to 41 000 PLN in the Wielkopolskie). Besides, differences between individual clusters are visible on the level of the inhabitants' education structure. The voivodeship particularly distinguished in that area is Mazowieckie, where the share of university graduates reached 13% in 2001 in comparison with 9.4% average in Poland. The second extreme in that area belonged to the Slaskie voivodeship where 8% of inhabitants were university graduates in 2001. At the same time, Slaskie had the lowest share of people with basic educational attainment (22%, much below the country average, which is 28%).[30] "Agricultural" voivodeships had the highest share of inhabitants with basic educational attainment in the analysed period.

Economic changes taking place in subsequent years did not change the structure of thus defined groups of voivodeships but they influenced the deepening of above-mentioned contrasts between clusters, in particular, with regard to the measure of general economic development and productivity (GDP per employee) and employment rate.

Although the level of economic development and the labour market situations in Polish regions is not uniform, the scale of variation is relatively small. Coefficients of variation of regional employment and unemployment in Poland remain among the lowest ones in the countries of the European Union. The best point of reference for the situation in Poland is Spain with comparable population and number of regions. Coefficient of variation of employment in that country reached 9% in 2003 with 7% in Poland and the difference between the highest and the lowest observed employment reached 16 percentage points (10 percentage points in Poland, respectively). Differences in regional deviations of employment rates from the country average in Poland and Spain are visible in the figure below. As it can be seen, lower regional variation in Poland results, in particular, from low variation of voivodeships that are below the average. It is also worth stressing that the scale of variation within individual voivodeships with regard to the labour market situation is much higher than variations between voivodeships themselves.

[30] It results from the economy of that region because the mining industry, metallurgy and heavy industry employ, in particular, people with basic vocational and also secondary technical level of educational attainment.

Figure 32. Regional employment in Poland and Spain



Remarks: The x axis denotes regions in Poland (16) and Spain (17) while the y axis denotes deviations of their employment rates from the country average.
Source: Eurostat data, DAE MGiP calculations

Differences in economic activity in the entire country are also visible in the size of localities. Traditionally highest employment rate is observed in rural areas and in the largest cities (over 100 000 inhabitants). The lowest rates are observed among inhabitants of the smallest towns with up to 10 000 inhabitants, with their typically small variation of types of business activities. They also have the highest unemployment rate, higher than the country average by 4-6 percentage points as presented in the figure below.

Figure 33. Unemployment rate (in percent) by the size of a locality (in thousand inhabitants)

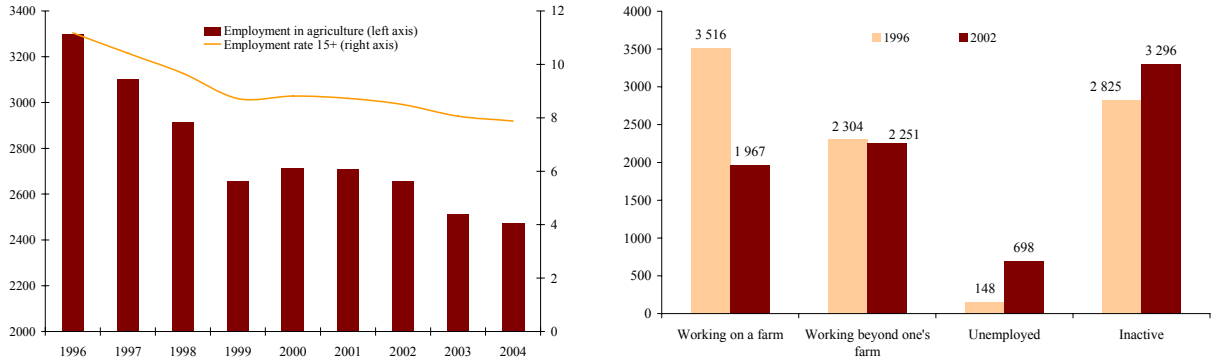
Source: GUS LFS data for 2003. DAE MGiP calculations

2.7. Work in agriculture

The analysis of the situation of agriculture in Poland is difficult, mainly because of the lack of conclusive, reliable and explicit data. Even results of National Agricultural Censuses (NSR) conducted in 1996 and 2002 do not provide any explicit answer to the question how many people in Poland are employed in agriculture. One of the reasons for such a situation is the very definition of a person "employed in agriculture".[31] Because of that, this sub-section mainly uses LFS data (especially to illustrate employment and flows) enriched with NSR results to present structural changes in periods between censuses. As censuses were conducted in 1996 and 2002, the description of agriculture in the section concentrates on these two periods.

In 2002, 19% of all employed in Poland worked in agriculture producing only 3.1% of gross value added. The share of agriculture in GDP creation drops systematically (it dropped more than twice as of 1996) and, at the same time, the share of people employed in agriculture drops much more slowly (it decreased by over 3 percentage points in the analyzed period). Thus, agriculture adapts very slowly to new economic conditions, which is reflected in the low productivity levels and related considerable but difficult to measure hidden unemployment. It should be stressed that the labour market situation beyond agriculture makes structural changes in agriculture more difficult. In the 1994-1999 period, i.e. in the years of a relatively good labour market situation, employment in that sector was reduced by over 800 000 people (24%) but, in 2000, employment in agriculture increased by 60 000 people. The Russian crisis and a fall in employment beyond agriculture caused some inflow of the labour force to rural areas – although not necessarily needed there – thus increasing the hidden unemployment. The situation was stabilized in 2001 and employment in agriculture started to decline gradually.

Figure 34. Employment in agriculture (in thousand) and employment rate (in percent) in agriculture (left figure) and the structure of economic activity related to agriculture according to LFS



The category of people working beyond their farms covers people employed beyond agriculture (mainly or solely) as well as people working in somebody else's farms.
Source: Own calculations of DAE MGiP based on LFS data

Data of the National Agricultural Census (NSR) as well as LFS data illustrate a considerable drop in employment in agriculture between 1996 and 2002. According to NSR, that drop amounted to over 1.5 million people with the number of the unemployed among those related to agricultures increased by 550 000 during that period and the number of the inactive – by less than 400 000 people. At the same time, the number of people related to agriculture decreased by over 400 000 during that time. LFS data also shows a reduction of the number of people working in agriculture although to a lesser degree.

Results of the National Agricultural Census make it possible to illustrate the situation of the "farming people" from the point of view of their sources of subsistence. In 2002, about 10 470 000 members of households of farmers and employee-farmers lived in Poland and that number dropped in comparison with 1996 by 1 085 000 i.e. about 10%. Thus, the share of people related to agriculture in the

[31] According to the GUS methodology applied in the NSR people working in an owned farm (farming plot) include people employed solely or mainly in individual farms above 1 ha except for farms producing for internal needs only; in farming plots (up to 1 ha of arable land) except for plots producing solely or mainly for internal needs; and owners of farming animals except for people manufacturing solely or mainly for internal needs. The LFS methodology does not impose any restriction related to production for internal needs.

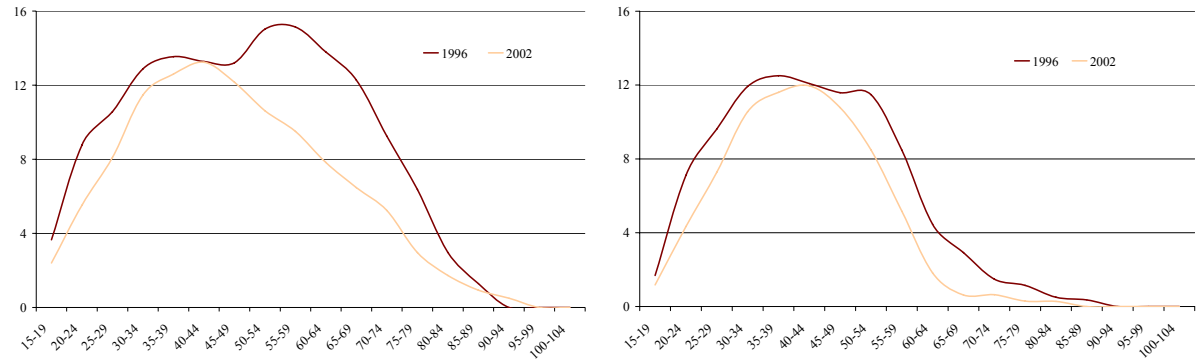
population fell from 29.9% in 1996 to 27.4% in 2002. A drop from 16 to 12% was also observed when it comes to the share of people subsisting solely on the work in their farms with a nearly double increase in the share of people subsisting solely on work beyond their farms. Less people declared that the work on their farms was an additional source of subsistence and the number of people for whom agriculture was an additional source of income declined considerably.

When comparing households of farmers and employee-farmers by social-economic groups in 1996 and 2002, a clear reduction of the share of households of farmers and users of a farm is visible. Farmers quitting their previous activities mainly took up hired jobs (the share of households of employees increased from 2.9 to 17.4% among farms occupying more than 1 ha). A very high growth dynamics in the group of households of employees was also observed among households using farming plots of land – a nearly triple increase in their share in comparison with 1996 (from 11.7% to 32.5%). The second direction of the outflow from agriculture included labour market withdrawal and transfer to unpaid sources of subsistence (mainly retirement and disability pensions).

The above data illustrate a slow change in the structure of agriculture in Poland: they are indirect symptoms of the diminishing commitment to work in that sector and transfer to activities in other sections. This is reflected not only in the reduction of the general share of people related to agriculture in the population but also an increased non-agricultural business activity among such people despite the generally bad labour market situation.

65.5% out of 2 933 000 farms conduct only agricultural activities, 8.8% – agricultural and non-agricultural, 3.5%: only non-agricultural, and 22.2% do not conduct any economic activities. In comparison with 1996, the share of farms conducting agricultural activities dropped by 16.5 percentage points: some farms completely ceased their economic activities and that group mainly included farms manufacturing for internal needs only, whose number fell by half in comparison with 1996. The most frequent reasons for the cessation of farming activities included solely economic causes.[32]

Figure 35. Employment rate in agriculture for all people employed in agriculture (left figure) and for people employed in agriculture and subsisting mainly on agriculture (right figure)



Source: DAE MGiP calculations based on LFS data

Labour Force Survey also confirms the existence of a structural change in agriculture that took place in 1996-2002. Figures below show the scale of employment drop in agriculture. On the one hand, there is an apparent decline of commitment of young people, who seek non-agricultural sources of subsistence and, on the other hand, there is the labour market withdrawal of farmers aged more than 50. The comparison of two figures: for all people employed in agriculture and for those farmers for whom the work in agriculture is the only or main source of subsistence shows who ceased to work in agriculture in the analysed period. These changes mainly affected people aged more than 40 for whom agriculture was an additional and not the main source of subsistence.

Additional information can also be collected through the comparison of sources of subsistence declared by people working in agriculture according to LFS. Only 2 381 000 people in the group of 3

[32] GUS, Households and families related to agriculture, NSP 2002. p.21.

300 000 of those employed in agriculture declared in 1996 that agriculture constituted their main source of subsistence. The others – nearly one million farmers – stated that they subsisted on other sources the majority of which included retirement pensions and disability pensions.

Table 19. Employed in agriculture vs. their source of subsistence in 1996

	in thousands	in percent
Work beyond agriculture	18.5	0.6
Work in agriculture	2 381.5	72.0
Retirement pension	366.5	11.1
Disability pension	362.8	11.0
Unemployment benefit	59.0	1.8
Other unpaid source	17.5	0.5
Maintained by a person employed beyond agriculture	30.5	0.9
Maintained by a person employed in agriculture	52.3	1.6
Maintained by a person having an unpaid source of income	18.0	0.5
Total	**3 306.5**	**100.0**

Source: DAE MGiP calculations based on LFS data

In the 1996–2002 period, the number of farmers dropped by over 640 000, which resulted to a great degree from the outflow of people whose main source of income in 1996 was a disability pension (360 000 people). Over 36% of them worked as contributing family members and the great majority of them ceased to work in agriculture. At the same time, a significant increase in the number of farmers subsisting mainly on work done beyond agriculture amounting to 220 000 people was observed.

KRUS data also provides a source of information about agriculture in Poland. The number of the insured considerably differs from the number of farmers resulting from LFS and NSR. There were 1 541 000 farmers, their spouses and cooperating household members insured in KRUS in 2002. An opinion that KRUS data show the true number of farmers in Poland is frequently expressed.[33]

The number of 2 664 000 people defining themselves as farmers is still relatively high but it is worth remembering that 350 000 (13%) of them is more than 60 years old and over 600 000 of them subsist on sources other than farming. What is more, 6% out of 2002 thousand people declaring that farming was their main source of subsistence had other income. As a rule, it was a disability pension, retirement pension or a hired job.

Significant changes took place in agriculture in Poland within the last few years but further substantial growth in labour productivity is necessary in agriculture to achieve its level comparable with the productivity beyond that sector, because it is the only way to guarantee the farmers a living standard identical with the one achieved by people not related to agriculture and to guarantee social and economic cohesion of rural areas. Gradual convergence of the productivity level in agriculture up to the level of EU15 was taking place in Poland within the last decade but its rate was slower than expected. In agriculture, the value added per person employed reached only 15% of the EU average for that sector in 2003 (measured at PPS), while the ratio for entire economy was 48%.[34] The surplus of the labour force remains the biggest problem: it includes not only the unemployed inhabiting rural areas but also people who are officially farmers but, in fact, work much below their potential capabilities (those self-employed in agriculture and contributing family members work less during a week by 7 hours on the average than those employed beyond agriculture).[35] Productivity increase in agriculture is only possible if employment drops and agricultural production will be concentrated at the same time. An average Polish farm occupied 8.44 ha of arable land in 2002 while it was twice as high in EU member countries, i.e. 18.7 ha[36]; average largest farms are located in the

[33] The difference in comparison with data from other sources results, in particular, from the fact that KRUS insures people employed solely in agriculture who own more than 1 ha of arable land, do not have any other kind of social insurance and have no right to a disability or retirement pensions or other social security benefits.

[34] According to Eurostat data.

[35] According to „W trosce o prace". Latest GUS estimations concerning hidden unemployment in rural areas based on data from the PSR 1996 mentioned 917.000 people redundant in farms.

[36] „Strategia rozwoju obszarow wiejskich i rolnictwa na lata 2007–2013" by the Ministry of Agriculture and Rural Development.

Zachodniopomorskie voivodeship (24.11 ha) and Warminsko-Mazurskie voivodeship (21.47 ha) while most dispersed farms can be found in the Malopolskie (3.31 ha) and Podkarpackie (3.82 ha) voivodeships.

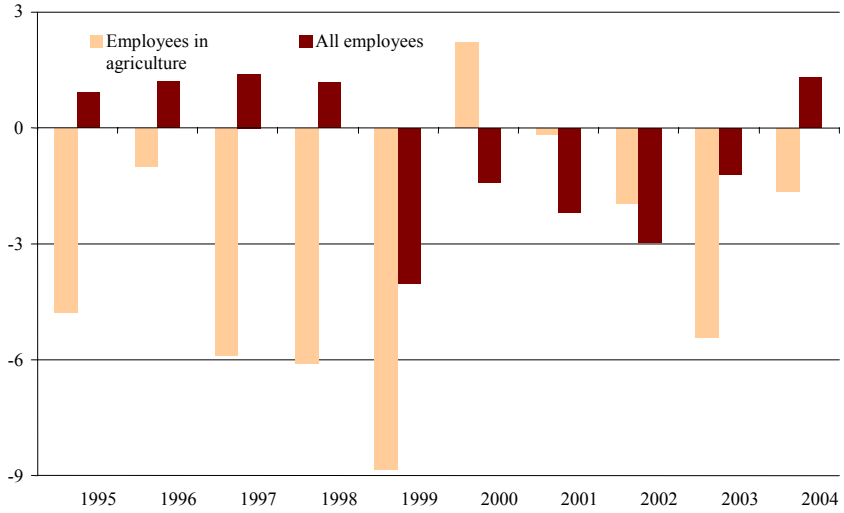
Table 20. Employed in agriculture vs. their source of subsistence in 2002

	in thousands	In percent
Hired job	29.5	1.1
Work on one's own farm	2002.0	75.2
Self-employment beyond agriculture	239.3	9.0
Retirement pension	212.0	8.0
Disability pension	19.0	0.7
Unemployment benefit	54.8	2.1
Other unpaid source	38.8	1.5
Maintained by others	40.8	1.5
Maintained by a person having an unpaid source of income	27.8	1.0
Total	**2663.8**	**100. 0**

Source: DAE MGiP calculations based on LFS data

Insufficient skills of people in that sector constitute a serious problem reducing the scale of outflows from agriculture. It results in relatively high outflows to inactivity (more than a half and, in the group aged more than 54; 90% of people withdrawing from agriculture also withdraw from the labour market) while nearly one fourth in the 15-54 age group become unemployed. At the same time, some positive trends can be observed, most people giving up employment in agriculture are young people aged 15-24 who decide to continue their education.

Figure 36. Comparison of changes in total employment and in agricultural employment (in percentage points)



Source: DAE MGiP calculations based on LFS data

The figure above shows changes in employment in agriculture against the background of total employment within the last 10 years. Employment in agriculture was systematically dropping and the dynamics of employment in agriculture was higher than the dynamics of total employment in 2000-2002 (it was even positive). It is a symptom of a slowdown of changes in agriculture during that time due to a difficult labour market situation. The observed fall in employment in agriculture weakens the arguments occasionally proposed claiming that this sector absorbs unemployment in Poland. It seems that there is no room for considerable employment increase in that sector due to its low productivity.

Summing up, agriculture in Poland is subject to a process of change, clearly visible in the presented analyses. The number of people related to agriculture and subsisting on activities within that sector is falling systematically. People of working age find jobs in other sectors of the economy, young people from farming families increasingly often decide to continue their education, which makes it possible to assume that they will also find themselves in the labour market beyond agriculture. However, it seems that the modernization of agriculture requires commitment of the young and better-educated people than farmers belonging to previous generations. Progressing changes are not sufficiently fast or deep

and the productivity of Polish agriculture remains far behind EU standards (see table 13 in the second chapter in part II). The main barrier for further, more dynamic transformations of rural areas seems to be the difficult situation in the domestic labour market that, combined with relatively low skills of farmers, makes it more difficult for them to find jobs beyond agriculture. Furthermore, the activities supporting diversification of employment and production in rural areas deserve attention; the aim should be, above all, development of services, which can facilitate the absorption of rural labour force outside of agriculture without any simultaneous pressure on migration to cities.

3. A logit model of the Polish labour market

3.1. Basic characteristics of the model

Previous sections of the Report identified the most important factors contributing to the different labour market developments in Poland and in other European countries. The striking, abrupt, surge in unemployment and fall in employment proved to have a much more permanent character in Poland than it was the case in neighbour countries, at least in the run of a few years. Evolution of the labour market aggregates and indicators for individual groups suggests that the supply side of the labour market played a significant role in the absorption of shocks. Transition analyses yield similar conclusions, indicating substantial differences in job loss- and labour market withdrawal intensities between the groups of workers defined by gender, age or educational attainment; differences in intensities of taking jobs or leaving the labour market are also substantial.

Analysis of the flow frequencies, though important for illustrating the regularities on the labour market, does not make it possible to distinguish the impact of individual factors which all concurrently modify the odds of finding/losing a job or co-shape the decisions on continuing or quitting economic activity. To assess the relative impact of individual characteristics which determine the quality of human capital one has to invoke econometric analysis. Individual's prospect for a change of the labour market state depend also on factors which are partly beyond his/her control, such as the sector of economy in which he or she works or had worked before or his/her place of residence. A phenomenon of particular importance for the Polish labour market are early. This is to a large extent a result of voluntary decision yet triggered by the access to social benefits and transfers. A likely determinant of the chances of unemployed on getting employed is the unemployment spell and the efforts taken to find a job.

In the further part of this text a microanalysis of year-to-year flows from employment and unemployment based on the LFS data will be presented.[37] To this end two multinomial logit models were constructed[38]. In accordance with the LFS methodology three labour market states were defined: the employed, the unemployed and the economically inactive. Each employed individual can remain in this state or can move to one of two remaining states; the same goes for an unemployed person. Consequently, the explained variable has in fact a discrete character – it is a given flow, yet mathematical transformations yield a model, in which the probability of occurrence of a given flow is explained. [39] In both cases, remaining in the state initially declared by the individual was assumed to be a base situation, and the estimations of model's parameters reflect the impact of a given variable on the probability of occurrence of a given flow. It should be stressed, that for each variable two parameters are estimated, so a given factor may be significantly modifying one, two or none of the outflows. Since a vast majority of the variables considered to be potential flow determinants are of qualitative character, dummy variables are used to estimate their impact. Therefore, for each of the factors a reference category has to be chosen; in most cases it is the most populous group of the given breakdown. The explanatory variables and the reference categories for each of them are presented in the further parts of this subsection.

Since a multinomial logit model is non-linear in its parameters, their estimates have no straightforward interpretation. That was why the parameters were exponentially transformed so as to obtain the so-called relative risk ratio (RRR). For dummy variables, which is the most relevant case, the RRR

[37] Year-to-year flows imply comparing individual's situation between the first and the third survey in which s/he participates. This approach – the most common in literature – has the advantage that the year-to year flows are not subject to seasonal changes, as it is the case with quarterly flows. Moreover, it is the permanent changes that matter for the evaluation of the impact of individual characteristics and exogenous factors on chances of losing a job, transition to inactivity or starting to work. Year-to-year flows, less than quarter-to-quarter flows, reflect short-term labour market changes. Unemployment implied by the year-to-year changes is closer to the structural unemployment, while the one calculated on the basis of quarter-to quarter flows is closer to the frictional unemployment.

[38] For a wider presentation of the results see Lewandowski et al. (2005a, 2005b).

[39] Annex includes a short presentation of the econometric method applied here. For a more extensive description see Green (2003).

represents the change in probability of a given flow for the unit exhibiting the characteristics denoted by the dummy variable: RRR=1 implies no change in probability, while RRR>1 – an increase in probability, and RRR<1 – a decrease. Take for instance an equation explaining the flow from work to inactivity with a dummy variable indicating gender (equal to 1 for women and 0 for men); in this case RRR=1.70 means that a woman exhibits a probability of transition to inactivity which is 70% higher than the respective probability for a man, with all other characteristics being equal for both.

3.2. Presentation of data and variables

The models presented here were estimated on the basis of observations from the LFS in the periods 1997/8, the first quarter of 1998/9, 2000/1, 2001/2, 2002/3, 2003/4.[40] Because of the break in the realization of the survey it is not possible to analyze the flows between 1998 and 1999 and between 1999 and 2000. This shortcoming is particularly severe given the abrupt increase in the scale of unemployment in 1999. Nevertheless, the data from before 1999 and after that year are available. Table 21 contains the numbers of employed and unemployed in subsequent panels or the number of observations used in both models. Note that women aged 15-59 years and men aged 15-64 years were included in the analysis, that is, individuals below the statutory retirement age imposed by law.

In the initial specifications of both models the following explanatory variables were used (reference categories in brackets)

- gender (men);
- marital status (married);
- a set of dummy variables for 10-years-wide age groups (25-34 years);
- a set of dummy variables for educational attainment (people with secondary or upper secondary education);
- a set of dummy variables for the place of residence (persons living in towns of 20 000-50 000 inhabitants);
- a set of dummy variables for the main source of the households income (members of households, where the main income comes from hired work or from non-agricultural self-employment);
- a ser of dummy variables for the periods on which the panels are based (the panel of 2000/1);
- unemployment rate in the given voivodeship.

Table 21. Decomposition of the samples used in the estimations of the logit model of flows on the Polish labour market

Panel	Employed		Unemployed	
	Number of people in the sample	Percent of the sample	Number of people in the sample	Percent of the sample
1997/8	23465	29.82	3271	21.55
1998/9	5764	7.32	807	5.32
2000/1	17935	22.70	3684	24.27
2001/2	13130	16.69	3027	19.94
2002/3	9599	12.20	2242	14.77
2003/4	8797	11.18	2150	14.16
Suma	78960	100.00	15181	100.00

Women aged 15–59, men aged 15–64. The sample consists of 4 panels of 1997/8, 1 panel of 1998/9 (first quarter), 4 panels of 2000/2001, 3 panels of 2001/2 (first 3 quarters), 4 panels of 2002/3 and 2 panels of 2003/4 (first 2 quarters).
Source: Bukowski, Lewandowski (2005a, 2005b)

Gender, educational attainment and age influence the differences in the individual labour supply and on the level of human capital. Evolution of the labour market indicators took different course for different groups defined on the basis of the above listed characteristics; these differences are visible in the flow statistics, as shown in the earlier parts of this Report. The analysis considers the indicators of

[40] Because of the break in the realisation of the LFS in 1999 and methodological changes introduced by GUS from 2002 onwards, it was possible to construct the panels and determine respective flows only between: four quarters of 1997 and respective quarters of 1998; the first quarter of 1998 and the first quarter of 1999; four quarters of 2000 and analogous quarters of 2001; three quarters of 2001 and respective quarters of 2002, four quarters of 2002 and analogous quarters of 2003, however in this case full sets of data could not be combined; and between first two quarter s of 2002 and respective quarters of 2003. For more information on the construction of panels see Annex.

the size of place of residence because the high variety of economic activities in big cities may be making it easier to find or to change jobs. Decisions on individual labour supply are taken within households, and in view of low economic activity, the factors determining the outflow from the labour marker play a particularly important role. This is the reason why variables denoting main source of the household's income were used – individuals earning income from other sources than work, such as disability benefit or pension, might be more inclined to leave the labour market.

To capture the changes in institutional environment, structural transformations and variability of flow intensities, not explained by the variation of the basic explanatory variables, the models presented here include also dummy variables for time effects and the unemployment rate, calculated for every individual in the sample as the average unemployment rate in the given voivodeship in the course of 4 quarters preceding individual's inclusion in the LFS.

Moreover in each of the models variables appropriate for the modelled phenomenon were used. These include, in case of employment:

- work experience with the current employer;
- employment status (full-time hired employees are the reference category
- enterprise size as measured by the number of employees (people working in companies employing 20-100 persons are the reference category)
- sector of economy (people employed in industry are the reference group

Human capital accumulation occurs not only in the course of education, but also by gaining knowledge specific for the given post, learning by doing etc. This is why employee's labour productivity may be increasing with the longer work experience with the current employer. The latter can also approximate to the unobserved differentiation of employees' bargaining positions. One can expect that part-time employed are characterized by a lower persistence of employment than the full-time employed; in case of the self-employed this relationship might be reversed. Groups of employed defined in that way differ in the level of human capital, and this is why these variables were explicitly considered in the model. Different sectors of economy offer jobs of different stability of employment, due to the cyclical fluctuations, idiosyncratic demand shocks and restructuring processes. Enterprises of different size (as measured by the number of employees) are also heterogeneous in this respect.

The spell of unemployment is essential for the outflows from unemployment, for it is in the first months of unemployment that the most intense outflow to employment takes place. With longer unemployment spell, human capital depreciates; a long unemployment spell can also be perceived as sign of low productivity of the individual. Taking this effect into consideration seems necessary. To this end, a set of dummy variables was constructed for the groups of people differing in the spell of unemployment. Other variables in the model of outflows from unemployment include:

- the spell of unemployment (people with no jobs for 12-24 months are the reference category);
- the job-search method (people using the services of local employment offices are the reference category);
- registration in an labour office (persons registered are the reference category);
- unemployment benefit (people not receiving benefits are the reference category);
- training (people not participating in training are the reference category)
- sector of economy of the last employment or lack of job experience (people previously employed in industry are the base category).

Although most of the unemployed seek work through the local employment offices (PUP), the kind of individual efforts aimed at finding a job might be influenced by individual characteristics, and this is the reason why the way of looking for the job is considered explicitly. In case of the unemployed receiving unemployment benefits the results obtained might be subject to errors due to the much shorter unemployment spell of these individuals.

3.3.The role of human capital

The following analysis aims at answering the question, if there exists a sub-group of employed or unemployed, defined by a certain characteristic, that shows significantly different outflow to another state than the reference category does. This should be borne in mind when interpreting the RRR estimates.

3.3.1. The role of gender and educational attainment

Relative risk ratios in models 1. and 2., presented in Table 23, confirm the crucial role of the human capital for the flows on the Polish labour market. Gender plays a statistically highly significant role in both models: women exhibit *ceteris paribus* a probability of flow from employment to unemployment lower by 9%, and a probability of flow to inactivity higher by 81% than the respective probabilities for men. The unemployed women are characterized by a 30% lower probability of taking a job, and 57% higher probability of flowing to inactivity. These results suggest a very strong relationship between transitions to inactivity and gender. On the other hand women show less intense rotation between employment and unemployment. Hence, the proportions of flows are different for both genders, as confirmed also by the frequencies presented in Table 22. However it should be stressed, that the estimation of model 3, explaining the outflows from unemployment, based on a sample of observations made since 2000, implies a slightly weaker negative impact of gender on the probability of flow to employment. It means that as the labour market situation became difficult, the position of men deteriorated relatively more strongly than that of women.

With respect to the outflows from employment, one should stress that, while the significantly higher probability of labour market withdrawal for women is a result robust to the changes in model specifications, the lower probability of their flow to unemployment is caused by differences in the sectoral structure of employment between both genders. Self-employment significantly increases the job security by reducing the probabilities of both kinds of outflow by 50% in comparison to full-time hired work; on the other hand part-time employment significantly increases the probability of losing a job by influencing labour market withdrawals more strongly (c.f. Table 23). Since men constitute 55% of the sample, a majority of self-employed (63%) and a minority of the part-time employed (48.5%), the employment status works to their advantage. One can conclude that it is the employment status – indicating, on average, a lower job security for women – that determines a higher risk of losing a job by women, whereas the gender determines their employment status at the time of losing the job. When employment status is not considered in the model, women are characterized by a much higher risk of transition to inactivity, however there are no significant differences in flows to employment between the two genders. In this case the slightly lower frequencies of flows to inactivity, which can be seen in Table 22, are partly a result of the differences in the stability of employment between the sectors of economy traditionally dominated by men and women, a topic that will be discussed later, and partly a consequence of the differences in educational attainment: women are on average better educated than men.

Thus education proves to be a factor strongly differentiating the risk of both kind of outflows from employment (it impacts stronger on the outflow to unemployment), and the probability of flow from unemployment to employment. It is insignificant for the probability of transition to inactivity of the unemployed, though. Compared to the reference category, which are the individuals with secondary or upper secondary education, the employees with tertiary education have a probability of outflow to unemployment or inactivity that is lower by 63% and 52%, respectively; the employed with basic vocational education a probability that is higher by 56% and 22%; and those with primary education have odds that are higher, respectively, by 79% and 86% than the reference category. To a certain degree these differences reflect different sectoral structures of employment of the groups, but the differences attributable to education remain substantial and statistically strongly significant even when controlling for the sectoral factors. When discussing unemployment, one should emphasise that the differences between the unemployed with tertiary education and the reference category are much bigger than the differences between the individual with less than secondary education and the reference category. These results indicate that graduating from a university yields the highest marginal increase in the human capital, and improves at most one's relative odds on the labour market.

Results obtained from this analysis indicate considerable differences in the labour market positions associated with education: individuals with less education not only run a higher risk of losing the job, but they also face difficulties in finding it, which additionally contributes to the depreciation of their skills. Consequently, it is mainly people with less than secondary education that are affected by the phenomenon of permanent exclusion from the labour market, even if the difference in odds of leaving unemployment between persons with secondary and basic vocational education is not substantial.

3.3.2.Role of age, spell outside employment and firm size

Age plays a statistically significant role in models 1 and 2. Young persons, under 25 years, are characterised by the lowest stability of employment, but at the same time by the lowest (not considering people older than 55) persistence of unemployment. Substantial fluctuations between employment and unemployment and relatively higher outflows to inactivity in this group (most likely resulting from continuing education) are confirmed by RRR presented in Table 23. The high unemployment rate among young is thus to a large degree a result of a higher frictional unemployment than in other groups. Among the remaining groups there are no differences in the probabilities of flow to unemployment, yet there are strong and statistically significant differences in the odds of reverse flow, which decrease for older individuals. It suggests that the impact of the Russian crisis on the older groups lasted longer; their attractiveness on the labour market was falling year by year, with increasing age, longer unemployment and deeper skill depreciation. However it should be stressed that the positive relation between age and probability of labour market withdrawal is a consequence of the very strong relationship for men, which is not existent for women. It is also worth noting that in Model 2, estimated with a sample based on the flows after 2000, there are no differences in probability of finding a job between the groups aged 15-24 and 25-34, which is consistent with the findings from the macro level, made in the first part of this Report.

Table 22. Frequencies of outflows from employment and unemployment in the male and female population by age (in percent). Flows in the periods: 1997/8, 1998/9, 2000/1, 2001/2, 2002/3, 2003/4

	Employment			Unemployment		
	Employment	**Unemployment**	**Inactivity**	**Employment**	**Unemployment**	**Inactivity**
Men	93.6	3.6	2.8	26.1	62.8	11.1
Women	92.7	2.8	4.5	19.7	62.5	17.8
Aged 15–24	85.9	8.6	5.5	22.7	66.1	11.2
Aged 25–34	94.1	3.7	2.2	22.8	66.0	11.2
Aged 35–44	95.7	2.6	1.7	18.5	69.7	11.8
Aged 45–54	93.6	2.2	4.2	13.5	67.4	19.1
Aged 55–64	87.3	1.1	11.6	7.0	53.8	39.2

Women aged 15–59, men aged 15–64. 1-year transitions considered. Presented figures are percentages of people flowing from a given initial state to each of the three final states.
Source: Bukowski, Lewandowski (2005a, 2005b)

Further variables related to age include experience in case of employed and unemployment spell in case of unemployed. Means as well as modal values are the higher the older the cohort. Experience reduces the probability of losing a job and this result is statistically significant, thus confirming the assumptions based on theoretical arguments. One should bear in mind that the impact of experience on the outflow to unemployment is considerably stronger than on the outflow to inactivity. This combined with the significance of age for transition to inactivity and its insignificance for the outflow to unemployment suggests that in decisions of companies on layoffs experience of individual played a more important role than their age. By contrast, age was decisive for the phenomenon of labour market withdrawals, which confirms its largely voluntary character.

The spell outside of employment significantly differentiates individual's odds of finding a job, which decrease for the consecutive groups of unemployed distinguished on that basis. Moreover, the differences in the relative risks between them decline as the spell outside employment becomes longer, meaning that the odds of finding a job decrease less and less after falling initially quite sharply in the first two years without work. On the other hand the probability of transition to inactivity increases, even though the differences among groups are smaller here than it is the case with outflows to employment. More to the point, persons who have been without a job for more than 6 but less than 24 months do not differ among each other in their risks of labour market withdrawal. It is worth stressing,

that in the model estimated for the flows after 2000, relative risk ratios of the flows of groups defined by different spells outside employment are not substantially different than in model estimated on the whole sample, however the relative advantage of the people without work for at most 6 months is slightly bigger. These persons were the first to feel the improve in trend after 2003.

In the above discussion of the role of gender in the risk of losing a job, the role of employment status was stressed: the self-employed are characterized by a lower probability of both outflows, and those working part-time – by a higher one. Considering the size of the company, the RRR indicators included in Table 23 suggest that people working in companies of no more than 20 employees, exhibited a higher probability of both outflows, which translates into significantly higher job security in the companies employing 20-100 people. Persons employed in enterprises of more than 100 people exhibited a relatively lower probability of outflow to unemployment but higher odds of outflow to inactivity. As a result their risk of losing a job was similar to that of the reference category, even if the direction of outflows was different.

The effects presented here, just as the impact of self-employment, are associated with the sectoral differences: two thirds of self-employed work in agriculture and firms of at most 20 employees are concentrated in agriculture and services. Enterprises employing more than 100 persons belong mostly to the sectors of public administration, education, industry and mining. Model 1 was re-estimated after removing from the sample the 16 201 persons employed in agriculture, which were characterised by extremely low outflows from unemployment. Significance of the firm size and employment status did not change even if the positive impact of self-employment on job security slightly decreased. Similarly, including in the model sectoral dummy variables did not affect substantially the above conclusions. However in this case the impact of enterprises of more than 100 employees on the outflow to inactivity becomes insignificant and the influence of small companies on the outflows' probabilities slightly declines (though it remains significant at 1 percent). The impact of self-employment turns out to be robust to the inclusion of additional explanatory variables, whereas the relative risk of losing the job by part-time employed increases, though these changes are not substantial.

3.4. Unemployment rate and time effects

The variables approximating the impact of external factors that cannot be considered explicitly play an important role in both models. As it could be expected, and in accordance with theory, the higher the unemployment rate, the higher the probability of losing the job (c.f. Table 23). However the significance of this variable reflects most of all the changes in flows over time, since the much lower outflows from employment before the shock were accompanied by much lower unemployment rates. Similar conclusions can be drawn for the outflows from unemployment.

Additional variation in the flow intensities over time is reflected in the significance of time effects. Since it was not possible to construct a full panel, the estimates of this variable were found unreliable and will not be discussed here. The risk of losing a job, and in particular the risk becoming unemployed, was significantly lower before the outbreak of the shock than it was in 2000/01. Then again, comparing to 2000/01 the period of 2001/02 saw a significantly lower relative probability of outflow to inactivity, what reflects the high inflow to unemployment in that time.

Table 23. Multinomial logit model of the labour market flows in Poland
Flows in the periods: 1997/8, 1998/9, 2000/1, 2001/2, 2002/3, 2003/4

	Model 1: Individual characteristics and job characteristics		**Model 2: Individual characteristics and unemployment spell**	
	Outflows from employment to:		**Outflows from unemployment to:**	
	Unemployment	Inactivity	Employment	Inactivity
Woman	0.91**	1.81***	0.71***	1.57***
Marital status: single	1.32***	0.74***	0.72***	0.75***
Aged 15–24	1.38***	2.51***	1.13**	1.32***
Aged 35–44	1.03	0.72***	0.85**	0.97
Aged 45–54	1.05	1.77***	0.68***	1.66***
Aged 55–64	0.75**	5.74***	0.39***	4.15***
Tertiary education	0.37***	0.48***	2.00***	1.13
Basic vocational education	1.56***	1.22***	0.79***	0.89*
Primary or lower education	1.79***	1.86***	0.60***	0.96
Experience	0.90***	0.99**	–	–
City over 100 000 inhabitants	0.88*	0.96	1.02	1.27***
Rural area	0.84**	0.85**	1.13*	1.05
Main source of income – farm	0.36***	0.57***	1.27**	1.26**
Main source of income – disability or retirement pension	1.00	1.05	1.81***	1.03
Main source of income – unemployment benefit	1.48	1.14	0.95*	1.19***
Main source of income – other	1.19	1.43	1.43***	0.96
Self-employed	0.50***	0.51***	–	–
Part time	1.17**	1.75***	–	–
Firm<20	1.16**	1.34***	–	–
Firm>100	0.79***	1.17***	–	–
Unemployed for up to 6 months	–	–	1.46***	0.86**
Unemployed between 6–12 months	–	–	1.28***	0.99
Unemployed between 24–36 months	–	–	0.83**	1.23**
Unemployed between 36–48 months	–	–	0.70***	1.04
Unemployed between 48–72 months	–	–	0.59***	1.32***
Unemployed between 72–100 months	–	–	0.57***	1.31***
Unemployed for longer than 100 months	–	–	0.47***	1.62***
Unemployment rate	1.03***	1.03***	0.97***	1.00
1997/8	0.47***	0.93	1.77***	1.27***
1998/9	0.65***	0.89	1.25**	1.03
2001/1	1.03	0.79***	0.71***	0.64***
2002/2	0.80***	0.66***	0.97	0.66***
2003/3	0.96	0.98	0.95	0.79***
Number of observations Pseudo R^2 Likelihood function	78690 0.1061 –20905.6		14970 0.0737 –12607.2	

Women aged 15–59, men aged 15–64. 1-year transitions considered. Reference category: men, aged 25–34, secondary or post-secondary education, married, living in a town of 20000–50000 inhabitants, main source of household's income – hired work or self-employment, 2000/1. Additional characteristics of the reference category: in case of the employed, full-time employed, enterprise employing 20–100 persons; in case of the unemployed: unemployed between 12-24 months. (*), (**), (***) denote significance at respectively 10, 5 and 1 percent level. Relative risk ratio (RRR) indicates the change in probability of occurrence of Y=1 when X equals changes from 0 to 1 (for dummy variables). Standard errors were calculated using the Huber/White/sandwich robust variance estimator.
Source: Bukowski, Lewandowski (2005a, 2005b)

The significantly higher outflows from unemployment in 1997/98 also confirm that the labour market situation was better at that time. The RRR indicators for the 2001/2002 panel significantly exceed unity, reflecting the most severe unemployment stagnation during this period and showing how the economic slowdown influences the persistence of the earlier shock. It is also worth emphasizing, that in view of the significantly lower probabilities of labour market withdrawal of the people employed in 2001-2003, the insignificance of the time effect 2003/04 should be interpreted as a return of intensity of transitions to inactivity to a higher level. Institutionally triggered incentives might have been the reason: people reacted to the changes that the so-called Hausner plan would introduce. By its very nature this effect could only have a transitory character.[41]

3.5. Differences among sectors and labour market flows

In the previous discussion of the fundamental importance of human capital for determining the probability of outflows from employment, the crucial role of the differences in the scale of the outflows among sectors was stressed. Eight NACE-based sectors were defined. They exhibit considerable differences in the frequencies of the flows, as confirmed also by the outcome of the logit model, presented in Table 25. [42] Since the estimates of the parameters of individual and workplace characteristics are stable, and their most important changes were discussed in the previous sub-section, the RRR values in the model 3. will not be further dwelled on. The only significant change is the insignificance of gender dummy for the probability of the outflow to unemployment. It implies that the significantly lower risk of outflow to unemployment for women in model 1. was a consequence of the differences in the stability of employment in sectors dominated by men (industry, construction) and women (public administration, education, health care, and, to a lesser degree other kinds of services). When sectoral dummy variables are included the model much better explains outflows to unemployment, as proved by the rejection of the null hypothesis of the likelihood-ratio test at 1% level[43].

Table 24. Share in the sample and transition frequencies for group of workers distinguished on the basis of sector of economy. Transitions Flows in the periods: 1997/8, 1998/9, 2000/1, 2001/2, 2002/3, 2003/4

Sector	Share in employment	Employment	Unemployment	Inactivity
Agriculture	20.6	95.6	1.2	3.2
Industry	20.6	91.1	4.5	4.4
Mining	1.8	95.0	1.0	4.0
Power engineering	1.8	96.8	1.2	2.0
Construction	6.5	88.6	7.8	3.6
Simple services	24.2	91.5	4.4	4.1
Business services	5.7	93.5	3.0	3.5
Public administration, education and health care	18.8	95.9	1.5	2.7

Women aged 15–59, men aged 15–64. 1-year transitions considered. Percentages of people flowing from a given initial state to each of the three final states possible are presented.
Source: Bukowski, Lewandowski (2005a)

Sectors of the highest stability of employment are power engineering, public administration, education and health care. Also agriculture and mining exhibit low outflows, however these data are probably biased because the 1999/2000 flows and full flows in 1998/9 are missing in the sample. Differentiating between two kinds of services proves sensible: business services had lower outflows from

[41] These measures included among others: a change of rules of assigning the pre-retirement benefits as from the 1. July 2004; the proposal to assign disability benefits only for a limited period of time; improvements in the system of medical certification of disability for pension purposes. Proposals included in the part of the Programme of Rationalisation and Reduction of Public Expenditure dedicated to the social security system are discussed at more length in Box 13, section 2, part IV of this Report.

[42] Because of the serious non-random deficiencies of the data, resulting form the construction of the sample, it was not possible to grasp the impact of the sector of the unemployed person's last work on his/her prospects of finding a job.

[43] Null hypothesis of the likelihood-ratio test implies that the increase in the fitting of the model resulting from an extension of the regressors set is statistically insignificant

employment than simple services. [44] Sectors with the highest outflows are industry, simple services and most of all construction; however industry experienced less intense rotations between employment and unemployment. Differences among sectors were largely related to the differences among employees. For instance, public administration, education and health care employ mainly women and relatively well-educated people. By contrast, construction and to a lesser extent industry are dominated by men with vocational education. In order to isolate the impact of the given groups of determinants one has to turn to the estimates of the parameters of the logit model 3, included in Table 25.

Individuals employed in industry constitute the reference category. Workers in agriculture, energy, financial services, education, and health care faced significantly lower probability job-loss, most substantially in power engineering. Working in public administration, education and health care reduced the odds of labour market withdrawal to a slightly stronger degree than of becoming unemployed. Nevertheless, the higher outflow to inactivity than to unemployment in this sector was caused by the substantial overrepresentation of women. In case of agriculture, the odds of outflow to unemployment have been reduced relatively stronger than to inactivity. Changes in the respective probability for people employed in financial services were substantially smaller than in the sectors discussed above and changes for other services were negative but also less significant. Nevertheless, given the very similar flow frequencies in industry and in services, the significance of services implies the counterbalancing role of differences among the types of enterprises in both sectors.

Individuals employed in mining encountered a statistically significantly lower risk of becoming unemployed, yet one has to remain cautious about this conclusion, because the highest outflows from mining took place in 1998/9 and 1999/2000. The only sector which exhibited higher probability of outflows to unemployment was construction. This finding confirms the sensitivity of construction employment to demand changes and business cycle; it also confirms the high scale of frictional unemployment in the construction sector, as well as the long lasting effects of economic slowdown of 2001-2002 and the pertaining low investment dynamics in construction.

Table 25. Multionomial logit model (3) of the outflows from employment. The influence of the sectors of economy. Flows in the periods 1997/8, 1998/9, 2000/1, 2001/2, 2002/3, 2003/4

Sector	Unemployment	Inactivity
Agriculture	0.54***	0.73***
Mining	0.44***	1.20
Power engineering	0.41***	0.47***
Construction	1.42***	1.05
Simple services	0.90*	0.87**
Business services	0.73***	0.74***
Public administration, education and health care	0.52***	0.56***
Number of observations	78690	
Pseudo R^2	0.1122	
Likelihood function	–20757.1	

The table contains only the estimations of sectoral differences. Women aged 15–59, men aged 15–64. 1-year transitions considered. Reference category: men, aged 25–34 lat, secondary or post-secondary education, married, living in a town of 20000–50000 inhabitants, main source of household's income – hired work or self-employment, full-time employed, enterprise employing 20–100 persons, industry 2000/1. (*), (**), (***) denote significance at respectively 10, 5 and 1 percent level. Relative risk ratio (RRR) indicates the change in probability of occurrence of Y=1 when X equals changes from 0 to 1 (for dummy variables). Standard errors were calculated using the Huber/White/sandwich robust variance estimator.
Source: Bukowski, Lewandowski (2005a)

[44] Simple services by definition include: retail and wholesale trade; repairs of motor vehicles, motorbikes, household and personal goods; hotels and restaurants; transport; storage; communications; municipal services, work for the households. Business services are financial intermediation, real estate, renting and business activities.

3.6. Job search and labour market policy vs. outflows from unemployment

Efforts to find a job influence the chances of getting it. Employment services should play an important role here, especially when two thirds of unemployed in the sample declared that using the services of PUP was their main method of job-search. Remaining methods were defined as individual searching, searching through ads and searching through friends.[45] The decomposition of the stock of unemployed by search method and corresponding transitions are presented in Table 26. Prospects of finding a job are also modified by the efforts aimed at improving the human capital and by the participation in active labour market programmes. One of them, which one can control for in an LFS-based analysis is participation in trainings. Differences among unemployed related to their registration in labour offices and obtaining unemployment benefits was also considered. While the presented results are based on a full-sample analysis, restricting the sample to the flows after 2000 yields the same results: flow frequency ratios and relative risk ratios in the logit model remain the same.

Table 26. Proportion of the sample and frequencies of the outflows from unemployment (in percent). Flows in the periods 1997/8, 1998/9, 2000/1, 2001/2, 2002/3, 2003/4

Job-search method	Proportion of the unemployed	Employment	Unemployment	Inactivity
PUP	67.0	22.9	64.8	12.3
Individual search	14.2	26.5	57.5	16.0
Ads	10.1	19.2	61.1	19.7
Friends	7.0	18.9	57.4	23.7
No response	1.6	22.8	62.6	14.6

Women aged 15–59, men aged 15–64. 1-year transitions considered. Percentages of people flowing from a given initial state to each of the three final states possible are presented.
Source: Bukowski, Lewandowski (2005b)

The group of unemployed relying on the services of PUPs has the biggest share of the people who remain unemployed (65%), and the lowest share of people who become inactive. Registration in labour offices has been institutionally encouraged by the fact that it has been the condition of getting the access to public health care. Moreover, the unemployed who base their job-search process on the PUPs most likely do not attempt other ways of finding a job. The relatively high outflow to employment and the estimates of the logit model included in Table 7 indicate that people who have a job sought by PUP in many cases remain unemployed; the outflow to employment might therefore partly reflect their efforts to re-gain entitlement to benefits. However, in an LFS-based analysis it is impossible to determine, how long these unemployed remain employed. Model 4 confirms that the behaviour of the unemployed influences the probability of the outflow. Active individual searching results in the highest relative outflows from unemployment to employment, however the outflow to inactivity is also relatively high (c.f. Table 26). Nevertheless the econometric analysis proves only the first of these regularities to be significant, suggesting that differences in the outflows to inactivity are the consequence of different demographic and educational structure of the people searching the job individually and through PUPs. People relying on personal contacts exhibit the lowest outflows to employment and the econometric analysis suggests that their relative risk of transition to inactivity is higher by 26%, thus proving this method to be highly inefficient. Job searching through ads turns out not to be significantly different from that based on the services of PUPs, and the differences in the frequencies of outflows presented in Table 26 reflect differences in other characteristics of both groups of unemployed. Efficiencies of both methods are similar, though. These findings suggest that job-searching methods somehow reflect the unobserved heterogeneity of unemployed in terms of the weight they attach to starting to work. Job-search assistance did not contribute to a more efficient adjustment of labour demand and labour in Poland, as confirmed by: the relative inefficiency of job-searching through ads; the high outflows from the labour market of people who base their efforts on personal contacts; and the inefficiency of PUPs, whose clients have the highest share of those remaining unemployed.

In model 4 also the impact of the participation of the unemployed in trainings was considered. Trainings significantly and strongly raise the chances for finding employment, however given the very small number o participants, their young age and, in most cases, at least secondary education, this

[45] For a detailed description of variables see Bukowski, Lewandowski (2005b)

finding has to be regarded as uncertain and preliminary. Thus we conjecture that there is substantial creaming, as the ones who attend trainings are already the ones with better prospects on the labor market. Unfortunately, available data do not make it possible to assess the efficiency of active labour market policies. However, in the period under consideration, it were the passive measures – mainly unemployment benefits and pre-retirement benefits – that made for the most of the expenditures on the labour market policies.

Moreover, three quarters of the unemployed have been registered in the labour offices. Supposedly, the individuals who did not register have a lower attachment to the official labour market, especially given that registration does not impose many requirements on the unemployed person while guaranteeing at least the access to health care. The relative risk ratios included in Table 27 suggest that the unregistered were much more prone to inactivity incentives, while those who received unemployment benefits were more likely to become employed. However the impact of benefit must be treated with caution, because the recipients are characterised by much shorter spells of unemployment. Within the group of people unemployed for less than one year, the difference in outflows to employment between before recipients and non-recipients was almost non-existent. Then again, this difference have been rising as the share of recipients among unemployed has been decreasing, suggesting that the unemployment benefits should be made conditional and they should be related to elements of active labour market policy. See Bukowski, Lewandowski (2005b) for a more extensive discussion of this topic.

Table 27. Multinomial logit model (4) of the outflows from unemployment. Job-search vs. labour market policy. Flows in the periods: 1997/8, 1998/9, 2000/1, 2001/2, 2002/3, 2003/4

	Employment	Inactivity
Individual search	1.31***	1.07
Ads	0.90	1.06
Friends	1.06	1.26**
Training	2.76***	1.12
No registration	1.03	1.71***
Benefit	1.46***	0.95
Number of observations	14736	
Pseudo R^2	0.0835	
Likelihood function	–12244.6	

Women aged 15–59, men aged 15–64. 1-year transitions considered. Reference category: men, aged 25–34 lat, secondary or post-secondary education, married, living in a town of 20000–50000 inhabitants, main source of household's income – hired work or self-employment, unemployed between 12-24 months, 2000/1. (*), (**), (***) denote significance at respectively 10, 5 and 1 percent level. Relative risk ratio (RRR) indicates the change in probability of occurrence of Y=1 when X equals changes from 0 to 1 (for dummy variables). Standard errors were calculated using the Huber/White/sandwich robust variance estimator.
Source: Bukowski, Lewandowski (2005b)

3.7. Determinants of withdrawal from the labour market

A specific feature of the Polish labour market is the low economic activity resulting in low employment. Model 1 considered the main sources of households' income to grasp the effects of the incentives to leave the labour market caused by the social security system. The decision about the labour supply is made within the household, so it is influenced by all the income earned by the household members and the additional income from the social security system may also play a role. Moreover, the transitions out of the labour force are related to gender and age, while the relation between activity ratio and age is different for men and women. Table 28 contains the results of the logit models estimated separately for both genders (models 5 and 6) under the consideration of individual characteristics and the main and additional sources of household incomes. Differences between men and women are noticeable.

3.7.1. Individual characteristics

The dependence of relative risk of outflow to unemployment on individual's age is similar for both genders, with the exception of the age groups 25-34 and 45-54: for women there are no statistically significant differences between both groups[46] but for men the risks of both outflows is significantly higher for the older group. On the other hand the relation between age and labour market withdrawal looks completely different for men and women. It is strongly positive for men over 35 and even men aged 15-24 are much more likely to become inactive than the reference category between 25-34 years. Age as a differentiating factor plays a substantially smaller role for women. Although the youngest age group does exhibit a lower probability of remaining employed than the reference category, the difference is less substantial than it is the case with men. The relatively lower economic activity of women aged 25-34 is related to maternity; then the activity rate increases for women between 25-34 and stabilises for the 35-44 group, as confirmed by the estimates of model 6. Women aged 35-44 had a 60% lower probability of leaving the labour market in comparison to the reference category, while there was no statistically significant differences between the 45-54 and 25-34 age groups. Women withdrawal from the labour market intensified for persons over 55, but the size of this phenomenon was relatively less considerable than it was in case of men. As confirmed by models 5 and 6, men start economic activity earlier than women, and since they often work in more severe conditions, on average they become earlier entitled to benefits which enables them to leave the labour market. This is why age is crucial determinant of the probabilities of transitions to inactivity. Then again, women careers are more likely to be interrupted. Some of women return to the labour market (or enter it) when they are over the age of 35, and it is not before 55 years of age when most of them become entitled to the benefits being conditional on a certain period of economic activity.

Differences between single and married persons also depend on gender. Single men have a statistically higher risk of both outflows from employment, suggesting a more stable position of married employees. Then again, single women exhibit a different structure of outflows than married women do: a relatively higher probability of flow to unemployment, but substantially lower odds of flow to inactivity. On the one hand, this reflects the situation of single female parents who cannot afford to quit the labour market. On the other hand, it is a result of high economic activity of young, well-educated single women. The impact of educational attainment is very similar for both genders, but in the poorly educated group the differentiation is stronger for men than for women, the reason being the specific character of employment of men with at most vocational education.

Moreover, the size of the place of residence is a factor strongly differentiating the female population, while it plays no role within the male population. Persons living in towns of 20 000-50 000 inhabitants are the reference category and Table 28 presents the RRR indicators (only for the significant variables). The risk of outflows to unemployment is lower for women living in towns over 100 000 inhabitants because sectors offering stable employment are concentrated in big cities. Then again, the risk of both outflows is lower in rural areas. Interestingly, the unemployment rate in the voivodeship has a significant, positive impact on the risk of outflow to unemployment for men (i.e. it increases the risk), while it is insignificant for women. This finding confirms that the convergence of employment and unemployment rates of both genders was a result of the relative deterioration of the situation of men, who had been affected more strongly by the shock of 1999 and its long-lasting effects.

[46] Women aged 45-54 years had an 18% lower probability of outflow to unemployment, however only at a little trustworthy 10% level of significance.

3.7.2. Impact of the household's source of income

In models 5 and 6 the main and the additional source of household's income are proxies for the entitlements of household members to social security benefits. Although it is not possible to determine, which of the household members earns what kind of income, one can assume that if there are more than one kind of them, the main income is man's and the additional one – woman's. The reference category consists of members of households, where the main income is earned from hired work or from non-agricultural self-employment, while the additional income is earned the same way or there is no additional income at all.

Table 28. Multinomial logit model of the outflows from employment of men and women. Flows in the periods: 1997/8, 1998/9, 2000/1, 2001/2, 2002/3, 2003/4

	Model 5: Male transitions to inactivity		**Model 6: Female transitions to inactivity**	
	Unemployment	**Inactivity**	**Unemployment**	**Inactivity**
Marital status: single	1.52***	1.35***	1.31***	0.56***
Aged 15–24	1.34***	4.51***	1.60***	2.22***
Aged 35–44	1.10	2.26***	0.92	0.41***
Aged 45–54	1.26**	5.31***	0.82*	1.08
Aged 55–64	0.76	16.33***	0.92	3.81***
Tertiary education	0.37***	0.47***	0.36***	0.47***
Basic vocational education	1.67***	1.26***	1.56***	1.27***
Primary or lower education	2.15***	2.17***	1.69***	1.82***
Experience	0.90***	0.99***	0.88***	0.99*
City over 100 000 inhabitants	1.04	1.08	0.70***	0.89
Rural area	1.13	0.94	0.76**	0.85*
Main source of income – farms	0.30***	0.40***	0.29***	0.41***
Main source of income – disability or retirement pension	1.11	1.34***	0.92	1.18*
Main source of income – unemployment benefit	1.07	1.37	2.15*	1.16
Main source of income – other	1.60**	1.40	0.63	1.60**
Additional source of income – farm	0.35***	0.58***	0.64***	0.55***
Additional source of income – disability or retirement pension	0.89	1.46***	0.86	1.04
Additional source of income – unemployment benefit	1.30**	1.32*	1.71***	1.09
Additional source of income – other	1.20	1.36***	1.25	1.64***
Unemployment rate	1.02***	1.03***	1.01	1.03***
1997/8	0.47***	0.83**	0.47***	1.06
1998/9	0.66***	0.86	0.61***	0.90
2001/1	1.03	0.84*	0.94	0.86*
2002/2	0.78***	0.54***	0.84*	0.79**
2003/3	0.92	0.86	0.87	1.18*
Number of observations	43217		35473	
Pseudo R^2	0.1118		0.0987	
Likelihood function	–10877.4		–9949.2	

Women aged 15–59, men aged 15–64. 1-year transitions considered. Reference category: men, aged 25–34 lat, secondary or post-secondary education, married, living in a town of 20000–50000 inhabitants, main source of household's income – hired work or self-employment, no additional source of income, 2000/1. (*), (**), (***) denote significance at respectively 10, 5 and 1 percent level. Relative risk ratio (RRR) indicates the change in probability of occurrence of Y=1 when X equals changes from 0 to 1 (for dummy variables). Standard errors were calculated using the Huber/White/sandwich robust variance estimator.
Source: Bukowski, Lewandowski (2005a)

Household's main source of income differentiates employed men in a different way than employed women, while differentiation related to the sources of additional income is more similar for both subpopulations. The only source of income that impacts identically on both genders is the income from a private farm in agriculture: whether as the main income or as the additional one it reduces both outflows from employment. Disability and retirement pensions are significant factor determining the odds of transition to inactivity of men and this is particularly the case if the pensions are additional

income and not the main income. We conjecture that it is most likely that a male pensioner exits the labour market when his work is no longer attractive to him, whereas when woman becomes entitled to a transfer, her husband has a strong incentive to join her in inactivity. However there is no analogous effect for women, since disability and retirement pensions are insignificant for them.

Unemployment benefits play a significant role as the additional source of income, increasing the risk of losing a job and of unemployment for both genders. We find this result as ambiguous. Moreover, if the main income comes from other unspecified sources – which can mean working in shadow economy – the relative risks of men outflow to unemployment and women outflow to inactivity increase. If however the main income is earned from transfers from e.g. family members, then the relatively high risk of outflow to unemployment for men is difficult to interpret.

3.8. Regional differences

As shown in an earlier part of this Report, variation of the employment rates among regions increased between 1997-2004, while this of unemployment rates declined in the same time. To verify if some voivodeships were affected by the deteriorating labour market situation in a specific way, new version of models 2 and 3 were considered (estimates based on the 2000 flows), whereupon voivodeship employment rates were replaced by sets of dummy variables for voivodeships. These new models were labelled 7 and 8. In both cases the fitting of the model increased as compared to the models without employment rates and dummies for voivodeships: null hypothesis in the likelihood-ratio test was rejected at 1% significance. Inhabitants of the Lodzkie voivodeship constitute the reference category for outflows from employment while inhabitants of Podkarpackie – for outflows from unemployment. This choice was based on the frequencies of outflows and on the labour market indicators, which were similar to country average. Relative risk ratios for the significant variables are included in Tables 29 and 30.

Only Kujawsko-Pomorskie voivodeship exhibits a significantly higher risk of outflow to unemployment, as the risk of outflow to inactivity has been relatively higher there. This is consistent with the permanently high unemployment rate and the low activity rate in this region. However this voivodeship did dot prove significantly different than the reference voivodeship when the outflows from unemployment are considered. Probability of outflow to unemployment was relatively lower in the Malopolskie voivodeship (which is in line with the low unemployment rate in that region), lower in the Podkarpackie voivodeship (reflecting to a certain extent the high share of agriculture employment in that voivodeship). It was also lower, albeit less substantially, in Wielkopolskie and Slaskie, however the result for Slaskie might be sensitive to the break in the survey in 1998-2000. It is only Slaskie where results for both flows, from employment to unemployment and vice versa, are significant; they are both lower than in the reference category. This implies, given that model 8 was estimated on the basis of the flows after 2000, that people laid off between 1998-2000 encountered subsequently considerable difficulties in finding job. Hence, there is a need for measures increasing the job mobility of these persons as new kinds of economic activities develop.

The large number of voivodeships of which inhabitants exhibit a significantly higher rate of transitions to inactivity probability is partly a result of the high level of economic activity of Lodzkie, which is the reference category for outflows from employment. When considering regional variation of the outflows from unemployment one finds significantly higher outflows to inactivity from both initial states in the Pomorskie voivodeship. Results for the Warminsko-Mazurskie voivodeship indicate structural problems of its labour market: the employed show a 50% higher relative risk of early withdrawal from the labour market, while chances of the unemployed of finding employment are lower by 24%.

Increasing regional variation of employment rates is only to a minor extent caused by region-specific factors, as evidenced by the small number of significant regional effects in flows between employment and unemployment and a higher number of such effects in outflows to inactivity. It is rather a consequence of differences in the absorption of the shock, and in the stagnation of unemployment and employment resulting from it. By implication, regional variation reflects mostly supply side differences and sectoral structure of the local economies. Regions experiencing structural problems

exhibit also higher outflows to inactivity, since the unemployed and persons threatened by unemployment in these regions are more eager to use the institutionally conditioned opportunities to leave the labour market.

Table 29. Multionomial logit model of outflows from employment – regional variation
Flows in the periods: 1997/8, 1998/9, 2000/1, 2001/2, 2002/3, 2003/4

	Model 7: Individual characteristics, job characteristics and sectors of economy	
	Unemployment	**Inactivity**
Dolnoslaskie	1.10	1.30**
Kujawsko–pomorskie	1.24**	1.47***
Lubelskie	1.03	1.27***
Lubuskie	1.23*	1.24*
Malopolskie	0.74***	1.06
Podkarpackie	0.74**	0.99
Pomorskie	0.90	1.23*
Slaskie	0.76**	1.18*
Wielkopolskie	0.84*	1.12
Warminsko–mazurskie	0.93	1.50***
Zachodnio–pomorskie	1.07	1.29**
Number of observations	78690	
Pseudo R^2	0.1142	
Likelihood function	–20710.2	

Note: Only RRR for the significant dummy variables for voivodeships are presented. Women aged 15–59, men aged 15–64. 1-year transitions considered. Reference category: men, aged 25–34 lat, secondary or post-secondary education, married, living in a town of 20000–50000 inhabitants, main source of household's income – hired work or self-employment, full-time employed, enterprise employing 20-100 persons, industry the Lodzkie voivodeship, 2000/1. (*), (**), (***) denote significance at respectively 10, 5 and 1 percent level. Relative risk ratio (RRR) indicates the change in probability of occurrence of Y=1 when X equals changes from 0 to 1 (for dummy variables). Standard errors were calculated using the Huber/White/sandwich robust variance estimator.
Source: Bukowski, Lewandowski (2005a)

Table 30. Multinomial logit model of outflows from employment – regional variation
Flows in the periods: 2000/1, 2001/2, 2002/3, 2003/4

	Model 8: Individual characteristics, unemployment spell	
	Employment	**Inactivity**
Lodzkie	1.12	0.65**
Podlaskie	0.85	1.42**
Pomorskie	1.10	1.59***
Slaskie	0.66**	1.13
Warminsko–mazurskie	0.76**	0.75*
Number of observations	10921	
Pseudo R^2	0.0672	
Likelihood function	–8744.3	

Note: Only RRR for the significant dummy variables for voivodeships are presented. Women aged 15–59, men aged 15–64. 1-year transitions considered. Reference category: men, aged 25–34 lat, secondary or post-secondary education, married, living in a town of 20000–50000 inhabitants, main source of household's income – hired work or self-employment, unemployed between 12-24 months, the Podkarpackie voivodeship, 2000/1. (*), (**), (***) denote significance at respectively 10, 5 and 1 percent level. Relative risk ratio (RRR) indicates the change in probability of occurrence of Y=1 when X equals changes from 0 to 1 (for dummy variables). Standard errors were calculated using the Huber/White/sandwich robust variance estimator.
Source: Bukowski, Lewandowski (2005b)

3.*9. Summary of the logit model of the Polish labour market*

The econometric analysis of flows on the Polish labour market allows determining the importance of individual factors influencing the probability of losing a job, finding it or ceasing economic activity. As the findings suggest, the characteristics of the labour supply play a fundamental role, particularly important are educational attainment, age, and, to some extent, gender. People in the so-called prime-age are characterised by the highest persistence of employment while young persons experience major fluctuations between labour market states, even when other factors are controlled for. Higher

educational attainment is related to a lower risk of losing a job and to a higher probability of starting to work, and a acquiring tertiary education brings by far the highest marginal benefit in terms of labour market prospects. Poorly educated individuals not only face a higher risk of losing a job, but they also encounter the most difficulties in finding it. Education-related differences remain significant even when controlling for the differences in persistence of employment in individual sectors of economy. On the other hand, the latter also proved important and in particular, they limit the impact of gender on the outflow from employment to unemployment. Other job characteristics, such as employment status or the size of the firm as measured by the number of employees, are also important. These characteristics can be considered as related to the demand side of the labour market. The latter is approximated by the unemployment rate in a given voivodeship, which significantly raises outflows from employment and reduces chances of becoming employed. Then again, considering explicitly regional variation resulted in finding only a few of voivodeship which differ significantly in the odds of employment-unemployment flows.

In case of the unemployed, a factor as important as human capital for their chances to start working is the unemployment spell, which illustrates the high rate of skill depreciation of the non-employed. As it seems, choosing the services of PUPs as the main job-search method is relatively inefficient; it is only the individual efforts that increase the chances to find a job significantly. This result is consistent with the conclusions on the weaknesses of the Polish labour market made in section 5 of part IV of this Report.

As evidenced by the econometric analysis of determinants of early withdrawal from the labour market among men and women, age influences probabilities of leaving the labour market rather differently for both genders. This result reflects different character of male and female jobs and task division in households; it is also in line with the findings on diverse patterns of economic activity by gender. However one of the main reasons of the gender differences are institutional factors, which differentiate the opportunities for quitting the labour market for men and women (see section 2 of part IV). Main source of household income, such as hired work, social transfers etc. impacts differently on male and female early withdrawal from the labour market, which is to a lesser extent the case with additional household income. It is worth noting that income from disability or retirement pension plays a more important role for the transition to inactivity of men than for that of women.

4. Conclusions

The employment rate in Poland is by roughly 13 percentage points lower than in the EU15 countries and by about 9 percentage points lower than in other new Member States. The principal component of this major employment gap is the lower intensity of labour force utilisation, which is mainly determined by the high inactivity of the oldest and the youngest labour market participants. Other components are: the lower average educational attainment and the different demographic structure. Men are responsible for two thirds of the employment gap while the relative labour market situation of women is better in Poland than in the EU15, due to the high economic activity of prime-aged Polish women.

The scale of employment gap should be attributed to the differences in sectoral structures of the economies of Poland, EU15 and NMS9. Poland has lower employment rates in all sectors but agriculture. Sectors contributing most to the employment gap are business services, industry and health care. Low employment in services is caused by the low average productivity of industry and agriculture as well as by the low industrialisation of many regions of the country. Regions with poorly developed and less productive industry are the regions with high employment in agriculture and low in services.

Insufficiently developed industry reduces the purchasing power of households and the proportion of income that they can spend on services. As a result these services are relatively less developed in Poland than in other Central-European countries. It makes it difficult to find a job in services for the young persons still at school, and for the older persons leaving industry and agriculture; it also decreases the general employment rate.

The lower unemployment rate in Poland is also a result of the age distribution of population. Age groups that have usually highest employment rates are relatively small in Poland while in the EU15 they are the most numerous ones. By contrast, in Poland it is the youngest and the oldest cohorts that are numerous. The former consist of people at school or entering the labour market, the latter are older workers, whose risk of early withdrawal from the labour market grows fast.

In Poland young people enter the labour market later than it is the case in the EU15 while older workers quit it earlier. All age groups have lower relative intensity of employment. Poor educational attainment raises the risk of a job loss and early withdrawal from the labour market as well as reduces the chances of finding a job, thus increasing structural unemployment. In Poland people in prime-age with tertiary education work relatively more frequently than in the EU15, but their activity and employment rates abruptly fall 5 years earlier, just as they do in other education groups. It indicates that early withdrawal from the labour market has institutional sources while lower prime-aged employment is caused by structural factors, especially the quality of labour force.

Unemployment has different character for different age groups. It is mostly frictional for young people, when it is related to searching the first job. The high level of unemployment in this group is a result of long average job-search spell in all the age groups. Among the prime-aged people it is the persons with poorest educational attainment that suffer the most from unemployment. People with primary educational face a higher risk of permanent exclusion from the labour market than people with basic vocational education. The latter use seasonal and occasional job opportunities.

Employment in agriculture has systematically declined for a few years. People leaving agriculture find jobs in other sectors and the young people more and more frequently manage to get a better education. However these changes are not sufficiently fast and deep and the productivity of Polish agriculture remains behind the EU standards more than the productivities of industry and services do. The key barrier to further transformations in rural areas seems to be the relatively low level of skills of rural population, which makes it difficult for the people to find jobs outside the agriculture.

3.

Accumulation of human capital

Maciej Bukowski
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1. Introduction

The future of the studying youth on the labour market is very often determined at a relatively early stage of education. The choice of a primary school often affects the choice of a lower secondary school, opening certain options while closing the others and determining to some extent, the choice of a secondary school. This in turn develops the opportunities for prolonging the education at a university level and determines the choice of the field of studies. Often enough the decision once made proves difficult to be changed in the later stage, although it is not impossible. On the other hand, the educational choices and the level of the completed education depend to a great degree on individual talents, motivation to study, interests, family environment and peer-group. Therefore, the construction of the educational system, the form and the quality of all components of teaching, as well as equal educational opportunities are of key importance for the individual educational choices of pupils and students, and in consequence they co-affect their future situation on the labour market.

As it is shown in Part I of the Report, people of relatively lower educational attainment levels manage worse on the labour market than higher qualified ones. This fact is of a particular significance for the countries going through a period of fast modernization, as Central European countries, including Poland. The variation in the level of development between the various countries of the world results first of all from the differences in productivity factors: the capital and the human factor. A fast economic growth, resulting in shortening the distance to the countries with the highest income per capita levels is possible only if the labour efficiency considerably increases. It requires deep and fast-rate changes in the quality of the capital used in the production as well as in the competences of the people using it. These are two largely complementary values. In consequence, the modernization of physical capital results in higher requirements towards the employees. In the broader context, in the countries, where the growth is slower, modernization deepens the competence distance between the people improving their qualifications following the changing economy and those who do not. In effect, the relative situation on the labour market of the low-skilled workers with limited ability to get new skills, measured by the capability to undertake productive activity and by the relative level of earnings, quickly deteriorates.

The objective of the present chapter is to analyze the processes influencing the changes in the quality of the labour force in the long-term. The analysis conducted at this stage concerns primarily education of individuals entering or preparing to enter the labour market, i.e. the group of 15-24 year olds. The attention was also paid to lifelong learning. At the same time, the chapter tackles the quantitative and qualitative changes in the educational profiles in Poland trying to answer to what extent the transforming educational system can meet the challenges posed by the ever-changing labour market, and thus – whether and to what degree we can expect an increase in employment as a result of the processes taking place in the field of education.

2. Human capital

One of the better documented empirical regularities in the field of the labour economics is the correlation between the situation of the individual on the labour market and his/her qualifications. In the OECD countries and EU15, the lowest employment and the highest unemployment rates are observed among the people with the lowest educational attainment. Along with the growth of qualifications, the situation becomes reversed. It thus can be concluded that in the developed countries education plays a crucial role in the differentiation of the individual situation on the labour market. As the analysis conducted in the first part of the present Report shows, Poland is no exception in this respect. People with the lowest levels of educational attainment are the least likely to find and keep a job, and consequently – they have the highest unemployment rate. Indeed, the individuals belonging to the groups of the lowest educational attainment constitute the majority of the Polish unemployed.

Box 6. What is the human capital?

Human capital is defined as a set of knowledge, skills, health, and vital forces present in every man and in the society as a whole. It defines the abilities to work, to adapt to the changing environment, and the capabilities of looking for and creating new solutions (*Multimedialna Encyklopedia PWN*).

For the scope of the present Report, the key elements are the knowledge and the skills learned in the course of formal and informal education, trainings and professional experience, which are later on used to carry on occupational duties and to further attain knowledge.
The skills composing the so defined human capital are of three kinds:

- **general skills** – skills allowing for processing information and using it while solving problems and further learning,
- **specific skills** – skills including the ability to use certain technologies and processes of production, e.g. computer literacy on different levels of advancement, ability to maintain and to fix a certain piece of equipment, etc.,
- **technical and scientific knowledge** – it includes proficiency in certain fields of knowledge and analytical techniques, which are indispensable during the processes of production or while using advanced technologies, e.g. physics, architecture, etc.

Human capital in economics is divided into three categories, corresponding with three stages of life: human capital attained at home, during formal education, and knowledge attained while working.

Human capital, if understood this way, can be supplemented by additional qualitative characteristics – the set of attitudes, behaviour and moral norms, or even the attitude towards one's own health. All these factors determine the quality of the human capital in the global perspective, and in individual perspective, they affect the success or failure of a given individual on the labour market. However, these characteristics of the human capital are difficult or impossible to measure, therefore, only the education and the level of skills resulting from learning in formal and informal educational system will be accounted for later on in the chapter.

In economics, especially in labour economics, the wider concept of human capital is often used instead of narrowly defined "education". It joins together the specific and technical skills of performing a given profession, linked to education, as well as general skills, allowing for interpretation of information, for successful solutions to problems and for taking right decisions having considered these solutions. In other words, the concept of human capital (cfr. Box 6) includes the basic set of characteristics, which are decisive for individual success of given people on the labour market, as well as they influence the whole economy.

A high level of human capital results first of all from the level and quality of education of a single employee, of all employees in the company, and in the global perspective – the whole society. Education is nothing else but a set of skills and qualifications, which a given individual acquired in the

process of formal and informal learning process. Some parts of these skills are of a universal character, increasing the probability of successful job-search on the open market; other skills are specific, influencing primarily the productivity, and in consequence the level of earnings in this profession. Each step of schooling or participation in lifelong learning tends to increase or update the skill resources. Whether acquisition of new skills improves the position of a given individual on the labour market depends on two conditions: firstly, these skills should be complementary to the capital used in production; secondly, the education process and its quality. In other words, the quality of the educational system and teaching in the country as a whole and in the relevant educational institutions, including their ability to form the skills in demand on the labour market, directly affects both individual benefits reaped from education by the learners, and the aggregated results of the whole economy, especially the increase of productivity and economic growth. Therefore the high rate of participation in upper-secondary education, and tertiary education, together with low quality of teaching, will not guarantee any significant growth of the human capital at the aggregated level.

Engagement in education (both individual and on aggregate level) results in so called returns from education. From the individual perspective, the wage for the performed work and the predictable outlook of future employment constitute the main private returns from the means invested in education (both financial and intellectual means of a given person). The OECD study (De la Fuente, Ciccone 2002) indicates that in the EU15 an additional year of schooling results in increase of expected wage by ca. 6.5%. From the macroeconomic perspective, an average level of education and competence of the society (an average level of human capital) defines its impact on the well-being of all the citizens (not only of those with the highest competences). Therefore, in this respect the weight of the human capital is visible in its impact on the total productivity of economy, as well as on the average quality of life of the individuals achieved through better organization of the social life.

Human capital is one of the main factors defining the level of productivity, both on individual and aggregate level.[47] The importance of the quality of education for the perspectives of economic growth increases with the development of production technologies. Employees having high skills of problem solving (also the complex ones) and abilities to communicate with others should carry out better all the activities, which go beyond a routine performance of the entrusted tasks. These employees learn more easily, and they participate more often in lifelong learning, thus they adapt faster to the technological changes and modifications of the working conditions than employees with lower educational attainment. It is so because the general education is strongly connected to ability to attain specific knowledge, useful in a particular occupation. It is important nowadays, when fast technology-biased development requires the workers to supplement their education, to upgrade their qualifications, and to gain new skills needed to use more and more complex technologies. In this context, participation in lifelong learning process is of special significance. This participation is the most difficult, but also very needed in case of the people being in the most difficult situation on the labour market – especially elderly people and low skilled workers. Engaging these groups in lifelong learning may prevent the negative competitiveness of older generations versus younger generations, or low-skilled workers versus high-skilled workers.

3. Secondary education

The process of restructuring of the educational system in Poland resulted from its maladjustment to the new, rapidly changing reality. Together with sectoral changes in the economy structures (decreasing employment in the traditional sectors and development of services) the education of young people at all levels should also change. Vocational training, being training in one particular profession with minimal share of general subjects, has been increasingly ill-suited to meet the requirements of the labour market and did not allow for relatively easy adjustment of one's skills to the labour demand. In consequence, a high number of vocational schools graduates has encountered and still encounters serious difficulties with finding a job. This phenomenon is not only affected by the very system of vocational training, which has as its objective to form specific labour skills of a given profession that

[47] The estimations for the EU15 indicate (in economy-wide perspective) that when education on the secondary level is prolonged by one year (when all other factors remain unchanged) the aggregated productivity increases by ca. 5% in the short-term, and by another 5% in the long-term. (de la Fuente, Ciccone 2002).

are in demand on the labour market, but also by broad knowledge and universal skills that facilitate taking up jobs in various occupations and attaining new qualifications. Also average standards of teaching in general secondary schools have not allowed many students to gain knowledge nor skills that would facilitate starting the degree programmes in demand on the labour market (especially in science and technology), which are of a key importance for individual and social returns from education.

The restructuring of the Polish educational system has been running for several years now and it proceeds towards promotion of general and general vocational education, equal access to education, and establishing a system of external exams. The exams would not only evaluate the students' skills upon completion certain stages of learning, but also create a monitoring system that would inspect the functioning of educational system. These assumptions are concurrent to actions taken up by other European countries since the beginning of the 1980s, especially in Scandinavian countries. These changes aimed at providing equal educational chances through introduction of uniform educational system on the upper secondary level, which would enable evaluation of the teaching quality in schools as well as the efficiency of the work of each teacher.

3.1. Organization of education at the secondary level

In the 1990s, Polish education was facing serious changes in terms of quantity and quality. Educational reform introduced in 1999 aimed at increasing of the level of educational attainment of the society by rendering upper secondary and tertiary education more common, and by providing equal educational chances. The reform changed the schooling system by introducing a primary school (duration of 6 years), lower secondary school (3 years), and upper secondary school (duration of 2-, 3-, or 4 years). Its important element was a deep restructuring of the vocational education, aiming at joining vocational training with general education. To reach this aim, new types of schools were created – specialized secondary schools, which were supposed to become alternative to vocational schools. These actions contributed to the changes in educational structure on the upper secondary level and to the increase by almost 6 percentage points in the net enrolment rate among 16-18 year olds attending post-primary (post-lower secondary schools) schools of all types in the years 1995 – 2003.

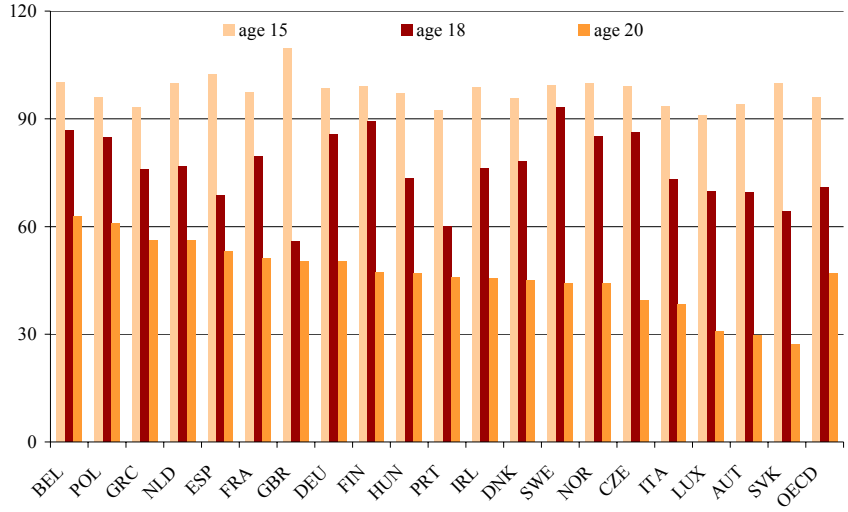
Box 7. Enrolment rate

The enrolment rate is the measure of engagement in the education process
gross enrolment rate – expressed as percentage rate of a number of students enrolled in particular level of education to the population in the age nominally ascribed to this particular level of education.
net enrolment rate – expressed as percentage rate of a number of students enrolled in particular level of education, in nominal age ascribed to this level of education to the population defined as in the case of gross enrolment rate.

Poland is characterized by a similar as in other OECD countries rate of 15 year olds who attend schools at lower and upper secondary levels (ISCED 2-3). According to OECD, in 2002 this rate reached 96%. The enrolment rate decreases gradually for subsequent annual cohorts, and it drops rapidly for the people at the age of 18-19 years, i.e. upon completing the legal age for secondary education. The situation is similar in all OECD countries. The net enrolment rate in different age groups depends on the respective country educational system on the secondary and tertiary level. The level of net enrolment rates of the people in the nominal age for secondary education is significant in case of so called "early school leavers". Such people are usually defined as people aged 18-24 (possibly 20-24), who have completed at most lower secondary education, and who do not continue education in a form that would allow for any increase of their level of educational attainment. According to the OECD data for 2002, in Poland, merely less than 7% of individuals aged 20-24 with lower secondary education did not continue their education. To compare, the average for the OECD reached 19%. Students leaving educational environment earlier are usually the ones that achieved less than mediocre results in primary and lower secondary schools. Such individuals run the high risk of being durably excluded not only from the labour market, but also from active participation in the social life. They are often unable to meet the requirements of the contemporary labour market, where

the number of occupations requiring only simple skills is limited. Thus a significant share in a population of individuals quitting education early has an adverse impact on social cohesion, competition, and modernization of the economy. Considering the above, this problem is a major challenge not only for the educational policy of the country, but also for the labour market policy and a broadly defined economic policy. Economies based on modern technologies, widely using scientific achievements, cannot be successfully built without properly prepared human resources and society. This fact has been particularly stressed in the Lisbon Strategy, which posed as one of its aims the increase of the level of educational attainment in the society. This objective is to be achieved, among others, through a decrease in the percentage of youth with low level of educational attainment, who quit school, or through aiming at an increase of the percentage of individuals with upper secondary education.

Figure 37. Net enrolment rates at ISCED 2-5 levels in 2002



The values of the net enrolment rate can be overestimated in case of the countries with many foreign students and underestimated in case of the countries, where part of the students is enrolled in educational institutions abroad.
Source: OECD (2004b)

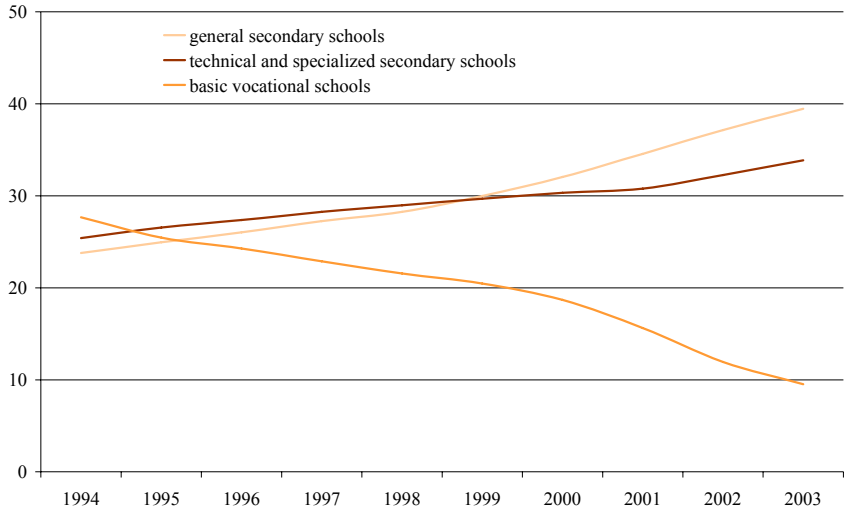
In Poland, the decrease in the enrolment rate after completion of 18 years of age is the lowest among the European OECD countries. In 2002, it amounted to 35 percentage points when in Slovakia, Austria or in the Czech Republic it reached 60 percentage points. It must be noted that the difference between the OECD countries in this respect are affected by the variations of the educational systems[48] and by the differences of the percentage of individuals studying at the tertiary level. In the majority of OECD countries the legal age to complete education on the secondary level is 18-19, therefore the net enrolment rate of the individuals aged 20 covers, to a large extent, people studying at the tertiary level.

In the last years, the greatest quantitative changes in the Polish educational system were related to vocational training. The number of vocational schools students dropped, and in 2003 it was by 76% lower than in 1992.[49] A major part of this decrease took place in the last years. In 1992-1998 the number of vocational schools students decreased by 165.000 (21.5%), to further decline in the following years by over 417.000 individuals (54.5%). The intensification of the decrease in the number of vocational school students after 1999 should be linked to the fact that the second stage of the reform became operational, as well as to the annual decline of the number of 16-18 year olds. In 2001, secondary schools did not organize enrolment to the first grade since the 16 year olds continued their education in the lower secondary schools. The enrolment in the next year – to the new, two-year vocational schools, was by half lower than in 2000. It was reflected in the enrolment rate at the upper secondary level according to the school type, what is presented below:

[48] In some countries, including Poland, a significant group of the 19-20 years olds still attends secondary schools.

[49] The analysis does not include the students attending special schools.

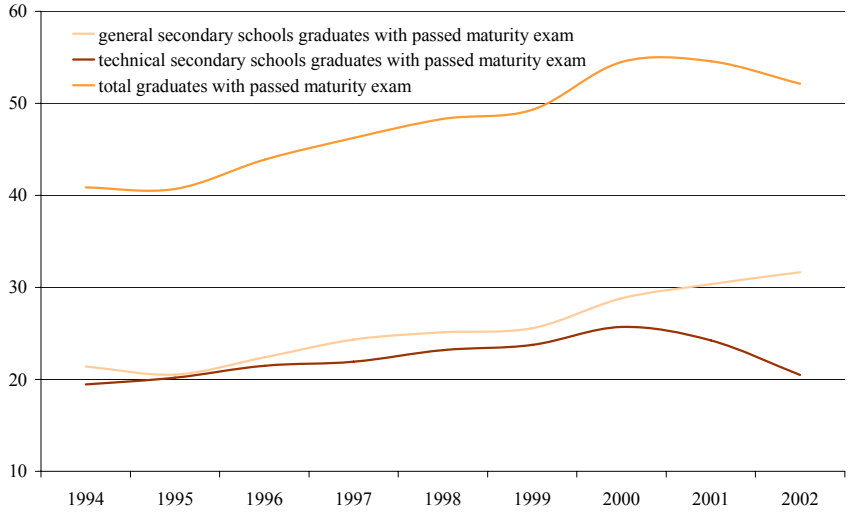
Figure 38. Share of students aged 16-18 at the upper secondary level of education to the population in general, in the same age group (by secondary school type)



Source: Data set „Oswiata i wychowanie" in the years 1994 – 2003, GUS

As a consequence of the gradual changes in the educational structure on the upper secondary level, in the last ten years the percentage of individuals taking maturity exam (general secondary school final exam) grew steadily in the population of 19-year olds, from 41% in 1994 to over 51% in 2002.

Figure 39. Share of the secondary school graduates and individuals taking Maturity exam among the 19 year olds



Source: Own estimates of DAE MGiP based on „Oswiata i wychowanie" and „Rocznik demograficzny" GUS

The choice of the future educational track is to some degree conditioned by sex. Girls more often than boys choose the general upper secondary education. In 2003 they constituted 60% of all general secondary school students, but this share has decreased substantially since the early 1990s, when it amounted to 70%. This phenomenon is also the consequence of the decrease in the number of vocational school students, which were traditionally boys (their share among the students of vocational and basic vocational schools in 2003 amounted to 55% and 69%, respectively, and it has not changed much for a decade). In consequence, girls prevail among the individuals who continue learning at tertiary educational institutions. Similar variation can be noticed in when it comes to choosing a profile of education: girls choose more often humanities, while boys - technology and science.[50]

[50] In academic year 2004, girls constituted over 70% of all students at fields of economic and administration, social care and social studies (in basic vocational schools and technical schools). On the other hand, they constituted only 4% of all students, attending secondary schools, at the fields of engineering and technology, architecture and construction and IT.

This affects to some degree educational choices at the tertiary level, the upper secondary school graduates in humanities are rarely prone (and they lack suitable skills) to study science and technology.

3.2. The educational results at the lower secondary level – PISA study, results of the lower secondary school exams

The described quantitative changes in the secondary level education, and especially the fact that many young people do not choose education at basic vocational level, can affect positively the quality of the human capital in the future, and thus the labour market. However, providing equal educational opportunities, the growing number of people willing to continue their education in a particular type of schools or at the higher level, may not bring about the anticipated effects, unless there are institutional and programme changes leading to the improvement of teaching. The objective of the educational reform that started in 1999 was to enable a larger number of people to access education on the upper secondary level, general or vocational, guaranteeing at the same time a high quality of teaching in the long run, as well as adjusting the teaching programmes to the demands of contemporary economy and labour market. In principle, monitoring of the educational standards on the primary and secondary levels should occur through a system of external exams. Apart from the estimation of the individual students' skills, the exam results should make it possible to answer the questions about how the schools teach, what skills the students mastered, and which skills caused or still cause the most trouble.

International skills examinations for students or adults have a similar objective. In the last few years, various international organizations carried out many studies of this sort, among which the greatest importance is attributed to Programme for International Student Assessment PISA (OECD 2000, 2003), International Adult Literacy Survey (OECD 1995), as well as TIMSS, PIRLS.[51] This type of studies provides information not only about the skills of the researched individuals in a given domain, but they also indicate a level of development of given societies, moreover they allow for international comparisons.

In further parts of the chapter, the basic conclusions delivered from the PISA study on one hand, and from the Polish external exams on the other, will be discussed. These conclusions concern Polish educational system and the graduates of lower secondary schools and vocational schools. Since the country-wide uniform (external) maturity exam took place for the first time in 2005, and thus its results were not available, general secondary school and technical secondary school graduates were excluded from the analysis.

3.2.1. Programme for International Student Assessment PISA

The results of the international skill assessment, organized within the PISA framework, are one of the measurements allowing for estimation of the students' skills in the period, when their future position on the labour market is being decided. The study provides answers to the questions concerning the average results of students in the examined countries, the degree to which these results differ from the OECD average when comparing schools and students in a given country. In other words, this study allows for assessment of skill level (literacy, numeracy, problem solving) represented by an average number of points achieved by the students of a given country and by the structure of the results arranged by the skill level from each domain. On the other hand, this study facilitates (partial) estimation of the educational differences in each country (represented as the variance of average results attained by the students and schools to the average results in all OECD countries altogether), as

[51] TIMSS (Trends in International Mathematics and Science Study) and PIRLS (Progress in International Reading Literacy Study) are studies coordinated by the International Association for the Evaluation of Educational Achievement (IEA) assessing students' achievement in mathematics and science (TIMSS) and reading (PIRLS). They include the students of the 4th and/or 8th grade from 50 countries in the world. The first TIMSS study took place in 1995 and it is repeated every 4 years. As for PIRLS, the programme started in 1991, and the next study took place in 2001, and since then it would be repeated every 5 years. Polish students have not participated in any research projects, however, as of 2006 they will be included in PIRLS. More information can be received at http://timss.bc.edu/index.html.

well as for tracking a number of correlations between *inter alia* individual traits of students, schools, family environment etc. and their achievements in the educational process.

PISA evaluates students' skills depending on the type of problem they encounter, taking into consideration the personal, educational, professional, social, and scientific dimension. In this context the following skills are assessed:

- learning abilities,
- reading literacy,
- mathematic literacy and abstract thinking,
- ability to solve non-standard and complex problems,
- ability to apply the learned skills and knowledge to solve problems set in real-world contexts.

The skills assessed by PISA are extremely important in the contemporary world. Sectors using advanced knowledge and technologies and high skilled workers, capable of creative thinking and coping with non-standard challenges brought by ever-changing economic reality, play an increasingly important role in modern economies. The significance of the service sector is also rising in the present-day economies, especially for its employment potential – both in terms of services for population and for industries. Workers employed in public services should have, first and foremost, high skills of interpersonal communication, reading and writing texts, computer literacy and applying the learned knowledge in everyday occupational practice. The PISA assessment attempts to measure the level of the most important, from the point of view of the individual situation on the labour market, skills attained at the initial stage of education.[52]

Concentrating on the 15-year olds, PISA assumes that the formation of such skills should be initiated at the earliest stage of instruction – in the first years of the primary school. As the educational statistics show, the majority of 15-16 year olds will continue their education at the upper secondary level. The knowledge and the skills they attain during the lower level of education are of a key importance when choosing the future educational track, defining not only the type of the secondary school, but also the attitude towards learning and knowledge. Therefore, they are extremely important both from individual perspective, measured by the private return from education, and social perspective, when the human capital resources actually decide about the achieved well-being.

It is worth observing that the industry productivity growth, which is a condition *sine qua non* of the economic growth and employment growth in services in a long-term, for the most part depends on the sectors requiring well-prepared technicians, engineers, programmers, graduates of mathematical and science studies, etc. A high complementarity between the physical capital and human capital in the most modern economy sectors leads to a continuing increase of the importance of training in science and engineering in the contemporary world. Gaining these skills at the later stages of education is very difficult, unless the students of lower secondary and secondary schools acquire high abilities of mathematical and abstract thinking at the very beginning of the educational process. As studies show (Steen.1997; Madison and Steen, 2003; Laugksch, 2000), mathematical skills are the main factors influencing the level of understanding of the life science and creative solving of the non-routine problems, encountered in many occupations. This is why PISA questionnaire of 2002 focused on the assessment of recognition and explanation of mathematical problems encountered in everyday life, ability to use the learnt mathematical knowledge to solve these problems, and to interpret and convey the achieved results. Particular attention was put to assessing of the non-routine and abstract reasoning. Apart from the mathematical skills, the test focused as well on the level of understanding of the phenomena from the domains of life science and health promotion, environmental science and broadly understood technology. Reasoning in the natural science defines the ability to describe and explain phenomena occurring in the world around, it also relates to the degree of ability to perform scientific reasoning and to interpret natural phenomena, and to formulate conclusions based on these. For this reason, these skills are important not only for the full participation on the present-day social life, but they are also indispensable for these 15-16 year olds who in the future will study science.

[52] In the majority of the OECD countries, the legal age to start education at the secondary level is 15 – 16 years.

Box 8. Programme for International Student Assessment

The Programme was initiated in the mid-1990s by the Organization for Economic Co-operation and Development. To the date two cycles of assessments have been organized: in 2000 and in 2003. The main objective of the programme is to assess the degree of preparation of the 15 year olds to live in a knowledge-based society. The evaluation focuses on the ability of the students to use their knowledge and skills in everyday life. PISA covers three competence areas: reading literacy, mathematical literacy and scientific literacy. PISA considers also the social conditions of the achieved competence level (family and school environment). In 2003, the evaluation included also the tasks checking the ability to solve problems. In case of Poland, the subsequent PISA testing took place in the periods before and after the educational reform. Therefore, PISA 2000 included the students of different types of former upper secondary schools, whereas PISA 2003 included mainly lower secondary school students. It allows for a partial assessment of the educational reform.[53] In every PISA cycle, a leading research area is chosen. In 2000 it was reading skills, while in 2003 – mathematical skills. Comparison of student mathematical skills was performed using the scale of mathematical achievements – it presented six levels of skills ranked according to a standardized number of points gained by the students in each participating country. The point scale was constructed so that the mean for participating OECD countries was 500 and to have approximately two-thirds of the students score between 400 and 600 points.

Level 1 (358 points) – a student can perform routine tasks and actions following clear instructions, solving problems which context s/he is familiar with
Level 2 (420 points) – a student can recognize and explain simple problem situations, which require only simple conclusions; s/he can use the information only from one source; s/he uses known algorithms for problem solving; s/he can interpret the achieved results literally.
Level 3 (482 points) – a student can solve simple problem situations, including these requiring sequential decisions; s/he can use information from different sources and to draw conclusions based on these; a student can also choose and use properly simple methods of solving problem situations; s/he shows insight in the solutions, presents the results and their interpretation.
Level 4 (544 points) – a student can solve complex problem situations delivered in a clear way, s/he identifies constraints and makes proper assumptions; s/he can use information from different sources (including symbolic meanings) and relate them to the real-world context; s/he can explain the method of problem solving and interpret the achieved results.
Level 5 (606 points) – a student can develop and work with complex problem situation models, identify limitations, specify assumptions; s/he can choose, compare, evaluate and use proper strategies of problem solving; s/he can evaluate her/his own method of problem solving and formulate and interpret the results, and substantiate the reasoning.
Level 6 (668 points) – a student can generalize and use various information obtained in the course of reasoning, s/he can link information from different sources and easily move between them; s/he is also capable of advanced thinking and mathematical reasoning, and uses it, together with a proficiency at performing mathematical operations, to elaborate a new method of coping with original and innovative situations; s/he can precisely describe undertaken actions and critically evaluate the achieved results, and define their suitability for the original problem.

Source: OECD (2004d), IFiS PAN (2004)

A need for flexible adaptation to the labour demand shifts requires the employees to develop a number of universal skills, thus enabling them to easily broaden their knowledge and to use it in many, often remote domains. Therefore, besides the mathematic and scientific reasoning, PISA pays a lot of attention to two other questions.

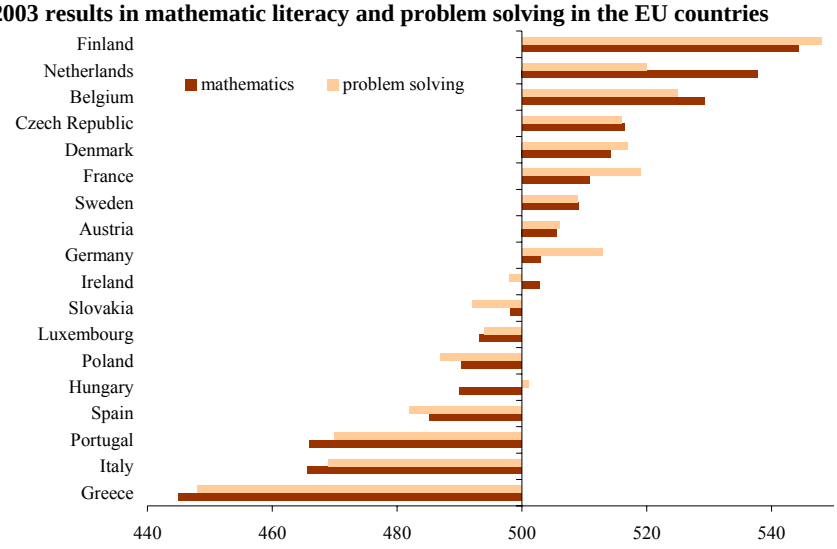
The first one was the reading literacy assessment. It was carried out in three dimensions: searching for information included in the text, understanding of the text, reflection and evaluation. Reading literacy assesses the ability to learn through reading, understanding what you read, and ability to use the

[53] PISA 2003 scores for Poland could be slightly lower since the sample participating in the test in 2000 did not include those 15-year olds who still attend primary school.

knowledge attained this way in various contexts of life. High reading literacy signifies not only literal reading skills, but also full understanding of the read text, ability of critical evaluation and using different source of data. Low level of reading literacy, i.e. mechanical reading of the text, search for single information or indication of the main theme of the text, on the level of lower or upper secondary school, causes the students to be unable to fully participate in education, they do not acquire proper knowledge and skills that would allow them for further education, and in consequence - to maximize the employment opportunities in the future.

Another area of the universal skills assessed by PISA included the solving problems skills, understood as individual abilities to handle real, complex situations, requiring knowledge from various scientific domains. This part of the test assessed students' ability to make decisions in a situation when there are several alternative solutions and a number of constraints, as well as the ability to analyze and construct systems and remove faults in the functioning of devices. Apart from the ability to solve problems, this area covered also abilities to provide concise information about the performed reasoning and to explain the actions taken. The skill to search for information from various sources, to assess them critically, and to use this data to solve the problem become indispensable in job search and performing occupational tasks. Employers, especially the service employers, more and more often expect their employees to be able not only to solve complex problems, but also to present the results of the reasoning in a clear way.

Figure 40. PISA 2003 results in mathematic literacy and problem solving in the EU countries



Source: OECD (2004d, 2004e)

PISA 2003 results point to strong and weak points of the Polish students, they indirectly indicate the shortcomings of the educational system and estimate the distance separating the results of educationin Poland and in other OECD countries. Polish 15 year olds are better than the OECD average (and better than in 2000) at reading literacy and at reasoning in natural science – what means they have quite fair abilities to look for information, interpret and evaluate a text, and ability to use the gained knowledge to understand the processes occurring in their environment. However, in the domain of mathematical thinking and creative problem solving, Polish youth attained results much poorer than the average. Moreover, only a very limited (comparing to other OECD countries) group of Polish 15 year olds attained the results at the highest level (so called level 6), what proves a high ability for abstract and creative thinking, as well as for communicating the outcome of reasoning.

While comparing the average student scores in mathematics, it can be observed that in each country the share of students with a competence level equal or lower than 3 (the ones who can solve only the simplest problems they know from the context) is higher than 50%. For the countries, where the students attained the highest average results, this share does not exceed 60%. In Poland however, it is much higher – it exceeds even 72%. In consequence, in the PISA study almost three quarters of the Polish 15 year olds attained the results indicating the at most basic mathematical skills. This factor

indicates a serious weakness of the Polish educational system, comparing with the systems of such countries as Finland, Sweden or the Czech Republic. Moreover, the rate of the students that have skills inherent for levels 5 and 6, i.e. ability to handle complex, difficult mathematical problems, able to find a suitable solution, justify it and draw conclusions from the attained results, is very low in Poland. The students proficient in mathematical thinking constitute merely 10% of the Polish students, and the best students (level 6) made up for only 2.3%. For comparison, in the countries, where the students achieved the best average results in mathematics, the share of the students achieving results at the levels 5 and 6 was two- and three times higher, and at the level 6 – even several times higher, than in Poland.

Table 31. Average results of PISA 2003 for the chosen European countries

	problem solving	reasoning in natural science	reading literacy	mathematics
Finland	548	548	543	544
France	519	511	496	511
The Czech Rep.	516	523	489	516
Germany	513	502	491	503
Sweden	509	506	514	509
Hungary	501	503	482	490
Ireland	498	505	515	503
Slovakia	492	495	469	498
Poland	**487**	**498**	**497**	**490**
Spain	482	487	481	485
Portugal	470	468	478	466
Italy	469	486	476	466
Greece	448	481	472	445
OECD	500	500	494	500

Source: IFiS PAN (2004)

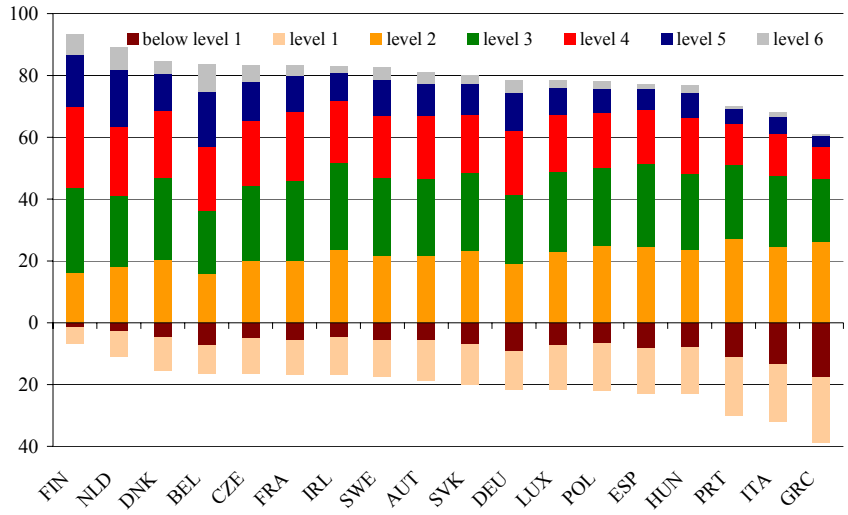
The PISA assessment showed thus that the education in the primary and lower secondary schools in Poland very often leads to develop habits of learning by heart and by schemes, and Polish youth handle worse the independent and abstract thinking. Polish students manage badly the problems that require planning for a consistent, multi-stage and creative solution. It should be noticed that the results of PISA in the international cross-section show that the students who gained high results for the ability to solve problems, usually attained also high results in other domains, and the opposite correlation was usually significantly weaker (IFiS PAN 2004). The strongest relation appears between the average results in the domains of problem solving and mathematics – the correlation coefficient is over 0.96. In case of the average results in reading literacy and reasoning in natural science, the correlations reach over 0.73. It suggests that the skill of solving complex problems, as well as acquiring mathematical skills support the learning process, acquisition of new qualifications. The countries where the 15 year olds achieved very good results at "problem solving", are characterized by a high share of the individuals with higher level of educational attainment in the population aged between 15-64 (over 20% in 2002). Among them a quite large proportion has engineering or scientific background. These are also the countries leading in the innovation of the scientific achievements worldwide.

Comparing the results from 2000 and 2003 in the area of the mathematical skills, it can be noticed that Polish students have improved their results, and the improvement of the average results occurred only among the poorest performing students,[54] whose results were lower than the level 3. In the case of the best students (the fourth quartile) there was no important change observed. This can be explained by the equalization of the levels of individual education, which resulted from the extension of the obligatory education period by one year in schools with a similar teaching profile and the introduction

[54] Evaluation must take into account that PISA 2000 and PISA 2003 scores in mathematics are not totally comparable because they treated this domain differently in both editions.

of territorial lower secondary school districts.[55] In consequence, the selection of the children at the pre-lower secondary school level by the social status of their families decreased.[56] The between-school variance in Poland, according to PISA[57], is rather low at the moment – the variance in the domain of mathematics amounted to only 12% – and it is fully comparable with the countries achieving the best results in education (as Scandinavian countries). Comparing with 2000, this between-school variance has substantially decreased – in 2000 it reached 62.8%. It means that the current educational system on the lower secondary school level in Poland is generally even – achieved results depend only to a limited extent on the school attended by a child, and much more on other factors (including social and financial status of the parents, and especially the individual strategies of learning and innate talents), and the selection of students by the criterion of the social background, or by the results achieved at the earlier stage of the education, is limited.[58] Although there are lower secondary schools believed to be better or worse, but the district requirement – i.e. admitting to a school, first of all, the students from its district – creates likelihood of very good and very poor students to attend the same lower secondary school. In 2003, according to PISA, ca. 8.5% of the poorest performing students (the first quartile) attended the schools classified among 25% of the best schools, in 2000 it was merely 0.8%.

Figure 41. Results of mathematical literacy test for the 15 year olds by the skill levels - PISA 2003,% of the students who reached a given level



Source: OECD (2004d)

A serious decrease in the differences between the average results of the schools in subsequent editions of PISA was accompanied by the increased differentiation of the results inside the schools (from 52.9% in 2000 to 83.1% in 2003). A similar situation occurred in other countries introducing universal or little differentiated educational system on the secondary level (lower secondary). In Poland, attending the lower secondary school is obligatory, thus there is no pre-selection of the students (according to the level of knowledge and skills), what in consequence brings about the fact that every and each lower secondary school is attended by students on different level of skills, abilities and knowledge brought from home, as well as from the and lower educational levels (e.g. kindergarten) and with a different motivation towards learning and acquired learning strategies. High differentiation of students in the lower secondary schools constitutes a great challenge for the educators and the authors of educational programmes at this level of training, since it can lead to a general lowering of the educational standards at his level. It requires appropriate adaptation of teaching contents to the

[55] In Poland, pre-secondary school students are arbitrarily assigned to a school, depending on their residence. They can only choose schools under some conditions.

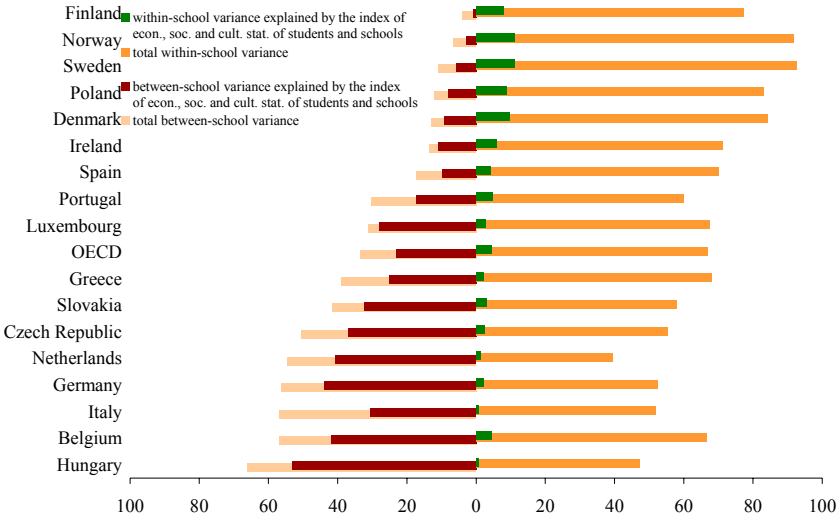
[56] Almost all students who participated in PISA 2003 attended the lower secondary schools, contrary to the PISA 2000, when the participants attended all types of secondary schools, and their selection had taken place prior to the study.

[57] PISA between-school variance is estimated as a mean deviation of the average scores achieved by the students of a given country from the average of the OECD countries.

[58] It should be stressed that this observations applies to the variance. Almost all students, including the best and the worst ones, scored worse than their peers in many other OECD countries.

intellectual level of students, or well-grounded actions aiming at dividing the students into units within the lower secondary school. The improvement of the results achieved by the poorest performing students in PISA 2003 (when compared with PISA 2002) indicates that until now Polish educational system has been largely successful, and the main challenge facing it is to increase the average results attained by the students, including the best ones.

Figure 42. Between-school and within-school variance on the mathematics scale, expressed as a percentage of the average variance of the student performance in the OECD countries in 2003



Source: OECD (2004d)

It should be stressed that in Poland, as well as in all OECD countries, the economic, social and cultural status of students and schools explains the between-school and within-school variance only to some extent. In other words, the family, its status, affluence, and the school status have only a limited impact on the variation of the PISA results – merely 8 percentage points (of 12%) of the between-school variance and only 9 percentage points (of 83%) of the within-school variance were explained by these factors in Poland. Therefore it seems that the results were developed mainly by such factors as students' individual skills and predispositions, their motivation and methods of learning. The way the schooling system actually supports students' good choices, develops their skills, is thus decisive in terms of individual as well as general educational effects. The difference in average PISA scores, and especially their different structure reflected in the low percentage of students able to reach the level 5 and 6, defines the distance between Polish education system and the one of the Scandinavian countries (but also the Czech Republic). It shows that any further improvement of the performance requires substantial changes in the way mathematics and creative skills are taught. It seems that these skills have been formed by the Polish educational system to a limited degree, at most.

3.2.2. External lower secondary school examinations

External examinations – measuring the level on which students actually mastered the teaching material programme in a given type of school – were introduced by the educational reform of 1999. The first lower secondary school examination took place in 2002 and included all lower secondary school third-grade students.

Lower secondary school exam is to verify the degree to which the students graduating from a lower secondary school actually mastered the knowledge and skills defined by the educational standards and in the curriculum. In the humanities section there are two groups of standards:

- Reading and reception of the texts of culture – covering reading literacy, searching, selection and interpretation of the information coming from different sources, indicating the cause-effect relationships,

- Creation of an own text – including text transformation skills, deduction based on the information from different sources, creation of texts of practical use (e.g. invitation) and a longer form of expression, correct writing (lexis, orthography, punctuation, syntax).

Mathematics and natural science tasks include the following standards:

- Competent use of terms, concepts and procedures from mathematics and natural science domain, indispensable in everyday practice and further education – ability to describe properly the natural phenomena and natural objects, computing in the practical situations and using the qualities of a figures,
- Searching and using the information – ability to read information presented in a form of drawing, analyzing, interpreting, processing and comparing the information,
- Indication and description of facts and relationships, especially cause-effect, functional, space and time relationships, - indication of the regularities in the processes and in the functioning of the systems, symbolic language and algebraic expressions usage, application of the integrated knowledge to explain natural phenomena,
- Application of the integrated knowledge and skills to solve problems – analysis of the problem situation, creation and realization of the plan for problem solving.

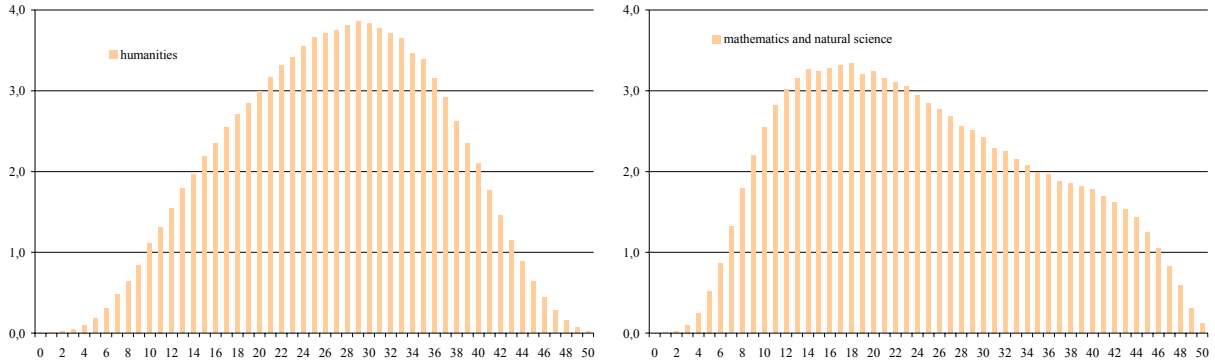
Skills causing the most trouble to the Polish lower secondary school students during the examination coincide with the domains indicated in PISA. In 2004, the students would score on average 27 points in the humanities and 24.5 in mathematics and natural science. A similar asymmetry was observable in the previous years. Thus the lower secondary school graduates on average get worse results in mathematics and natural science than in the humanities.[59] At the same time the distribution of the results in both parts is very different. If the tasks in mathematics and natural science cause much more difficulties for the majority of students (over 54% of the exam participants got less than a half of the total in this section), the situation seems to be much better in the humanities (only 39% of the students did not get 25 points from the total of 50). However, the relatively more students obtained results exceeding 45 points in mathematics and natural science section than in the humanities. Thus mathematics and natural science section of the exam proved to be less differentiating in case of the best students than the humanities.

In the humanities section the tasks causing the most trouble were the ones requiring autonomous formulating of thoughts and text drafting. The majority of the students, when faced with a text composition had problems with writing down their observations and thoughts correctly, both in terms of linguistics and style, as well as orthography or punctuation. It is thus probable that because of orthography and punctuation only a small percentage of students achieved the results closed to the maximum. The easiest tasks in the humanities were the ones requiring reading and texts interpretation – thus similar to the skill domains examined in PISA 2003, where Polish students did best.

On the other hand, the most difficult tasks in mathematics and natural science section were the ones including: integrated knowledge application, ability to solve problems as well as to indicate and describe facts and relationships (CKE 2004). Therefore, a substantial number of students were unable to indicate correctly the cause-effect relationships between different values, and put them in a suitable algebraic form, and analyze an operation scheme and execute it adequately.

[59]It should be emphasized that the comparison of the results in various tests is only possible if we assume that in both cases the level of exam complexity was chosen to accommodate the potential capabilities of the school youth in this age. A too easy humanities section and too difficult mathematics and natural science section could have limited the comparability of both. At the same time, the relative complexity of both exams should not considerably influence the distribution of received results. The substantial variation in this extend show specifically that mathematics and natural science section poses difficulties for the half of the students.

Figure 43. Distribution of the general student scores in the lower secondary school exam in 2004



Source: CKE

To compare the average student scores obtained in the lower secondary school examinations in the subsequent years, the level of complexity of the exams in respective years should be considered. One of the measures suitable for such comparisons is the stanine scale. It is a scale dividing the student population (schools, communes, poviats) in nine subgroups according to the number of points scored in a given section of the exam. The percentage norms corresponding to the respective stanines for each year are constant and they take into consideration the degree of difficulty of the exam sheet. Each stanine is ascribed certain didactic characteristic, starting with the lowest level up to the highest one.

Table 32. Lower secondary school examination scores according to the stanine scale, presented as a maximum number of points scored by schools in a given stanine

Stanine	Percentage of Schools	Maximum number of points scored by schools in a given stanine			Name
		2002	2003	2004	
the humanities					
1	4	22.8	24.1	18.9	the lowest
2	7	25.6	27.4	22.1	very low
3	12	27.3	29.1	23.9	low
4	17	28.9	30.7	25.5	lower middle
5	20	30.5	32.3	27.3	middle
6	17	32.3	34	29.1	upper middle
7	12	34.3	36	31.5	high
8	7	37.2	39	35.2	very high
9	4	47.8	46.7	48	the highest
mathematics and natural science					
1	4	20.5	15.2	15	the lowest
2	7	22.8	19.7	19.2	very low
3	12	24.5	21.9	21	low
4	17	26.4	23.9	22.7	lower middle
5	20	28.8	26.3	24.7	middle
6	17	31.6	29	27	upper middle
7	12	34.9	32.8	30.3	high
8	7	38.4	37.4	35.5	very high
9	4	46.9	47	46	the highest

Source: DAE MGiP calculations based on the national lower secondary school examination scores in 2004, CKE

The analysis of the data in the Table 32 shows that the lower secondary school exams in 2004, both in the humanities and in mathematics and natural science, were characterized by the highest level of difficulty among the examinations organized in 2002-2004. In 2004, the maximum scores in individual stanines were lower than in the past years in both exam sections. However, for 4% of the schools, which mean student scores were the highest (stanine 9), the exams in the following years were of a similar complexity. It can be also noticed that the differences between the average scores from the humanities section and mathematics and natural science section decrease together with the increase of the mean number of points scored by the students in a given school, and in the best schools the variation between the scores were almost imperceptible.

In the national perspective, the lower secondary school examination results point to two regularities: higher level of difficulty of mathematics and natural science section than the humanities section (what gives lower scores from mathematics and natural science section) and the general low level of the scores. The second of the above mentioned regularities can derive partly from the fact that the final exam result is the sum of the points scored at both exam sections and not a grade from the six-grade scale used daily at schools. Therefore there is no possibility to score below the passing mark, and thus to fail the exam. It can lower the motivation of the students while preparing for the test.

3.3. Factors influencing education scores on the primary and secondary level

On the basis of the PISA, it can be assumed that the variation of the scores gained by the students depends primarily on the individual talents, motivation for learning and the adopted individual learning strategies and methods. The students, who try to understand and analyze on their own the knowledge provided at school, tend to reap bigger benefits from the education than the students, who prefer the learning style based on memorizing. At the same time, the student's individual approach to learning is conditioned to some extend by her/his social background, and thus: educational background and affinity of the parents, and the place of residence. Some role is played by the school environment: the contacts with the teachers and the peers, the instruction style in a given school, school equipment or location, what all creates a system of incentives and possibilities, where the individual attitudes of the students towards the knowledge and skills learning are shaped.

The family is one of the important characteristics indirectly influencing student performance. The parents' educational level (especially of the mother), professional status, performed occupation are strongly related to the students' performance during the external tests or exams. These interdependencies have been pointed out in various sociological studies and in international competency tests, including PISA. In PISA, the children whose parents have a university degree did better in all studied dimensions than the children of parents with lower level of education.

In OECD countries, the students whose one parent has a university degree received on average 75 points more (i.e. 10-11% of the total) in mathematics then the students whose mothers or one of the parents have at most lower secondary education (ISCED 2) . It is also interesting to notice that in the countries as Poland, the Czech Republic, or Hungary the influence of the parents' educational background on the students' performance is greater than in other OECD countries. The results of these students, whose mother has a university degree, are higher by 18-20% (in all dimensions) than the results of these fifteen-year-olds, whose mother has completed only primary or lower level of education, and by 8-10% if the mother has secondary education. In addition, in OECD countries, the students, whose parents are professionals of the highest status, like medical doctor, lawyer, academic teacher, did better at the test and got on average 21 points more (in mathematical scale) than other students. As for Poland, this correlation was even stronger and it reached 26 points.

It should be stressed that the socio-economic status of the student families is of a greater importance to explain the between-school variance of the scores than to explain within-school variance. In other words, the education or material status of the parents does not explain a big variation of the PISA exams in the Polish schools, at the same time explaining a significant part of the relatively smaller mean difference between them. This result fully coincides with the observation that the bigger the region, the smaller degree of the interregional variation of the mean lower secondary school examination results. On the level of the voivodeships, the variation of the scores in given sections of the lower secondary school examinations is relatively low, at just 4%.[60] When the mean scores are disaggregated by poviats, communes, schools, and finally students, it can be observed that the variation of the scores increases up to 34% for the humanities section and 45% for mathematics and natural science section.

Even of in each voivodeship there are poviats (communes, schools), where the average exam scores are distinctively lower or higher than the national average, the lower secondary school examination

[60] Diversification was estimated as the coefficient of variation of the mean student scores in voivodeship and on individual level.

results shows very clearly the division between the city and the country. Students living in big cities and in suburban areas obtain the highest average scores at the lower secondary school exam. Lower scores are characteristic for the rural regions and the regions with high unemployment (Sleszynski 2004). Comparing this result with the PISA scores, it seems that this variation should be primarily explained with the socio-economic status of the urban and rural families, influencing the individual learning strategies of the lower secondary school students. Higher average external examination results in urban areas may result primarily from the fact that the parents of the lower secondary school students studying in the cities are better educated, and in the second place – more affluent than the parents of the students attending school in rural areas.

Teaching conditions can also have some influence on the educational level in the country and in the city, especially such as the teaching staff, school equipment, and distance from home to school. The schools in urban areas usually have better educated teaching staff. The teachers in these schools can expect higher wages, since the urban communes are wealthier; they are also exposed to the more intense internal competition. In the cities, there is also a wider offer of schools, what makes it possible for the students and their parents to actually choose the school best suited to their needs and increases the within school competition.[61] It should be however stressed that the PISA convinces that these factors are essentially less significant for the average educational results than the factors directly related to the students, as individual abilities, approach to learning or parents' educational background. However, this study proves that the countries, which spend more for one student (in purchasing power parity) achieve better results than the countries spending less. This effect is however not so strong and it can be leveled both by different institutional solutions and by the socio-economic factors (e.g. level of educational attainment of the parents or the degree of urbanization of the country).

3.4 Education on the secondary level – vocational and general vocational training

One of the basic principles of the educational reform started in 1999 was to increase the educational level of the society by promoting education at the upper secondary and tertiary level and by decreasing the number of the basic vocational schools graduates. Promoting education at the secondary level should be accompanied by the increase of its quality thanks to the adequately prepared curricula, development of the proper attitudes towards lifelong learning, upgrading of the occupational skills, and especially to manage well on the labour market. One element of these changes is, among others, introduction of business courses to the curriculum of all school types. Their objective is to prepare the students to participation in the professional life, managing the employers' expectations and labour market requirements.

In the new educational system, there are few types of post-lower secondary schools:

- basic vocational schools – graduates are trained in one occupation and they enter the labour market directly after graduation,
- general vocational schools – specialized secondary schools and technical secondary schools – their graduates can continue the studies at tertiary level, or if they are trained in one occupation (in case of the specialized secondary schools they must complete a training course or a post-secondary school) they can enter the labour market,
- general secondary schools, which prepare for a further education at a tertiary level.

A positive aspect of the educational reform, from the point of view of the labour market, is to limit the number of individuals attending the basic vocational schools. The analysis presented in the Part I of the Report indicates that their graduates constitute the group at a greatest risk of unemployment. It can result from the fact that the curricula of these schools are maladjusted to the situation on the labour

[61] This choice is not entirely free, because the lower secondary schools accept in the first place the enrolment of students residing in their district. Only if there are free places left, the school can accept students from other districts. Over the next years, it can be expected that the competition between the lower secondary schools will intensify, because of the dropping number of students. The schools, fighting against their closure due to a too small number of pupils, will be forced to increase the quality of teaching, or to widen their educational offer (additional courses, computer and internet access, etc.), even more so since the amount of financial means spent by the communes for schools depends on the number of the students in the respective institution.

market, that the people with the basic vocational training have low level of the occupational qualifications, or that they do not have abilities or motivation to change and upgrade their skills later on in life.

That is why, apart from a substantial cut in the number of the basic vocational school students, it is very important from the labour market perspective that the educational reform stressed the restructuring of the vocational education system (both basic and general vocational) so as to allow to closely link the gained skills, qualifications and knowledge to the labour market requirements, and to change easily the occupational qualifications. In order to verify the attained qualifications, all vocational school graduates (secondary and post-secondary) will be obliged to pass a professional exam. The exam verifies, apart from the occupational skills, the information and abilities related to employment and business activity. It is a sign of a changed approach towards the education on the professional level. Those elements were introduced to the curricula in 2002 to develop in the secondary vocational school students the pro-market and pro-employment attitudes. Thanks to that, the graduates of these schools, who have had until now the greatest problems with finding and keeping a job, will find their place on the labour market more easily, using the skill of effective job search, knowledge of the procedures related to the process of starting own business, or even the familiarity with the employee rights. Similar courses have been introduced also to the general secondary schools.

Vocational training should lead (especially in the specialized secondary schools) to acquisition of independent learning skills, including search for information related to occupation, developing the skills indispensable in new professional situations, skill of cause-effect reasoning, analysis of the information from various sources and drawing conclusion based on them and to use it to active job search, making decisions about further education or retraining. The education at the general vocational level should prepare the students to take up business activities – as self-employment or work in companies.[62]

An important element of the educational reform was an introduction of a module educational system. It divides the curriculum of a given occupation into smaller, wholly coherent parts, what allows the students to obtain certain information, skills and qualifications that enable them to carry out occupational tasks in practice. Students can start to learn the tasks in one module only after they pass the test on the preceding module. This educational process has many potential benefits: it shortens the period, in which new skills are attained or a new occupation is mastered, by eliminating from the course of learning these modules which are repetitive, i.e. of the same content as the ones indispensable at the former stages of learning. Through this operation, as early as after a dozen or so months at post-secondary education it is possible to start work in a new occupation.

The intentions of the vocational education reform were to adjust the training in certain occupations to the demand on the local labour market. Therefore, at the central level, there are only general standards for training in the respective occupations, whereas a detailed elaboration of the curricula was left to the heads of the secondary vocational schools. Creation or closure of the vocational schools as well as all the changes in their educational programs should be consulted with the school-board and with the local employment offices, as well as the poviat or voivodeship employment councils, what should minimize the maladjustment of the graduates to the local labour market.

Similarly to the education at the secondary level, it is very difficult to define the level of occupational qualifications attained in the course of training at the basic vocational schools. Up till now, there has been only one external professional examination – in June 2004. At the same time, it was the first exam verifying the occupational skills of the vocational school graduates. The examination included the graduates of the two-year post-lower secondary school basic vocational schools. Among almost 23.000 students who declared readiness to take the exam, only 20.000 actually took it. Overall, the graduates demonstrated higher occupational skills than the general skills tested in the written part. As many as 24% of the students did not pass both parts of the exam, while approximately 18% failed the practical part, which verified occupational qualifications. Such a low level of passed exams did not

[62] Decree of the Ministry of National Education and Sport on the curriculum of the general vocational training, dated on February 2002 (Journal of Law No. 50, item 451).

necessarily derive from the poor preparation of students in the vocational schools. The results could have been influenced also by the skills and knowledge learnt at the lower levels of education. Individuals following the basic vocational training usually would achieved very poor academic results at the earlier levels of education and this group is especially characterized by a low level of motivation to continue learning, upgrade skills, and thus to change their situation on the labour market. The results could have been influenced also by a total change of the training system in the vocational schools.[63] For those students were the first class attending the new type of vocational schools. Considering the above, the assessment whether the level of the examination results was really low will be possible only when the next data on the professional exams will be available.

3.4 General secondary education

The reform of 1999 to a lesser degree addressed the education at the upper secondary level (except basic vocational level). It shortened the period of schooling by one year on the upper secondary level, and simultaneously, it prolonged by one year education on the lower secondary level. It introduced also the new formula of the maturity exam accompanied by a change in the curricula. In the general secondary schools, as in other secondary schools, business courses were introduced, what allows the students to get minimal knowledge needed to initiate rational actions at the labour market. Changed formula of the maturity exams emphasizes the ability to use the acquired knowledge in practical situations, to draw conclusions from the provided information, to interpret the facts, as well as the abstract and logical thinking. The objectivity and the comparability of grades obtained by the graduating have increased significantly through uniformity of the exam at the national level and introduction of the external system of examination. Considering the importance for the labour market of the skills acquired while learning science, and especially mathematics, the decision (made also under the pressure of students) concerning optional nature of this very subject at the maturity exam seem to be a failure. In view of poor results in mathematics and natural science scored in the lower secondary school exam, it seems that the lack of a obligatory exam in mathematics contributes to the situation, when a large portion of students give up all the efforts in this respect. It limits considerably the range of optional choices in the process of further learning.

The undertaken actions aimed primarily at improvement of the general education quality (and thus of universal human capital attained by the secondary school graduates). However, it is not possible to estimate to what extent this postulate has been realized now, since the first external maturity exam was organized in 2005. Nonetheless, the analysis of the preliminary results allows for a characteristic of the average student results. The first regularity is the low passing rate in the profiled secondary school. If the rate of the students who passed the maturity exam (to the total of the students taking the exam) does not differ much in comparison to the previous years,[64] the passing rate in the specialized secondary schools was around 67% in the whole country. These results cannot be compared to the results of the maturity examinations from the earlier years, because the specialized secondary schools are the schools, where the maturity exam was organized for the very first time. However, the fact that approximately 1/3 of all students taking the exam in these schools did not pass proves that the exam was very difficult for them. It must be remembered that a large portion of the profiled secondary school graduates is constituted by people, who, unless there had been no change in the educational system and in the approach to vocational learning, would have attended the basic vocational schools, and thus they would have not had the option of taking the maturity exam at all. On the other hand, the graduates of the specialized secondary schools have the basis of a specific occupation and after completing their qualifications in the post-secondary school, they are able to rather quickly enter the

[63] This situation took place in the case of the lower secondary school exams. The scores from the first lower secondary school exam were the poorest when compared with the results obtained by the students in the subsequent years. The mean results scored in the exams in the successive years (when made comparable) were increasing and most probably they will keep on increasing until they reach some target level. The common explanation for this phenomenon is that in case of the lower secondary school – a totally new school in the educational system, there is a need for time to make all mechanisms and structures work. Cfr. J. Sleszynski, Expert report.

[64] The data aggregated on the level of voivodeships are incomplete (they do not cover lodzkie and swietokrzyskie voivodeships). In the previous years the passing rate for the maturity exam in the general secondary schools were 95 – 96%, in 2005 – 93%.

labour market. This factor can adversely influence the student motivation to learn the subject not directly related to the occupation.

The trial maturity exams organized according to the new formula in 2001 and 2004 do not allow for a reliable verification of the results in terms of the quality of knowledge, since student motivation and their preparation to the trial exam and to the actual exam were different. The trial exam of 2001 showed many deficiencies and faults – mainly organizational, and that was one of the reasons of putting it off for three years. The trial exam organized in 2004 aimed at acquainting students and teachers with the new formula of the exam, and its results were to serve as a verification of the preparation of schools and students to the actual exam.

Initial, average results of the new written maturity exams indicate that these examinations on the basic level were of medium complexity. While analyzing single voivodeships, the average results were slightly over 50% (apart from the significantly higher results of the exam in foreign languages).[65] However, in case of the commonly chosen subjects (Polish, mathematics, geography, history, civic education) they were much lower than in case of the foreign languages or physics or chemistry, which were rarely chosen. It is specifically disturbing that the written maturity exam results at the superior level were very poor, and specifically in: mathematics, history, physics, for which the mean score oscillated, depending from the region, between 30 and 35%. This result is another proof (after the lower secondary school exams and PISA studies) of great difficulties faced by the Polish students, when solving complex problems, exceeding simple and repetitive algorithms, and following non-routine thinking requiring associating many, seemingly non-related facts. Even if the actual comparison of the results of the new maturity exams from subsequent years allows for a complete description of the skill levels of the student finishing education at the secondary level, this signal should be very disturbing right now, especially when it is considered that the subject taken at the maturity exam in its superior version was chosen by the students themselves according to their own preferences.

[65] Depending on the voivodeship, the written maturity exam results in the mostly chosen subjects were approximately as follows: Polish 53.4 – 58.7% (superior level: 42.5 – 50.1%), mathematics 51.7 – 56% (31.3 – 35.9%), English 75 – 78.1% (60 – 67.4%), history 50.5 – 55% (32.8 – 34.1%) and geography 52 – 60% (46.2 – 50.8%).

4. Tertiary education

In the 1990s, the number of people attending higher education increased substantially. These quantitative changes result from two processes: intentional actions reforming the tertiary education started in the early 1990s[66] and the increasing demand for the high skilled employees. However, the increase in the number of students, both in the state and private schools, concerned only few educational domains: mostly social sciences, business and law, whereas technical studies, industry, construction and services (tourism, environmental studies) were in demand to a much lower degree.

4.1. The quantitative changes

In the purely quantitative terms, the higher education went through a real revolution in the years 1992-2003. The gross enrolment rate in that period increased from 12.9% to 46.4%. At the same time the number of the tertiary institutions, public and non-public, tripled – from 112 in the academic year of 1990/91 to 400 in 2003/04. Particular attention should be paid to the increase of the difference between the net and gross enrolment rates increasing between 1995 and 2003. The difference grew from 5.1 percentage points in the academic year 1995/96 to 11.1 points in 2003/04. It implies the increase of the share of the individuals aged 25 and more in the tertiary education. In the academic year 2003/04 they constituted almost 23% of all students, and over 10.6% were individuals aged 30 and more. The phenomenon indicates that the cohorts, who left education at the secondary level at the beginning of the 1990s, engaged in the skill upgrading process. The enrolment rate does not include the individuals attending post-graduate studies, but also in this case a significant (fourfold) increase of the students has been observed.

Table 33. Net and gross enrolment rate in the tertiary education

Enrolment rate	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04
Gross	12.9	13.4	15.4	17.6	19.8	22.3	25.4	29.2	33.5	36.9	40.7	43.6	45.6	46.4
Net	9.8	10.4	12.3	14.0	15.6	17.2	19.3	22.2	25.4	28.0	30.6	32.7	34.5	35.3

Source: Tertiary education institutions and their finances in 2004, GUS

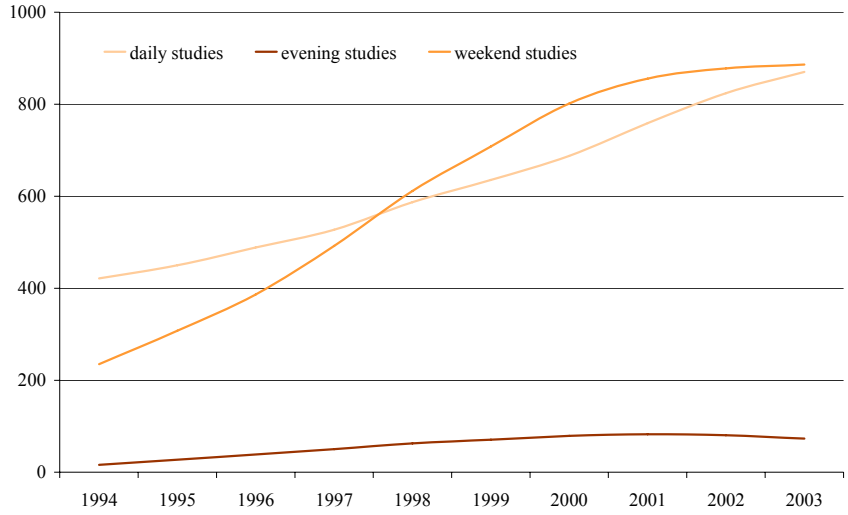
The educational boom at the tertiary level was to big extent due to the development of the paid studies[67] - primarily in the form of part-time studies.[68] The number of students attending the paid studies grew systematically since the beginnings of the 1990s, but only after 1995 there was a rapid development of this particular form of education. In the academic year 2003/04, almost 60% of students attended paid courses (both at public and non public schools), and merely 7% of them chose paid full-time studies. In the academic year 1995/96 these shares amounted to almost 47% and 3.6%, respectively. In consequence, there was a substantial change of the general distribution of students by the system of studies. In the academic year 1995/96, approximately 57% of them attended full-time, and 39% – part-time studies. In 2003/04 these proportions became similar and amounted to 47 and 48%, respectively.

[66] In 1990 and in 1991, three laws regulating the higher education system were enacted: the Act on higher education, the Act on scientific degrees and academic titles (amended in 2003), and the Act on the State Committee for the Scientific Research. The Committee was transformed into the Ministry of Scientific Research and Information Technology in 2003. In 1997, the Act on tertiary vocational education, regulating this domain, entered in force

[67] The paid studies are the evening or weekend (part-time) courses at non-public and public schools.

[68] Part-time studies in Poland are of two kinds: they can be either weekend studies, with students coming to sessions every second weekend, or evening studies.

Figure 44. Tertiary education students by the type of studies in 1994 – 2003



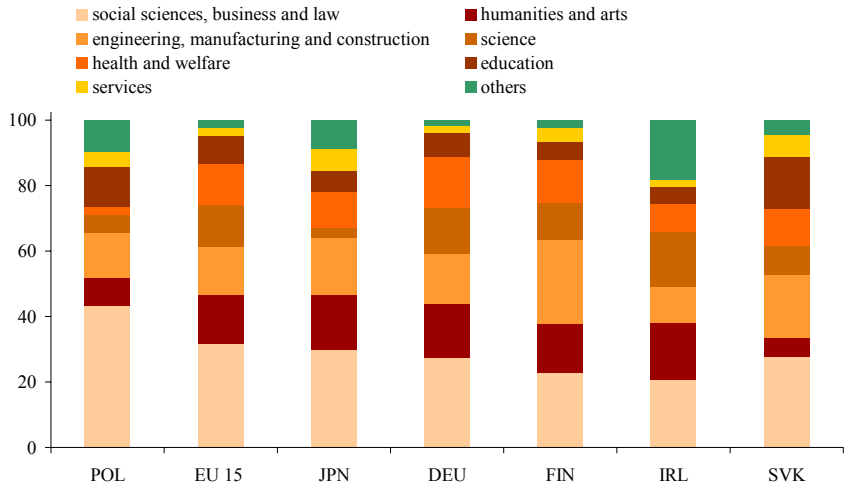
Source: Tertiary Education Institutions and their finances, GUS

The gradual increase of individuals continuing their education at the tertiary level, observed since the early 1990s, was caused by several distinctive factors:

- **demographic changes** – resulting from the fact, that the children born in the baby boom years entered in that period the tertiary education age (19 – 20 years of age),
- **transformation of the economy**, which resulted in the growing demand for the employees with a university degree,
- **situation on the labour market** - finding a job and keeping it depends to a great extent on the level of attained education, pushing people to upgrade their qualifications**,**
- **changes in the tertiary education** – opening the way to non-public schools, diversification of the teaching schedules and modules (day and part-time studies, higher vocational studies, supplementary studies and MA degree programmes) and introduction of the paid studies option in the public schools.

Despite the great increase of the popularity of education at the tertiary level, the structure of degree programs in Poland is far off from other OECD countries. It is dominated by the social sciences, business and administration. In the academic year 2003/04, the above mentioned disciplines were studied by 40% of all students. Additionally, as much as 20% of all the students followed degree programmes in humanities, arts or education studies. As a result, the characteristic distinctively differentiating Poland from the EU member states, US, Japan or South Korea is its low percentage of students following the technical, engineering, natural science, computer science or mathematics degree programmes. Only about 14% of all the students follow a program in technology, industry and construction, and only about 6.5% in science, while on average, in the EU25 the share of the students in engineering and science constitutes 26% of the total, and in the Czech Republic as much as 30%. It should be stressed that in Poland these disciplines usually can be studied at the public universities, and only 28% of the students pays the tuition. The only exception in this respect is computer science where over 60% of all the students attend non public schools and pay the tuition.

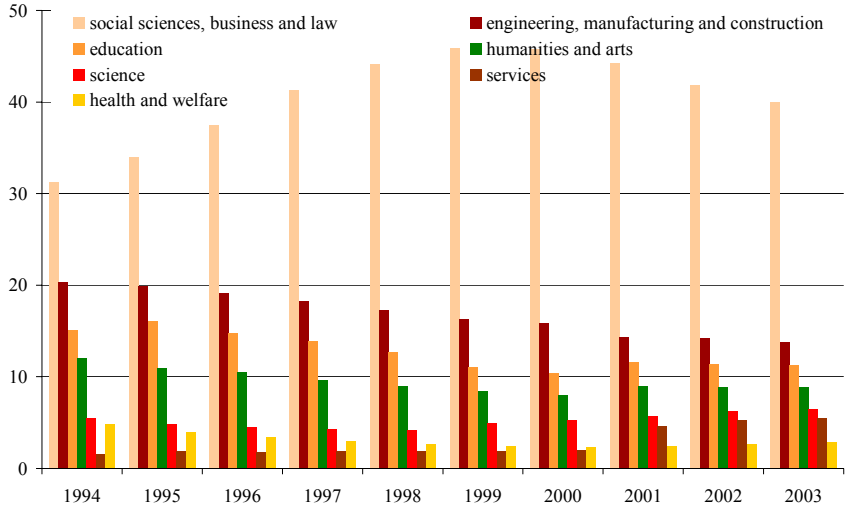
Figure 45. The education structure by the fields of studies in Poland and in other OECD countries in 2002



Source: OECD Education Database

There are several potential reasons for such educational structure in Poland. On one hand, the disciplines of social sciences, business and law do not require substantial financial capital and thus it is relatively easy to establish such courses in reaction to the growing demand for university degrees. Most probably it was one of the main factors of opening of such faculties in the 1990s, also at the tertiary institutions, where such disciplines deviate from their basic profiles; e.g. schools of technical, agricultural or physical education offering degree programs in marketing and management or in finances. A similar situation occurred in the case of the non-public schools, where such phenomenon is much more common. It leads to the uniformity of the educational structure in all tertiary institutions and to domination of only a few disciplines offered by the tertiary educational system in Poland. Traditional divisions between the public schools get blurred, and the new schools established in the recent years do not significantly differ in their educational offer.

Figure46. Number of students in the most popular fields of studies in 1994-2003 (in thousands of students)



Source: Tertiary education institutions and their finances, GUS

The consequence of the relatively low cost of the marketing and management, economics, or educational studies is also the low cost of the tuition. High costs of establishing and running the science and engineering studies, related to the costs of the laboratory equipment, computers, and of appropriate reagents etc. would have to result in a very high tuition, impossible to finance by the students themselves. This is why the schools, which do not use the public funds, can offer only the most inexpensive fields of studies, with science represented merely by mathematics and IT. Despite this, the IT tuition at non-public schools is at least 20 – 40% higher than in the business or education

studies. At the same time, the budgetary limitations of the public schools prevent them from offering the number of places at the subsidized track that would accommodate the demand. This concerns also science faculties, which are in great demand among the candidates, as information science. And thus the financial barrier, both on the side of students and of universities, can be one of the reasons explaining why the entire educational boom of the 1990s concerned only few disciplines, as marketing and management, economics, education studies, sociology, or applied linguistics.

Individual choices of the prospective students should be considered as the third factor co-influencing the present state of the tertiary education in Poland. It seems that the undeniable fashion for the above mentioned disciplines is related to the existing belief among the young people that these fields of studies provide skills most in demand on the labour market. Such a belief was confirmed especially in the 1990s, when the newly born market economy needed the employees with qualifications that before were virtually unknown in Poland, as management, marketing, or the use of English. This situation created a certain image of the best, from the labour market perspective, fields of studies, leading to their popularisation among the youth also in later periods.

It must be also remembered that the education in the tertiary sector reflects to a great extent the situation of the secondary sector. The low level of the mathematical skills, low motivation to learn mathematics or science translates into educational choices of the secondary school graduates. Students, who experience difficulties with mathematics and science in the upper secondary school (as it could be believed when considering the lower secondary school examination results and the rare choice of mathematics at the superior level at the maturity exam – this concerns the majority of students in Poland) are not capable of meeting the competence requirements posed by the disciplines in the field of science and technology. At the same time, learning strategies developed at the earlier stages of education, which, as proved by the PISA study, are mainly based on memorization do not make it easy for the secondary school graduates to study the disciplines requiring the abstractive and symbolic thinking. In consequence, Polish students rarely choose science, believed to be the most difficult, as physics, mathematics or chemistry (informatics is an exception). This general trend manifests itself also in the fact that the public school faculties offering these degree programmes at the full-time studies track rarely organize entry exams, and prefer the final secondary school certificate competition. This situation is caused by too small a number of potential candidates, which is often lower than the number of offered places.

4.2. Adequacy of the educational structure at the tertiary level to the requirements of the labour market

From the point of view of the individual situation on the labour market, the most important question is a proper choice of the field of studies. At present, the degree does not provide a graduate with a competitive advantage on the labour market. The employers pay attention not only to the level of education, but also to additional skills or qualifications closely related to the occupation. The main objective of the studies is not only to provide universal skills, but primarily the skills specific for a given occupation. And thus it is very important to adjust educational structures at the tertiary level to constant demand shifts on the labour market.

It is difficult to define the adequacy of the tertiary education to the labour market requirements. The basic problem is the lack of reliable estimations of the labour demand in terms of occupations, as well as forecasts defining this demand in the short and long-term. Therefore, the tertiary level educational offer, in terms of disciplines, is not adjusted to employers' requirements and needs. When deciding about the degree programmes, the universities are primarily driven by the preferences of the secondary school graduates, prospective financial profits, but they rarely consider the employers' opinion.

The choice of the field of studies is mainly shaped by perspectives of security of employment and proper remuneration. However, secondary school graduates define these on the basis of incomplete current and historical information, and they do not take into consideration the fact, that they will start working only in a few years. There is also no reliable study demonstrating the preferences of the secondary school graduates. While making programme choices, the schools consider the demand for

educational services only to a minimal degree. The same concerns the consultations with employers before deciding to start a new degree programme (Sztanderska et al. 2005).

Labour demand studies, concerning both the *status quo* and forecasts in mid to long-term, are conducted by various state institutions – GUS, RCSS (Governmental Centre for Strategic Studies), Committee of Research and Forecasts of the Polish Academy of Science. However, none of these studies show a full, credible characteristics of the labour demand in terms of occupations, qualifications or skills, which could be referred to the disciplines at the tertiary level. The answer, thus incomplete, to the question about the skill requirements on the labour market can be given by analysing the job advertisements. This analysis provides a partial definition of the mismatches of the tertiary education to the employers' requirements. The study of the labour market offers addressed to the specialists[69] indicates that in 2004 the employers preferred graduates of information science, engineering or technical studies, public service, economics and administration. The most offers were addressed to vendors, engineers, and IT specialists. The analysis of the job advertisements in Gazeta Wyborcza suggests similar conclusions (Sztanderska et al 2005). The job offers were most commonly addressed to IT and telecommunication specialists, and graduates of technical studies (32% of the offers). The second most often placed ads were addressed to economic, financial and marketing specialists (23% of the offers). However, as much as 30% of the offers did not have a clear indication of the education profile, what can be attributed either to the universality of the requirements, or to the assumption that concrete, specified skills enumerated in the ad are more important than formal education. It is interesting to notice that the percentage of the job offers addressed to the technical studies graduates exceeds by several percentage points the percentage of students studying these disciplines. It seems particularly that there is a significant demand for IT and telecommunication specialists. Low rate of unemployment and limited general number of unemployed among the people completing a university degree allow believing that Polish labour market is still characterized by the greater demand than supply of the university graduates.

Both studies indicate that the universities do not teach skills which are mostly required by the employers. It is mostly related to the fact that these skills do not fit into the educational standards in the particular disciplines or they have been introduced only recently. These skills include interpersonal skills (social skills, initiative, and team work), language skills, computer skills and ability to use modern IT technologies (Sztanderska et al 2005). What differentiates the offers addressed to people with technical background from the others is the emphasis on the specific skills, both inherent to this occupation and those that go beyond the category of universally applicable skills. The candidates for the economists' positions are more often expected to have organizational skills, to be able to work in team, and to be creative. Almost in all ads, the employers emphasize that they require work experience, what partly shows that they perceive hiring a person without experience as risky, and moreover, that they see the majority of graduates as not having suitable skills to work. Work experience seems to be a signal for the employer that the person in question is able to carry out the trusted tasks by her/himself.

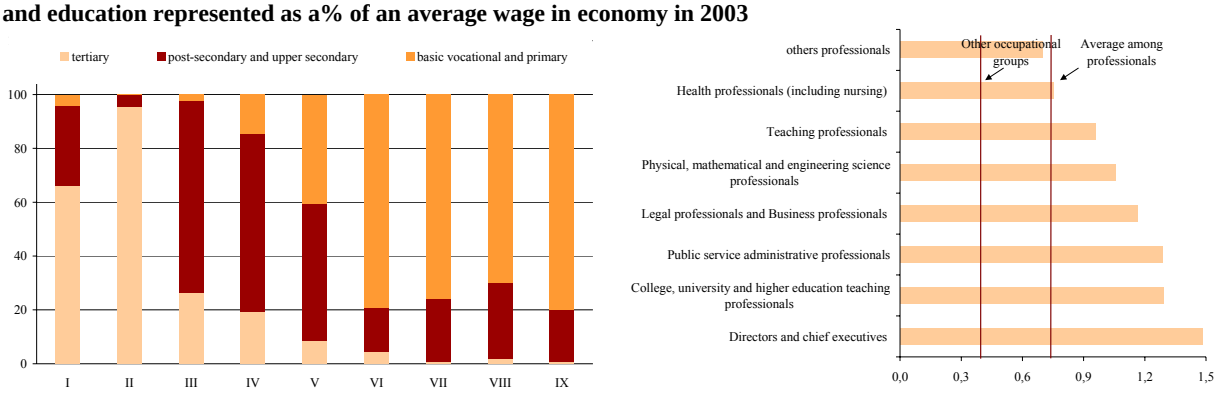
Another question related to the work of highly skilled individuals is the problem of diversification of their wages. As it is observed in other countries, in Poland, people holding university degree earn on average more than lower skilled individuals. Moreover, it is the only group which earnings exceed the average wage in the economy. Considering the LFS data, we can believe that the university graduates work mostly as specialists (almost 100% of them holds a university degree) and in the public sector. A significant part of managers holds also a university degree. In other professions this percentage is much smaller, and only among the technicians and office workers it does not exceed 20%.

University graduates get higher wages on condition that they work in a profession requiring high and medium skill level. If the skills they have are inadequate and if they work below the level of acquired qualifications, the high-educated workers are paid accordingly lower wages. If they work as office workers or technical staff of the medium grade (where the majority of employees have secondary or post-secondary education), their remuneration is still relatively higher than the one of the low-educated workers carrying out similar tasks, but this difference is not significant. It means that a high-

[69] The details from the report „Labour Market of Specialists 2004" prepared by the portal www.pracuj.pl.

educated worker can expect a higher wage for the performed work, much higher than in the case of other workers, provided that s/he works in the profession requiring a high level of knowledge, occupational qualifications, and specialist skills. Individuals in managerial positions, university teachers, and specialists in law, administration and management are highly remunerated (in terms of net wages in the first job)[70]. Specialists in science and engineers earn somewhat lower wages, although physicists and chemists declare the exceptionally high net wages in the first job (comparable with the net managerial earnings).

Figure 47. Employees by the occupational groups and education, and the average wage by the main occupational groups and education represented as a% of an average wage in economy in 2003



Data concerning the low-skilled workers in the first three occupational groups and the high-skilled workers in the last four occupational groups are not representative. The main groups include: I – Legislators, senior officials and managers; II – Professionals professional occupations; III – technicians and associate professional; IV – Clerks; V – Service workers and shop and market sales workers; VI - Skilled agricultural and fishery workers; VII – Craft and related trades workers; VIII - Plant and machine operators and assemblers; IX – Elementary occupations

Source: DAE MGiP calculations based on LFS

These observations are in general consistent with the empirical data concerning the US economy (US Department of Education data); where the university graduates in management and technical studies earn on average 20% more than other graduates. The same concerns PhD or MBA holders. What differentiates Poland from the US are relatively low net wages in the first job declared by the IT specialists, what may result from the imperfection of the study itself, which does not account for the specificity of this profession, where certain work (e.g. of the net administrator), is performed by the same person in several companies.[71]

4.3. Quality of education at the tertiary level

From the point of view of the labour market and economy, the most important is not only the number of university graduates or adequate educational offer meeting the labour demand, but first of all the quality of education obtained at this level.

It is difficult to define the quality of education at the tertiary level. The lack of uniform competence exams (similar to PISA tests, lower secondary school examinations or the new maturity exam) makes any estimation based on rigorous empirical criteria impossible. However, many hints point at the conclusion that in the recent years, despite the increase in the enrolment rates, a general decline of average quality of education attained by the university graduates took place. Therefore, the average quality of this education is significantly different from the one attained in other OECD countries. A vast number of people attending tertiary institutions, low level of funding of education, virtually non-

[70] LFS, as a panel survey based on the declarations of the interviewed people, has a limited credibility in terms of estimation of the income of the individuals. Assuming that the declarations of the people working in certain professions do not constantly go through alterations and that they are close to their real earnings, it can be believed that LFS fairly good provides the real variation of net income in the households (but not their amount, which may be 20-30% understated). It should be remembered that the respective professional groups can use different taxation schemes, and thus the net earnings cannot correspond to the gross earnings.

[71] Wages declared for the LFS are net wage from the main source of subsistence. These declarations are often understated.

existing investments in infrastructure and didactic equipment, and last but not least, the minimal rise in the academic staff numbers: it all has adverse influence on the teaching standards, irrespectively of inadequate, labour market oriented structure of degree programs in the tertiary institutions.

Almost half of the students in Poland attend extramural courses, and they constitute over 70% of the non public schools students. It can be thus rightly assumed that the graduates of this type of studies have less average knowledge and skills than the weekday students. The number of courses in the weekend mode is limited and the students are not offered foreign languages courses, or informatics. In consequence, the knowledge and skills obtained in the course of part-time studies are much lower in comparison with the full-time studies. On the other hand, the weekend students usually work, therefore at the same time they get additional qualifications and work experience.

Only the full-time studies at the largest public schools, located in the biggest academic centres, have the highest quality of teaching (these are universities, polytechnics, academies of economics etc.). Merely a few non public schools can be included in this group. To become a student of such a school, one must achieve very good results at the entry exam, and good maturity exam results. High requirements at the entry exams and strong competition are selection tools that guarantee the entry of the best secondary school graduates. These are mostly people from well-off families, whose parents care much about the educational results of the kids and who have proper financial means to provide for after-school activities (private tutorials, foreign languages and development of interests), developing thus learning habits since the childhood and supporting better learning strategies. Non public schools, as well as the paid courses at the public schools, are usually attended by those, who did not get accepted to the public schools or who did not even try to get there fearing too difficult entry exams. Paid studies (when the financial barrier is not considered) are very easily accessible. At the majority of the private schools, the exams are not organized, and the students are accepted having paid the tuition fee. Most weekend students usually work – ca. 60% of all weekend students, while only 5% of the weekday students do. Weekend students usually work full time and more often have the regular employment contract. Therefore, they primarily live off their own earnings (over 60%) and only small part of them is supported by other people (30%).

A large part of non public schools and a part of the public ones do not have adequate facilities – laboratories, libraries, sometimes even the lecture rooms. Moreover, if at the beginning of the 1990s the majority of the universities were located in the big academic centres, the tertiary education boom which took place in further years caused the dispersion of tertiary education institutions. New schools, both public and non public, as well as their branches, were established in small towns, located far from big cities and academic centres. At present, a substantial part of the private and tertiary vocational schools (both public and non public) is situated beyond the traditional academic centres. It provides an educational opportunity for many people who would like to follow the degree programmes – it might be supposed that these schools are attended mainly by the local residents, from the nearby towns and rural areas. Such people would not be able to meet the additional expenses of living in another city or, in case of the weekend students – the commuting expenses and short-time accommodation on the spot. On the other hand, because the institutions of tertiary education are rather dispersed, the level of the resources available in schools is very differentiated. Some of them have well-developed facilities (library, laboratories, faculty) or use the resources offered by the big academic centres, in other cases the facilities of *alma mater* are very poor and the use of the resources of other schools is impossible, because of large distances between them (Sztanderska et al. 2005).

Considering the diagnosed weaknesses of the Polish tertiary education, many legislative changes have been recently introduced. They lead to a clear definition of the rules and conditions concerning the way that the non public schools operate, to adjustment of the educational system to the EU standards. These changes also introduce the monitoring of the school didactic activity by appropriate monitoring institutions. The actions related to the establishing of the European Higher Education Area (in the framework of the Bologna Process, cfr. Annex 9) contribute to the improvement of quality of teaching at the tertiary level, its adaptation to the labour market demand, and to introduction of the uniform (on international scale) tertiary education standards. In the situation of the very large demand for educational services at the tertiary level and the adequately adjusting supply, the sudden increase of

the number of students, when the government expenditures on education did not change, resulted in the lower quality of teaching.

One of the most important institutional changes, which aimed at the increase of the average quality of the tertiary education in Poland, was establishing of the State Accreditation Committee in 2001.[72] State Accreditation Committee is a legal body, responsible for all tertiary education institutions, undertaking actions for the quality of teaching, which opinions and decisions have the legal force. State Accreditation Committee tasks include, among others: to give opinions on establishing new schools, establishing branches of the existing schools, establishing new courses of studies in the already operative institutions, performing the teaching evaluation and monitoring the complying with the rules of organizing the tertiary education at all universities in Poland – both public and non-public. The evaluation by the State Accreditation Committee is obligatory and its negative opinion causes the minister responsible for tertiary education to issue the decision revoking or suspending the license to offer degree programmes in given field.

Box 9. Evaluation of Education Quality

Positive note constitutes the reference point for formulating of other opinions and attests that the faculty, curriculum, facilities, and organizational requirements, defined by law, have been met. In case of the MA studies, the level of scientific research is also evaluated.
Outstanding note can be obtained by an institution distinguished by its quality and model organization of teaching and research, good facilities, international cooperation, outstanding faculty recognized on the international and national level; it is an institution offering international programmes and studies and creates adequate conditions for further development of student scientific activity.
Conditional note can be formulated, if the general conditions of teaching can be expected to undergo improvement at most within a year.
Negative note can be issued, if the institution established a degree programme or professional specialization programme with violation of law, or it organized studies at a level much lower than the indispensable minimum, which can be related in particular to:

1) lack of faculty of academic teachers with adequate substantial and formal qualifications,
2) use of the curricula that do not meet the requirements defined in the teaching standards, therefore the graduates do not attain the knowledge and skills important and characteristic for the relevant course of studies,
3) undefined rules and criteria of preparation and evaluation of dissertations, or adoption of such rules and conditions, which cause these dissertations to be well below the required methodological and theoretical level, and to be unrelated to the given discipline,
4) inexistent proper material conditions – lacking facilities, laboratories, equipment and library resources, etc.
5) inexistent scientific research within the scope and of the quality authorizing to realization of the education on the MA level.

Source: Resolution No 1042/2004 of the State Accreditation Committee Presidency) of 28. October 2004, on the general evaluation criteria of teaching quality at in a field of studies.

The State Accreditation Committee activity uncovered serious quality weaknesses of a large part of the tertiary level institutions in Poland. During the performed controls, the State Accreditation Committee examined altogether 1008 degree programmes at 255 schools. Only 20 of the programs received the highest note – outstanding, in this only one non public school. Yet, 181 courses of studies received conditioned approval and 38 – the negative opinion. Among the degree programmes, which did not receive positive opinion (i.e. either conditional approval or negative opinion), the largest group included the following: marketing and management and economics (25.5%), environmental and education studies (in both cases 15%). In case of the environmental studies, 43% of the evaluated schools did not receive positive opinion (i.e. 33 of 76), and in the case of the education studies, marketing and management and economics - 34 and 31%, respectively

[72] The Act of July 20, 2001 amending the Higher Education Act, the Vocational Schools of Higher Education Act, and some other Acts (Journal of Law. No 85 item 924).

5. Lifelong learning and knowledge based economy

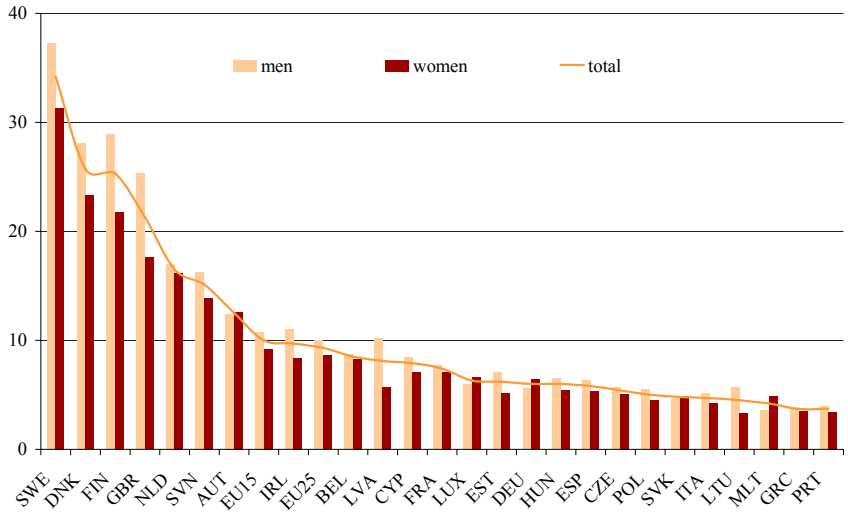
Transformation of the Polish economy into innovation economy and knowledge based society – following the Lisbon Strategy principles, cannot be achieved without the development of the lifelong learning. Modernization of the economy, investment in modern technologies, research and development, as well as application of modern technologies requires not only a high level of skills and educational attainment procured by proper education of the young people before their entry to the labour market, but also a continued improvement of these resources throughout the working life. On the other hand, modernization of production, application of the modern devices and machines influences the increase of high-skilled workers demand, and the decrease in the low-skilled workers demand. This process also fuels the skill obsolescence. This concerns mainly the low-skilled workers, older workers, or workers employed for a long time at the same working place.

Lifelong learning is a process of a continued improvement, upgrading or changing the attained educational level, skills and qualifications, and thus adaptation to the changing environment. Lifelong learning concerns all forms of professional training: schooling (learning in the formal schooling system), extramural (courses, workshops, seminars, conferences, etc.), and self-education (widely understood as a usage of various multimedia courses, scientific programmes, books, specialized journals, etc.)

The development of the lifelong learning system should provide a fast adaptation of labour force to the changing labour market demands. The delay in the skills upgrading considering technological modifications, changes of the sectoral structure of employment, can result in skill or educational mismatches between the demand and the supply – and thus generate structural unemployment, lower economic growth and decrease the economic competitiveness of the country.

In Poland, participation in lifelong learning of people aged 25-64 is very low. According to the Eurostat data, in 2004, only 5.5% of the individuals in this age group actually participated in education or training what places Poland among the countries with the lowest participation in lifelong learning. Scandinavian countries have the highest lifelong learning participation rate. In these countries, over 25% of people aged 25-64 attend schools or some other form of training.

Figure 48. Ratio of the people aged 25-64 participating in any form of education or training (during the four weeks prior to the survey) to the total number of people aged 25-64 in 2003



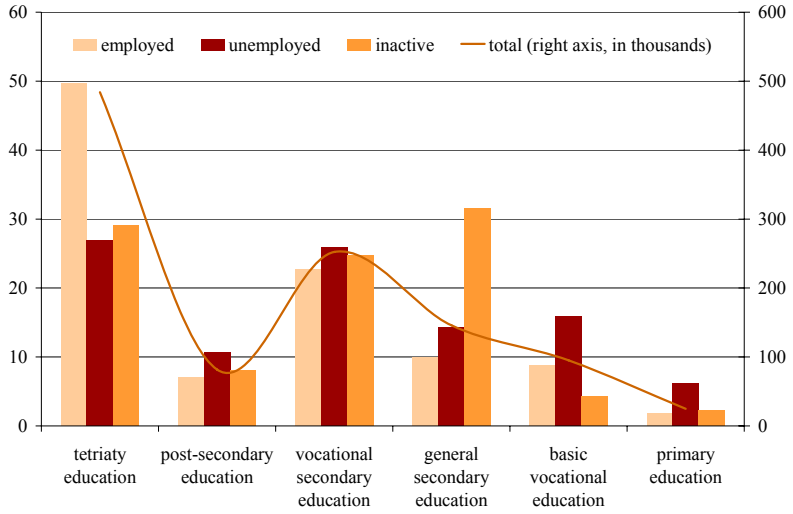
Source: LFS, Eurostat

In majority of the EU countries, women are more active than men in terms of lifelong learning. In the EU25 this variation equals 1.4 percentage point. However, men prevail as participants of additional trainings in Austria, Slovakia, Luxembourg, Germany and Malta.

According to LFS, in Poland, only 1.085.000 individuals aged 25-64 participated in educational activities and trainings in 2004.[73] About 58% would continue their education in the existing educational system, and 37% participated in trainings and guided self-education. Other people would apply both methods jointly.

People in disadvantageous position on the labour market, thus unemployed, low-skilled, and older people, rarely participate in lifelong learning in Poland. These people seldom undertake any efforts to upgrade or change their skills. The majority of those who seek additional training are already working people, relatively young, and with secondary or tertiary level of educational attainment. Among the working individuals, the ones with a university degree usually take up a supplementary training. Among the unemployed and inactive, the secondary school graduates constitute the most numerous group seeking training.

Figure 49. The structure of lifelong learning participants by the level of educational attainment and labour market status (in percent)



Source: DAE MGiP calculations based on LFS

Individuals with basic vocational education constituted only 8.8% of all the participants in adult training. This situation is reflected by the structure of the complimentary training – the largest group of participants in formal education attended tertiary level institutions (MA and vocational studies) and post-graduate studies or doctoral studies – they constituted in total 86% of all participants in the adult training. It may mean that people returning to the educational system are principally the ones with a relatively high level of educational attainment, who are willing to improve their competitiveness on the labour market. Part of these people have already obtained so called "education premium" (especially the people with higher level of educational attainment), and thus are able to pay for further education. While people in the most difficult situation on the labour market (low-skilled and low-educated workers, among others) rarely participate in lifelong learning.

Participation in lifelong learning in Poland is very low, however the number of adults participating in some form of professional training increases yearly. As a result, the persisting low level of educational activity of the low-educated adults can lead to further deepening of the gap in qualifications and education between them and the high-skilled workers.

[73] Four weeks before the survey.

6. Conclusions

The objective of the transformation of the Polish educational system is primarily to increase the level of human capital through popularisation of secondary and tertiary education, provide equal educational chances and increase the quality of learning process. In the last years, the most profound changes occurred in the structure of basic education. They mainly concerned the vocational training, which share in the total number students definitely decreased. Therefore, the percentage of young people, who passed maturity exam, has been increasing for the last couple of years. The number of studying 19-24 year olds increases rapidly as well. At the same time, we can observe an intense process of skill upgrading by older people, who earlier left education system at secondary level.

A serious challenge is the quality of educational system in Poland. International competence test of 15 year olds PISA, lower secondary school exams and new maturity exams allow for identification of the strong and weak points of the Polish students and for the evaluation of the educational system itself. Available results show that lower secondary school graduates (and also, as it may be supposed, the graduates of general secondary schools, technical secondary schools, specialized secondary schools, and especially vocational schools) have primarily problems with independent and abstract thinking, what is to a large extent related to learning strategies based on memorization. Polish students have difficulties with problems requiring a multistage solution, and they achieve particularly poor results in mathematics and natural science. Only a minimal percentage is capable of generalization and usage of information obtained in the course of complex reasoning, is capable of advanced mathematical thinking, handling original, innovative situations, and autonomous interpretation and critical evaluation of the final results.

The within-school variance of teaching level seems to be relatively small in Poland. Much higher variation of exam results occurs between the individual students than schools. It is determined primary by individual abilities or learning strategies, and to a lesser degree socio-economic situation of the student's family background. Nevertheless, the family environment explains a large part of the limited, (because of school districts) within-school variance of the lower secondary school students' results. In every voivodeship there are schools where the average exam results are lower and higher than the national average. It is mostly related to the social profile of the student families. This division is especially distinctive between the city and the countryside, which can be related to different learning conditions.

The structure of the education at the tertiary level, dominated by marketing and management, education studies and social sciences, is a consequence of the low average skills in mathematics and science among Polish students. In comparison to other OECD countries, Poland educates a considerably small number of engineers and the specialists in natural sciences. This situation is correlated with the fact that a significant part of the educational boom is realized in the extramural mode of studies or at paid studies, which as a result makes it impossible to increase the number of students of the science and technical degree programmes, which are more expensive than the social sciences. The vocational studies in services are also relatively rare. Such an educational structure seems not to be adjusted to the labour demand. The labour market systematically increases its demand for IT and telecommunication specialists, engineers and the service workers. At the same time, it can be deduced from the accreditation procedure results that the quality of education in many tertiary institutions is very low.

Taking into consideration the average low quality of human capital, especially in the generations over 35, lifelong learning is very important for the labour market in the long-term and for the increase of productivity and for the transformation of the sectoral structure of Polish economy. Participation in lifelong learning among people aged 25-64 is, however, very low. Moreover, low-skilled workers rarely participate in lifelong learning in Poland. A constant low level of their educational activity can lead to deepening of the competence gap between them and the high-skilled workers.

4.

Labour market institutions

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1. Introduction

Differences in the long-term developments of the basic labour market aggregates in different countries reflect a divergence of structural unemployment rates, employment rates and activity rates. The primary cause of such variations is the differentiation of labour supply intensified by inherent features of a labour market and its institutional background. Previous parts of this Report identified key characteristics of the supply side of the labour market in Poland, to a major extent decisive of its unique situation in Europe. However, low level of economic activity (in particular, among people aged more than 45) or continued high unemployment observed within the last few years seem to be institutionally conditioned, to a great extent, by the influence of the market environment on incentives to activity, or by the effectiveness of the public intervention in the labour market. In line with the conventionalities adopted in the labour economics literature, this part of the Report will discuss the importance of institutional features of the labour market and its environment.

The second chapter is devoted to the influence of the social security system on the labour market in Poland. Development of activity rates for individual age groups shown in part I and changes of these rates over time can be ascribed, in particular, to the reaction of individuals on the availability of various social benefits in the light of the difficult labour market situation. As a result, the structure of the Polish social security system as well as economic activity levels visibly differ from the situation found in other OECD countries.

Wages influence decisions on taking up jobs, since they play a fundamental role for all actors in the labour market: they constitute the basic source of employees' income and a significant part of employers' expenses; at the same time, they are the price balancing labour supply and labour demand. Real wages should equal marginal productivity. For that reason, all factors that influence the process of wage level leading to its rigidity and differentiating both employers' costs and employees' wages, should be considered to be causative forces, institutionally conditioned, determining the extent to which the rigid wage is the price balancing the market. For the purpose of this Report and in line with the literature, factors considered most important are: labour taxation, minimum wage, and the activity of trade unions (to which the third chapter of this part will be devoted). An attempt will be made to evaluate their importance for the Polish labour market and to position the Polish practice in the international context.

Subsequent chapters discuss the legal protection of labour relationship and public employment services with particular stress on active labour market policies. The issue of the institutional background of the labour market will be thus exhausted although some authors extend it, e.g. by adding factors determining spatial mobility of the labour force or the degree of competitiveness of the commodity market. Labour law influences the freedom to model labour relationships determining the framework of employment contracts that can be concluded. It does so by imposing on employers requirements regarding layoffs, which increase the sense of security of employees but also increase total employment costs and entail inherent, additional bureaucratic obligations. The degree of labour market regulation has a varied impact on various groups of employees determining mostly the employment structure and not its level. In particular, more flexible law makes it easier start to work for groups in a relatively worse position in the market and more weakly connected to it, like young people or, to some extent, women. An aspect of increasing global importance within the last few years is the possibility to employ people in unconventional forms reflecting high variability of labour demand and considerable heterogeneity of the labour force. Thus, the analysis of the Polish labour law and its positioning in the international context is necessary, in particular, in the light of considerable, usually deregulating changes within the last few years.

The activity of public employment services takes on very different forms world-wide, depending on the emphasis that is put on passive forms of aid to the unemployed (i.e. unemployment benefits), and on active forms, aimed at the promotion of employment and improvement of employability of the unemployed. Active policies include job-search assistance and counselling, training, subsidised employment and special programmes addressed to high-risk groups in the labour market. A generous system of benefits reduces incentives to seek a job and is considered one of the causes of unemployment persistence in many OECD countries. It can also reduce the effectiveness of active

measures. The related literature states that, although active labour market policies are not a universal remedy to the problems of labour market their skilful implementation can contribute to higher employment and faster absorption of shocks by the labour market. Chapter five includes an analysis of international experience enabling identification of empirical regularities and practices worth imitating, as well as an evaluation of active labour market policies in Polish conditions. Presented arguments support the hypothesis stating that, in the light of the difficult labour market situation in the last few years, active labour market policies were implemented incorrectly and in the insufficient scope.

2. Social security system vs. the labour market

As shown in part II, one of the key factors decisive of low employment and distinguishing Poland from the majority of states in the region is the low economic activity of people belonging to older age groups.

Young people much more easily adapted to changes in the labour market related to labour organization and culture, rapidly growing employers' requirements related to competences and skills and job search methods – older workers with lower average skills had much more serious problems with finding themselves in the new reality. For that reason, passive labour market policies were developed in early 1990s, involving an attempt to alleviate social concern with unemployment via the balancing of the income drop related to a job loss with the use of social transfers. Such activities were not precisely targeted at people losing their jobs as a result of economic changes and devoid of chances to find new employment. As a consequence, a relatively broad availability of social benefits to people over 45 resulted in a permanent withdrawal from the labour market of many other people who had jobs or, despite losing their jobs, retained a chance to find new ones. Various transfers played the role of the dominating channel of early withdrawal from the labour market at a different time. They had varied influence on the activity of various groups. Most important benefits reducing labour supply of people over 45 include:

- disability pensions[74]
- early retirement pensions,
- pre-retirement benefits and allowances,
- survival benefits.

Deterioration of the labour market situation in the second half of the 1990s prolonged the average job search spell (see table 4 in part I) which, thanks to the mild criteria of assignment of above-mentioned benefits, resulted in an increased willingness to permanently withdraw from the labour market. Consequently, it can be concluded that the early withdrawal from the labour market phenomenon in Poland results from an interaction of structural factors (characteristics of the labour force) and institutional factors (security system structure) and, to some degree, constitutes one of the undesirable effects of the system transformation. It mostly affected people aged more than 45 for whom employment and economic activity dropped dramatically (in particular, in the 1998-1999 period) and the number of the economically inactive was consistently growing. Early withdrawal from the labour market was the reason why unemployment rate among people beyond the prime age, in particular, 55-64 years old, remains many times lower than the respective rate for young people.

2.1. Impact of the social security system on economic activity

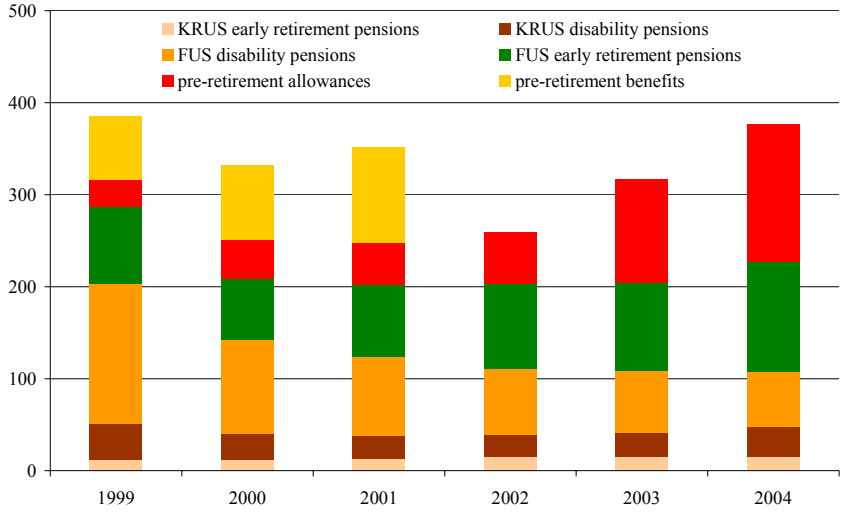
It seems that a drop in employment would not have to be so deep if it was not for the features of the social security system encouraging earlier withdrawal from the labour market. According to the results of the logit model of transitions in the Polish labour market presented in part II, receiving income from the social security system by a household significantly increased the risk of early labour market withdrawal of its members, especially for men. What is more, transitions to inactivity seem to be differently related to age for both genders, which differentiates men more than women in that aspect. However, it is not possible to capture the influence of various benefits on individual decisions related to labour supply due to the nature of the LFS data.

Figure 50 illustrates the role of particular benefits in the shaping of inflow to inactivity among people before the statutory retirement age in 1997-2003. Cumulated inflow was highest in years 1999-2001, which confirms intensified transitions to inactivity of people over 45 during that time, which was discussed in part I of this Report. Initially, most people withdrew from the labour market retiring with a pension paid from FUS (Social Insurance Fund); the average number of newly assigned pensions in 1997-1999 amounted to ca. 150 000. As of 1999, the inflow to the disability pension system

[74] Since 1997 defined as "inability to work pensions", what reflects institutional changes introduced in that field. The term "disability pensions" used in the Report includes also this dimension.

diminished gradually but the number of assigned pre-retirement benefits and allowances was increasing. Pre-retirement benefits and allowances were introduced in 1997 and replaced unemployment benefits granted to people of pre-retirement age without any time limits. Abandoning of pre-retirement benefits in 2002 was decisive of the drop in the number of total newly granted benefits but the number of people who acquired the right to pre-retirement pensions or early retirement increased at the same time. Extension of availability of some types of benefits simultaneously with the reduction of other benefits is striking; it resulted in a relative stability of the inflow to the social security system and is a symptom of considerable pressure on that system exercised by people below the retirement age in Poland. The inflow to the KRUS system has been decreasing since 1997 until 2000, mainly due to the reduction of the number of granted disability pensions but that trend was reversed later and the number of granted disability pensions increased considerably in 2004.[75]

Figure 50. Benefits assigned to people below the statutory retirement age from the social security system in 1999 – 2004

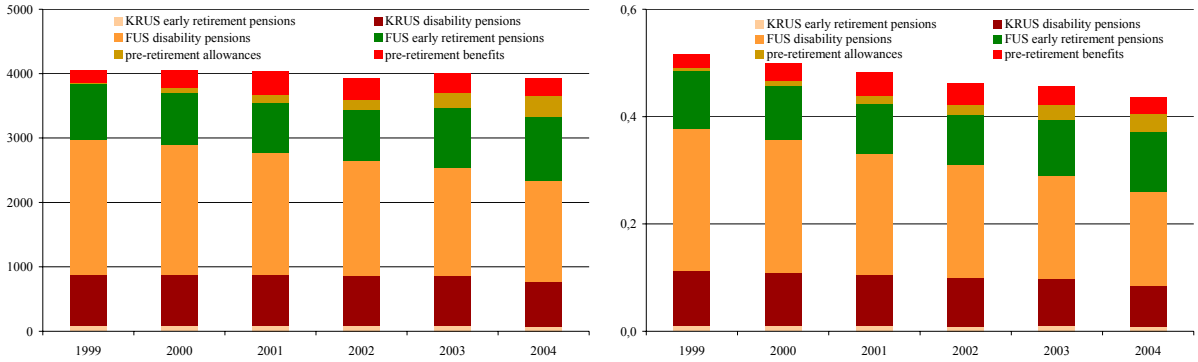


Due to the lack of data, it is not possible to estimate the number of disability pensions assigned from KRUS to people below the statutory retirement age. This is why the figure presents total inflow to that system.
The number of assigned pre-retirement benefits and allowances was calculated as the sum of a change in the number of beneficiaries and the number of people who retired or lost the right to a benefit.
Source: Own calculation based on: Key information related to social insurance, ZUS, Quarterly statistical information, KRUS for respective years and MGiP data

According to the data presented in figure 51, the number of people below the retirement age who were recipients of the benefits in the 1999-2004 period has been stable around 4 million until 2003. Due to the society ageing processes and people from the demographic boom turning 45, beneficiaries below the statutory retirement age constituted a diminishing percentage of the population aged 45-59/64 (statutory retirement age). As one can see in figure 51, that value in 1999 reached 51.5% and as much as 43.7% in 2004. A drop in the number of people below the statutory retirement age on a disability pension from FUS (the share of FUS disability pensions in total stock dropped from 51.7% in 1999 to 39.9% in 2004) was accompanied by an increase in the number of people retiring earlier (increase of their share from 21.0% to 25.5%). It has been the most popular kind of benefit throughout the entire period. Slightly less people were getting disability pensions from KRUS and the size of that group slightly decreased. The share of both types of KRUS benefits was stable. The diminished importance of disability pensions seems to be compensated nearly in full with pre-retirements benefits and allowances. They constituted respectively 7.0% and 8.1% of all benefits paid in 2004. The structure of beneficiaries of the social security system also shows that consecutive types of benefits have been constantly promoting early withdrawal from the labour market..

[75] Due to the lack of data, it is not possible to estimate the number of people acquiring the right to KRUS disability pensions before the statutory retirement age. Because of that, all beneficiaries are taken into account. KRUS data for 2004Q04 indicate that about 34% of people acquiring the right to disability pensions are above the statutory retirement age. When interpreting data concerned with such benefits and discussed in this chapter of the Report, one should remember that they refer to all beneficiaries.

Figure 51. Number of beneficiaries below the retirement age in years 1999-2004 (in thousand) and the structure of beneficiaries (right figure) below the retirement age with regard to the population between the 45th year of age and the statutory retirement age in years 1999-2004



Due to the lack of data, it is not possible to estimate the number of disability pensions assigned from KRUS to people below the statutory retirement age. This is why the figure presents the total number of beneficiaries.
Source: DAE MGiP calculations based on: Key information related to social insurance, ZUS, Quarterly statistical information, KRUS for respective years and MGiP data

The social security of farmers and that of people employed outside agriculture functions within two separate administrative-legal systems. Benefits for people employed beyond agriculture are paid from the Social Insurance Fund managed by the Social Insurance Institution (ZUS). Administration of the farmers' social security system is within the competence of the Agricultural Social Insurance Fund (KRUS). Due to different features and evolution in time of both systems, a detailed descriptions of influence of each of them on transitions to inactivity are included in separate sections. Pre-retirement allowances and benefits are discussed separately because they were managed by the Labour Fund until mid 2004 and their genesis is related to passive labour market policies.

2.2. Transfers for people ending their economic activity beyond agriculture - FUS

2.2.1. Disability pensions

The payment of disability pensions is justified as a supplementation of income of a disabled person whose ability to work is limited (the so called compensating function) to a degree in which such a person lost his/her ability to work, and as a measure facilitating such a person's professional and social integration and rehabilitation (i.e. the integrating function, see MGPiPS 2003). One should also remember that concepts of disability and inability to work are not equivalent and many disabled people (especially to a low degree) are able to work. At the same time, imperfection of the system of assignment of disability pensions can lead to a situation in which people able to work get benefits while it is difficult for people unable to work to obtain them despite being insured (MGPiPS 2003). The number of people having the status of a disabled person in Poland is not significantly different than the OECD and EU average (OECD 2003) but the percentage of people getting disability pensions in Poland in late 1990s was clearly the highest one among such states, which is illustrated in Table 34. The decisive factor was a special age structure of pensioners in Poland according to which the percentage of pensioners in the population increased considerably already for those aged 35+ while, in the majority of OECD countries, such an increase takes place only for people over 55.

Table 34. The number of people on disability pensions per 1000 people in individual age groups in Poland and OECD in 1999 and 2004

	20-34	35-44	45-54	55-59	20-64
Poland 2004	8.0	43.5	136.9	240.1	83.7
Poland 1999	13.4	61.1	181.9	261.8	130.9
OECD 1999[i]	14.9	33.8	72.7	141.2	63.2
Poland/OECD (1999) (in percent)	90	181	250	185	207

i). Average for 15 OECD states.
Source: Own calculations for 2004. Transforming disability into ability 1999

At the same time, Poland had decisively the lowest employment rate among people aged 20-64 and considered disabled: 20.8% with the OECD average reaching 43.9%. As a result, employment rate in

that group in Poland equalled 0.29 of employment rate of people aged 20-64 while the average value for OECD reached 0.62 (OECD 2003). LFS data show that the activity rate among the disabled aged 15-64 reached 17.3% in 2004 what constituted 0.35 of that rate in the 15-64 age group. In 2000 employment rate of disabled equalled 26.0, constituting thus 0.40 of the total rate in that age group. It shows that early withdrawal from the labour market of the disabled even intensified in the analyzed period, i.e. such people were leaving the labour market more intensely than people without the diagnosed disability.[76] Moreover, even in the situation characterized by unemployment much greater than in other OECD countries, people getting pensions in Poland in 1999 constituted a greater percentage of the non-working population than in the majority of OECD states and than the average for OECD countries, i.e. 37.2% of the non-working were getting disability pensions in 1999 while 24.9% had a status of the unemployed (OECD 2003). It shows that the assignment of a disability pensioner status in Poland led to economic inactivity at a completely different scale than in other countries, which was related to the widespread assignment of pensions, in particular, before 1997, including a considerable number of open-ended pensions (usually as a result of a renewed certificate).

An increase in the number of the economically inactive in Poland was particularly high in 1999 concurrently to the deterioration of labour market situation. Research conducted by the OECD makes it possible to compare the share of people to whom pensions have been granted in a given age group in Poland and in other OECD countries in 1999. It turns out that also the age structure of the inflow to the pension system in Poland is specific in the international context; the greatest disproportion was observed in the 45-54 age group. It was in that age group that the frequency of inflow to the pension system was the highest one in Poland, while in the OECD countries pension rights were acquired by older people, as evidenced by data in table 34. By implication, the higher inflow of people over 55 in Poland results from the fact that the majority of people leaving the labour market become pensioners at a younger age or acquire the right to other benefits. The higher inflow to the system of people aged 35-44 in Poland is also worth observing.

Table 35. The number of people to whom disability pensions were granted per 1000 people in individual age groups in Poland and OECD in 1999

	20-34	35-44	45-54	55-59	60-64[i]
Poland (2004)	1.6	5.8	13.8	9.1	3.3
Poland (1999)	1.6	7.1	18.1	11.7	2.7
OECD (1999)[ii]	2.3	4.2	8.6	14.9	14.1
Poland/OECD (1999) (in percent)	70	169	210	79	19

i) except for people over the statutory retirement age (women and men in France, women in Australia, Austria, Poland, Switzerland, Great Britain and Italy).
ii) Average for 19 OECD states.
Source: Own calculations for 2004. Transforming disability into ability 1999

That regularity applies probably not only to the year 1999 discussed above (international comparisons are not possible for subsequent periods due to the lack of data), as the average age of a person acquiring rights to a disability pension remained below 47 in 1999-2002 and later increased to 47.2 and 47.6 respectively in 2003 and 2004.[77] Nearly two thirds of such people were men and they were slightly older than women on the average. That difference amounted to about one year before 2001 and subsequently rose to 2 years. On the average, men constituted over 55% of those becoming entitled to pensions before reaching the age of 49 years, over 60% of those becoming entitled between 50-59 years and over 80% of those aged 55-59 in 1999-2004.[78] In turn, the average age of a pensioner increased from 55.0 to 57.2 years in 1999-2004 and was slightly lower for men. Thus, the over-representation of men among people becoming entitled to disability pensions results from the fact that they more frequently perform jobs entailing higher risks of disability (e.g. in the construction or mining industry) rather than from the longer average insurance period that, contrary to many women entering the labour market at a later age, does not cause any barrier for men to get pensions due to a too short insurance period. As a consequence, the pension system became the main potential way to

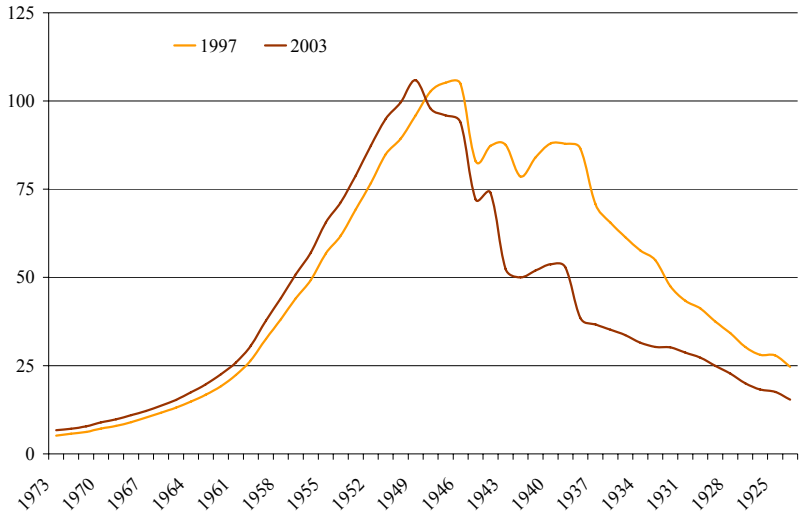
[76] It should be emphasised that a medical certificate of disability and a medical certificate of inability to work issued for disability pensions purposes, are not equivalent in legal or institutional terms.

[77] ZUS Statistical Yearbook 1999-2002, Key information related to social security for appropriate years.

[78] Own calculation based on ZUS data.

get a benefit compensating income probably still contributing to earlier labour market withdrawal of men. The number of pensioners diminished considerably between 1999 and 2003, in particular, due to the reduced inflow of new beneficiaries to the system, which is visible in figure 50 in the preceding part of this chapter. However, it should be stressed that the drop in the number of newly granted pensions observed since 2000 was parallel to an increase in the average age of people entering the system, which proves that the scale of transitions to inactivity of prime-aged people were somewhat limited. However, these changes progress relatively slowly due to considerable inertia of the pension system resulting from a large number of open-ended pensions.

Figure 52. The number of disability pensioners by cohorts in 1997 and 2003, in thousands



Source: ZUS data

Similar conclusions can be drawn on the basis of the analysis of transitions to inactivity in particular cohorts in 1997-2003 illustrated in the figure above. The number of pensioners increased most in the group that turned 45-49 in 1997, which complies with the data presented in table 35 showing that the marginal increase of the risk of disability is the highest in that age group. However, outflows from the pension system can be observed in the group of people who turned 50 or more in 1997 – most of them probably lost the right to a disability pension or acquired the right to a retirement pension.

There is no doubt that one of significant determinants of the impact of the disability pension system was a too wide definition of the insurance risk and the lack of efficient supervision of the procedure for the granting of rights to the pension. In early 1990s, disability pension would be granted to people with certified considerable health deterioration, on the condition that they had proven the appropriately long-lasting insurance coverage. Risk definition concentrated on the health aspect and not the economic aspect – it did not take into account a potential change of skills and continuation of economic activity. Gradual decline of the importance of pensions for the outflow to economic inactivity in 1997-2003 was related to the introduction of system reforms implemented in the second half of the 1990s, narrowing the scope of insurance risk and improving the effectiveness of the inability to work certification system. The introduction of a new type of benefits in the employee social security system, i.e. pre-retirement allowances and benefits, was also significant.

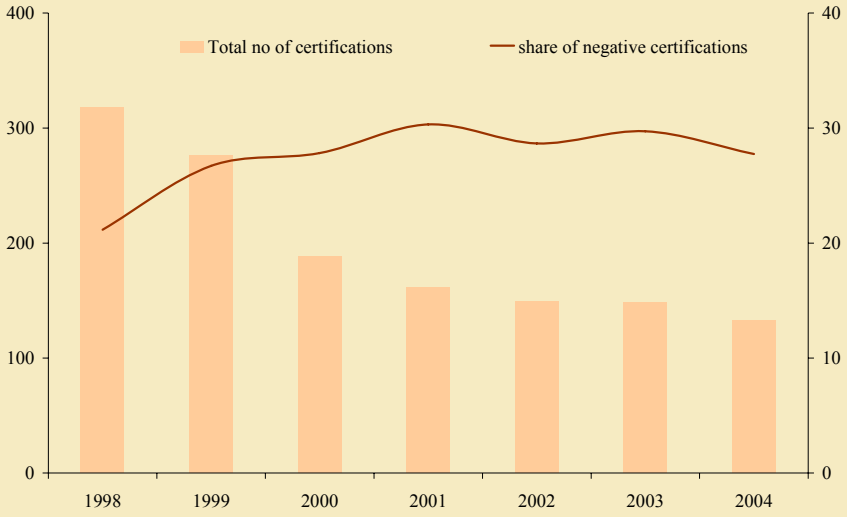
Box 10. FUS reform in 1996

The Act dated 28. June 1996 replaced the concept of disability with the concept of inability to work. At present, a person unable to work is considered a person who partially or completely lost the ability to perform a paid job due to disability and cannot expect to recover that ability after retraining. Such a change was aimed at the transformation of the disability pension system into a true insurance against the risk of a loss of the ability to work and earn money. It was assumed that priority tasks will include medical and professional rehabilitation aimed at the recovery of the ability to work to the insured and, consequently, disability pensions will be granted when rehabilitation activities have no chance of success or prove to be ineffective.

Besides, the system of medical certificates underlying the granting of pensions was changed. Before 1997, the decision to grant such a benefit was based on certificates issued by medical panels. The activity of such panels was criticized during a public debate preceding the reforms. Medical practitioners assigned by ZUS took over functions of medical panels in 1997, which facilitated detection of potential frauds and definition of responsibility for the issue of illegal certificates. Direct supervision of certification was also introduced via the establishment of a head ZUS physician and the chief expert of a ZUS branch responsible for control over material and legal aspects of certificates. Formal requirements related to competences of expert physicians were also increased.

Steps taken by the government to limit the number of disability pensioners quickly reduced the inflow to the system. Newly granted pensions per 1000 people aged 20-64 dropped from 10% in 1995 to 7.9% in 1999 although it was still higher than in the majority of OECD countries. During the next few years, this ratio experienced a nearly double fall, achieving the level even below the OECD average. The figure below illustrates the tightening of medical certificate issue in the pension system and changes in the pressure on the system in 1997-2003.

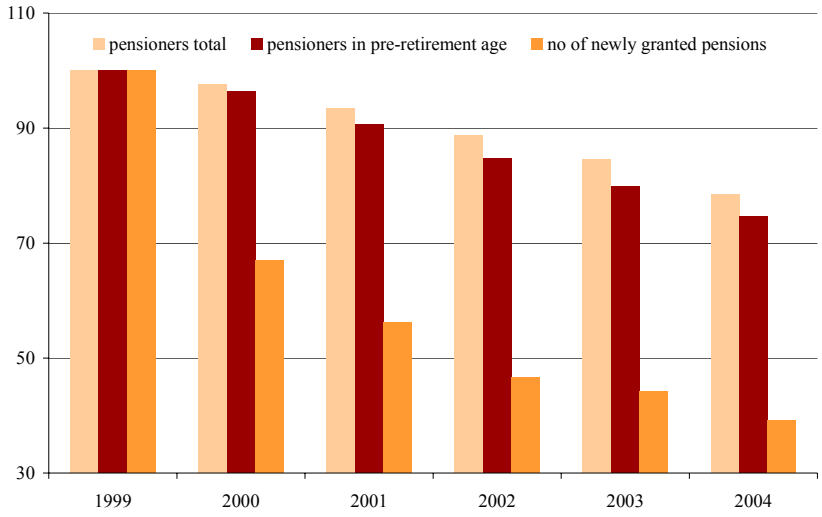
Figure 53. The share of certified cases of inability to work among first-time certifications (in percent) and the total number of certifications (in thousand) in 1998–2004



Source: Medical certificates concerning inability to work in 1999, ZUS statistical yearbook 1999-2002, Key information related to social security in 2003 and 2004

Although the risk of disability increases after the 45th year of age in the majority of OECD countries, percentages of pensioners are higher in Poland for all the distinguished age groups. This is, to some extent, the heritage of the past even though it is still common for relatively young people to become pensioners in Poland. The presented observations combined with the progress of professional careers in the life cycle of women and men and estimations of the logit model presented in part II prove that in the 1990s disability pensions were a widely used passive labour market policy measure, addressed to older workers who have not yet attained the retirement age but had problems with adaptation to promptly progressing changes in the labour market. It means that the pension system in Poland played a double role – not only the purely insurance one addressed to people unable to work but also a social one addressed to those who, despite being able to do a paid job, could be granted pensions as forms of early retirement. Economic activity of people over 45, much lower in Poland than in other OECD countries, and its changes in the 1990s were strongly related to the relatively high availability of disability pensions. However, it should be stressed that the reform of the end of 1997 resulted in a considerable reduction of the negative influence of the pension system on participation in subsequent years reflected in the evolution of the number of beneficiaries and people starting to receive disability pensions (see figure 54). Firstly, the drop in the number of beneficiaries below the retirement age was greater than the drop in the number of all beneficiaries. However, systematic reduction of the number of newly granted pensions year by year indicating that they are probably much better addressed at present and play a different role than in the past decade seems to be more important. A relatively low (lower up to 5 years than in other OECD countries) age of people receiving pensions for the first time remains the most serious problem.

Figure 54. The total number of disability pensioners, in the pre-retirement age and flowing into the FUS pension system (index) in 1999-2004



Source: Own calculations DAE MGiP based on the ZUS statistical yearbook 1999-2002. Key information related to social security in 2003 and 2004

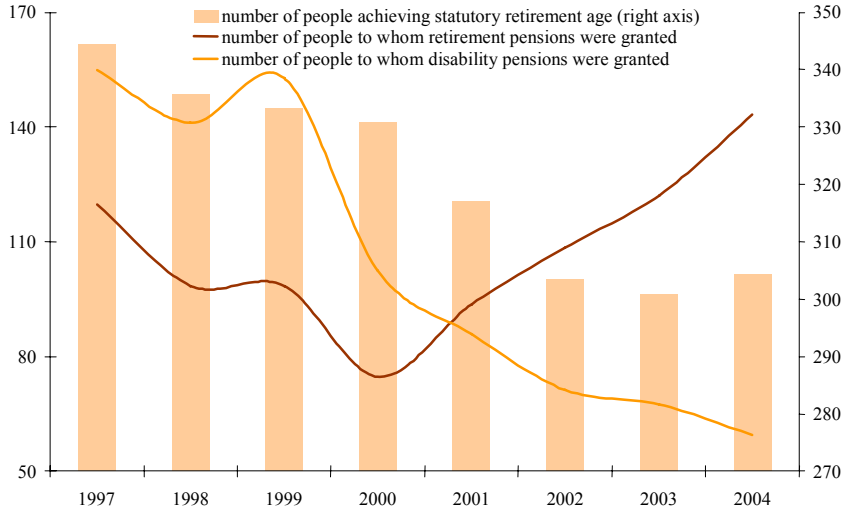
2.2.2. Retirement pensions

As mentioned earlier in the analysis of figure 50, the role of disability pensions in the developments of inflow to inactivity dropped considerably between 1999 and 2004. However, the number of people to whom retirement pensions were granted increased considerably during that time[79] despite the parallel reduction of cohorts attaining the retirement age. It means that the percentage of people retiring before the statutory retirement age considerably increased in the analyzed period. Figure 55 illustrates that trend by showing that early retirement pensions constituted another important component of the social security system that encouraged numerous groups to finish their economic activity before the

[79] When analyzing the influence of social security on processes of early withdrawal from the labour market in the labour market, one should also consider retirement pensions assigned before the statutory retirement age. People retiring after that age cannot be treated as subjected of transition to inactivity in the meaning, in which that term is used in this Report.

retirement age during the cyclical deterioration of the labour market situation in 2001-2003. It is characteristic because the Russian shock of a much greater relative range of influence on the labour market did not cause a similar increase in the number of retirement pensioners below the retirement age in 1999-2000; on the contrary, their numbers dropped during that time and increased again later. Figure 50 presenting the inflow of people below the retirement age to the social security system indicates that these changes were related to an increase in the number of granted pre-retirement benefits and allowances while the increase in the number of people retiring ahead of time took place in parallel to the abolition of the granting of allowances as of 2002. These factors contributed to the stabilization of the number of economically inactive and a considerable activity reduction among people aged 55-64, as presented in section 4.1.1 in part I of the Report. Activity reduction in the 45-54 age group visible from the beginning of 1999 was smaller but it occurred nevertheless as a consequence of a considerable increase in the number of the economically inactive in that age group since 1997. It is related to the granting of disability pensions and early retirement pensions to such people.

Figure 55. The number of people to whom retirement pensions or disability pensions were granted in 1997 – 2004 in thousands of people



Source: ZUS, GUS demographic data database

The difference between the average actual age of retirement and the statutory retirement age exists in nearly all EU countries but Poland belongs to the group of states in which such a difference is greatest. According to OECD data,[80] effective age of retirement for men in Poland was less than 61 years in 1997-2002, i.e. 93.75% of the statutory age. Such a proportion was lower only in Belgium, Austria, Finland and Hungary. As for women whose effective retirement age was 58.8 years its proportion to the statutory retirement age is equal to the OECD average, i.e. 98.05%. At the same time, the very retirement age of women in Poland is clearly lower than in other OECD states. Statutory retirement age of women reached not more than 60 years (as in Poland) only in 12 out of 30 states taken into account in OECD research and it was only lower in the Czech Republic, Greece, Slovakia, Turkey and Hungary. As a result, the actual average retirement age of women was lower than in Poland only in three above-mentioned countries of our region and in Belgium. It can be assumed that the fact of the difference in the effective retirement age for women and men[81] (see table 36) being higher than for the average age in which people acquire the right to disability pensions results from requirements related to years of service (insurance coverage). Differences in economic activity of men and women in the life cycle are the reason why men acquire the rights to early retirement benefits relatively faster (in the

[80] Effective retirement age estimations prepared by OECD vary from figures stated by ZUS because they are calculated on the basis of changes in economic activity in subsequent five-year age groups above the 40th year of age. Thus, the methodology explicitly assumes that retirement is the only reason for the outflow beyond the labour market. OECD estimations are higher than results of the ZUS calculations, which also do not refer to people covered by the KRUS system. Thus, OECD calculations will only serve to make international comparisons.

[81] Based on ZUS data.

aspect of the statutory retirement age) than women. In other words, both genders commonly take advantage of rights to early retirement pensions in the earliest legally permitted age, which clearly shows the negative role of the Polish social security system in that area.

Table 36. Average actual retirement age in 1997-2004

	1999	2000	2001	2002	2003	2004
Women	56.7	55.9	56.0	56.1	56.4	56.0
Men	59.2	58.9	59.4	59.4	60.5	58.7

Source: ZUS data

The legislation determining the right to early retirement pension seems to be relatively lenient. The right is vested with the employees or disability pensioners, in particular:[82]

- women aged up to 55, having 30 years of insurance coverage (or 20 years for people considered completely unable to work);
- men aged at least 60 with 30 years of insurance coverage who have been considered completely unable to work;
- employed in local state administrations, nominated academic teachers, war victims and soldiers, combatants, etc;
- people insured by virtue of creative or artistic activity;
- representatives of the following professions: miners, teachers, deputies and senators, railway employees and other professions characterized by work done in special conditions or of a particular nature;

ZUS data show that over 25% of retirement pensions paid in 1997-2004 are early retirement pensions. Besides, the percentage of people starting to receive retirement pensions after having attained the statutory retirement age dropped in 1999-2004, which contributed to further reduction of economic activity in the 60+ age group. A particularly significant change took place among women: in 1999, 25.2% of women acquiring the right to retirement pension were 60 or older, while in 2002 there were 13.5% of such women, and only 11.3% in 2004 because the remaining women retired earlier. The percentage of people aged more than 65 among all men starting to receive retirement pensions reached 33.0%, 28.7% and 28.0% in 1998, 2002 and 2004 respectively. It indicates that the distribution of the age in which retirement pensions are granted has been changing more substantially for men than for women. The percentage of men retiring before turning 50 reached 10% in the analyzed period (as much as 14.0% in 2004) because a group of privileged professions has taken advantage of such an opportunity.

This regularity is also illustrated by the fact that men constituted over 60% of all people retiring before turning 50 in 1999-2001 and over 80% in 2002-2004. At the same time, they constituted about 30% of people retiring at the age of 50-54 and only a few percent in the 55-59 age group.[83] In other words, it seems that a group enjoying particular privileges related to early retirement (at about 50 years of age) and a group remaining in labour force up to 65 years of age due to the lack of legal instruments can be distinguished among such people. Relative number of members in these two groups can be estimated by considering that about one third of retiring men were over 65 in 1999-2004 and over 10% of them were below 50.

It can be assumed that outflows from the labour market to retirement resulting from special privileges were particularly intense in 1999, 2000 and 2004 when about 15% of men acquiring the right to retirement pensions were below 50. Age distribution in the respective population of women is strongly concentrated. In 2004, 81.5% of those who were assigned retirement pensions were aged 55 to 60. Thus, it seems that early retirement among women resulting from special privileges assigned to some professions is of a relatively lower importance than retirement opportunities after turning 55 and having fulfilled the requirement of the minimum required contribution payment period; however for men, the wide range of jobs considered to be performed in special conditions significantly contributes to earlier early withdrawal from the labour market of people doing such jobs. Those employed in

[82] The Act on retirement and disability pensions from the Social Insurance Fund of 17. December 1998, articles 27-50.

[83] Own calculation based on ZUS data.

special conditions are considered to be employed doing jobs particularly harmful for health and entailing considerable detriment, or requiring high psychical and physical capability due to security of the employee or the environment. In particular, it applies to the mining industry and employment in the power industry, metallurgy, metal, chemical, light and wood industry, farming and food industry as well as forestry, agriculture, construction, transport and communication, health care and social welfare. Besides, the right to early retirement was extended to cover employed of „special nature" including officials of the state audit agencies and customs administration, those conducting creative or artistic activities, journalists, teachers,[84] professional soldiers, officials employed, among other things, by the police, State Security Agency (UOP), Internal Security Agency (ABW) or fire-protection entities. The same privileges apply to railway employees. It seems that many jobs covered by the right to early retirement could be done until the statutory retirement age.

People born before 1 January 1949 were entitled to early retirement if aged at least 55 (women) or 60 (men) and with respective 20 or 25 years of insurance coverage including at least 15 years of employment in special conditions or of a special nature. For people born after 1 January 1949, early retirement is possible for those who meet the above-mentioned criteria till the end of 2006, have not joined any Open Pension Fund (OFE) and an employment contract with them is terminated (not necessarily till the end of 2006). Of course, it is not possible for men[85]. However, they can retire ahead of time if they meet the above-mentioned conditions related to the insurance coverage period and jobs done in special conditions before 1. January 1949. For some professions of a "special nature" the early retirement age can be even lower than 55/60.

Miners' retirement pensions are defined separately because people born before 1. January 1949 could obtain it after having certified at least 20 (women) or 25 (men) years of mining employment experience (including equivalent and applicable periods) including 5 years of the so-called purely mining work,[86] or having met the requirements with regard to years of service, more than 50 years of age and 15 years of pure mining employment.[87] People born after 1. January 1949 are entitled to the miners' retirement pension if they meet the above-mentioned conditions till the end of 2006 or achieve 25 years of mining service done underground permanently and on the full-time basis. Another prerequisite is not to be an OFE member and have the employment contract terminated (but not necessarily before the end of 2006). A job equivalent to mining employment is considered to include, e.g. employment in the administration of mines and enterprises from the mining sector, mining industry administrations, management boards of coal companies, administration agencies and entities subordinated to them if they are establishing agencies of mines or related enterprises, employees nominated to the boards of trade unions related to the mining industry and teachers in vocational and secondary mining schools.[88] Employment in the railway sector is not interpreted as widely but it includes some periods of employment beyond the railway. As a result, a group of employed entitled to potential early retirement is numerous, which is reflected in the distribution of the retirement age, especially for men.

Early retirement plays a different role for both genders contributing to a very early withdrawal from the labour market of some men, with the majority of them retiring at the age relatively close to the statutory one – the percentage of men aged 60-64 among all men starting to receive retirement pensions increased from 33% in 1999 to 47% in 2003. The drop in that proportion in 2004 to 43% reflects the more intense than in previous years inflow to the retirement system of people below 50.

[84] Teachers even have two possibilities to retire ahead of time: regardless of age pursuant to the Teacher's Charter and due to performance of a job in special conditions.

[85] The Parliament has prolonged the transitory period until 2007 (The Act on changes in the act on retirement and disability pensions from the Social Insurance Fund and the act – Teacher's Card of 27th July 2005), it has also introduced open-ended, very advantageous solutions for the miners. These decisions not only undermine the rules of the pensions' reform but also make it difficult to introduce the Act on bridging pensions.

[86] Generally speaking, purely mining work is a job done underground.

[87] Besides, the retirement age decreased by 6 months for each year of permanent full-time employment underground, max. by 15 years.

[88] The Act on retirement and disability pensions from the Social Insurance Fund of 17. December 1998, articles 27-50.

Between the 50th and 60th year of age, disability pensions are relatively more important in the leaving the labour market of men than early retirement. However, women mostly take advantage of the right to early retirement immediately after they acquire the right to it – i.e. when aged 55. Because of that, the economic activity of women decreases very strongly from about 60% in the 50-54 age group to about 30% for the 55-59 age group. Common assignment of early retirement pensions to women and men combined with a drop in the economic activity rate is also a proof that they constitute an important institutional reason for low participation of older workers and thus also one of the main reasons for such a relatively low when compared with other OECD countries effective age of withdrawal from the labour market in Poland and the small number of employed in the 50-60/65 age group. The percentage of women prolonging their economic activity beyond 60 diminishing in subsequent years also confirms that hypothesis: if nearly 90% of them retire before the retirement age calling such retirement pensions "early" loses its meaning. It seems as far as transitions to inactivity of women is concerned, early retirement pensions play a key role, while individual benefits play a varied role among men depending on the employee group.

Early retirement rules presented above will be in force till the end of 2006. The right to early retirement does not exist in the reformed pension system although bridging pensions constitute a certain analogy. The draft act on bridging pensions defining possibilities to obtain a retirement pension before the statutory retirement age, available both to people covered by the new system as well as by the old system (obtaining the right to an retirement pension as of 2007) is currently subject to parliamentary work. According to the governmental project, the number of professions having the right to the bridging pension was considerably reduced in comparison with early retirement pensions in the system valid before the pension reform. In the light of the role played by early retirement pensions in the early withdrawal from the labour market of people older than 45, it should be stressed that the reduction of the catalogue of professions entitled to the bridging pension only to those professions whose performance is not possible until the 65th year of age due to high detrimental for human health is the necessary condition of an increase in the economic activity and employment of older workers, which is currently the main reasons for the employment gap between Poland and other EU countries.

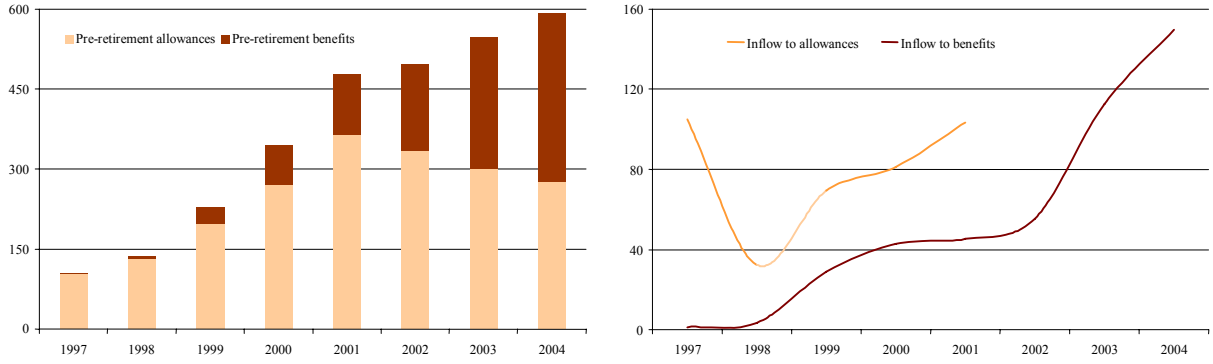
2.3. Pre-retirement benefits and allowances

With the reduction of legal and institutional possibilities to acquire the right to disability pensions, additional forms of benefits such as pre-retirement allowances and benefits were introduced to the social security system in January 1997. In other words, one institutionally conditioned source of early withdrawal from the labour market for people over 50 years of age was replaced with another one, only differently structured and, as a consequence, with a different range and coverage of influence (see Box 11). On the one hand, steps aimed at the reduction of the inflow to economic inactivity were taken within the previously assigned benefits (disability pensions and early retirement pensions) but, on the other hand, new ones were introduced. Generally speaking, pre-retirement allowances (and also pre-retirement benefits before 1997) are nevertheless assigned to people older than in the case of disability pensions; what is more the unemployed are also entitled to pre-retirement allowances, which differentiates them from early retirement pensions. However, these transfers should be perceived as an instrument of the passive labour market policy of a particularly negative impact on participation rate. This is because they are assigned permanently (i.e. until the statutory retirement age is attained) unlike unemployment benefits that cannot be obtained for a period longer than 18 months or 6 months in typical situations. As shown in part I of this Report (table 5), 11% of the unemployed at the age of 15-44 left the labour market between 2000 and 2004, 19% of those aged 45-54 and nearly 40% of the unemployed aged 55-64. Thus, changes in the system of assignment and payment of pre-retirement allowances were introduced in 2004 to reduce their influence on the labour market (see Box 11). These changes constituted one of the reforms suggested in the Hausner Plan although their final shape is slightly more lenient than the draft.

In 1997-2004 pre-retirement allowances and benefits played a typically sheltering role. Unlike disability pensions and early retirement pensions, these transfers resulted in the withdrawal from the labour market of the unemployed and not of the employed, and played the role equivalent to early retirement pensions for employed who lost their jobs and failed to meet the necessary criteria of early

retirement. Besides, payments of pre-retirement allowances and benefits were among the obligations of the Labour Fund and were only transferred to the ZUS administration as of August 2004. The transfer of pre-retirement allowance and benefit payments to the Labour Fund should be analysed in the context of a distribution of the general government deficit sector between the central budget and extra-budgetary funds. On the one hand, transferring pre-retirement allowances and benefits to the Labour Fund along with understated subsidies made it possible to reduce the state budget deficit at the expense of an increased indebtedness of the Fund (which is still less visible in the budget statistics). On the other hand, it made it possible not to increase the several billion deficit in the Social Insurance Fund (FUS), which is important from the accounting perspective rather than the economic perspective. As a result, pre-retirement allowances and benefits became a special kind of a permanent unemployment benefit paid to the elderly. As these transfers have passive nature, they do not encourage people to search for employment and even discourage them, and it should be concluded that they constitute a component of the social policy and not the labour market policy. For that reason, the Act on employment promotion and labour market institutions dated 20. April 2004 transferred the responsibility of their payment to ZUS, which has significant operational consequences for public employment services. Expenditure for the payment of pre-retirement allowances and benefits constituted a growing percentage of total expenditure from the Labour Fund in 1997-2003 increasing from the initial 6.4% in 1997 to 20.3% in 1999. 39.4% in 2001 and 47.2% in 2003. In 2004, it constituted 42.1% of the expenditure from the Labour Fund. With the simultaneous permanent understatement of subsidies from the central budget, it made the financing of other policies more difficult and contributed to the general weakness of the Polish labour market policy. An increasing number of beneficiaries combined with limited opportunities for employment growth in local employment offices reduced the ability of the offices to implement a different type of the labour market policy in the operational aspect including, in particular, job-search assistance, thus considerably handicapping their key function, i.e. active fight with unemployment (labour market policy for the last few years was discussed in subsection 4.3 in this part of the Report).

Figure 56. The number of those entitled to pre-retirement benefits and allowances (left figure) and the number of granted pre-retirement benefits and allowances (right figure) in 1997-2004 (in thousands)



Source: MPiPS-01 data

Considering the diminishing inflow to the system of disability pensions since 1999 it is possible to hypothesize that pre-retirement benefits and allowances – and also early retirement pensions mentioned in the preceding subsection – replaced disability pensions commonly granted previously as the main tool of the passive labour market policy. The number of people receiving pre-retirement benefits and allowances was growing very quickly in 1997-2004 (figure 56) as a result of the year-on-year growth of the number of newly granted benefits and allowances. However, it is worth observing that people who used to get a disability pension earlier also could apply for such a benefit; thus, an increase in the number of granted pre-retirement benefits and allowances can be partially ascribed to the change in the structure of those economically inactive. The possibility of benefit granting was abolished in 2002 and the share of pre-retirement allowances was on the increase as of that moment in the inflow to the social security system as well as in the stock of beneficiaries.

Box 11. Criteria of assignment of the right to pre-retirement allowances and benefits

People dismissed (due to a bankruptcy or liquidation of the workplace, or as a result of employment reduction) with at least 30 years of insurance coverage (women) and 35 years (men) or 25 years (women) and 30 years (men) for those employed in special conditions for at least 15 years were entitled to the pre-retirement allowance. Pre-retirement allowance amounted to at least 120% of the unemployment benefit. Benefits were paid from the Labour Fund and their assignment ended in 2002.

Anyone applying for the right to a pre-retirement allowance before 1. July 2004 had to meet the conditions necessary to obtain the right to an allowance and to be at least 58 (women) or 63 (men) with the insurance coverage duration entailing the right to retirement pension, i.e. at least 20 (women) or 25 (men) years. For people who lost their jobs due to the reasons on employer's side, it was enough to be 55 (women) or 60 (men) and have the insurance coverage duration of 30 and 35 years respectively. The dismissed were also entitled to the benefit if the period giving the right to the retirement pension equalling 35 years for women and 40 years for men was achieved until the job loss. Pre-retirement allowance reached at least 80% of the retirement pension but not less than the respective pre-retirement benefit and 120-200% of the unemployment benefit.

The Act on employment promotion and labour market institutions of 2004 brought about a range of changes in the terms of acquisition and loss of rights to such benefits as well as terms of their payment. At present, people dismissed for reasons related to the workplace after having turned 50 (women) or 55 (men) and having the insurance coverage giving the right to an retirement pension (respectively 30 and 35 years of contribution payment) are entitled to benefits. The provision giving the right to benefit for women with 35 years of payment and for men with 40 years remains in force. In case of employer's bankruptcy or insolvency, women aged at least 56 with min. 20 years of the contribution payment period and men aged at least 61 and with 25 contribution payment years as well as people with respective 34 and 39 years' long contribution payment periods can also apply for pre-retirement allowance. Non-contribution periods are considered in the amount not exceeding one third of proven contribution payment periods.

However, the requirement of at least 6-month period of unemployment benefit collection during which there was no unjustified refusal to accept an offer of suitable employment or a job within subsidized employment has been introduced. People applying for a benefit are also obliged to submit the application within 30 days of the confirmation by a local employment office of the 6-month long period of benefit receipt or within 14 days of the end of employment within subsidized employment, which come to an end after the lapse of the 6-month period of benefit receipt.

Payments of allowances were transferred from the Labour Fund to ZUS. The allowance value is currently fixed as amounting to 670 PLN and, for people who used to get a disability pension earlier, it equals that pension but cannot exceed 670 PLN. The Act on employment promotion and labour market institutions states that the unemployed cannot be owners or operators of farms occupying more than 2 ha and thus such people have no right to the benefit or, if a beneficiary acquires such a farm the right to the allowance becomes void. The allowance is also suspended in the event of the acquisition of a right to the disability pension, disability or structural pension. Another important change is the introduction of the principle of suspension and reduction of pre-retirement allowances and benefits depending on the income obtained from paid work. Two income thresholds were introduced. The permitted revenue equals 50% while the threshold revenue equals 70% of the average wage in the preceding year. Surpassing of the threshold amount entails suspension of the right to a benefit or allowance or, if the income is lower but the sum of income and benefit (allowance) exceeds the permitted amount the benefit (allowance) is subject to reduction by the value equal to the difference between the sum of income and permitted amount with the guaranteed minimum benefit or allowance equalling 335 PLN.

Even considering the possible inflow of some beneficiaries of pre-retirement allowances and benefits from the disability pension system, one can conclude that the introduction of such allowances was decisive of the failure of the attempt to reduce the early withdrawal from the labour market phenomenon after 1999. In 1999-2001 when the labour market situation was deteriorating, the share of both kinds of allowances among all social transfers granted to people younger than the statutory retirement age increased from 25.5% to 42.4%. Thus, pre-retirement benefits and allowances compensated the drop in inflow to the disability pension system and the drop in the number of early retirements, which were smaller during that time. They caused an increase in the number of all benefits granted within the social security system to people below the statutory retirement age and contributed to the stability of the number of beneficiaries at that age, shown in figure 51. Changes of the principles of benefits granting and their amount as well as the introduction of their suspension depending on the income obtained from paid work contributed to a considerable increase in the number of allowances granted in 2004 as a result of the anticipation of future difficulties in the obtaining rights by potential beneficiaries. However, a drop in the number of beneficiaries could be observed after pre-retirement allowances were transferred to ZUS, which results from lower inflows to the system as well as from an increase in the number of suspended or cancelled allowances.

2.4. Transfers for people ending their economic activity in agriculture

Chapter 2.7 in part II discussed the problem of excessive employment in agriculture – its scale is reflected, e.g. in the low productivity as well as weakened outflow of surplus labour force from agriculture in the situation characterized by a deterioration of perspectives in the labour market. It can be assumed that the granting of retirement or disability pensions to people employed in farms did not always entail early withdrawal from the labour market. On the other hand, it should be considered that farmers' insurance – contrary to its definition – does not only cover farmers. Thus, the influence of that system on transitions to inactivity was not only due to lenient criteria of assignment of the right to benefits and a wide scope of the insurance risk, but also due to a too ambiguous definition of a person covered by insurance.

KRUS insurance contributions do not depend on the income but on the minimum retirement pension from FUS. This is why participation in KRUS can be attractive also for those employed beyond agriculture although benefits paid by KRUS are much lower than benefits in the common system. Thus, it can be assumed that some employed insured in FUS are encouraged to change the system because of low contributions in KRUS unless, of course, they take into account benefit value variations when making such a decision. This way, the system creates room for fraud but the lack of exact data about the structure of the insured and beneficiaries in KRUS makes detailed analyses impossible. However, retirement pensions paid by KRUS in 2003 constituted 21% of the average monthly number of pension allowances paid while disability pensions constituted 25% of all disability pensions paid although the number of those employed in agriculture equalled ca. 19%[89] of all employed. That difference can result from the more frequent granting of benefits to farmers than to those employed beyond agriculture and insured in FUS. It is a proof of more lenient criteria of benefit granting in the agricultural system but also of the coverage of those employed beyond agriculture. In turn, it is difficult to find out whether the receipt of a benefit from KRUS always put an end to the economic activity of individuals because KRUS is unable to conduct an effective control of that issue.

89 According to LFS data. At the same time, KRUS insurance in 2003 covered 12% of all employed (less than 1 600.000 people) and the number of beneficiaries was much higher – 1 755.000.

Box 12. Criteria of coverage with farmers' social security and granting of disability pensions and early retirement pensions

Farmers' security providing retirement and disability pensions covers farmers whose farms include arable land occupying over 1 ha and household members in such farms. The law defines a household member as a person close to the farmer, not necessarily related to him/her, residing in the area or in the vicinity of the farm and permanently employed on the farm (although that job does not have to be the main source of income). Insurance can also cover another farmer or household member if the farming activity constitutes a permanent source of income for such a person – that provision also applies to owners of farms smaller than 1 ha. Acquisition of the right to benefits paid by KRUS is facilitated by the fact that the coverage period in the farming system includes the 1.5 the period of coverage by employee social security.

KRUS pays disability pensions to people unable to work in agriculture for over 6 months. Contrary to what happens in FUS, the criteria applied by KRUS do not consider potential retraining or starting to work beyond agriculture. Besides, recipients of periodical disability pensions can obtain the right to permanent disability pensions 5 years before the attainment of the retirement age even despite the lack of medical contraindications to employment in agriculture. Until recently, the law did not precise the insurance coverage duration sufficient to obtain the benefit; it only indicated the need for insurance coverage for 10 years before the appearance of disability.[90]

The system of farming insurance also makes it possible to obtain a pension despite the lack of inability to work in agriculture for 1 year in the event of the sale of a farm. A system of structural pensions available to farmers in the pre-retirement age (women aged 55-60 and men aged 60-65 owning a farm occupying at least 3 ha) who give up their land to enlarge one or more farms occupying at least 15 ha was also introduced in 2002. The law aimed at the improvement of the area structure of farms and their productivity.

It is also possible to obtain the right to a retirement pension 5 years before the statutory retirement age if the insurance coverage lasted for at least 120 quarters or at least 50 quarters and the farm is given to a heir or sold to a younger farmer.

Allowance assignment criteria presented in the Box are relatively lenient, which, combined with their low expected allowance amount, makes them a kind of social assistance, thus weakening the insurance nature of the system. It is worth observing that the share of disability pensions granted by KRUS in the total number of granted disability pensions is very high – it reached 28% in 2003 – pensions in the farming system are a form of early retirement rather than disability pensions in the strict sense of the term.

It is true that the number of disability pensions granted to farmers diminished in 1997-2004 but that drop resulted, in particular, from the fall in the number of applicants. The situation was similar when it comes to early retirement. Thus, the share of KRUS benefits in total inflow to the social security system dropped. Part II of the Report presents a change in the age structure of employment in agriculture, which is a proof of considerable outflow of people over 40 for whom agriculture was an additional source of income as well as farmers over 50 years of age. Evolution of the number of disability pensions and early retirement pensions granted by KRUS shown in table 37 is fully compatible with that trend. Numbers of granted benefits were highest in 1997-1998, which resulted in "rejuvenation" of the demographic structure of farmers and people covered by insurance in KRUS. As a consequence, the number of applications and granted allowances was lower in subsequent years, especially for disability pensions, which was reflected in a drop in the share of disability pensions in the total number of granted benefits.[91] The inflow to the KRUS disability pension system was relatively stable within the last few years in comparison with the inflow to FUS disability pensions that diminishes each year. However, 2004 saw a considerable increase in the number of disability

90 That regulation was amended by the Act of 2. April 2004. (Dz.U.04.91.873).

91 We do not mention pensions assigned to people in the statutory retirement age.

pensions granted by KRUS, also thanks to an increase in the number of granted structural pensions and because of the introduction of pensions financed from Community funds.

Table 37. The number of disability pensions and early retirement pensions granted by KRUS in 1997-2004

	1997	1998	1999	2000	2001	2002	2003	2004
Disability pensions	43 949	41 413	38 161	28 264	25 410	24 767	25 645	32 705
Early retirement pensions	16 197	14 175	12 528	11 842	12 585	14 510	15 389	15 090
Share of disability pensions (in percent)	73	74	75	70	67	63	62	68

Source: KRUS data

At the same time, the percentage of those employed in agriculture subsisting on disability pensions or retirement pensions was considerably reduced – it reached 11.0% and 11.1% respectively in 1996, 0.7% and 8.0% respectively in 2002.[92] Thus, such benefits played a significant role in the change of the structure of employment in agriculture and the data indicate that the percentage of people currently combining employment on a farm with the receipt of benefits is lower than in the previous decade. Agriculture still faces excessive employment according to the arguments presented in part II of this Report but allowance payments within the last few years entailed transitions to inactivity of the older generation of farmers.

A change in the number of granted benefits seems to result, in particular, from a drop in the number of people who can apply for them thus resulting from the demographic factor. Disability pensions in agriculture constituted the allowance most frequently granted by KRUS in the analysed period. As for retirement pensions, there was a change of proportions between the number of pensions granted to people in the retirement age and younger. In 2003, early retirement pensions constituted 64% of all retirement allowances granted in KRUS while that percentage reached 43% in 1997. Changes in the number of granted retirement pensions are presented in figure 57. Due to a change in regulations and the introduction of a conversion of farmers' pensions into retirement pensions as of 2004, data for that year are not comparable with the earlier data: the number of granted retirement pensions amounted to 381 000, of which 15 000 involved early retirement and constituted the amount similar to the one from previous years.

Figure 57. The number of retirement allowances granted in KRUS in 1997 – 2003 (in thousands)

Source: „Quarterly statistical information", KRUS

[92] Own calculations of DAE MGiP based on LFS.

In the light of a drop in the number of people aged 55-64 insured in KRUS, an increase in the number of early retirement pensions granted in 2000-2003 indicates actually a relative intensification of their negative role. This trend is analogical to the recently increasing importance of pre-retirement allowances, benefits, and early retirement pensions paid from FUS.

Considering new legal amendments of the farmers' insurance system such as the introduction of structural pensions it can be assumed that an increase in the number of benefits granted from KRUS is more likely than a decline in the nearest future. Absorption of the EU funds by the system of social transfers addressed to rural inhabitants can also contribute to that phenomenon. The system of social benefits for farmers can contribute to a reduction of the outflow from agriculture to other sectors at the cost of maintenance of high employment in agriculture or higher rate of transitions to inactivity. Maintaining agricultural employment or its reduction via intensified the rate of transitions to inactivity can turn out to be a very costly solution to the problem of excessive employment in the Polish agricultural sector.

2.5. Pension system vs. economic activity of older workers

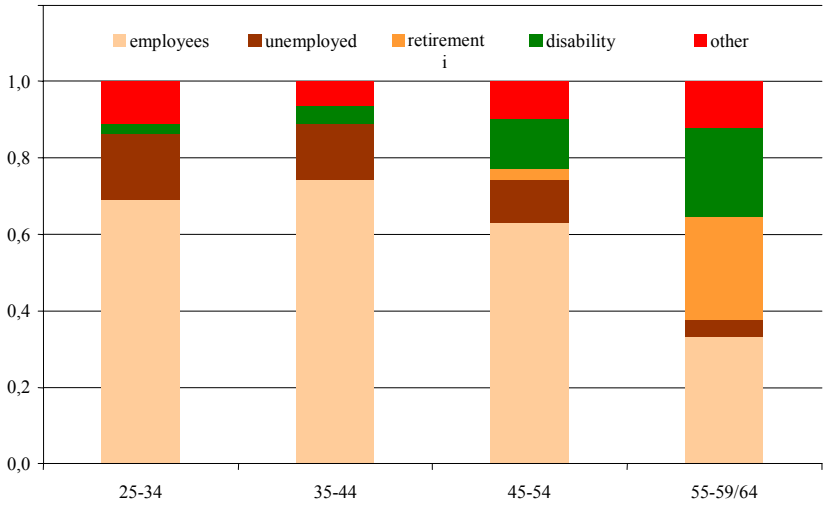
The influence of the social security system is reflected in the structure of population in the working age in Poland. Figure 58 presents the share of employees and the non-employed by reasons of having no job in individual age groups in 2003. As mentioned in the introduction to this chapter, the scale of transitions to inactivity was determined, on the one hand, by the labour market situation, in particular, a rapid drop in employment in 1999 and, on the other hand, by the availability of benefits within the social security system thanks to which people withdrawing from the labour market had a guaranteed source of income other than paid jobs and could give up searching for employment.

The high share of the non-working in the 45-54 age group is striking. As mentioned above, there are substantially more pensioners in that age group in Poland than in other European countries, which is confirmed in LFS data; in that group disability was a more frequent reason for inactivity than unemployment. Besides, disability pensions were the main source of income for over 85% of the not employed not searching for any job due to disability. It seems rather unlikely for as much as 13% of people at the age of 45-54 and 18% of those at the age of 55-64 to be unable to do any paid job due to poor health. It rather confirms the hypothesis that they take advantage of the pension system as a source of income. The more so, because the percentage of disability pensioners in the 45-54 age group (in 1999) was twice and a half as high in Poland as the OECD average,[93] and twice as high in the 55-64 age group (OECD 2003). It seems doubtful that this relation reflects differences in the prevalence of inability to work in Poland and in other states. However, it should be observed that the inflow to the disability pension system has been diminishing clearly since the 1997 reform. In the group of women at the age of 55-59 and men at the age of 55-64, the opportunity to retire early probably played a significant role in the decision to end their economic activity.[94] As shown in part I, the share of inactive people in these groups increased more quickly at the moment of deterioration of the labour market situation, especially after 1999.

[93] Strictly speaking, for fifteen OECD countries whose data required to the calculations were available.

[94] It is also significant for men even below 45, employed in special conditions, e.g. miners, policemen.

Figure 58. The share of employed and people without a job by reasons in the 25–59 (women) and 25-64 (men) age groups in 2003



Respondents themselves declared reasons for their inactivity. The LFS questionnaire does not distinguish pre-retirement allowances or benefits among possible inactivity reasons. Thus, such people can be in the group of those not working for other reasons along with those discouraged from a job search who do not plan to find employment, those who study or supplement their skills, or commit themselves to family duties.

Source: DAE MGiP calculations based on LFS

Despite the implemented reforms, the social security system still generates incentives encouraging people to leave the labour market. The pension system reform will make it possible to reduce the flow out of the labour force but its results will be felt only after those covered with the new system attain the retirement age. The success factor is the final abolition of early retirement pensions perhaps with only a very short catalogue of professions entitled to bridging pensions. Unification of the statutory retirement age for men and women also seems to be of key importance. Statutory changes in the employee pension system influenced a drop in the number of granted disability pensions but positive consequences of these changes have been offset by the introduction of another type of benefits paid from FUS: pre-retirement allowances and benefits. It would seem that the previous policy reducing the rate of transitions to inactivity has been inconsistent. It is true that the inflow to inactivity was reduced in comparison with late 1990s but there were no steps taken with direct influence on the stock of the economically inactive to encourage them to return to the labour market. The Box below sums up the activities initiated lately and it shows most important suggestions, i.e. the Programme for Rationalization and Reduction of Public Expenditure (called the Hausner Plan) with regard to the influence of the social security system on labour supply distortions.

Box 13. The plan of rationalisation and reduction of public expenditure vs. the social security system

On 8. October 2003, the Council of Ministers adopted the "Programme of Rationalisation and Reduction of Public Expenditure" dubbed the Hausner Plan. The programme consisted of two parts: administrative-economic and social. Suggested reforms included in the social part of the Programme were prepared along with a complex analysis of the social benefit system and subjected to public debate. Both the social and the administrative parts of the plan were only partially implemented.

The most significant consequence for the labour market is the reduction of transfers for people in the pre-retirement age achieved thanks to a considerable reduction of availability of pre-retirement allowances and the reduction of the level of newly assigned allowances. Availability reduction is also accompanied by steps aimed at an increase in the economic activity and employability of elderly people via the introduction of six-month programmes addressed to those willing to get a pre-retirement allowance or early retirement pension, additional financing of self-employment promotion instead of the receipt of a pre-retirement benefit or allowance and measures under the 50+ Programme.

The work on some suggestions included in the Plan, mainly those referring to the retirement pensions and disability pensions, is still in progress. The reform of the pension system should be completed by introduction of a system of bridging pensions which is supposed to define a group of employed to whom bridging pensions or compensation in the form of an increase of the insurance initial capital will be granted, and to determine how such benefits will be assigned and what their level will be (bridging pensions constitute a link between the old and the new pension system for those born after 1948 who started to do jobs entitling them to early retirement before the implementation of the pensions reform). Changes in the organization and financing of the social security system for farmers and changes in KRUS functioning are also planned.

Suggested changes to the system of professional and social rehabilitation of the disabled are significant. They include, among other, improvement of the certification system concerning disability and inability to work, introduction of the rule that disability pensions will be granted for a specified duration, a change of the structure of the employers' and State Fund for Rehabilitation of Disabled Persons' (PFRON) expenditures assigned for the aid to the disabled.

One of the most significant postulates of the Plan related to the labour market and social policy, which has not been implemented, is the equal retirement age for women and men.

3. Taxes, minimum wage and trade unions

Taxation, widely understood as the entirety of tax and tax related burdens imposed on labour, leads to a difference between the total labour cost and net wages obtained by employees. Thus, it distorts the relationship between the labour cost, wages and marginal labour productivity and weakens the incentives to take up employment and increase individual labour supply. In turn, minimum wage makes real wages downwardly rigid so that the price mechanism cannot clear the market via the demand channel and thus it generates compulsory unemployment of people whose productivity is lower than the minimum wage defined by the law. In the light of a very differentiated labour force currently existing in Poland, this effect can play a significant role. Taxation and minimum wage distort the relationship between wages and marginal labour productivity thus influencing the labour supply in the market to a degree depending on the flexibility of the wages setting process. That process, in turn, depends on its participants: employees and employers. Both parties to wage bargaining can unite and coordinate their activities to increase the negotiating power and to benefit during negotiations. Thus, the degree of centralization and coordination is significantly important for the economic consequences of wage bargaining. Theoretical discussion of the role of above-mentioned factors (motivated to some degree by an attempt to explain different developments of labour market aggregates in European countries, the United States and Japan) indicates that they can influence a structural unemployment and employment rates in the economy (Layard, Nickell 1999), especially when appropriate mutual interactions take place between the institutions of the labour market (Belot, van Ours 2000). At the same time, a range of empirical papers argue that, despite the lack of an explicit consensus in that matter, these factors also play a role in the absorption of shocks by the labour market (Blanchard, Wolfers 2000) and in the developments of long-term structural employment and unemployment rates (Nickell et al. 2001, 2003).

3.1. Impact of taxation on the labour market in Poland

3.1.1. Taxes and labour – theory and international experience

The simplest theoretical dependencies on labour taxation are presented in Box 14. However, a few very important reservations should be added here as they are often omitted during discussions concerning tax and social security contributions imposed on labour.

The first one is an observation that the total non-wage labour costs are determined by taxes (and social security contributions) imposed directly on the labour as well as other taxes influencing the purchasing power of the income from labour (consumption taxation via VAT or excise duty). The tax wedge is presented rather commonly without indirect taxes but, actually, the influence of such taxes on the labour supply is similar to the influence of the income tax. From the point of view of a household, indirect taxes are, in principle, a sort of flat income tax and thus equivalent to direct taxes changing the leisure cost.[95] The second significant reservation is that the taxation structure and its changes in particular, can influence the relationship of income from labour to income from other, alternative sources. This fact influences the labour supply while changes in the taxation structure influence changes in employment in the short term, when wages are not fully elastic, as individual taxes can significantly modify relative prices of labour and leisure. It should also be remembered that such influence depends considerably on the level of such income and wages flexibility in the economy. The amount of the income that is an alternative to income from labour and its relative attractiveness for a household, depends, in particular, on the social policy implemented in the state; on the macro level, it depends on the scale of expenditures for social transfers that, in turn, determines the general tax burden and particular taxes. It should be stressed that, if transfers are taxed with a lower rate than the income from labour, then taxes actually deepen the influence of social expenditure on participation

[95] It is so, in particular, in the perspective of the full life cycle of a household, because total consumption of a household in the long term has to equal the earned income. In the short term, when households save money, indirect taxes are even degressive because with increasing income the savings rate grows. The impact of indirect and direct taxes on the short-term labour supply are slightly different because the former are paid both by employees and by the people who are not present in the labour market or earn income from work.

rate by raising the wage flexibility of labour supply. If there is no income alternative to labour a highly inelastic long-term labour supply should be expected and by implication, little reaction to taxation changes (because they would not influence the scale of redistribution from the employed to those obtaining other income, especially income from transfers).[96]

The short-term influence of tax changes depends on how fast tax changes are absorbed by net wages and labour costs.[97] A change of the size of the tax wedge can potentially lead to a change of net wages with unchanged labour costs, changes of labour costs with unchanged net wages, or changes to both these values. The relative force of above-mentioned phenomena is determined by the ability of employees and employers to internalise effects of tax changes, which depends on the degree of centralization and coordination of wage bargaining (for more on wage bargaining and trade unions see point 3.3 in this part of the Report) and the labour market situation (pressure on wages resulting from employment and unemployment). If wages quickly absorb tax changes, then even greater changes in taxes or in tax burden can in general remain without any influence on employment. For example, taxes on labour were considerably reduced in Chile in 1979-1986 and that reduction was entirely translated into an increase in net wages and did not lead to employment increase.[98]

The influence of tax changes on employment depends also on how the employees perceive the changes i.e. how they evaluate the benefits they become entitled to by paying taxes (compare the distance between the D0 and D1 curves in Box 14). The scale or even the occurrence of that effect is difficult to measure. For many people who take up a job it is surely important that after some time they will acquire the right to the unemployment benefit in the event of unemployment. However, e.g. retirement contribution within the new system in Poland has many features of individual savings and, in principle, should not be classified within the tax wedge (because it decides upon the future consumption by households). In turn, the awareness of the role of such contributions among employees is not high and, despite its savings nature, it is still commonly treated as one of tax levies on behalf of the state.

Minimum wage constitute the last important factor decisive of the strength of taxation influence on employment. High taxes combined with the minimum wage make wages downwardly rigid; as a result they reduce chances for employment beyond the shadow economy, in particular, for those with lower skills and thus lower (potential) earnings, as they make it impossible to adapt their wages to productivity thus reducing the labour demand. The interaction between taxes and minimum wage reduces the labour demand by making it impossible to find legal employment by those unable to generate a product worth more than total labour cost; consequently it influences the total employment.[99]

[96] It would be the vertical labour supply curve in figure 59. Nickell (2003) provided a review of empirical papers concerning influence of direct taxes paid by workers and enterprises, and of indirect taxes on unemployment. He concludes that there is no evidence of differences in the influence of various types of taxes. Besides, differences in the scale of taxation can only explain a small part of the international variation in employment and unemployment rates. According to Nickell (2003), the structure of the social security system, in particular, transfers for the unemployed, those unable to work and people in the pre-retirement age is of a greater importance.

[97] European Commission (2004), Koskela (2001), Summers, Gruber and Vergara (1992).

[98] Gruber (1995).

[99] Which does not rule out employment in the informal economy, which is not equivalent to inactivity and also increases the output in the economy; however, it decreases the level of social welfare, among other things, because those employed in the informal economy cannot count on the protection of employee rights, social security an they cannot fully use some private goods and services (especially banking).

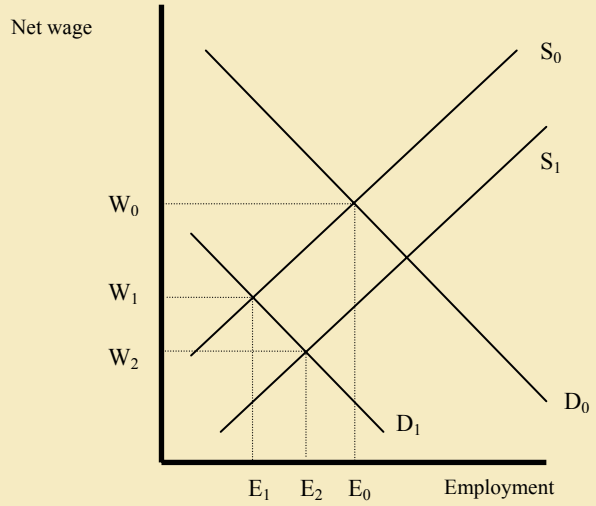
Box 14. Taxes vs. the labour market

Introducing taxes on labour increases the labour cost moving the curve of enterprises' labour demand from D0 to D1, causing an employment drop to E1 and a drop in net wages to W1 (linked to the reduced labour demand). However, tax inflows (or, more frequently, income from social security contributions) partially serve the financing of allowances paid to employees only (e.g. unemployment benefit, retirement pension) so that the attractiveness of labour is higher than the one resulting from net wages only. It results in an increase in labour supply (from S0 to S1) and fixing of employment on the higher E2 level and the fixing of wages on W2, with the scale of such a change (difference between E2 and E1) depending on the degree to which tax income (and contribution income) is used for employee allowances and for allowances for the entire population. The example shows what would happen had the labour demand and supply been perfectly elastic and had the adaptation of wages taken place only via an increase in labour costs with constant net wages (a drop in net wages results from lower labour demand). These assumptions are very strong. In fact, there exist wage inelasticities (among other things, also related to the minimum wage) and the short-term influence of taxation changes on wages (and labour costs) largely depends on the degree of centralization and coordination of wage bargaining. What is more, the supply is highly inelastic in practice (vertical supply curve), which considerably reduces, e.g. its drop in the event of tax increases. Besides, taxes are paid only by employees in the long term even if their introduction initially resulted in an increase in employer's costs (tax reduction are also consumed by a wage increase rather than a drop in unit labour costs). As a result, tax changes do not influence the labour demand in the long term, only the labour supply.

It should be added that, in principle, any taxes on income from labour have similar influence on the labour supply even if they occur via e.g. taxes on consumption: a rise of VAT results in reduction of employee's purchasing power and in a reduction of labour supply (from S1 to S0) and, as a consequence, it acts similarly to direct taxes on the income from labour.

In the light of empirical research and theory, it seems that the tax structure is of little importance for the labour market situation and the importance of taxes is determined by the structure of expenditure. Short-term power of influence of each change to the system also depends on the way it will be reflected in labour costs and net wages.

Figure 59. Labour taxation vs. wages and employment



Based on Nickell and Layard (1999), Gruber (1995) and Koskela (2001)

Factors mentioned above are reflected in different reactions of the labour demand and, in particular, labour supply to tax changes in the shorter and longer term (table 38). How strong is the short term impact of tax changes, depends on how fast the net wages react. In the longer term, when changes are fully absorbed by net wages, there is no permanent change of labour costs and thus taxes have no influence on the labour demand. The only exception is the demand for labour among the lowest-skilled whose productivity justifies wages below the minimum wage. In each case, taxes can affect labour supply negatively to a degree dependent on its price flexibility co-shaped by the availability of alternative income (social transfers).

Table 38. Impact of a permanent tax increase on the labour demand and supply

	In the short term	In the long term
Labour supply	Labour supply reduction if wages are elastic, i.e. tax increase quickly translates into a reduction of net wages. Otherwise insignificant.	Reduced labour supply due to a drop in net wages, strengthened if the tax increase leads to a permanent reduction of the relationship between the income from labour to income from other sources.
Labour demand	Labour demand reduction if wages are downwardly rigid, i.e. tax increase translates into an increase in total labour costs. Otherwise insignificant.	Combined with minimum wage – reduction of the demand for labour among the least productive. Insignificant if the minimum wage do not exist.

Source: DAE MGiP

Empirically, it is worth observing that there has been a significant increase in the scale of labour taxation and unemployment rates in the majority of OECD states as of the 1970s. However, it is not necessarily a proof of any causal relationship between both values. This is because economic activity and employment were on the increase as well (to a large degree due to an increase in the economic activity of women). Empirical literature on the subject has not presented any consensus so far with regard to the scale of influence of taxation on structural (long-term) unemployment rates although many papers indicate that such a relationship is relatively weak. Some papers suggest a positive correlation between the tax wedge and unemployment (Nickell 1997, Elmeskov et al. 1998). At the same time causality tests indicate that high unemployment frequently preceded the tax wedge increase, which means that the observed positive correlation between unemployment and taxation scale can reflect rises of taxes and related burdens as a result of deterioration of the labour market situation rather than unemployment increase resulting from tax increase (Elmeskov et al. 1998). Another proof of the fact that the link between taxes on labour and the labour market situation cannot be very strong is that considering of larger data sets frequently resulted in much lower indicators of the influence of taxes on the developments of labour market indicators (Nickell et al. 2002). At the same time, the majority of papers state that the replacement rate measuring the generosity of the benefit system and the duration of benefit payment has a significantly positive influence on the unemployment rate while high variability of parameters obtained by various authors does not make it possible to draw conclusions concerning the true power of that influence.

Interesting results were obtained by Belot and van Ours (2000) who showed that the tax wedge increases structural unemployment rates and that increase is the stronger the more generous system of unemployment benefits and vice versa. This is consistent with the above-mentioned theoretical premise stating that taxes impact the labour market primarily by differentiating the income from labour and other sources, i.e. by influencing the relative attractiveness of labour and leisure. Unfortunately, the literature on the subject does not consider the scale of social expenditure and differentiated opportunities to obtain income from the social security system, which influence decisions concerning economic activity. Consequently, the differences in taxation alone are significant but explain only a small part of the international variation of unemployment and changes in the labour market taking place within the last 30 years. It is estimated that an increase in taxes imposed on labour by 10 percentage points causes reduction of the employment rate in the productive population by max. 1 to 3 percentage points,[100] while the reduction of such taxes by 10 percentage points leads to a drop in the unemployment rate by 1 percentage point.[101]

[100] Nickell (2003).

[101] Elmeskov et al. (1998), Bertola et al. (2001)

Another important characteristic of a tax system is the scale of internal progression. The hypothesis that tax progression, limiting wage expectations and the inflation pressure, influences the reduction of unemployment is relatively poorly studied so far but existing empirical papers (Nickell 2003) seem to contradict it. In the theoretical aspect, it is argued that progression in the long-term can have negative influence on the economic growth rate because it limits the return on educational investments (increasing skills are related to a lower increase in net income) thus reducing the motivation to study and improve professional skills, what means lower productivity increase.[102] However, empirical research on the economic growth rate in the world does not provide evidence making it possible to confirm or reject that hypothesis. Empirical papers analysing determinants of economic growth (their review can be found in the paper by Myles (2000)) argue that the relationship between the level of tax burden and economic growth in the long term, if existent, is very weak (at least with regard to public expenditure or income in the contemporary world). Because of that, the role of tax progression (existing in nearly all countries of the world) cannot be very important also in this aspect.

3.1.2. Taxes on labour and social security contributions in Poland

Tax wedge in Poland (not considering indirect taxes) for the wage amounting to 2/3 of average wage reaches 41.9% and, although higher than the EU average, it is fully comparable with other countries of the region: Czech Republic, Slovakia and Hungary. No major changes in direct taxes on labour occurred in Poland within the last few years. During the pension system reform in 1999, the structure of employer and employees contributions was modified but it did not entail any changes of taxes on labour in general.

The most significant part of tax and social security contributions imposed on employees with employment contracts are the social security contributions paid by employers and employees constituting nearly 1/3 of total labour costs. Such contributions provide savings and insurance: contributions for pension funds is supposed to guarantee an (actuarially fair) retirement pension, the disability contribution guarantees the right to a pension in the event of inability to work, Labour Fund contributions guarantee the right to unemployment benefit in the event of unemployment, health insurance guarantees the payment of wages during an illness, occupational injury insurance provides insurance against accidents at work while contribution for the Guaranteed Employee Benefits Fund provides coverage in case of a loss of due wages in the event of employer's insolvency. These contributions are calculated on the basis of gross wages and paid partially by employee (i.e. contributions deducted from gross wages) and partially by employer (contributions constitute the non-wage labour costs, i.e. the expense incurred by the employer in addition to gross wages). All the above-mentioned contributions go to separate funds managed by the Social Insurance Institution (ZUS) apart from the Labour Fund contribution[103] and the Guaranteed Employee Benefits Fund contributions (managed by a competent minister for labour issues).

Contributions do not depend on individual risk[104] and, for some contributions, there is no relationship between paid contribution and payments in the event of risk realisation (e.g. unemployment benefit is not linked to earlier wages and paid contributions; there is such link for retirement and disability pensions but it is very weak in the current system). What is more, those for whom the risk of unemployment or disability is higher, usually obtain lower income and thus their contribution to the system is smaller. Consequently, the social security system in Poland[105] is, in fact, an insurance-redistribution system with the highest scale of redistribution existing within the pension insurance and Labour Fund contribution. Retirement pension contribution is a significant exception within the new

[102] Nickell and Layard (1997).

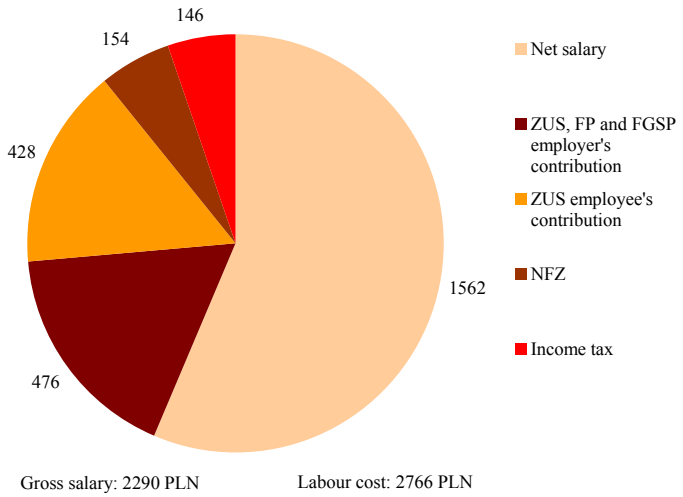
[103] An element differentiating the Labour Fund from other funds is the fact that not only direct transfers smoothing individuals' consumption are completed from it but also active labour market policies addressed to all the unemployed (also those for whom no contribution has ever been paid to the Fund).

[104] An exception is the occupational injury insurance, to some extent linked to the risk of an accident in an industry and for an employer.

[105] It should be stressed that this is not a unique feature of the Polish system. In principle, redistribution in social security occurs in all OECD countries.

system as it acquired the nature of savings with the introduction of individual accounts in ZUS and OFE. For the retirement and disability contributions, there is an upper limit of the basis for their calculation in force (equalling 30 average wages per year).

Figure 60. Structure of labour costs for average wages in the national economy in 2004

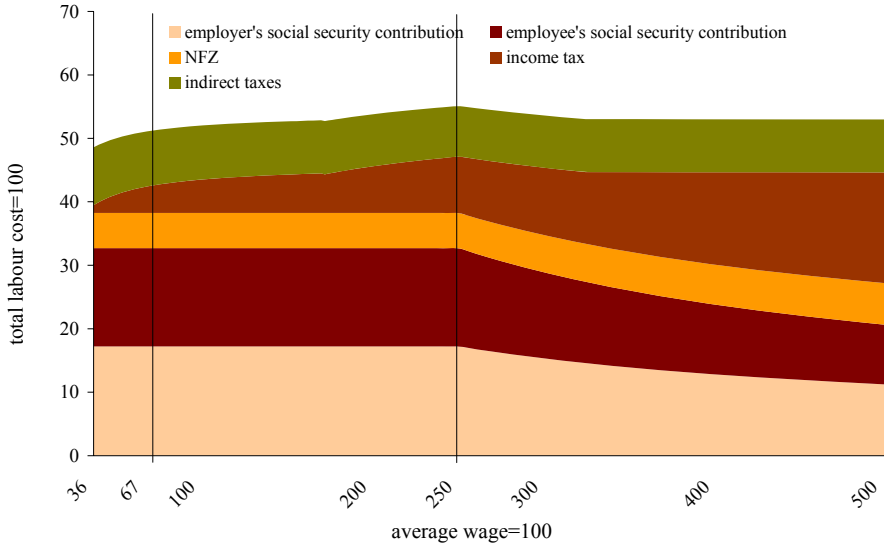


Source: DAE MGiP calculations

Gross wages minus social security contributions paid by an employee constitute the basis for calculation of the contribution for the National Health Fund (NFZ). Besides, by the calculation of due income tax one deducts the basic allowance, the work-related expenses allowance and potential tax relieves. Health contribution is different than social security contributions: the basic difference is that all citizens in Poland are entitled to health benefits from the public health care (at least in line with the Constitution) regardless of whether they paid contributions. Thus, health contribution cannot be treated as insurance and, in fact, it is a pure tax. It is also technically related to the income tax: while social security contributions of an employee reduce the income tax basis, the NFZ contribution constitutes a part of the tax (a major part of contribution is deducted from the income tax). Apart from the contributions already mentioned and the income tax, people purchasing commodities and services pay indirect taxes: VAT and excise duty. Estimated effective tax rate of indirect taxes in 2004 was 15.1%; it is the last tax imposed on the net income (in the short term on the part of net income assigned for consumption).

The tax wedge resulting from taxes imposed on income from work, including indirect taxes, is considerable for all wage levels, also for the lowest ones, and it varies from 49% to 55%. Particular attention should be drawn to the fact that the share of taxes and social security contributions in the labour cost is practically constant regardless of the income, i.e. the marginal tax rate is, in principle, identical for all the employed. It is true that there is a slight progression at the beginning of the tax scale, and between the bottom threshold of the second tax rate (amounting to 30%) and the 2.5 the value of average wage. In the former case, it results from the tax exempt portion of income and the income acquisition cost; in the latter case, from the higher income tax rate. However tax on labour and social security contribution are nearly flat.

Figure 61. Components of the tax wedge for an employee with an employment contract in Poland in 2004 considering indirect taxes – as a percentage of labour costs for a wage



Data presented for an employee pursuant to an employment contract on the assumption that the entire income is consumed. Indirect taxes are treated as a flat income tax at the rate equal to the effective rate of indirect taxes (estimated from the data on value added and from the general government revenue from indirect taxes)

Source: DAE MGiP calculations

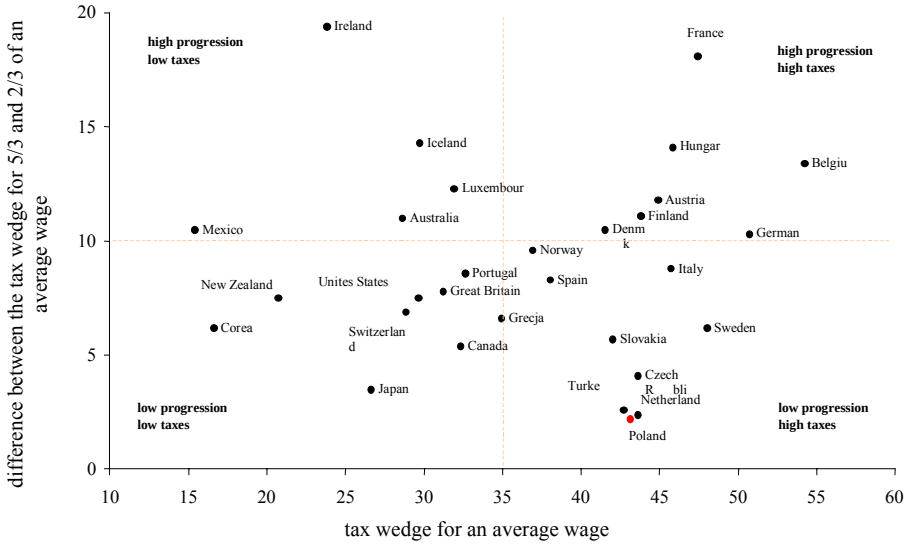
It should be stressed here that the lack of progression refers to total labour costs. If employer's social security contributions is excluded from the analysis there is a tax progression for a gross wage higher than the 2.5 the value of an average wage. However, it is labour costs and net wage that matters for the labour supply, not employee's gross wage.

The lack of tax progression at the beginning of the income scale is a unique phenomenon. In all OECD countries, progression applies, above all, to taxable persons with low and medium earnings. The scale of tax progression within the range from 2/3 of the average wage up to 5/3 of the average wage in Poland is the lowest one among all OECD states. It should also be stressed that OECD countries give no evidence of a dependency such as: low average taxation – high progression, high average taxation – low progression. As for taxes imposed on labour, taxes in Poland are slightly above the average when compared with other OECD states and the scale of tax progression is the lowest one when calculated with the difference between the tax wedge imposed on those earning between 2/3 and 5/3 of an average wage. The above-mentioned calculations consider not only taxes and social security contributions but also transfers from the general government to the employee (usually dependent on the number of children in the family and income). In the majority of states, progression is introduced with the use of the tax system with generally constant burdens from social security contributions. The reference to the range from 2/3 to 5/3 of an average wage is a good measure for Poland because earnings up to 2/3 of an average wage pertain to about 35% of the employed, between 2/3 and 5/3 - ca. 54%, above 5/3 – ca. 11%,[106] so that the great majority of those obtaining income from the labour relationship is within that range. It should also be noted that a person earning 5/3 of an average wage per year in 2004 slightly exceeded the upper limit of the first tax threshold, which means that nearly 90% of hired employed were subject to the 19% PIT rate.[107]

[106] GUS (2003). The publication uses the range of 150-175% of an average wage so that the data for 5/3 constitute an approximation. The data refer to full time employed in October 2002.

[107] Actually, these distributions are slightly different because employees also acquire income from sources other than the main job (which increases their taxable income) but, in turn, they can submit joint tax returns with their spouses (if the spouse acquires lower income, it delays the attainment of the higher tax threshold). The calculations presented above are not based on tax reporting and are only supposed to illustrate the meaning of tax progression for employees in Poland.

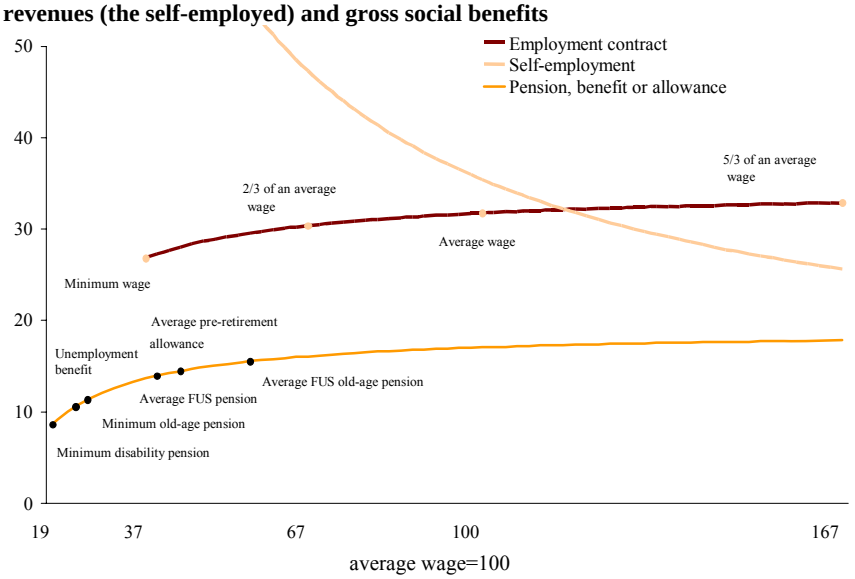
Figure 62. Tax burden increase: difference between the tax wedge for 5/3 of an average wage and 2/3 of an average wage vs. the tax wedge for an average wage in 2004



No indirect taxes were considered
Source: Own calculation based on OECD (2004)

The above-mentioned taxes and social security contributions are different for people obtaining income from the employment relationship and for entrepreneurs, artists or beneficiaries of varied social benefits. Generally speaking, the range of burdens is highest for the income from labour (figure 63). Social benefits (retirement pensions, disability pensions, pre-retirement benefits, unemployment benefit) are only subject to the income tax, which makes relationship between the net income from transfers and net income from work much more advantageous (for beneficiaries) than the same relationship between gross values.

Figure 63. Comparison of taxes and employee's social security contributions (in percent) imposed on: gross wages (the employed), gross revenues (the self-employed) and gross social benefits



Indirect taxes, non-wage costs of an employer and social security contributions imposed on the unemployment benefits were not considered. The self-employed were assumed to incur the 19% flat tax and constant costs amounting to 400 PLN monthly.
Source: DAE MGiP calculations

3.1.3. Influence of taxes and social security contributions on the situation in the Polish labour market

Income tax and social security contributions are frequently considered one of the main reasons for high unemployment and low employment in Poland.[108] It seems that employers are of the same opinion along with, to some extent, the public and trade unions. That belief became a sort of an axiom in the Polish labour market, although, according to the facts presented above, empirical evidence does not confirm the existence of explicit and strong influence of taxation on employment and unemployment in the long term. When discussing influence of taxes on the Polish labour market, the role of other institutions of the labour market, especially the system of social transfers and the nature of wage bargaining is frequently forgotten.

It is worth observing that, despite the importance ascribed to taxes, there is no explicit empirical evidence supporting the hypothesis of their principal importance for the labour market situation in Poland. One reason is that there is no possibility to conduct a reliable econometric research due to too short time series, low reliability and incompleteness of data, which would confirm or contradict the hypothesis of strong negative impact of taxation on the Polish labour market.[109] As shown by Ederveen and Thissen (2004),[110] institutional factors with the tax wedge among them, which jointly explain the differences of long-term unemployment rates in the majority of OECD states, are much worse when describing unemployment rate variations in countries of our region. Thus, empirical research of the Polish case is very limited and ambiguous, making it impossible to draw final conclusions concerning the power of influence of the tax system on the labour market situation. Although Poland does not differ substantially from other OECD countries in that aspect, it would be difficult to expect the importance of taxes for the labour market situation to be high in the long term. It is worth observing that, although Poland has low employment and high unemployment in comparison with other countries in the region, it has been imposing comparable and sometimes even lower taxes than its neighbours since the 1990s.

In the short-run perspective, both labour supply and labour demand should be analysed. Starting with the former, it is worth observing that no factors were considerably influencing labour supply within the last few years. In particular, it applies to tax wedge, including also burdens on the labour of those with low income, which were diminishing rather than rising (according to Eurostat, the tax wedge in Poland for the 2/3 of an average wage amounted to 41.9% in 1999 and in 2004 in comparison with 43.6% in 1996). There were also no significant changes in taxes on the income from labour in comparison with the taxes on social transfers. Potential increased attractiveness of benefits could be linked to a higher risk of unemployment (with an increase in its rate) but not to taxation changes.

As for the influence of taxation on the labour demand, an important observation is that labour productivity since 1999 has been growing much faster than labour costs (average gross wage in 1999-2004 increased in real terms by ca. 8% and value added per employee increased by ca. 21%), which should increase rather than reduce the labour demand. If fact, gradual increase in the number of job offers and employment has been observed since 2003.

[108] See, e.g. CASE (2004), World Bank (2004. 2005), Gora (2003). The tax wedge reduction is one of the recommendations of the Wim Kok report: Jobs, Jobs, Jobs for Poland, where we read: *Building on recent measures to reduce labour costs for the low-skilled and the young, it will be important to review the tax-benefit system to address the high tax wedge on labour in a comprehensive manner, particularly at the lower end of the wage scale.*

[109] Some attempts made, e.g. by the World Bank (World Bank, 2005) illustrate a great importance of taxes in the labour market in Poland (and other new member states), however, such a research is flawed by many shortcomings, which is why it seems rather unreliable. The research explains employment increase only by the tax wedge (not considering indirect taxes) and the GDP growth rate. It means that other factors important for employment are omitted, e.g. legal regulations of the labour market, unionisation, centralisation of wage bargaining and active and passive policies of the state. Demographic variables and social transfers are not controlled for; there are no instrumental variables for external shocks, etc. Such an approach is very likely to result in random evaluations of parameters and considerable overstatement of the influence of tax burdens on employment. Another significant fault is the use of data of annual frequency instead of long-term average figures as practiced in the related literature (which makes them prone to short-term shocks that had a decisive impact on labour markets in states of the region within the last few years as shown in part I).

[110] With the use of a panel econometric model covering 21 OECD states including Poland, Czech Republic, Slovakia and Hungary.

Above-mentioned data do not confirm the principal importance of taxation alone for the situation in the Polish labour market and changes taking place in it lately. In particular, it should be stressed that employment drop and unemployment increase occurred with a practically unchanged level of individual taxes on labour.[111] Shock changes in the labour market in 1999 and in 2001-2002 resulting in significant structural changes in the Polish labour market (the transfer from labour-intensive production to more capital-intensive production) entailed a drop in employment with considerable productivity increases. The hypothesis of the decisive nature of taxes for such changes – although not verified with the use of rigorous econometric tools – seems to be rather unlikely. On the other hand, high taxes in interaction with other institutional and structural factors could contribute to the more difficult absorption of shocks in Poland in comparison with other countries in the region. However, they could not be the primary reason given that tax burden was similarly heavy in all these states in the analysed period. The countries differed in the aspect of temporal sequence of shocks (the majority of them did not face a slowdown of productivity comparable with years 2001-2002 in Poland), structural features of labour force (demographic structure, education) and, in particular, institutional framework of the labour market (e.g. the system of social transfers).

The interaction between social transfers (primary factor) and high taxes on low paid employees (subsequent factor) during the subsequent external and internal adverse shocks on the labour market is responsible for the evolution of employment and unemployment rates in Poland different than in other countries of the region after. The influence of taxes on labour income on the absorption of shock employment drops pertained, in particular, to the low-skilled and/or those with little professional experience (who, as already presented in part I of this document, constitute a very significant part of all the unemployed). Nearly a half of the unemployed in 2004 declared that they would take up a job for 800 up to 1 000 PLN gross per month (additionally, over 20% of people were willing to work even for less than 800 PLN gross).[112] Payment expectations of the majority of the unemployed are not very high and, in the light of the minimum wage, even their reduction (higher share of the unemployed with the reservation wages below 800 PLN) could not bring about an employment increase.

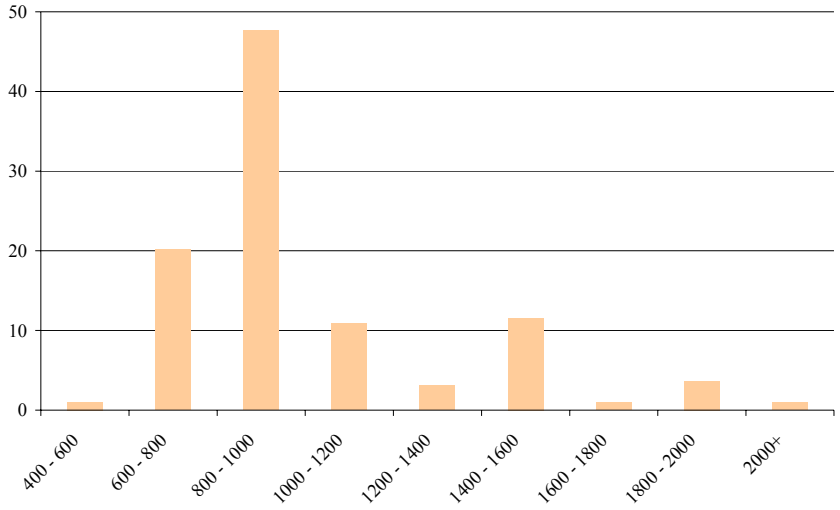
This finding shows explicitly that it is the reduction of taxes imposed on those who earn the least resulting in the reduction of labour costs that could lead to an increased demand for labour among the low-productive. With an increase in net wages, it also could lead to the increase of activity of such people, reduction of their reservation wage and, as a result, an increase in the labour supply and employment.

Identification of people with the lowest potential income as those for whom tax and social security contributions can be a barrier in the taking up of employment enforces the question about the influence of tax progression in Poland on the labour market situation. According to figures 62 and 63, Poland has a very low level of tax progression resulting from the combination of two higher PIT rates with limited basis for social security contributions.

[111] Until 2000, an increase in public expenditure occurred in the real aspect and not in comparison with the GDP. In 2000, the general government expenditures reached 41.1% of the GDP and were the lowest since 1990. In 2002-2004, they increased again up to ca. 44% of the GDP. The lack of balance in the public finance sector resulted not really from the rapid increase in expenditure but rather from the reduction of SFP revenues, in particular, as a consequence of the employment drop and lower revenue from the income tax and social security contributions. Thus, the difficult labour market situation seems to precede the bad situation of the public finance and not result from it. The role of the fiscal policy was described in part I, where it was mentioned that it potential influence on the Polish labour market after 1998 could not be significant and was not linked to the tax increase.

[112] Based on LFS. These declarations should be treated with some prudence: respondents are asked about the expected gross wage, which can result in ambiguous answers difficult to interpret (the employed and the unemployed are rather interested in net earnings and have no full awareness of the net wage level for a specific gross wage).

Figure 64. Distribution of the unemployed by monthly gross wages for which they are willing to take up a job, 2004 (% of all the unemployed)



Source: DAE MGiP calculations based on LFS

On the one hand, the lack of tax progression may positively influence educational decisions in the long term. On the other hand, imposing identical burdens on those with low and high income seems to be a bad solution from the point of view of the labour market policy because (as already shown) taxation can have a negative impact on employment of the low-productive but its influence on other participants in the labour market is very limited.[113] Thus, apart from redistributing function of taxation, it should be stated that the insufficient tax progression (too high burdens on those with lowest income) at the very beginning of the income scale when social benefits are relatively easily available and the average tax rate is high, negatively influences the labour supply and positively influences employment in the shadow economy.

Summing up, there is no evidence in favour of the hypothesis of a considerable negative impact of taxes on employment in Poland. In particular, the hypothesis of the key importance of taxes for employment drop in 1999 and in the 2001-2002 period should be considered false. However, there is evidence of some negative influence of taxes and social security contributions on perspectives of legal employment of the least productive as well as those who have lost their jobs as a result of shock changes in the Polish labour market. For that group, on the one hand, taxation (combined with the minimum wage) reduces chances for legal employment and, on the other hand, increases the reservation wages and limits economic activity via preferential taxes on benefit income alternative to labour. These disadvantageous effects are deepened because of the practical lack of tax progression at the beginning of the income scale (i.e. high burdens imposed on low income). However, other institutions and structural factors have a much greater influence on the labour supply and demand than taxes, and it is only the combined interaction of these factors with taxes on labour that has a negative impact on employment in Poland. Consequently, changes taking place only on the tax side should be supported by other reforms in the Polish labour market including, in particular, reforms limiting the scope of subsidies to leisure (social transfers for people below the retirement age) and should not be primary in relation to them.

[113] Higher taxes do not significantly influence the labour demand and labour supply of skilled workers in the long term but they reduce private consumption of such people. If, at the same time, they mainly finance social transfers acquired by the inactive, then welfare drops for the former group and increases for the latter. Thus, taxation itself is mainly of importance for redistribution.

3.2. Minimum wage

3.2.1. The role of minimum wage

Minimum wage is introduced to reduce income inequalities and to make the low-paid jobs that do not require high skills more attractive for employees. At the same time, minimum wage makes wages downwardly rigid so that the adaptation processes in the labour market becomes more difficult and labour demand and labour supply become less elastic.

Minimum wage is in force in the majority of developed countries although specific regulations vary substantially. In some EU states (Austria, Finland, Germany, Sweden, Italy and Cyprus), there is no concept of the statutory minimum wage; it is determined by way of negotiations between employers and employed within collective branch agreements. In other states (e.g. Poland) there is a single amount of the minimum wage in force in the entire country while in others (the United States, Canada, Mexico, Japan) it varies from one region to another.

It should be stressed that potential distortions caused by the introduction of the minimum wage only affect those with the lowest potential income, i.e. a relatively small group of the low-skilled and/or labour market entrants and not the entire population of those economically active. Such a distortion arises when the introduced minimum wage is higher than the equilibrium wages (i.e. where in a given group labour supply meets labour demand) and causes an excess of the labour supply over the demand for labour in a group. Another possible situation is that people in a group are so unproductive that they are unable to generate the product worth more than the minimum wage (plus employer social security contributions) and thus have no chance to find legal employment.

Empirical research on the influence of the minimum wage on the labour market situation give no explicit answer to the question about their power and direction. In general, it seems that minimum wage that is not very high constitutes no particular barrier for employment increase and have no significant influence on the distribution of wages.[114] Panel research for OECD states also shows that the level of the minimum wage has a negative impact on the employment of young people while it does not influence the employment of prime-aged people.[115]

Relatively limited importance of the minimum wage for employment results from many factors. Most important of them include: relatively small groups of people for whom that solution is significant, low flexibility of the demand for labour (also low-skilled labour) in the short term, conclusion of contracts other than the employment contract (thus omitting regulations on the minimum wage) and, finally, the possibility of existence of the monopsony mechanisms on the employers' side. There is no doubt, however, that the limited influence of minimum wage on the labour market situation results from the fact that their level is not excessively high in the majority of developed states. Of course, there are some exceptions such as France, Belgium or Holland. It is worth observing that the share of minimum wage in the average wage in the enterprise sector in Poland was equal to the average for states in our region in 2002 (see table 39).

[114] See, e.g. Card and Krueger (2000); the problem was described in more detail by Brown (1999). The research done by Card and Krueger refers to the specific labour market in New Jersey and its results cannot be simply referred to the situation in the majority of European countries where the minimum wages and the share of workers receiving minimum wages are generally higher than in the USA. According to Dolado et al. (1996), the influence of the minimum wages on employment is also low in Europe.

[115] The 10% increase in the minimum wages translates into a drop in the employment rate for people aged 15-19 by 4% and by 1% for people aged 20-25 (OECD 1998).

Table 39. **Minimum wage in selected countries in 2002**

Country	Share of those employed for the minimum wage in employment (full time)	Share of minimum wage in an average wage in the enterprise sector	Minimum wage in EURO by purchasing power parity
Belgium	X	46.4	1 161
Bulgaria	5.1	39.7	127
Czech Republic	2.0	34.0	358
Estonia	6.9	30.5	226
France	14.0	X	1 136
Greece	X	X	679
Spain	0.8	36.2	605
Holland	2.3	49.3	1 196
Ireland	2.1	50.0	856
Lithuania	8.8	38.1	252
Luxembourg	15.1	50.4	1 276
Latvia	15.4	35.2	198
Malta	3.5	53.9	752
Poland	4.0	33.0	333
Portugal	4.0	43.0	530
Romania	8.9	31.3	136
Slovakia	0.1	32.4	283
Slovenia	2.6	45.3	655
United States	1.5	34.5	826
Hungary	11.4	42.1	384
United Kingdom	1.8	34.4	960

Source: Eurostat

3.2.2. Minimum wage in Poland

According to the Constitution, the minimum wage in Poland or the method of its defining is regulated in the law. It is the Act on the minimum wage of 10. October 2002, according to which wages are defined each year by the Tripartite Commission for Socio-Economic Affairs or the government if the Commission is unable to define their value within the required time.

The minimum wage increases year on year and the increase is not lower than the inflation rate. The Act gives employers the right to reduce wages below the minimum wage for labour market entrants: it is 80% of the minimum wage for the first year of employment and 90% in the second year. This solution is to be in force only till the end of 2005.[116]

As of 1. January 2005, the minimum wage has been amounting to 849 PLN gross (ca. 619 PLN net). The share of the minimum wage in an average wage in the national economy remains within 35-37% and does not vary significantly from the share existing in other European countries. Real minimum wage increased somewhat after 2000 except for 2002, when it remained on the level from 2001 and except for 2004 when the nominal increase was slightly lower than the inflation. The nominal increase in 2005 should be closed to inflation and the minimum wage should remain unchanged.

[116] The described rules were significantly modified in the Act of 1. July 2005 amending the Act on the minimum wage. According to it, minimum wage will be increased by the inflation rate and 2/3 of the forecasted GDP growth if only the minimum wages are lower by 50% than the average wages. This solution should be considered potentially very unfavourable for the situation in the Polish labour market.

Figure 65. Minimum wage in 1997-2005

For 2005: average wage estimate based on the central government budget for 2005.
Source: DAE MGiP calculations. GUS data

In the recent years the minimum wage has been practically indexed to the price index and not to the average wage increase. Such a solution is supported by the fact that the wage increase in the economy results from a productivity increase and does not apply to all of those who work – because of that, indexing with wages, especially in a country with a high share of the low-skilled, can lead to the widening of the group of those without a chance for productive employment at a given level of the minimum wage.

Only a slight part of the employed, i.e. 4% by full time jobs in October 2002 – work for the minimum wage. At the same time, it has already been mentioned in previous parts of the Report that Poland is a country with a relatively low average level of skills, productivity and, as a consequence, wages. This impacts on the distribution of wages (figure 66). It is strongly skewed right in Poland with the mode in between 50-75% of an average wage, with the majority of employees (64.7%) earning more than the average wage and 17.4% earning less than 50% of an average wage (minimum wage in October 2002 constituted 34.1% of an average wage). Also in the LFS-based distributions of wages it is difficult to observe workers grouping around the minimum wage, however shares of those who work in lower wage ranges are slightly higher. Professional and age groups in which the share of the lowest wage is exceptionally high can also be identified. In particular, these are young people and the lower-skilled (CASE 2004a). The data presented above show that the minimum wage on the level of the entire economy on their current level is rather not a barrier for employment increase on the demand side[117] but they also suggest that, with the current economy structure, with the still relatively low productivity, the minimum wage increase can apply to a very large number of those who work and will probably influence the labour demand, especially among those without professional experience and the low-skilled.

The minimum wage influences not only the labour demand but also the labour supply. It is obvious that higher minimum wage entails an increase in the income of those who work for the minimum wage and the attractiveness of such jobs (but employment drop can be a side effect, i.e. reduced individual probability of remaining in employment or finding it). However, higher minimum wage constitutes a barrier for the low productive and those ready to take up a job for a lower wage. Figure 64 in the previous subsection indicates that about 20% of the unemployed in Poland declare readiness to work for not more than 800 PLN while another 50% are ready to work for a wage within the range from 800

[117] If it were not so, it would probably be possible to observe the grouping of wages around the minimum wages although the very fact of grouping would not constitute a sufficient proof of the significant influence of the minimum wages on employment. At the same time, it should be stressed that there is no explicit econometric verification of influence of the minimum wages on employment in Poland.

to 1000 PLN.[118] Consequently, the current minimum wage reduces the effective labour supply for about one fifth of the unemployed, at the same time making it impossible for them to exercise pressure on wages that would lead to their reduction and to an employment increase. However, if only a few percent of those who work get the minimum wage it is possible to assume that the demand for low-paid work among the least productive is lower than its supply due to structural factors which are, in fact, independent from wage expectations among the least productive. What is more, the high tax wedge for the low productive contributes to a disproportion between net wages received and the total labour cost. In such a situation, it is difficult to settle whether it is the level of minimum wage or a tax wedge that plays a greater role in the labour supply of such people.

Figure 66. Distribution of the population of full-time employed by gross wages in October 2002

Source: Wage structure by professions in October 2002. GUS

Besides, if the level of minimum wage is comparable with some social security benefits, which also guarantee a permanent and reliable income (the problem described in more detail in chapter two in this part of the Report) the attractiveness of a low-pay job is relatively low. What is more, the low purchasing power of the minimum wage (e.g. in comparison with other NMS) promotes the phenomenon of the "working poor". Thus, the minimum wage increase could seem to be a good instrument of the social policy and the labour market policy only if it did not entail an increase in costs and reduction of the demand for labour of those whom it was supposed to help. However, it seems that this is not the case in Poland where nearly 70% of the unemployed declare the reservation wage close or lower than the minimum wage. Their increase in Poland would be to the detriment of such people by making wages significantly downwardly rigid.

3.2.3. Minimum wage differentiation

As observed in previous subsections, the level of minimum wage is significant only for some groups in the labour market. In general, these are people without professional experience and/or education. However high variation of wages (and quality of human resources) from one region to another and from one sector to another can also be observed in Poland. What is more, regional labour markets differ with regard to the unemployment rate, which causes varied pressure in various parts of the country. Because of that, fixing one single minimum wage, regardless of the region, industry and age of the employee, might under specific circumstances result in serious distortions in the functioning of local labour markets.

Wages in Poland vary substantially, depending on the region of residence, which is a natural consequence of the geographically unequal economic and social development. It is also possible to

[118] Own calculations based on LFS data for 2004. Respondents mentioned gross wages for which they would be willing to take on a job.

observe on the basis of data from the level of voivodeships[119] that in 2003 the minimum wage constituted as much as 40.6% of an average wage in the Podkarpackie voivodeship and only 26.5% in the Mazowieckie voivodeship. Work experience is also of great importance for the level of the obtained wage: an average wage for those employed for up to one year was lower than the average by over 1/3 in October 2002 (GUS 2003).

Because of that, the postulate of higher differentiation of the minimum wage, in particular, by years of service and by regions – is frequently mentioned and justified.[120] However, the introduction of regional solutions is difficult, among other things, due to the fact that the variation in the labour market situation and wages in voivodeships is often higher than differences between voivodeships so that the minimum wage defined, e.g. for voivodeships would only entail the transfer of the problem to the lower level. However, the currently operative differentiation of the minimum wage by years of service is a desirable and grounded solution, and efforts should be made to maintain it also after 2005.

3.3. Trade unions and social dialogue

Wage plays a fundamental role in the balancing of labour demand and labour supply: it is the price of an important production factor and, at the same time, it constitutes the main source of income for the majority of members of the society. Because of that, the wage-setting mechanism is of interest for the employers, the employees and the unemployed. Economic theory perceives trade unions above all through their influence on wages and especially on the wage rigidity. Thanks to it, union members can take advantage of their monopolist price (Layard et al. 1991), which stimulates accession to a trade union (Naylor, Raaum 1993). An opportunity to obtain such a rent explains the usually high unionisation of the public sector (Freeman 1994). Employers also create their organization to increase their bargaining power. However, collective bargaining can take place on various levels of centralization and with a varied coordination of activities of their participants. Besides, union membership reduces the uncertainty of employment and wages variability (Agell 2000), and makes it possible to obtain additional benefits in the form of agreement concerning work conditions and working hours, holidays, etc. (Booth, Chatterji 1995). These factors should play a role also in the private sector contributing to the conclusion of collective agreements event if the influence of trade unions on wages is insignificant. Trade unions can also influence the labour law or other institutions of the labour market. However, the key question in the economic aspect is whether and how trade unions and binding principles of wage bargaining influence employment, unemployment and wage distribution in the economy.

3.3.1 International experience

Permanent increase in the unemployment rates as a consequence of the transitory shock in Western Europe[121] in the 1970s was explained with excessive pressure on the wage level resulting from the asymmetrical influence of employees being members of trade unions, non-union employees, and the unemployed on wage bargaining. This effect called the „insider-outsider" effect suggests that the greater scale of unionisation[122] implies higher wages and lower employment (Blanchard, Summers 1986). It is intensified in the event of considerable differences between the degree of unionisation and the coverage of the labour force with collective agreements concluded by trade unions because the potentially higher wages defined by trade unions and employers in such a situation are also binding for people without influence on such negotiations and unable to force down specified wage levels (Layard, Nickell 1999). The nature of relations between the activity of trade unions and labour market

119 As regards variation in wages, it is probably even greater within individual voivodeships than between voivodeships (this is the case e.g. with unemployment); unfortunately, we do not have any data concerning the level of average wages on the poviat level.

120 e.g. CASE (2004a), World Bank (2004).

121 It was an adverse supply shock, i.e. the oil shock, which involved an employment drop with consequential unemployment increase, and subsequent maintenance of unemployment on a higher level than before the shock; this continued later, even though the shock itself has disappeared.

122 Unionisation is defined as the percentage of employed being members of trade unions.

variables is tackled in the hypothesis by Calmfors and Driffil (1988), according to which the dynamics of wages is lowest within the systems with the most decentralized (taking place on the level of enterprises) or entirely centralized (covering the entire economy) wage bargaining. An intermediate and, according to the theory by Calmfors and Driffil, the worst case involves negotiations on the level of industries because the wage dynamics is highest in such a situation due to the higher than in the decentralized model power of trade unions, which, however, do not internalise external effects of the wage pressure as during decentralized negotiations. The risk of unionisation differentiation and coverage of the labour force with collective agreements is also highest in such circumstances. The inverted U-shaped curve is a synthesis of relations between macroeconomic values (unemployment, wage pressure, inflation) and the degree of centralization.

Informal settlements and principles leading to the coordination of activities and consensus among social partners also constitute an important aspect, especially for the differentiation of wages between sectors and enterprises. Centralization is usually accompanied by coordination. However, exemptions are possible.[123] The coherence of postulates and claims can also vary among trade unions and employers' organizations. Thus, two fundamentally different models of wage bargaining seem to be most advantageous in the context of support for high employment and avoidance of labour market dualism:

- **decentralized negotiations** (subject to low unionisation and low coverage of the labour force with collective agreements, i.e. in the case of weak or dispersed trade unions). The inertia of fixed wage levels is low in such a situation and there is no asymmetry between demands made by trade unions, employers' postulates and expectations or independent employed.
- **maximally coordinated and centralized negotiations**, beneficial if strong and developed trade unions and employers' organizations exist.

However, it rarely happens that one of the above-mentioned models exists in its pure form. Besides, quantification of the degree of centralization and coordination of negotiations is extremely difficult (OECD 2004) while the uniqueness of each country makes it more difficult to draw explicit conclusions from international experience. On the basis of previous studies, Aidt and Tzannatos (2002) conclude that an increase in the power of trade unions leads to negative effects for employment (increasing wages of people protected by the unions), and the importance of coverage of employed with collective agreements is higher than the importance of unionisation. However, the range of influence varied from one state to another while the effect itself is modified by varied coordination of negotiations. The influence of trade unions on the labour market also becomes evident because of interactions between the collective bargaining process and other institutions of the labour market. Belot and van Ours (2000) showed that the scale of unionisation as well as the degree of legal protection of an employee increase unemployment in case of decentralized negotiations but these effects disappear with an increase in centralization and coordination of the negotiations. Blanchard and Wolfers (2000) show that high unionisation and low coordination increase the persistence of influence of negative shocks on employment, i.e. contribute to the hysteresis. In turn, the research done by Elmeskov et al. (1998) and the European Commission (2004) suggest that negotiations on the medium level of centralization intensify the negative influence of the tax wedge and of the generosity of the benefit system.[124] Besides, higher unionisation, the extent of labour force coverage with collective agreements, centralization and coordination of wage bargaining seem to coexist in OECD states with the lower variation of wages in the economy but there are no significant relationships between these variables and the growth rate of real wages (OECD 2004). Thus, there are many models of collective bargaining and they should be assessed extremely cautiously.

[123] The most explicit example is Japan where negotiations take place mainly on the level of enterprises but their coordination is considerable. Collective agreements are concluded during the so-called spring *shunto* offensive.

[124] Measured with the replacement rate.

3.3.2. Trade unions and wage bargaining in Poland

International context

The scale of unionisation and coverage of the labour force with collective agreements diminished in the majority of developed states within the last two decades. This phenomenon is related to a change in the institutional environment of trade union and the scope of their competence (Cecchi, Lucifora, 2002) as well as with the employment shifts from industry to services, unemployment increase, individualization of the employment relationship and popularisation of forms of employment different than a fixed-term contract. The share of more strongly unionised public sector in employment also plays a significant role in the variation of unionisation from one state to another and for changes of that factor in time. Table 40 includes percentages of the power of workers belonging to unions and covered with collective agreement for selected OECD states. Countries of Western Europe have higher indicators than the four OECD members from Central Europe and the percentage of workers belonging to trade unions in Poland was very low in 2000.[125] It exceeded 40% in early 1990s (CASE 2004a)[126] so the range and speed of changes taking place in Poland are high. Labour force coverage with collective agreements was also reduced although the related data should be treated as estimates. That factor is less varied in OECD states than the unionisation rate. Higher percentage of employees covered by collective agreements in countries of Western Europe results from the more frequent conclusion of multi-employer agreements because legislative solutions related to their enlargement to other enterprises are similar. In the light of earlier discussions, the relationship between the degree of unionisation and coverage with collective agreements in Poland should be considered relatively advantageous, without negative effects resulting from monopolist benefits acquired by union members.

Table 40. percentage of employed belonging to trade unions and covered with collective agreements in selected OECD states (in percent)

	Degree of unionisation		Coverage with collective agreements	
	1990[a]	2000	1990[b]	2000
Austria	47	37	>95	>95
Czech Republic	35	33	>55	>25
Denmark	79	75	>70	>80
France	18	10	>90	>90
Spain	11	15	>70	>80
Holland	35	25	>70	>80
Japan	31	25	>20	>15
Norway	58	59	>70	>70
Poland	33	15	>70	>40
Slovakia	57	36	-	>50
United States	15	13	18	14
Sweden	80	79	>80	>90
Hungary	63	20	>45	>30
United Kingdom	39	31	>40	>30
OECD average (non-weighted)	42	34	66	60

a) For the Czech Republic, Poland, Slovakia and Hungary: data for 1995.
b) Data for the Czech Republic and Hungary come from the ILO World Labour Report 1997-8. for Poland: from Riboud et al. (2002)
Source: OECD Employment Outlook 200.4

[125] Unionisation in the analysed period was only lower in the United States, France and Spain. However, the percentage of workers covered by collective bargaining was incomparably higher in France and Spain, which is a proof of a qualitatively different model of functioning of trade unions and social dialogue in these countries.

[126] Unionisation estimations in Poland entail the risk of inaccuracy because GUS has not collected related data since early 1990s. The information comes from the reporting of the largest union headquarters but membership in unions operating on the plant level cannot be estimated in such a way. Such information can be obtained from questionnaire surveys; however, they are conducted irregularly.

It is not possible to explicitly define the degree of centralization and coordination of wage bargaining in Poland because duality is their characteristic feature. In the majority of enterprises from the private sector, they take place on the level of a plant[127]. Multi-employer agreements are infrequent and unionisation is poor. However, it is possible to observe a strong role of trade unions in the public sector where they have been conducting centralized negotiations since 1994 within the Tripartite Commission.[128] The Commission defines the wage increase ratio in the public sector but such a ratio is only a guideline whose violation is not subject to sanctions. As a result, wages in the public sector grew faster in the second half of the 1990s than implied by the indications issued by the Commission (Socha, Sztanderska 1998) and such a regularity continued in subsequent periods. However, the main role of the Tripartite Commission is to be a forum for social dialogue, which will be discussed further in this subsection.

Consequently, the dichotomy of wage bargaining in Poland leads to the parallel functioning of two patterns similar to the theoretical optimum. However, due to the nature of work done by the Tripartite Commission, it is possible to consider that the extremely decentralized model dominates. It is also evaluated so by international institutions: according to OECD (OECD 2004a), only Poland, Czech Republic, Hungary, Anglo-Saxon countries, Japan and South Korea have such a dispersed systems of negotiations. The degree of coordination in the private sector should be evaluated similarly.

Social structure of trade unions

Due to the lack of systematically collected data, it is not possible to calculate the exact number of members in trade unions within the last several years. However, there is no doubt that the range of unionisation was considerably reduced. The latest published CBOS study on that subject indicates that trade unions in Q4 2002 had 2.2-2.4 million members, which constituted 14.8% of all workers, 18.2% of all people employed in the enterprise sector and 7.5% of the population above 18 years of age (CBOS 2003). The study also shows the stabilization of the number of union members after a drop in the 1990s (CBOS 2003), (CBOS 2005). That fall continued since the beginning of the previous decade: 18% of adult Poles were members of unions in 1991, 14% in 1994 (Gardawski 2002). The largest two of the existing unions: NSZZ "Solidarnosc" and OPZZ had about 700 000 people at the end of 2002 and the next largest organization, Forum Zwiazkow Zawodowych, had about 250 000 members.[129]

The demographic structure of union organizations was varied. Only 5% of members of the NSZZ „S" and OPZZ are young people below 30 who constitute 13% in the Forum. Young people more willingly joined other unions including, in particular, plant unions, local unions and unions for representatives of specific professions. As a result, the average age of OPZZ members was 44, 43 years in NSZZ "S" and 38 and 36 years respectively in the Forum and other unions.[130]„Solidarnosc" mainly gathers men, and people with not more than vocational educational attainment dominate in its content; the structure of OPZZ and, to a lesser degree, the Forum resembles the structure of the total population of workers with regard to that aspect. An interesting thing is that union members in other organizations were better educated on the average (the share of university graduates amounted to 37.4%).

The employees of public sector are strongly overrepresented among trade unions members: 76.7% of them work in state entities, local administration of public entities, 16.2% work in mixed-capital companies and only 7.1% in private enterprises. Respective percentages for the total number of employed were: 34.4%, 18.6% and 41.8%.[131] Regardless of the type of ownership, union members were usually better educated and earned more than other employees, which constitutes a reversal of

[127] Of course, we assume that the lack of a collective agreement equals wage bargaining on the enterprise level.

[128] Currently called the Tripartite Commission for Socio-Economic Affairs.

[129] Authors of the CBOS study (2003) suggest that these are minimum estimations of the number of union members and, in fact, the number of members in NSZZ „S" and OPZZ reaches about 800.000.

[130] The average age of an employee in 2002 was 40 years.

[131] 5.2% of respondents did not state any information concerning the form of ownership of the enterprise.

the rule valid in the 1990s for the private and privatised sectors.[132] Due to a general drop in unionisation and fall in industrial employment, trade unions contain much less workpeople to the benefit of public services. Those employed in education, culture and health care constituted 39% of union members, 24.6% of union members were employed in the manufacturing and industrial services and 10.4% were employed in the transport and communication (CBOS 2003). Such a structure is directly related to the distribution of educational attainment among union members. What is more, medical practitioners, engineers and teachers are most unionised (26.7%) and over 80% of workpeople do not belong to trade unions. The highest degree of unionisation (59.8%) was observed in the mining industry, which reflects the high number of union organizations in that sector.[133] Sectors such as transport and communication (32.4%) and education (27.8%) were next. In turn, only 4.3% of those employed in the construction and 6.7% of those employed in commerce and services belonged to trade unions.[134] (CBOS 2003). If a union is active in a plant, slightly more than a half (54%) of respondents declared membership in it (CBOS 2005).

The analysis of statistics related to Polish trade unions confirms the related dualism of the market, strong concentration of the union movement in the public sector and, to a lesser degree, in privatised enterprises. One can argue that the weaker competition in a sector, and the smaller subjection to the rules of the free-market economy, the stronger the position of trade unions. It proves the correctness of the decentralized model of wage bargaining in the private sector. It also seems that employed in poorly unionised sectors can have an insufficient share in the social dialogue due to their insufficient representation in trade unions. Thus, a question arises how workers of such sectors are represented in the consultations of such important issues as the level of minimum wage or legislative drafts related to the labour market.

Importance of collective agreements in Poland

Collective agreements became more important in Poland after the regime change, when legislation concerning trade unions, employers' organizations and settlement of collective disputes were being adapted to those applied in Western Europe. The amendment of the Labour Code in 1994 increased the importance of enterprise collective agreements and made it possible to conclude supra-enterprise agreements whose task was supposed to include regulation of the content of the labour relationship except for some issues (the definition of an unlawful termination of the labour relationship and resulting rights of the parties, maternity leave and home-care leave, etc.).[135] Two years later, a possibility was introduced for the parties to establish a conciliatory commission, the catalogue of violations of employee rights was enlarged and the competences of the National Labour Inspection with regard to compliance with employee rights were clarified (Czarzasty 2002). Another important change introduced in 2001 included the possibility to suspend a collective agreement for 3 years (one year in the earlier version) with the consent of the parties to it in the view of a difficult financial situation of the employer. Collective agreements are concluded for a fixed or indefinite time period, and changes can be introduced to existing agreements in the form of additional protocols.

Since 1994, there has existed an obligation for a minister in charge of labour to register collective agreements, also those existing earlier. This is why they constituted the great majority of agreements registered in 1995. Each subsequent year was bringing about a fall in the number of newly registered collective agreements and additional protocols. That trend was only reversed in 2003: 441 plant agreements covering 174.600 employed were registered while 310 agreements were registered in 2002.[136] However, the majority of such agreements (about 70 percent in 2002-2003) were concluded

[132] However, these conclusions should be treated with caution due to the low size of the sample, which authors of the CBOS research also mention (2003).

[133] Only a half of union members in the mining industry belonged to NSZZ "S" or OPZZ.

[134] These data refer to the last quarter of 2001. Authors of the research state that there were no significant changes in that aspect, which seems to be confirmed in the research done in 2004, at least when it comes to the relation between the union membership in individual industries (CBOS 2005).

[135] These regulations including definition of such issues in the agreement were annulled with the amendment of the Labour Code in force since 2001.

[136] Reports of the Chief Labour Inspector from the operations of the National Labour Inspection (PIP) in respective years.

after the termination of previous agreements. At the same time, the entities, which were not parties to the agreement at the moment of its conclusion, tend to depart from agreements on its application and to apply instead for registration of their own plant agreements. A drop in the number of registered agreements resulted from the unwillingness of employers but it also reflected the natural process of exhaustion of the possibility to conclude them as enterprises able to take advantage of that solution introduced it in practice.

The conclusion of multi-employer collective agreements is much less frequent: as on 6. August 2004, the Minister of Economy and Labour registered 163 multi-employer collective agreements and 155 additional protocols to such agreements.[137] Besides, 46 agreements concerning the application of collective agreements in full or in part and 8 additional protocols to such agreements were registered. In total, multi-employer collective agreements cover about 800 000 persons employed by over 4 000 employers.[138] The majority of them are concluded in the public sector – only 11 such agreements have been registered beyond it before 2002. Besides, they actually copied solutions existing in plant agreements (Czarzasty 2002).[139] Multi-employer collective agreements are mainly concluded in the public sector, in particular, when it comes to agreements covering an industry.[140] Because of that, it is actually impossible to speak of wage bargaining on the multi-employer level in the private sector.

According to the Labour Code in force, a collective agreement concluded in an enterprise refers to all its employees (although it is possible to agree upon the exclusion of some of them) while multi-employer agreements can be – if an "important social interest" so requires – enlarged by a competent minister for labour issues to cover employees of an employer not covered with any multi-employer agreement and conducting the same or similar operations. However, such a situation has never taken place, which contributes to the relatively low differentiation of unionisation and coverage of the labour force with collective agreements, because there is no practice of enlargement of agreements to cover people who do no belong to trade unions, which is very popular, e.g. in Germany. Besides, branches traditionally prone to the conclusion of such agreements (as the mining industry, metallurgy or some branches of the industry) were subjected to restructuring processes as a result of which negotiations conducted by trade unions with the government in fact playing the role of an employer put much stress on the fulfilment of social expectations and compensation packs.

3.3.3. Tripartite Commission and social dialogue

The Council of Ministers adopted a governmental programme document dated 22. October 2002, titled "Principles of Social Dialogue". The document describes social dialogue as "the entirety of mutual relations between trade unions and employers' organizations" covering, in particular, "their relations (bilateral or tripartite) with state agencies such as the government and its agencies, local administrations or other state institutions" and expressed in "mechanisms of negotiations, conciliations and agreements and the settlement of collective disputes as well as communication (information exchange)". This definition provides the best reflection of relations taking place on the level of a branch dialogue, in principle, the one closest to the traditional understanding of social dialogue. This is because it directly pertains to employed as well as their employers. It concentrates on work conditions, wages, social benefits, employment restructuring policy and other issues that are of importance from the point of view of the economy and social issues. A dialogue between social partners representative

[137] As on 1 July 2005 there were 165 multi-employer agreements and 178 additional protocols respectively.

[138] MGiP data.

[139] Regulations of multi-employer agreements are mainly oriented on labour law regulations commonly in force with regard to: the conclusion and termination of the employment relationship, working hours, holidays and employee training. Plant agreements are more specific: in practice, all of them regulate remuneration rules and many of them include provisions concerning working hours. They define the framework for the conclusion of an individual employment relationship and have to at least copy the solutions of multi-employer agreements if such agreements exist. However, the majority of agreement did not regulate employment in a non-traditional form or participation of workers in the decision-making process or changes in the organizational structure of enterprises.

[140] The industry nature of some multi-employer collective agreements results from the monopolistic position of employers in these sections, in particular, it applies to those employed by railway, power industry support, state defence and aviation industry.

for branches or even for entire sectors can progress in two ways. Directly – beyond specialized dialogue institutions – as during the conclusion of multi-employer collective agreements by branch organizations of employers and trade unions, or in an institutional form: on the forum of actors of the branch social dialogue. Such a dialogue is put within a formal frame in Poland and takes place within the Tripartite Branch Teams. First such institutions have been functioning for over a decade.

Tripartite Commission for Socio-Economic Affairs

The "Pact of national entrepreneurship in the transformation process" signed in 1993 expresses the will to create a Tripartite Commission for Socio-Economic Affairs to be a platform for the working out of a common position on directions and instruments of the social-economic policy of the state. Thus, the Tripartite Commission was established in 1994 by way of a resolution by the Council of Ministers. From the very beginning, the legal basis for the activity of the Commission in the form of a resolution by the Council of Ministers has been treated as a temporary regulation valid until the adoption of an Act. In 2002, the "Principles of Social Dialogue" stressed the special role the Tripartite Commission for Socio-Economic Affairs played in the governmental policy. The granting of the legal basis to the Tripartite Commission became advisable with the introduction of the rule in a new Constitution, stating the dialogue and cooperation between social partners constitute the basis of the economic regime in Poland. Legal regulation of its functioning, enables the Commission to execute rights and competences within the legal-regime order, a wide range of activity of the Commission and its task teams and a widespread legal possibility to include issues of great social or economic importance to the agenda if their settlement is important for the maintenance of social peace, the progress of social dialogue on the central (national) level with representative union and employer organizations.

According to the 2001 act, the Tripartite Commission for Socio-Economic Affairs constitutes a forum for social dialogue conducted to reconcile interests of the employees, employers and commonwealth. The goal of activities pursued by the Commission is to attain and retain social peace. Its competences include:

- conducting of social dialogue concerning wages and social benefits as well as other important social or economic issues submitted by one of the parties if it considers their settlement important for the maintenance of social peace;
- participation in the work on the draft central government budget;
- definition of the maximum annual growth rate of an average monthly wage for entrepreneurs and estimated growth rates of an average monthly wage in subsequent quarters of a year to an average monthly wage from the preceding year;
- quarterly evaluations of the growth of average wages in entrepreneurs' businesses;
- potential applications to entrepreneurs and trade unions concerning discipline of the wage policy (based on evaluations and information), potential application to an owner or establishing agency for an audit of financial governance of an entrepreneur;
- reconciling levels of average annual wage growth ratios for the state budget area for the following year;
- reconciling levels of minimum wage for the following year;
- reconciling the pension indexation ratio for the following year.

Besides, the employees' party and the employers' party in the Commission can conclude multi-employer collective agreement covering all employers within the organizations represented in the Commission or a group of these employers and persons employed by such employers, as well as agreements defining mutual obligations of these parties. The Act on the Tripartite Commission for Socio-Economic Affairs also provides for a possibility to create voivodeship social dialogue commissions.

Apart from topics resulting from the competences of the Tripartite Commission for Socio-Economic Affairs – most frequently on the request of social partners – most significant current socio-economic issues are discussed during plenary meetings. Within the last few years, they were concerned, among others, with the restructuring programme for the hard coal mining in Poland in 2003-2006. The

programme of alleviation of employment restructuring consequences in the hard coal mining industry suggested systematic solutions in health care, the issue of Polish Railways (PKP) financing and the situation in the shipbuilding industry. The government presented the economic programme for 2002-2005. documents: "Economic Strategy of Poland: Entrepreneurship – Development – Labour", "Programme for Restoration of Poland's Finances", and the "Programme of Rationalisation and Reduction of Public Expenditure". In the light of intensifying employee problems, members of the Tripartite Commission adopted, among others, a position concerning the protection of employees' rights to wages. In early 2003, the government presented the initiative on the negotiations of the "Pact for Labour and Development" within the Commission but, after the presidium of the Commission adopted programme-organizational assumptions of the pact, NSZZ "Solidarnosc" representatives withdrew their support of that initiative.

In the same year, the Tripartite Commission began negotiations related to most important issues of the socio-economic policy. In particular, they included:

- increased freedom of economic activity;
- general government restoration
- methods of reduction of tax burdens to increase the investment and consumer demand;
- rules of privatisation, which should contribute to the development of a modern economy structure, to the creation of effective jobs and should also consider employees' interests in privatised enterprises;
- the range, scope and method of provision of aid by the state (public aid) to entrepreneurs;
- the scope of marketisation of public services;
- wage-setting mechanism in the public sector, public services and in the enterprise sector;
- labour law, including the role of collective agreements and laws regulating the conclusion of permanent and fixed-term contracts.

As a result of the work done by the Task Teams of the Tripartite Commission, the following agreements have been reached, among others: on the draft act amending the Act on retirement and disability pensions from the Social Insurance Fund; on the assumptions of the Act on the freedom of economic activity; on the results of the work done by the team for the labour law and collective agreements; on the draft act on individual pension accounts; Act on employee pension programmes; and on the Act on employment promotion and labour market institutions.

Issues related to the labour market are within the direct competence of the Task Team of the Tripartite Commission for economic policy and the labour market. Among its other duties, the Task Team performs analytical work and evaluation of activities related to the labour market concerning unemployment prevention and the negative consequences of unemployment, periodical evaluation of effectiveness of the tools used so far, institutions and programmes of the labour market policy using the previously defined ratios.[141]

[141] Including unemployment, employment, economic activity, professional skills and adaptation of workers with particular stress on the situation of groups in the worse position in the labour market.

Tripartite Branch Teams

The reason underlying the establishment of Tripartite Branch Teams was the need to work out a model for the making of socio-economic decisions considering varied interests of social partners in restructured branches (sectors) of the Polish economy existing in new political and economic conditions emerging in early 1990s. The process of transformation of the Polish economy, in particular, the need to conduct privatisation processes in large state enterprises, had a fundamental influence on the labour market and social issues. The need to change the ownership structure in key sectors of the economy entailed employment rationalization. These processes would have no chance to succeed without an agreement between partners representing parties to social dialogue. Their consent concerning the conditions of structural changes could only be achieved with the guarantee of the possibly most effective social protection of employed.

The need to systematize and formalize as well as streamline the activities of Tripartite Branch Teams with the use of social dialogue principles became visible in the end of 2001 and in the beginning of 2002. There also appeared a concept of transformation of previously independent TBT into Task Teams of the Tripartite Commission for Socio-Economic Affairs. Such a solution was supposed to bring about a legal validation and improve functional possibilities. In the light of an objection by representatives of trade unions and a change of the previous status of TBT, it has been decided that teams would operate as parallel to the Tripartite Commission, remaining the main, organizationally independent forum for the national branch dialogue.

In the course of a few years' long activities of teams, agreements in specific branches were concerned with key direction documents including, among others: The Miners' Social Pact, Metallurgy Social Pact, Agreement concerning Terms of Social Protection of the Iron and Steel Metallurgy Restructuring Process, Iron and Steel Metallurgy Restructuring Process in Poland – 1998 and the 2001 Update, Annex to the Restructuring Programme for the Defence Industry and Support for Technical Modernization of Armed Forces of the RP (Employment Restructuring), Polish Coke Industry Restructuring Programme, Coke Social Pack, Strategy for the Light Industry for 2000–2005 and the Polish Sulphur Mining and Manufacturing Restructuring Programme.

The above-mentioned documents negotiated or consulted in the tripartite arrangement doubtlessly constitute an achievement of the Polish sectoral dialogue regardless of subsequent modifications of these programmes. The most important thing is that they were and still are created as a result of a consensus between the parties. The dialogue continues but its effects are not fully satisfactory for the parties despite the intense and arduous work on the achievement of joint resolutions because sometimes the government fails to realize the reached agreements and obligations imposed on it in full. There is also a trend observed on the governmental side to keep on shifting the tasks between government agencies or, on the agency level, from one organizational entity to another.

Social dialogue within Tripartite Branch Teams – along with the activities of the Tripartite Commission for Socio-Economic Affairs and regional dialogue in voivodeship social dialogue commissions – is an equal and parallel form of dialogue. When observing previous experience of the European Union, it is possible to see a very dynamic development of branch structures reflected in about 30 already existing EU sectoral committees. Polish social partners joining their work have to establish similar platforms for dialogue and agreement on the national level.

After Poland's accession to the European Union, there appeared some issues determining the new reality of the social dialogue in Poland and both social partners and the government had to face that reality. EU accession entails, firstly, a very rigorous policy related to state aid for enterprises. In practice, it is the end of support for individual sectors from the state budget, at least on the previous scale and in the previous scope. Secondly, one should mention the principal structural, historical and cultural issues that make the Polish branch dialogue different from the European sectoral dialogue as well as from the dialogue taking place in individual countries of the European Union (EU15).

4. Legal regulations of the labour market and its functioning

4.1. What is the labour law flexibility?

The present subsection is dedicated to the analysis of the impact that legal regulations of the employment relationship have on the Polish labour market at present. Despite the popular belief, identification of the labour law flexibility with the labour market elasticity is a far fetched simplification. These relationships are very complex, and to understand their true nature is especially important to define the role of the regulatory and deregulatory actions in the labour market policy. Equally important is to understand the relationship between these actions and the labour market institutional characteristics.

The main rationale behind the introduction of the legal regulation of employment is to minimise the employees' insecurity concerning keeping the job and receiving wage, as well as to protect them against possible abuses by the employer. Labour law regulates labour relations in two basic areas, differed in the strength of employer-employee bond. The first area concerns the regular contracts, the other – fixed-term contracts and temporary work. Measures concerning regular contracts regulate primarily the duty of severance pay, the notice period, consultations, or third-party approval (representation of workers, public bodies, etc.), as well as they include the obligation of providing the causes for the termination of an employment relationship. In reference to fixed-term contracts, part-time and temporary employment these measures can concern also the acceptability of such contract, the number of its admissible renewals and its maximum duration. Additional requirements concerning collective dismissals have a special place in the labour law.

To analyze the impact of the legal protection of workers on the labour market in the categories of employment and unemployment, it is necessary to quantify these measures. The labour market flexibility is usually understood as a capability for fast adaptation to the changes induced by exogenous shocks. The scope of the legal provisions should minimally disturb the mechanism of achieving the market equilibrium – the mutual adjustment of the labour demand and supply. In economy, transmission of the market impulses occurs either through an adjustment of the price of a good, or through an adjustment of the supplied amount of it. Thus the labour law provisions influence the employment and unemployment level either through their impact on the labour costs, or by modifying the market adjustment of the labour supply and demand.

Solutions increasing worker's sense of security and reliability of his/her work place involve a certain cost for both sides of the employment contract and they reduce the freedom to shape the employment relationship, what leads to market distortions. Therefore, the labour law flexibility measures are usually derivatives of the hiring and dismissal costs, the scale of the allowed freedom concerning the work and working-time arrangements, as well as the number of legally accepted forms of employment. The flexible labour law is characterized by simplicity and low costs of contracting and shaping the employment relationship, and also by the multiplicity of the legally accepted forms of employment, what makes the most suitable match of the contract between the employer and employee. The measure of the labour law flexibility most often used in empirical studies is the Employment Protection Legislation (EPL) indicators elaborated by OECD. It is presented in Box 15.

Box 15. EPL index

The most widely used criterion to measure labour market regulations is the EPL index (Employment Protection Legislation), prepared by OECD. There are also other measures, prepared by the World Bank for the purposes of specific studies, but OECD index is the most complex attempt to measure the labour law flexibility that allows for international comparisons. It is calculated for all of the OECD member states and it is presented as a time-series starting in the 1980s. The indicators include both dimensions of the labour law flexibility, i.e. the degree, to which employment relationship is regulated, and the variety of forms of such regulation. It is two-stage procedure: the solutions related to the rules of hiring, firing, and employment possibilities are evaluated separately for different types of employment contracts, and then the summary indicators are computed, considering also the collective dismissals. The weight attributed to individual components differs: permanent regular contracts, fixed-term contracts, and temporary work were assigned 40% of weight, and collective dismissals – 20% (a detailed discussion of the methodology can be found in Employment Outlook 2004 (OECD 2004a)). Three components valued from 0 to 6 are constructed on the basis of the measurable values (such as the notice period) and the measures attributed to the qualitative features (such as burdensomeness of the formal procedures). The value range of the synthetic index is the same. A higher value equals a stricter regulation.

A component **related to permanent contracts** focuses on individual dismissal protection and the included aspects are divided in the following groups:

- Procedural inconvenience resulting from the formal requirements related to the process of dismissal,
- Duration of the notice period and the amount of the severance pay due to dismissed worker,
- Acceptable reasons for dismissal and unjustified dismissal procedures.

Joining the factors defining the degree of permanent contracts regulation in the above-mentioned groups allows finding these labour law elements, which have the greatest impact on the requirements towards employers in a given country. It reflects the idea of how the postulate of increasing the indefinite period employment security should be put into effect. The indicators disregard the requirements of undertaking employment, because its aim is to measure the dismissal protection.

The evaluation of the untypical contracts regulations, i.e. **fixed-term contracts and temporary contracts**, is the second evaluation of the synthetic index. Maximum number of successive renewals, maximum accumulated duration, and the types of work for which temporary employment is legal constitute the quantification criteria of the degree of contract regulation. The process of worker dismissal is disregarded, and this is the main criterion in the case of traditional contracts. Such methodology was dictated by construction of law in the OECD countries – such a contract very often can be concluded only in strictly defined cases, its duration and repeatability are limited, and the notice periods are usually very short, if they are provided for at all. The authors of the index focused thus on the most important aspects concerning the fixed-term contracts and temporary work, which can reflect their essence and rationale for conclusion.

Since the end of the 1990s, the indicators also include **additional regulations, which concern collective dismissals** and which differentiate them from individual dismissals. The evaluation is performed on the basis of:

- definition of collective dismissals, a threshold defining the dismissal as collective, accompanying procedures;
- requirements of informing and getting the approval of a third party;
- minimum period of notice of dismissal;
- additional employer costs (resulting from the need to pay the severances, negotiating dismissals with employer organizations, elaboration of social programmes for dismissed employees).

4.2. Labour law flexibility and situation on the labour market – experience of the OECD

4.2.1. Labour law flexibility and short-term labour market adjustment

The labour supply is characterized by a certain stability, and it changes primarily in the long-term under influence of demographic and civilisational factors, whereas the labour demand can shift, especially in a short-term. Legal labour market regulations are one of the factors determining a free adjustment of the level of employment to the labour demand. Flexible regulations, enabling employment in various forms and charging the employers with low employment and dismissal costs, help the entrepreneurs to manage human resources in the short-term. When the labour demand grows, especially if this growth is perceived as temporary, it is important to have a possibility of employment in other form than the traditional one, it is also important to be able to freely organize work and working-time. In a contrary situation, flexible labour law allows for employment decrease without constraining the employer to meet significant additional expenses, what on one hand increases the risk of job loss, on the other – it facilitates the absorption of disturbances by the economy, thus potentially shortening the time needed to come out of the recession. The lower degree of regulations is related to a more intense fluctuations of employment and higher labour market flows, and they concern in the first place the workers employed on other than regular contracts.

More regulated labour law means higher dismissal and hiring costs, and thus these processes are less intense. As a result, the threat implying that job loss would not be a short-term event increases. Higher degree of legal regulations causes the extensions of unemployment spells and growth of the long-term unemployment rate. Labour law is thus, together with structural factors, one of the institutional determinants of the average unemployment spell. Joblessness leads to depreciation of the accumulated human capital, since a part of the skills can be acquired only at the work place. Moreover, there is a possibility of stigmatization of the long-term unemployed people in the eyes of employers, who might perceive them as incapable of productive work. In consequence, the barriers lowering the short-term intensity of labour market transition can potentially produce changes of structural unemployment, especially its increase, in a mid- and long-term. Highly regulated law contributes to exclusion of some individuals from the labour market, and therefore it enables short-term fluctuations of the labour demand to extend to a long-term, because the divergence between the labour demand and the quality and structure of the labour supply grows, what may cause the temporary disturbances not to disappear as the time horizon extends.

4.2.2. Labour law flexibility and the employment and unemployment level in a long-term.

The analysis of the relation between the EPL index and employment and unemployment in the OECD countries shows that in the 1990s it was adversely correlated with the level of economic activity and with the employment rate. At the same time the correlation with the structural unemployment rates was positive, but statistically insignificant. In other words, the higher regulation level was correlated with the lower employment rate, and the correlation with the unemployment rate was ambiguous. The situation in the CEE countries was different; here the correlation of EPL with employment and activity was positive (Cazes, Nesporova 2003). These discrepancies are also proved by the ambiguity of the empirical results provided in many studies researching the influence of the labour law flexibility on its basic measures, i.e. employment and unemployment levels. Some of the studies indicate the adverse impact of the regulations on the employment or a positive one on unemployment in the long-term; others concluded that these variables were irrelevant.[142] Considering the lack of consensus, it should be assumed that there is no unambiguous, unquestionable relationship between the degree of the labour law provisions and employment and unemployment in the long-term. The literature on this subject presents however a relative consensus that other institutional factors, as e.g. relative position of trade unions (Belot, van Ours 2000) modify the strength with which labour law flexibility influences unemployment and employment, causing such a statistically measurable relationship eventually to occur (e.g. the degree of the legal provisions increases unemployment if the negotiating position of the

[142] The overview of the conclusions from empirical studies on the influence that a degree of the labour market regulation has on its basic aggregates can be found in Employment Outlook 2004 (OECD 2004a)

trade unions is strong, but it is irrelevant for the unemployment level if this position is weak). It turns out that the degree of legal regulation of the labour market can influence it differently in different countries, depending on the overall institutional background of this market.

Table 41 presents basic differences between the impact of labour law flexibility in the short- and long-term. It should be kept in mind that the impact on employment does not necessarily go together with influence on unemployment, and international experiences have shown that in individual cases the outcomes of the increase of labour law flexibility can differ.

Table 41. Labour law flexibility and employment and unemployment in the short-term.

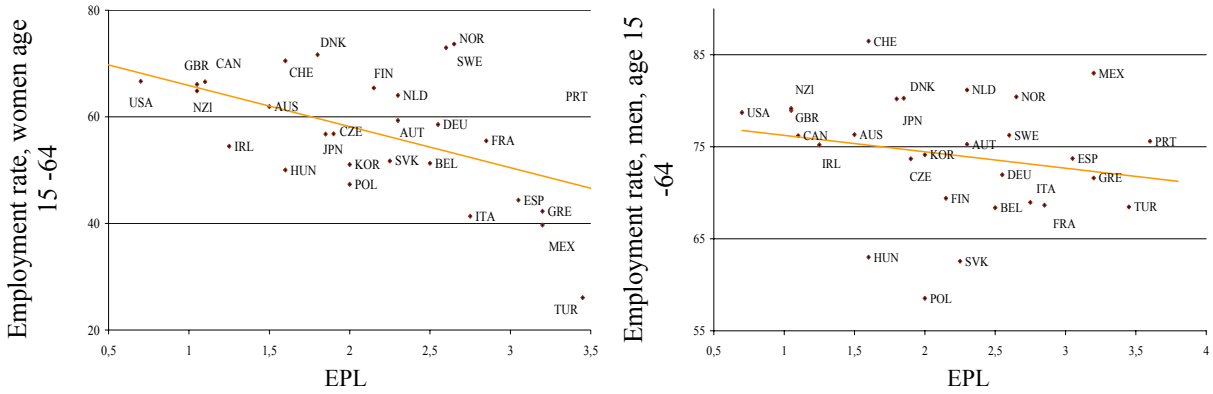
	Short-term	Long-term
Impact on unemployment level	Low costs of dismissal and hiring can lead to a more rapid absorption of shocks in labour demand.	Higher flexibility has no impact on a general level of unemployment, but it reduces potentially the long-term unemployment.
Impact on employment level	Flexible labour law makes it easier to adjust to labour demand, thus it leads to a greater variability of employment, if the adjustments occur through hiring and layoffs of workers, or to a greater fluctuations of the working hours of the individual workers, if the adjustments occur through changes in the organization of work.	Flexible labour law can be related to a higher employment if it boosts the economic activity causing people weakly linked to the labour market (women, studying individuals) to enter it. The impact is very much dependent on other labour market institutions (as trade unions).

Source: DAE MGiP

4.2.3. Labour law flexibility and the structure of employment and unemployment in the long-term

Contrary to the question of general levels of unemployment and employment, the literature of the subject is much more conclusive that legal protection of employment relationship modifies significantly the relative situation on the labour market of various groups, differentiated by sex, age, or education. Especially the regulations measured by EPL index raise the employment rate of men aged 24-55, and reduce the employment rate for women aged 24-55 and for people under 25 (OECD 2002, OECD 2004a). In other words, a higher protection of workers brings benefits mainly for individuals traditionally employed on regular contracts (men aged 24-55), at the expense of the groups with a weaker position. The labour law influences thus primarily the structure of employment, and only then – its level, using the developed structure, in the presence of other institutional conditions. The impact on unemployment is very similar, through the influence on the long-term unemployment.

Figure 67. Employment rate for women (left) and men aged 15-64 and the EPL index; averages for 1999-2003, correlation coefficient –0.52 and –0.21, respectively



Source: OECD data

An important, empirically proved, regularity occurring between the labour law flexibility and the employment and unemployment structure is the correlation between the degree to which different employment forms are regulated and so called duality of the labour market, i.e. differentiation of the position of the people employed on regular contracts and those employed in a non-traditional way. In the situation where the traditional employment relations are strongly regulated, and it is easy to conclude fix-term contracts, there arise two sub-markets on the labour market, which are to a large extent separated, and thus differentiating the position of the people involved. A telling example of the

labour market duality is Spain, where the deregulation of the fixed-term contracts and the temporary work in the mid-1980s led to an increase in employment relying on non-traditional forms, with the simultaneous neutral impact on unemployment rate and minimal general increase of employment (Dolado et al. 2002).

In the second half of 1980s, in Spain, together with the rising popularity of fixed-term contracts, the intensity of transitions in the labour market increased, the most – within employment itself. Despite the increased transitions from and to unemployment, the frequent changes of jobs by the employees with fixed-term contracts became a job-search obstacle for the unemployed. Thus, the decrease in unemployment turned out to be minimal and temporary. Higher intensity of transitions resulted however in the decrease in the long-term unemployment rate and the increase of the frictional unemployment component. In 1986, the unemployed left without work for more than a year amounted to 67% of the total unemployment, and in 1992 this share amounted to 47%. Because the active labour market policies were not used in Spain, this shift is thus believed to be a consequence of the introduction of the fixed-term contracts. Moreover, the recession of the beginning of the 1990s and the unemployment rate growth from 13% in 1991 to 19.8% in 1994 was accompanied by an only small increase in the long-term unemployment rate: from 48% to 53%. The Spanish case illustrates an increase in transitions and a decrease in the long-term unemployment, accompanied by the minimal changes in unemployment, related to a partial deregulation of the laws of the labour market.

In the microeconomic scale, there was an evident decrease in the average work experience with one employer. Since the situation of the workers employed on regular contracts has not changed, this effect illustrates more frequent job changes by the workers employed on fixed-term contracts. Moreover, when controlling for age, education and other characteristics, the difference in wages in favour of the workers employed on regular contracts amounted to 10-15% in case of men, and 7% in case of women. The dispersion of wage distribution increased, especially among workers with tertiary education. Fixed-term contracts can be a repetitive form of employment or an intermediary stage leading to traditional employment. At the beginning, the contract conversion rate was high, but in 1996 only 5% fixed-term contracts would change in regular contracts. The increase of employment on fixed-term contracts is characterized by a low productivity, which in the years of boom 1986-1990 amounted only to 1%.

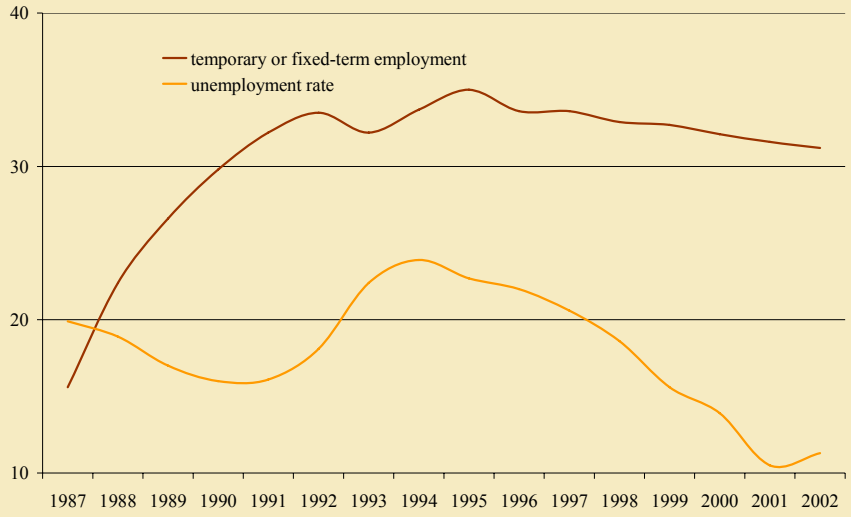
The Spanish case, and also the experiences of other OECD countries indicate that more regulations of the fixed-term contracts lower the intensity of transition from the employment based on non-traditional contracts to employment on regular contracts. The difference of the degree of regulation of fixed-term employment and the degree of regulation of temporary work is positively correlated with the changes in the proportion of fixed-term or temporary workers (OECD 2004a). Especially important is the impact of this difference on the temporary employment of the young and low-educated people, what shows that such contracts are a way of keeping these groups in touch with the labour market, but they do not constitute the first step towards regular employment (OECD 2004a).

Box 16. Duality of the labour market – Spanish case

Spain is the country where the liberalization of the labour law occurred only in reference to the non-traditional forms of employment. In 1984, the unemployment rate reached 20.1%, what made the government facilitate fixed-term contracts, by lowering the dismissal costs. The percentage of the fixed-term workers rapidly grew to 30% and remained at that level (see the graph below), regardless of the changes undertaken in the 1990s aiming at lowering the social security contributions costs of the regular employment, as well as at limiting the range of jobs, where fixed-term contracts are acceptable. In the discussed period, fixed-term contracts, together with other untypical forms of employment relationship (temporary work, trial period) constituted 90% of newly undertaken employment, and the average duration of employment decreased.

In a less than a decade Spain transformed from a country with strongly regulated labour market with high dismissal costs and strong trade unions, into a country with a dual labour market, where the employees on fixed-term contracts (approx. 68% of the total) were strongly protected against the dismissal by the law and by the position of the trade unions, and the temporary workers (approx. 32% of the total) experienced intense flows between jobs, low average employment period, and they were worse paid. At the same time, the unemployment rate remained high, decreasing on the threshold of the 1990s to 13%, later on reaching up to 19.8% in 1994. In the 1980s fixed-term contracts increased rapidly, but the traditional employment even decreased. The later decrease in the unemployment rate was not accompanied by a decrease in the percentage of fixed-term workers. Therefore, Spain is a telling case of the duality of the labour market, and the percentage of fixed-term workers is double of the EU average. Fixed-term employment concerns primarily the young (70% of all employed under 25) and women.

Figure 68. Unemployment rate (in percent) and the share of fixed-term/temporary workers in total employment – Spain, 1987-2002



Source: OECD data

4.2.4. Conclusions

Labour law flexibility can influence the functioning of the labour market in the short- and long-term. In the short-term, the most important are the adjustments levelling the disequilibrium of the labour market, i.e. wage and employment reactions to the differences in labour demand and supply. Legal regulations can increase or decrease the pace of these adjustments, and in consequence – shorten or extend the time needed by economy to fill the employment gaps after a short, temporary shock causing the employment to decrease and unemployment to increase.

In a longer term, from several years to over a decade, labour market is primarily shaped by its structural and institutional features (human capital quality, employment services efficiency, labour taxation), which are discussed in other parts of the Report. Influence of the labour market regulations is less important for such categories as structural unemployment and employment levels, but it is more important for a relative position of different groups on the labour market.

The influence of regulation on the employment structure and relative position of different groups is also very important. Restrictive worker protection makes hiring and firing much more expensive, thus they occur less frequently. The average period of joblessness becomes longer, the number of long-term unemployed increases, and the dynamics of flows between employment, unemployment and inactivity decreases. The disproportion between the position and negotiating strength of the labour market insiders, employed on regular contracts and covered by legal protection, and the ones of the outsiders, i.e. unemployed or working on temporary contracts (FTC, TWA), or working part-time increases. As a result, so called duality of the labour market occurs and it is characterized by differentiation of the conditions, wages and employment security between these two groups of workers.

4.3. Polish labour law flexibility in comparison with other OECD countries – present situation and changes in 2001-2004

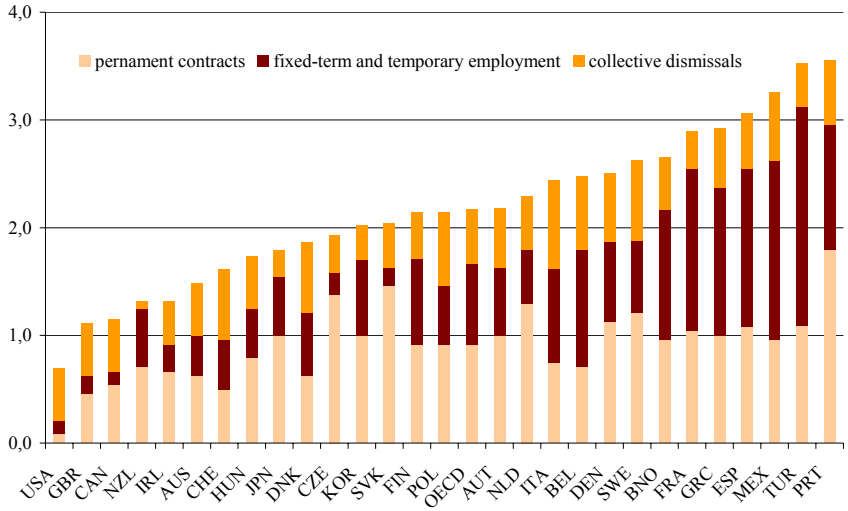
4.3.1. General evaluation of the Polish labour law flexibility in comparison with other OECD countries.

Variation of the EPL index in 2003 for OECD countries is quite substantial; after taking into account collective dismissals, it oscillates from 0.7 in the US, to 3.5 in Portugal and Turkey, and from 0.2 in the US to 3.7 in Portugal in a narrower version of the indicator.[143] The lowest degree of the labour law provisions can be observed in Anglo-Saxon countries. On the other hand, in the majority of other EU15 (apart from Denmark) the index value is higher than the mean, and the highest are in the South European countries. Poland, similarly to Hungary, The Czech Republic and Slovakia, is in the middle of the cross- country scale.

It is worth stressing that in the end of the 1990s the Czech Republic and Slovakia demonstrated a higher degree of the labour law provisions than Poland, but in 2003 the situation was reversed. It resulted from the increase of the index for Poland and its decrease in the case of the Czech Republic and Slovakia. It should be however observed that a relatively higher level of the EPL index in Poland in 2003 than in other countries of the region is a consequence of stricter regulations of collective dismissals. Without considering this component of the index, the degree of Polish labour law regulation is lower than in the Czech Republic and in Slovakia. The lowest index in the region is in Hungary. Both in 1999 and in 2003, the EPL index values for Poland were lower than the mean OECD values. A more detailed breakdown of the EPL index for Poland, together with reference of its components to the mean values of the OECD countries is to be found in Annex 7.

[143] Index prepared by OECD takes values between 0 and 6, the higher value, the higher worker protection degree.

Figure 69. EPL index for OECD in 2003



Source: OECD data

4.3.2. Traditional contracts – employment on regular contracts

Since the end of 1990s, the Polish index of the protection against dismissal of individual worker employed on permanent contract has been on the average OECD level. It should be noted that the variation of this index in the vast majority of OECD countries is relatively limited, although the level of regulation in Anglo-Saxon countries (especially in the US) is much lower than in other member states. Moreover, in 1999-2003, an important deregulation in this respect was put into effect only in Austria, and all the countries, which experienced (a minimal) decrease in the discussed component of EPL index, still have a higher degree of the protection against dismissal of individual worker employed on regular contract than Poland. Thus it is plausible to think that the legislative solutions concerning this question are either believed to be adequate, and thus they are not reformed, or, in some countries, the social acceptance for the deregulation of the traditional labour relations is limited, because these regulations are seen as necessary guarantees of employment protection. In case of Poland however, it can be plausibly believed that relatively limited EPL index in the area of regular contracts is a sufficient substantial issue for which there has been no need to introduce so deep deregulatory changes in the area of hiring and firing costs in Poland. A number of changes in the recent years concerned mostly work and working-time arrangements.

4.3.3. Non traditional contracts –fixed-term contracts (FTC) and temporary work agency (TWA)

The labour law changes taking place in the recent years in the OECD countries concerned mostly the fixed-term work. Poland was no exception, as one of six countries (with New Zealand, Ireland, Hungary, and Spain), where this component of EPL index increased. However, since all these countries (including Poland), with the exception of Spain,[144] have the much lower indicator value than the average of 1.8, and the degree of regulation of the fixed-term contracts and temporary work decreased in many countries by the index values above the mean, we should be talking primarily about convergence of the legal provisions within the OECD.

The degree of regulation of the non-traditional labour relations depends on the provisions concerning fixed-term contracts and temporary work. In the first area in 2003, Polish solutions would limit the least the liberty of the respective contract formation among the OECD countries, what was a consequence of their flexibilization in 2002. On the other hand, regulation of the temporary work became stricter in Poland in 2000-2003, and the indicator which describes it increased from 0.5 (the lowest possible value of the indicator) to 2.5. Poland is the only country, apart from New Zealand,

[144] High level of the provisions concerning FTC and TWA in Spain is a result of the changes initiated in the 1990s, which aimed at levelling of the described earlier duality of the labour market.

where this indicator increased, and in a number of countries the scale of temporary work was limited, what cause the average level of this measure to decrease.

4.3.4. Collective dismissals

According to the OECD criteria, solutions concerning collective dismissals in Poland did not change in 1999-2003, however, some kind of revision of standards was introduced. It should be stressed that EPL index in this area takes into account additional requirements accompanying collective dismissals. In 2003, for Poland, it amounted to 4.1, the same as in 1999, what exceeded the OECD mean of 3.0. This indicator was higher only in Sweden and in Italy, but it was much lower in other CEE countries. All the measures of the index are above the mean, and especially the evaluation of the additional costs incurred by employer in case of collective dismissals, the related severance payments and consultation with employee representatives. In consequence, the collective dismissals considerably inflate the general level of the EPL index in Poland, influencing the overall assessment of the labour law flexibility.

4.4. Changes of the Polish labour law in 2001-2004

4.4.1. The most important amendments of the labour law in 2001-2004

Deterioration of the labour market situation in the end of the last decade evoked a heated discussion about labour law provisions. Harmonization of Polish law with the EU legislation enhanced the need of change. Many changes occurred especially in 2002-2004, when the code amendments were introduced and there was a number of changes in other acts. The whole process of elaboration of individual proposals took place with an active collaboration of the social partners, both from trade unions as from employers' associations. The most important amendments in the area of the labour law in that period were as follows:

- amendment of the Labour Code of 2001, introducing among others the institution of worker representation and making it possible to suspend for three years the collective agreements if the employer is in a difficult financial position,
- amendment of the Labour Code in 2002,
- amendment of the Labour Code in 2003, entering in force on 1. January 2004,
- the Act on special conditions of terminating the labour relationship with the workers, for the reasons unrelated to the workers, from 2003, reforming entirely collective dismissals,
- Act on employment of temporary workers, being the first attempt to regulate this area.

The aspects taken into account by OECD while computing the EPL index are presented in the further part of the text, what allows for observation of changes and the comparison with other countries. In the Box 17, other provisions of the Labour Code amendment were placed, the ones concerning to a lesser extent the costs of hiring and firing, but which influence the functioning of the enterprise organization and human resources management. It should be observed that especially in the case of work and work-time arrangement, there have been a very strong relief in terms of solutions, and ceding of the decisions to the level of negotiations between the sides of the employment relationship.

4.4.2. Regular contracts

The relatively flexible system of organization of work is the main factor differentiating Poland from other OECD countries. This flexibility is a result of adjustability of working hours to the actual needs by utilizing cheaper extra hours, irregular working hours, modified working week, longer pay periods, and also looking for other than traditional form of employment. In 2002, amendment of the Labour Code significantly extended the possibilities to shape working hours and forms of employment, depending on the employer and employee needs. It seems thus that the opinions formulated by some commentators claiming Polish labour law to be inflexible are uniformed, and the person speaking do not know Polish labour provisions very well.

What is also specific for Poland, when compared to other OECD countries, is the fairly easy dismissal procedure – lacking skills or economic factors constitute the justified reason for dismissal, and the definition of the unjustified dismissal covers very narrow range of reasons. Also the relatively short average notice period and lacking severance payments if the termination of employment is caused by the employee[145] both demonstrate flexibility of dismissal process in Poland, also in comparison with the current provisions in the Czech Republic and Hungary.[146] The requirement of three-month notice period, if the worker was employed for at least 3 years, of one-month notice period, if the worker was employed for at least 6 months, and two-weeks, if the s/he was employed for less than 6 months, is not restrictive when compared to other OECD countries. However, its construction is different, therefore, the notice period of a worker employed, e.g., for 4 years is relatively high when compared to OECD countries, but for the worker employed e.g. for 10 or more years, this period is shorter than in many countries, especially the EU member states (Belgium, Denmark, Finland, Greece, Germany, Sweden), where it often amounts to 6 (Denmark, Sweden) or even 15 months (Belgium, Greece). At the beginning of 2004, the workers dismissed with a notice period shorter than two weeks, i.e. the ones with employment record shorter than 6 months or employed on fixed-term contract, were excluded from the option of job-search release, what also lowers the layoff costs. An important aspect of the worker protection is that it is impossible to dismiss a worker, who needs not more than four years to reach the retirement age, if the employment period guarantees him the retirement pension when reaching this age. This period was extended in 2004, before it was 2 years. This provision increases the employer risk related to employment of the concerned individuals, and it is one of the few measures introduced in the recent years, which increases the labour costs.

Relatively high procedural inconveniences constitute another factor increasing the costs of dissolving the regular contract. They arise from the necessity to inform third parties (if there is trade union organization in a given company) and the time needed to arrange all the formalities of dismissal – the trade union can submit its reservations within 5 days. Amendment of the Labour Code of 2002 shortened the dismissal period by eliminating the requirement of consulting with national trade union organization the reservations, which were not considered. A number of provisions protecting workers against discrimination on the side of employers were also introduced; employers were made responsible for providing the evidence when accused by the worker. Application of these provisions can make human resources management more difficult. When comparing the Polish case, according to the OECD criteria, the bureaucratic inconveniences are higher only in Germany, Netherlands, Portugal, the Czech Republic and in Slovakia. It seems that the formal requirements of the dismissal process are still too cumbersome for employers, what reduces the flexibility of employment on regular contracts, and does not bring any benefits of lower insecurity to the workers.

[145] Severance payment should be paid however in case of the non-fault dismissal, as closing the business by the employer.

[146] E.g. the compensation due for the worker with 20 years of experience and dismissed without proper justification amounts to three-month wage, and it is decisively the lowest one among those OECD countries, where this form of insurance benefit exists (i.e. everywhere except for USA, Canada, and New Zealand).

Box 17. Labour Code amendments and flexible work and work-time arrangement not included in EPL index

Labour Code amendment of July 2002 introduced a number of changes related to a harmonization of the Polish labour law with the EU provisions, and also a number of other changes prepared in agreement with trade unions and employer organizations. The most important initiatives in the areas not covered by OECD while calculating EPL concerned the reduction of labour costs, flexibilization of the work organization, and reduction of bureaucratic requirements.
The reductions of labour costs included:

- in agreement with the representatives of the employees, possibility to suspend collective dismissal agreements in case of a difficult financial situation of the employer;
- reduction of the costs related to the wage paid during the sick leave of an employee, cash equivalents, and covering the paid leaves and days off;
- reduction of the extra hours costs.

Important changes took place in the area of work and working-time arrangement. The legislative changes made it possible to:

- change full-time job to part-time job, when the employee would normally take parental leave,
- use the so called replacement work, which was related to facilitation of temporary work,
- settle more freely the working-time, including overtime,
- set a different than in the Code extra hour limit,
- apply more widely an interrupted working-time and teleworking.

Provisions concerning the restrictions of employment of self-employed individuals, who used to be employed by a given employer, aimed at limitation of work organization liberty.

The amendment concerned also the limitation of the bureaucratic procedures, especially the ones related to collective dismissals, but also to security and sanitary work conditions, or the leaves. These changes relatively improved the situation of the SMEs, by partially exempting them from the adequate requirements still binding for the companies employing a high number of employees.

Another amendment entered in life in 2004, and the changes concerned mostly the introduction of:

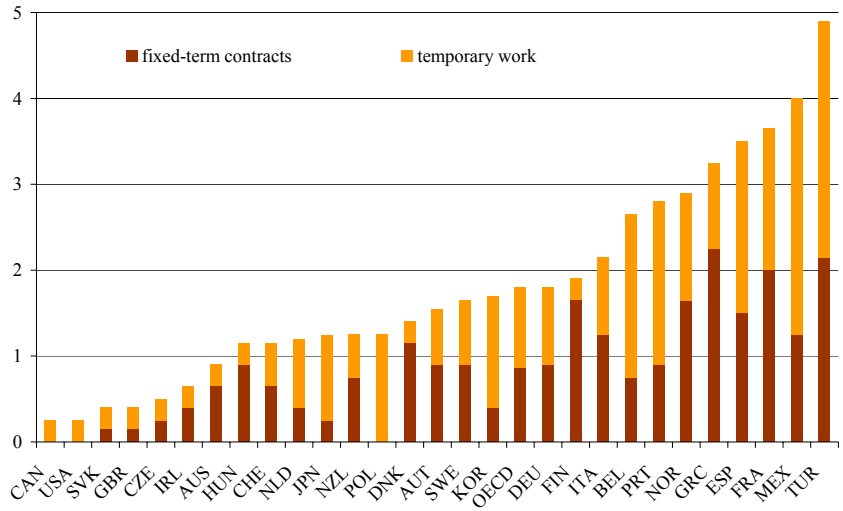
- task-related working hours,
- shortened working week,
- broadening the scope of equivalent to working hours,
- more flexible work arrangements on Sundays and on holidays.

Thus, new solutions emerged, which facilitate shaping the working-time depending on the needs of the labour relationship and its character. In terms of the wage during the sick-leave, the provisions introduced a year before were removed.

4.4.3. Fixed-term contracts and temporary work

Regulations concerning fixed-term contracts and temporary work constitute the second dimension of the legal regulation of the labour market. The size of this component of OECD indicators suggests, that in Poland these regulations are more flexible in comparison to Western European countries but less flexible when compared to other CEE countries belonging to OECD (compare Figure 70). When compared with the end of the 1990s, the role of both components of the index has changed. Fixed-term contracts used to be by the indicator equal 1, and temporary work agency – 0.5; whereas in 2003, the indicators amounted to 0 and 2.5, respectively.

Figure 70. EPL index describing fixed-term contracts (FTC) and temporary work in 2003



Source: OECD data

The low indicator in Poland is related to very wide possibilities of taking up fixed-term jobs in 2003, after the abolition of the condition stating that the third consecutive contract automatically becomes a regular contract unless they are concluded within a month at most. At the same time, unlimited number of FTC renewals was allowed in case of seasonal work and replacement work. There is also no limitation put to the type of work performed on fixed-term contracts, which is also a visible sign of flexibility. Such limitations are present everywhere, apart from Poland, Netherlands, Switzerland, Slovakia and Anglo-Saxon countries. Therefore, the grade for Poland in 2003 was 0 (the maximum possible flexibility). Suspension of the requirement of conversion of the third FTC to the regular contract had been binding only until Poland's EU accession. Thus fixed-term contracts should be recognized as being more restricted now than they were in 2003.

The increase of the level of temporary work regulation in the recent years is related to the Act on employment of temporary workers, which entered in force on 1. January 2004, and which has been the first attempt to regulate this type of work. Since in the end of the 1990s there were no regulations concerning temporary work, the index for Poland was the lowest. High flexibility of these solutions was however delusive, because this form of employment was a marginal form among the contracts used to shape labour relations. Popularisation of this convenient (from the point of view of employers) form of employment, which provides opportunity to gain experience by the people from the outside of the labour market, led to its regularization.[147]

Several restrictions tighten the regulation of the temporary work in Poland; thus this TWA can be used for seasonal, periodical, replacements, and also in the situation, where the temporary worker employment is indispensable for realization of the task within the enterprise. This provision aims at protecting workers employed on regular contracts against their replacement by temporary workers. However, it can put obstacles against flexible adjustments of the employment to the shifts in labour demand, and this is the objective of the temporary work. The most onerous restriction is the condition that within 3 three years, the total duration of employment with current employer cannot exceed twelve months, unless it is the replacement job – then it is allowed for three years. Renewals of temporary work contracts are a sign of labour market duality, and this provision is to force the usage of temporary work as a mid-stage to regular contract. A year after the law enactment, it turned out that the provision is very troublesome for the employers, who cannot continue to employ a worker, whom they believed to be useful. It is also a problem for employees willing to work on TWAs, and it encumbers the functioning of the temporary work agencies. This all found the expression in the

[147] EPL index in terms of TWA, as provided by OECD in 2003 is 2.5, which is a level higher than the mean and the median in the sample (as many as ten countries got 0.5). However, this number responds to 2004, because its calculation for 2003 included the provisions of the act entering in force in 2004. In 2003 the value of the index should be still equal to minimal level of 0.5.

postulates of changes expressed by the employees and the temporary work agencies. This is why the invalidation of the provision should be considered, or the extension of the allowed employment period, what would be in tune with the practice of other European countries. Another important restriction is the six month long ban for employment of temporary workers in the enterprises where collective dismissal took place. The objective of the regulation, which is to move the workers endangered with layoff to another working post in the same company, does not take into account the heterogeneity of the labour force and differentiation of posts within the same organization. It is best demonstrated by multi-plant enterprises. It does not seem that collective dismissals are decided upon with the objective of the subsequent employment of the same people as temporary workers; too big are the differences in the character of the work done by the temporary agents and by the workers concerned with collective dismissals.

There have been some provisions concerning the workers' security increase but at the same time obliterating the differences between the temporary work and regular contract. They raise formal requirements concerning the temporary work agencies and augment their operating costs. These aspects are not taken into account by OECD, thus in this context the flexibility of the solutions concerning temporary work is lower, than it would result from the EPL index. Temporary work still remains attractive from the point of view of the employers, but the introduced measures can cause the absorption of the labour demand fluctuations to occur through employment in the shadow economy or by creating *ad hoc* enterprises, which would allow for actual extension of the job relation without considering legal temporary employment. The factor levelling the situation is the development of the temporary work agencies, which by facilitating the management of labour demand fluctuations enhance the scale of fit between the employees and the employers. A legislative solution is desired, that would define and give incentive to the agencies' activity as the institutions of the labour market. In general, the fixed-term contracts and temporary work contracts are flexible, but the scale of this flexibility diminished in the last year as a result o the new Act on the employment of temporary workers. Year-long experience indicates the need for its further correction.

4.4.4. Collective dismissals

The third main component of the EPL index is made up by detailed provisions defining collective dismissal procedures. In Poland, they are numerous, which gives a boost to the synthetic index. Between 2000 and 2003 this index component was not changed, but it should be stressed that there have recently been several important legislative changes. The first aspect is the definition of collective dismissals. As of July 2003, companies employing less than 20 people were exempted from the collective dismissal procedure. On the other hand, for companies employing up to 100 people, collective dismissal means firing 10 workers, in companies employing 100-300 people - 10% of workers, and in the ones employing over 300 people – 30 workers. These provisions are more restrictive than the earlier ones, especially for the companies with 300-1000 employees, but they are much more convenient for the companies with 100 employees. They fulfil the requirements of the EU law. The procedure leading to collective dismissal, which took 45 days before, now became considerably shortened,[148] what reduces formal intricacies. According to the ELP index, this value is still relatively high and it has been lower only since collective dismissals started to occur in Sweden, Portugal, Italy, the UK and the USA.

The most important factor hindering collective dismissals are however additional costs incurred by the employer; these costs are related to severance payments, negotiations with the trade unions, possible renouncement from the dismissal, the ways of its compensation. Both conditions – severance payments and the negotiations – occur only in Italy. However, in the Polish law there is no provision concerning the duty to prepare social plans, which are to be met in other countries.[149] OECD index does not diversify countries, where only the trade union negotiations are obligatory, and those where in case of collective dismissal the employer needs to present a social programme. It should be kept in

[148] There are 20 days to negotiate with the workers' representatives, and the collective dismissal must be reported to the local labour office, however the period of reporting is not defined in the Act.

[149] It should be noted that such a requirement was present in the case of privatization of the state enterprises.

mind that the index measures the actual differences between the provisions concerning collective dismissals and individual ones.

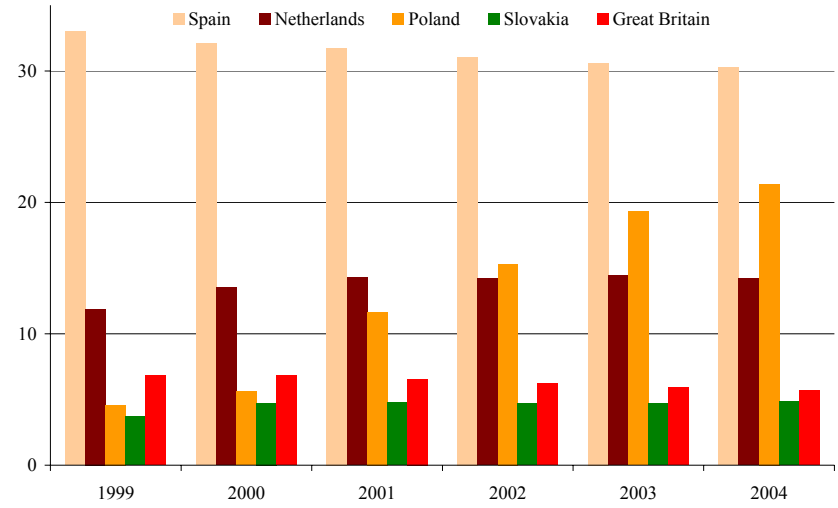
The new Act on collective dismissals that entered in force on January 2004 took into account the amendments of 2003. However, it introduced changes concerning many aspects which are not included while calculating the EPL index, and considered during the collective dismissal procedure, as cancelling the obligation to give the list of reasons for dismissal, introduction of the requirement to negotiate possible renouncement from dismissal with the union partners, or – what is a novelty – with the workers representation, and also the obligation to report collective dismissal at the local employment office. Some provisions amplify the protection of workers, some increase the role of negotiations, however they do not decrease the scale of additional difficulties concerning collective dismissals. These traditionally used to be a very strictly regulated form of dismissal, what derived from the fears about their possible extensive application during restructuring. Such attitude was widely demonstrated during transformation, especially by the trade unions. As a result, collective dismissals involve high costs for the employer. The perception of the changes introduced in the last three years cannot be thus one-sided, merely in the context of the ease, with which the dismissals can be brought into effect. The changes aim at reforming the way the dismissals are effectuated. Adjustment of the Polish provisions to the EU law increases the importance of negotiations on the level of enterprise, what can help change the scope and the perception of effectuated collective dismissals, which on one hand become slightly easier, on the other – their realization requires a consensus about their inevitability. Reporting at the Labour Office is an additional formal requirement, but its idea is to prepare in advance the employment services for a larger influx of unemployed.

4.5. Employment protection legislation and the labour market in 2001-2004

Influence of the recent flexibilization of the labour law in Poland on the Polish labour market resulted mainly in the shift in the employment structure, and in consequence – a gradual development of the labour market duality. As the following figures show, a high increase of the fixed-term employee's rate has been observed since 2000 in Poland. It is a phenomenon quantitatively and qualitatively different from the processes taking place in other European countries. Especially significant is the increase in the number of temporary contracts for the 15-24 year olds. It is a proof of applying this form of employment relationship to people who start their professional career, and whose productivity needs verification. Interestingly, the requirement of conversion of the third subsequent fixed-term contract to regular contract, which was in force until the end of 2002, did not hamper the mass increase of fixed-term contracts.

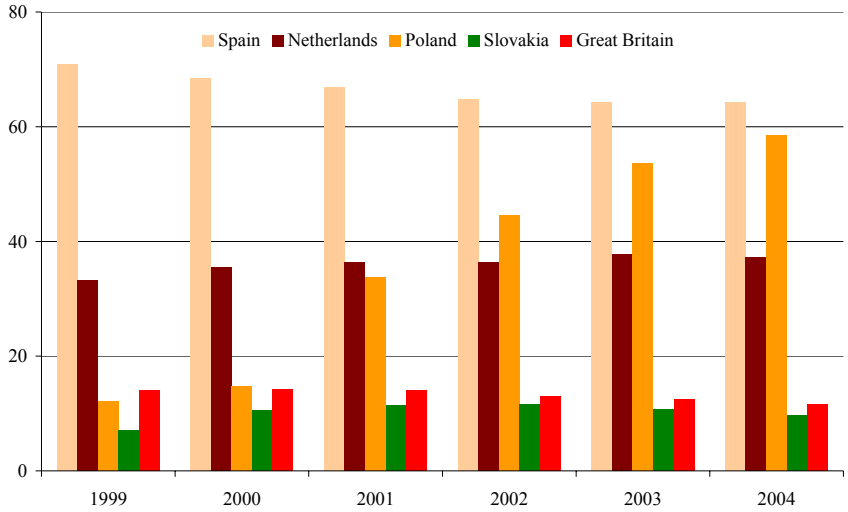
In the context of the experience of other countries, duality can lead to diversification of wages between the groups employed on regular contracts and non-traditional contracts. Moreover, for some groups, fixed-term and temporary employment can prove to be a dominant and recurring form of employment "for life".

Figure 71. Share of the fixed-term employees in total employment in the age group 15-64



Source: Eurostat data

Figure 72. Share of the fixed-term employees in total employment in the age group 15-24



Source: Eurostat data

4.6. Conclusions

Quantification of the degree of workers' legal protection in Poland, evaluated using the EPL index analysis, suggests that the scale of Polish regulations is lower than in the OECD. Poland is closer in this respect to Anglo-Saxon countries than Western European. At the same time, the Czech Republic, Slovakia and Hungary show much more advanced deregulation of labour relations, although not in all aspects. In Poland, it is relatively easy to effectuate dismissal of a single worker, and the related formal requirements constitute the most cumbersome factor. When accounting for the changes of the Labour Code of 2003, it can be suggested that there are broad possibilities for working time arrangements that depend on the employer's needs. The liberty of fixed-term employment is especially limited by the requirement of conversion of the third, subsequent contract of this type, in force since the EU accession; however, this factor does not determine the attractiveness of this type of contract. The act on temporary work has introduced several solutions restricting its use and making it difficult, but they are not likely to stop the development of this form of labour relations. Relatively restrictive provisions concern collective dismissals, what is a reminder of the transformation era and what reflects the need to introduce evolutionary changes in this respect. However, in 2003, there were many changes introduced with the increasing role of negotiations and consensus among the employers and workers' representatives.

Therefore, Polish labour law should be considered to restrict economic liberty to limited extent, both in the context of worker protection and the differentiation of the allowed forms of employment. Thus the often expressed opinions about general over-regulation and labour law inflexibility should be considered to be exaggerated, especially in comparison with other OECD and CEE countries. It is so, since in many ways the degree of these regulations in Poland is close to the levels present in other countries, commonly acknowledged as highly deregulated (e.g. Denmark). Labour law provisions in Poland make it possible to run a liberal employment policy, and their flexibilization was given a considerable impulse by the amendments of 2001-2004. It seems that familiarity with amendments gradually increases among the entrepreneurs; it can be guessed form the growing number of fixed-term contracts, temporary employment or growing utilization of flexible working hours.

International experiences indicate that the role of flexible labour law is primarily to affect employment structure, what can facilitate employment of the groups which economic activity is restricted, if traditional contracts are the only form of possible employment. Influence of the labour law flexibilization in given institutional conditions manifests itself primarily in relative increase of employment among the youth and women, and in decrease in employment of men; the influence of unemployment and employment levels is very limited in the long term. These two values are to greater extent decided by institutional factors, as the shape of social security, bad quality of employment services for unemployed, and characteristics of the existing labour force, as mediocre quality of human capital.

Polish labour market requires relatively more flexible labour law than many other OECD countries, because the situation on the labour market in Poland is more difficult, and it is determined by the dynamic demographic changes. At the same time, many necessary changes have been introduced, and the scale of further possible modifications is relatively limited; however, they would be justified in some areas. Basic reformatory actions in the future should focus mainly on institutional and structural labour market characteristics. As for the labour law, the objective in this area should be stability and introduction of, at most, small modifications in the present solutions, in compliance with best practice of OECD countries.

5. Employment services and active labour market policies

5.1. Active labour market polices – forms and efficiency

Since the mid-1980s, in the developed countries, more attention has been paid to fight unemployment and amplify employment through active labour market policies (ALMP). They include actions influencing labour market supply (e.g. training), stimulating labour demand (subsidized employment, public works), and also improving the functioning of the market itself (labour counselling, job-search assistance). Of special significance were programmes addressed to higher risk groups, as the youth, the elderly, the disabled or long-term unemployed. The most important objective of the ALMP is the increase of employment through direct influence on the odds of finding a job by the people taking part in programmes. Some programmes realize also the aims of social policy (income support, counteracting social exclusion).

The belief that the ALMP are highly effective in the fight to reduce unemployment rates was reflected in the OECD and EU recommendations provided at the beginning of 1990s (OECD 1994). These suggestions were translated into the actions taken by individual member states of both organizations – average spending to this end, measured by the share in GDP, increased in OECD from the level of 0.54% in 1986-90 to 0.70% in 1991-95 and 0.66% in 1996-99. The years 2000-2002 brought about another increase, up to 0.81% of GDP[150] (Calmfors et al. 2002), (Betcherman et al. 2004). That increase was common, i.e. it concerned the majority of the OECD countries, although the scale of that increase in European Union member states had the dominant significance for the mean results; Australia was the only non-European country where the ALMP spending swelled. In all countries (apart from Norway) running the ALMP, these policies use less financial means than passive measures (payment compensating the lost income to the unemployed, e.g. welfare benefits or pre-retirement allowances), but the level of the passive measure spending reacts much stronger to the cyclical fluctuations. Among the OECD and EU member states, there are few groups of countries which differ by the interest they have for the labour market policy, what is demonstrated by the share of the spending on this purpose in the GDP (compare Table 42). The highest spending on the labour market policy are effectuated in the Scandinavian countries and in the Netherlands (reaching 1.5% of GDP), while in Mexico, Japan, Island and the US the same spending amount merely to approx. 0.1-0.2% of GDP. In Europe (excluding Scandinavian countries) the ALMP spending reaches ca. 0.9% of GDP.

Table 42. Labour market policy spending in 1996, 1999 and 2002 in OECD countries

	Total spending (in percent of GDP)[a]			ALMP spending (in percent of GDP)[a]			Share of the ALMP spending in the total of spending on the labour market policy (in		
	1996	1999	2002	1996	1999	2002	1996	1999	2002
Asia	0.39	0.84	0.59	0.18	0.50	0.28	0.72	0.58	0.52
Non-European Anglo-Saxon countries	1.47	1.32	1.27[c]	0.36	0.34	0.39[c]	0.40	0.33	0.29[c]
Southern Europe	1.84	1.75	1.64[c]	0.53	0.70	0.56[c]	0.34	0.45	0.37[c]
Western Europe	3.00	2.60	2.49	0.88	0.93	0.92	0.30	0.38	0.42
Scandinavian countries	4.48	3.29	2.71[c]	1.75	1.40	1.17[c]	0.42	0.47	0.60[c]
Central Europe	0.92	0.90	0.76	0.42	0.27	0.38	0.55	0.25	0.44
Poland	**2.05**	**0.96**	**1.10[c]**	**0.46**	**0.35**	**0.13[c]**	**0.22**	**0.36**	**0.12[c]**

Note: The following groups were distinguished: Asia (Japan, South Korea), non-European Anglo-Saxon countries (Australia, Canada, New Zealand, USA), Western Europe (Austria, Belgium, France, Netherlands, Germany, Switzerland, UK), Scandinavian countries (Denmark, Finland, Norway, Sweden), Central Europe (The Czech Republic, Slovakia, Hungary) and Poland.
a) unweighted average of spending share in GDP in individual countries.
b) unweighted average ALMP spending share in all spending in individual countries.
c) 2001 data.
Source: DAE MGiP calculations based on the OECD data

[150] Non-weighted mean for OECD countries

In Poland, as it is in other Central European countries, the share of ALMP spending in GDP is lower than the European average, what on one hand reflects general lower spending on labour market policy, on the other hand it shows that Polish labour market policy model is based primarily on passive measures (similar model is present in Hungary and Slovakia). However, domination of the passive measures on the total spending in this area is especially high in Poland – the share is of spending for active measures, both in GDP and in the total of spending in the labour market policy area is one of the lowest in OECD.[151]

The actual effectiveness of the labour market policies has been widely discussed in the literature. By introducing programmes and performing analyses, it has become clear that ALMPs are not a universal remedy against the labour market problems. Analyses of effectiveness of individual instruments were conducted mostly on microeconomic scale, by measuring their influence on the future employment prospects of participants. To evaluate their effectiveness as an instrument capable of reducing unemployment and increasing employment, the macroeconomic context should be kept in mind. The efficiency of the programmes on the micro level does not necessarily translate into their macroeconomic effect. It is so because ALMPs entail three main types of risk, which can limit the effectiveness of their labour market influence, despite significant efficiency when influencing the situation of the people included in the programme. The risks are:

- **the risk of deadweight loss** – when programme participants are primarily the unemployed who could find a job even without the assistance;
- **the substitution risk –** when programme participants are employed at the expense of other unemployed, excluded from the programme;
- **displacement effect –** when programme participants are employed at the expense of the people employed in this job beforehand, and who in consequence become unemployed;

Active labour market policies are first of all designed to facilitate finding a job, but the hope that on a larger scale ALMP would automatically lead to reduction of structural unemployment rates proved delusive. Their adversaries stress that the significance of the jobs created this way is levelled by the side effects enumerated above. Frequently though it is the very fact of employing an unemployed that is crucial, provided that it increases his/her chances of finding a job in the future. International experiences indicate that efficiency of a policy, both at the micro and macro levels, is determined to a large extent by an appropriate designing of the target group, planning and control of actions, their coherence with each other and with the passive policy, as well as by the objective factors, as the business cycle (Martin 2000), (Betcherman et al. 2004). These experiences indicate that large-scale or long-term projects usually proved ineffective especially on the macroeconomic level. The condition for the ALMP effectiveness is their proper "profiling", which is about identifying the people at a higher risk of long-term unemployment and undertaking preventive actions addressed to them (Martin 2000), (OECD 2002). Their implementation requires not only careful targeting, but also constant analyses of their carrying out and responsiveness to changing labour demand. Meeting these conditions allows including in the programmes individuals who may benefit from them, in a relatively short time after they lost their job. This allows for minimization of the deadweight loss and maximization of the efficiency of the undertaken actions, both on the micro and macro level. To the date, however, only several countries apply formalized techniques of such profiling of people becoming unemployed (OECD 2002). In the further part of the section, the types of ALMP will be presented and the conclusions resulting from the analysis of their efficiency will be discussed.

[151] Presented data include spendings on unemployment insurance benefit, unemployment assistance and ALMP, therefore they differ from the Labour Fund spending discussed further in the Report. Labour Fund spending include also the employment service operational costs.

Box 18. Subsidised employment in Germany

For years, public works, subsidised employment (ABM, SAM) and trainings constituted basic ALMP in Germany. Public work included socially useful works, but which were not taken up on the market, as to programme participants did not get employed at the expense of other employed and unemployed. During the 12 months of the public work programme, the wages equalled minimum wage. High rates of the individuals staying unemployed or returning to unemployment register upon completion of the public works indicate that they did not help improving their prospects on the labour market. Similar conclusions are to be drawn from subsidised employment programme (cfr. Table 43).

Berthold and Fehn (1997) argue that ALMP serve mainly to attenuate the fears of the society related to high unemployment, but not to fight its sources. This statement is proved by majority of econometric studies, concerning public works, subsidised employment as well as trainings (Fitzenberger, Speckesser 2000). Microeconomic studies of the late 1990s indicate mostly that ABM programme has negative influence on the employment chances in the short and long-term. It is related to stigmatization and relatively high wages earned during the programme. Evaluation of training efficiency is not that straightforward. Some results show that mild positive effects of active measures on the Eastern German market, especially among low-skilled workers. While referring to the Western German labour market, the majority of studies show outright the negative effect. Trainings did not improve human capital of the participants, and inclusion of many people in the programme hindered its proper individual focus. Participation in trainings lowers the intensity of job-search, thus the negative influence of the extensive training programmes.

Table 43. Chosen active labour market instruments in Germany in 2003

Instrument	Number of programme participants		ALMP spending rate (in percent)		Costs per person in 2003 (in Euro)	Indicator (in percent)	
	Total	Change 2000 – 2003 (in percent)	2000	2003		i	ii
1) ABM, SAM	137 224	- 55.8	22.9	10.7	16 570	73.6	53.8
2) qualification improvement	250 976	- 26.9	30.0	23.5	19 920	65.5	40.0

[i)] individuals who are not employed within 6 months upon completion of the programme,
[ii)] individuals who reappear in the unemployed register within 6 months upon completion of the programme
Source: Bundesagentur für Arbeit, Eurostat

This is probably the reason why one of the recent trends is to reduce classic ALMP instruments in Germany in favour of new solutions. This tendency is striking when the numbers of ABM and SAM participants are considered. In 2003 this number was lower by 55% in comparison to the year 2000. The same concerns the number of unemployed included in training programmes, which in the same period decreased by 27%. Since 2005, the function of public works has been partially taken over by "1 Euro Jobs", a programme where the unemployed get unemployment benefits and symbolic wages instead of the minimum wage. This way, entitlement to benefits is conditioned by taking up employment. To some extent it influences the activation of the unemployed and changes of their attitudes. The stigmatization effect can be also lower than in the case of the typical public works. In March 2005, 114.200 people participated in "1 Euro Jobs"

5.2. Types of active labour market policies

Job-search assistance is usually the least expensive of the active labour market policies bringing positive results in many countries, regardless of their socio-economic development level. Employment services provide information about available jobs, help to match an unemployed with a job, enable to identify individuals at risk of protracted unemployment, provide career counselling.[152] Job-search assistance consumed approximately 25% of the whole ALMP budget in the OECD countries in the last decade. However, it should be noted that these services have undergone significant marketization, they have been also subcontracted to private entities, which serve other types of clients (Betcherman et al. 2004). Since public services and private work agencies perform complementary roles, the risk of deadweight loss decreases. Job-search assistance is a cheap and relatively efficient action within the range of activities leading to employment of a jobless person.

The most significant part of the ALMP spending in the OECD countries is channelled to training programmes (ca. 27% in 1996 and 36% in 2002). Because of a significant differentiation their efficacy cannot be easily evaluated. The best results in terms of increasing employment among the programme participants were achieved during the limited range trainings, rather short but intensive, and including internships in the work place, which was prepared in consultation with the local employers (Betcherman et al. 2004). To ensure effectiveness the organized trainings should be of a very specific focus – the probability of employment would rise among women (especially those returning to the labour market) and among long-term unemployed (Martin 2000). The trainings addressing a wide range of unemployed turned out to be inefficient, especially when the participation was obligatory to keep the unemployed status or to renew the unemployed insurance benefit, as it was the case in Sweden or Germany (Calmfors et al. 2002). Two kinds of negative effects are often related to the trainings: increase of deadweight loss (especially if the criterion for evaluation is the number of participants getting a job upon completion of the programme) and substitution effect. They may cause the benefits on the level of aggregated employment to be very limited.

The costs of a next active policy present in the OECD countries, i.e. **subsidised employment in the private sector,** amounted to ca. 11% of the spending in 1996 and 19.5% in 2002. An important element and the advantage of this policy is to help the unemployed keep in touch with the labour market, sustain their motivation and skills, even if the increase of net employment on the macro level is negligible. Subsidised employment for the people trying to return to the labour market, as women or long-term unemployed, often leads to considerable and positive effects through facilitation of such returns and increasing the chances to start a job having completing subsidised employment (Martin 2000). Therefore the policy should be addressed to such specific groups. Commonly used subsidised employment, which is not limited only to particular beneficiary groups, causes serious deadweight loss, substitution and displacement effects,[153] especially in the short-term. Net profits could be larger (30-40% of the net job creation, Martin 2000), when the target group is restricted and the employees and employers could be controlled; such actions constitute, however, a barrier discouraging employers. To the date, subsidised employment in the transforming countries have pointed out to clearly negative effects, even on the level of individual chances of employment (Betcherman et al. 2004).

Yet another form of this policy is **financial aid to start up a small business** – it brings permanent positive effects for the labour market, but only for a limited group of beneficiaries, usually well-educated, prime-aged men. This form of assistance is chosen by a small percentage (ca. 5%) of unemployed and it absorbs small fraction of the means spent for ALMP in the OECD countries. In 2000, it amounted on average 2.5%, what is a result of the support for self-employed in Spain, Germany, Austria, Australia and New Zealand. The recent experiences indicate that the effectiveness

[152] One element of this policy can be a 'bonus' paid to an unemployed if s/he starts a job (and keeps it for a certain time) before of the end of the period in which s/he gets unemployed insurance benefit. This 'bonus' proved to be an efficient instrument lowering the average unemployment spell, e.g. in the US and in the South Korea Martin (2000).

[153] Analyses for Netherlands, Ireland, Belgium and Austria have demonstrated that these effects jointly reach ca. 90% – i.e. 100 newly assumed persons, 10 is the net increase (Martin 2000).

of micro loans increases when they are accompanied by professional financial and technical counselling (Betcherman et al. 2004).

Subsidised employment in public sector usually absorbs more financial means than it does in the private one (Martin 2000), and it is more important in the countries of a lower level of development. Temporary employment programmes in the public sector (e.g. the so-called public works) serve as a kind of social policy measures, especially in the times of recession, when on the one hand they check the willingness of unemployed to find employment, on the other – allow them to keep in touch with labour market, frequently being an important source of income. The analyses show, however, that people affected by the policy have minimal chances of finding permanent employment, and because of stigmatization effect, participation in the public works can even decrease further the probability of finding a job (Martin 2000). Subsidised employment in the public sector is a costly policy, which does not improve the labour market prospects, therefore its importance is decreasing, what was proved by the German example (see Box 18).

The level of ALMP expenditures in the OECD countries did not change substantially in the last decade, but designing and planning of these policies, and their implementation strategy, were and still are being modified. Some universal trends are to be distinguished. Increased attention is paid to job-search services, career counselling, monitoring, and job-search assistance. There is a tendency to integrate all the actions related to unemployed registering, assessing their weaknesses and advantages on the labour market, formulation of appropriate methods of assistance and job-search control in one public office. Simultaneously, more and more tasks of the public employment services are transferred to private entities, especially in the area of ALMP programmes. Adjustment of the actions to the particular needs increases through cooperation with local authorities and entrepreneurs. There is also an increased pressure of labour market policy actors to construct indicators of the policy efficiency, to evaluate their effectiveness and costs, and to propose possible modifications.

Actions designed to **assist the youth in the labour market** constitute a particular kind of ALMP. They consist mainly of trainings and subsidised employment, thus they in part are the same as with the programmes discussed above. Many of the initiatives taken, especially trainings, turned out to be ineffective (Martin 2000). Data from the US and Canada suggest that the "early intervention" has the most advantages, i.e. increasing the emphasis on education of the I and II degree, prolonging period of education, even starting in the early childhood – they bring durable effects in the long-term, translating into employment and wages of workers.[154] As for subsidised employment of the youth, it frequently provoked substitution effects, levelling the positive consequences for the programme participants on the aggregated level (Calmfors et al. 2002). British experiences indicate that an effective mean of increasing employment ability of the youth is job-search assistance, help at finding it and individualized approach to the programme participants (see Box 19).

Active labour market policies exist however side by side with passive polices. As Martin (2000) argues that a too generous and badly managed unemployment insurance benefit system lowers the ALMP efficiency and limits the opportunity of decreasing unemployment. In the 1980s and 1990s in many European countries the generosity of compensation systems was curbed (it was motivated however mainly by budgetary reasons), accompanied by broadening the scope of activation actions and restriction of unemployment insurance benefit eligibility, what was supposed to prevent the so called "unemployment trap". Activation strategies include intensification of job-search by the unemployed through monitoring, job-search assistance, but also obligatory participation in ALMP and job-readiness tests (Martin 2000). When the above conditions are not met, entitlement to benefits is restricted or suspended. It is thus possible to identify *de facto* inactive people, and the flows into employment are intensified. Positive effects of the sanctions and intensification of the employment services contact with unemployed which lead to shortening of the average unemployment insurance benefit period and intensification of the flows to employment, were achieved in Switzerland (Lalive et al. 2002), Netherlands (Abbring et al. 2002), Denmark (Rosholm, Svarer 2004) and the UK (Martin

[154] The most important American programme called Job Corps, addressed to 16-24 year olds, apart from the actions increasing the chances in the labour market, includes a wide range of costly social policy actions, and its ultimate goal is to integrate the youth socially.

2000). Obligatory ALMP participation involves the "carousel" effect risk – the unemployed repeatedly participate in the programmes and take the benefit. Such a situation occurred in Sweden in the first half of 1990s as the effect of a massive and obligatory participation in trainings after 12 months of unemployment (Calmfors et al. 2002).

Box 19. ALMP and youth unemployment in the UK

Started in 1998, "New Deal for the Young" is a British project addressed to people aged 18-24, who have been unemployed for at least 6 months. Its objective is to increase mainly long-term employment prospects of participants. Participation in the programme is obligatory and a refusal involves the loss of the unemployment benefit. The programme is divided in three stages. The first step is to help intensify the job-search, providing assistance and job counselling, complemented by short courses providing basic skills required by the employers. Every participant is to meet personal counsellor every two weeks. The counsellor plans and controls subsequent actions to get him/her employed. This stage lasts up to 4 months. Individuals who are still unemployed enter the second phase of the action, where they can choose from among four options:

- 6 month subsidised employment in private sector,
- full-time studies accompanied by an allowance equal to unemployment insurance benefit, up to 12 months,
- 6 month voluntary work,
- employment at so called Environmental Task Force, what in practice means employment in the public sector, paid at least as much as unemployment insurance benefit.

Those, who are still unemployed upon completion of the second phase of the programme, enter its third stage, similar to the first one but lasting up to 13 weeks. Its main element is job-search assistance and intermediation.

Evaluations of New Deal for the Young efficiency indicate that probability of finding employment by men increases as the result of participation in the programme by 20% (Blundell et al. 2001), (van Rennen 2003). The estimates for women are not clear and robust because of small samples. The result achieved by men is in one fifth the result of the first stage, i.e. job-search support and matching unemployed with job vacancies. Moreover, these actions, in the categories of the additional cost spent for establishing employment, are less expensive than second phase elements, because they do not involve subsidised employment. Despite a higher cost, subsidised employment in the private sector causes as well one fifth of all gains, being thus the most popular options offered in the second phase (van Reenen 2003). The studies of the long-term programme influence on the employment prospects of men indicate their increase by 6-7%, and there are no proofs of deadweight loss, substitution or displacement effects.

New Deal for the Young is distinct for its efficiency in comparison to other actions addressed to the youth. The constant contact between the counsellors and the unemployed is of a key importance; it allows for designing a tailor-made individual strategy of job-search and enhancing the individual's situation on the labour market. Extensive training programmes were substituted by short courses that should lead primarily to gaining practical skills. Individuals with the best employment prospects are not covered with subsidised employment scheme, what decreases the deadweight loss scale. The basic emphasis is put however on the intensification of the job search and its facilitation through counselling and intermediary activities, which prove to be relatively cheap and efficient methods to improve the employment prospects on the labour market.

Box 20. Unemployment benefits

In the individual OECD countries there are various solutions concerning the period and amount of the unemployment benefits. The benefits have the form of obligatory unemployment insurance system payment. In addition, in some countries there are unemployment assistance benefits, which are not insurance-related and constitute the source of income for the unemployed, who have not become eligible or who lost their rights of obtaining benefits. The benefits are usually dependent on the incomes achieved before losing the job.

The role of the unemployment insurance benefits (UI) is to attenuate the income-related effects of unemployment by substituting the income; The UI diminishes the distress of staying without a job. It reduces, in the sense of reducing poverty, the negative social consequences of unemployment. The key characteristic distinguishing the UI from other social security transfers is the fact that the claimant is obliged to the active job-search and (within certain limits) s/he cannot refuse to take it up. Such formulation of the UI benefit rules is supposed to limit the negative influence of compensations on the labour market. UI, being an alternative to work income, decreases the motivation of an unemployed to return to work promptly and to the active job-search. Especially high (i.e. guaranteeing high level of replacement) and long-term unemployment insurance benefit schemes can have a strong negative influence on the unemployed attitudes. Additionally, the relation between the amount of UI benefits and earlier wages raises the reservation wage, i.e. the lowest wage for which an unemployed is ready to take up the job. This way the labour market flexibility is restricted.

Table 44. Maximum period of UI or UA (unemployment assistance) benefit payments (in month), and the ratio of replacement for an unemployed, who used to earn 67% of the average production worker (APW) wage before unemployment, 2002

	UI	UA	Net replacement rate
Australia	x	n.l.	46
Austria	9	n.l.	55
Belgium	n.l.	x	87
Czech Rep.	6	x	50
Denmark	48	x	84
Finland	23	n.l.	78
France	30	n.l.	80
Greece	12	12	64
Spain	24	18	76
Ireland	15	n.l.	40
Island	60	x	66
Japan	10	x	73
Canada	9	x	63
Korea	7	x	53
Luxembourg	12	x	84
Netherlands	18	24	79
Germany	12	n.l.	63
Norway	36	x	66
New Zealand	x	n.l.	54
Poland	18	x	65
Portugal	24	12	85
Slovakia	9	x	69
Switzerland	24	x	79
Sweden	14	14	82
USA	6	x	62
Hungary	9	x	61
UK	6	n.l.	63
Italy	6	x	50

n.l. – no limits as for the period of UI claim; x – no such solution
Net replacement rate for the primary stage of unemployment (for UI, or UA in the countries where there is no UI), in many countries the amount of UI decreases as the unemployed period lasts.
Source: Benefits and Wages OECD 2004

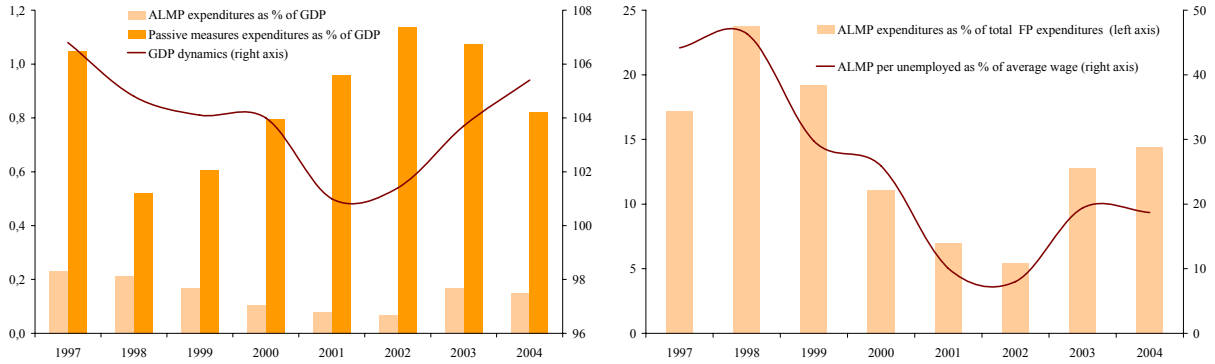
5.3. Active labour market policies in Poland

5.3.1. The scale and the main directions of means allocation

Active and passive labour market policies in Poland are financed by the Labour Fund, which provides funds for specific programmes conducted by the local employment offices. The amount of the expenditures for ALMP experienced substantial fluctuations since the beginning of the 1990s, and it was significantly pro-cyclical, demonstrated in the figures below. In other words, the ALMP expenditures share in GDP was increasing in the periods of economic growth (apart from 1996 and 1997, when the expenditures for UI benefits increased faster than the expenditures for active measures) and was decreasing when the product dynamics sluggished. A reverse tendency, shown in Figure 73, was demonstrated by the unemployment benefits and pre-retirement allowances. It proves that both policies are substitutes in Poland; which is caused by the priority position of the passive policies, which in the situation of limited budget replace active policies from the public programmes. Changes of the relative significance of the active and passive labour market policies, measured by ALMP share in the total of Labour Fund expenditures (Figure 73) confirm the decreasing importance of active policies since 1998 – in the situation, when at the same time the number of unemployed increased by one third. Evolution of the relation between ALMP expenditures on one unemployed to average wage was similar; there was a decrease from 46% in 1998 to merely 8% in 2002. Only in 2003 there was some increase in active programmes.

The pro-cyclical character of the ALMP expenditures share in GDP differentiates Poland from OECD countries, where it is stable throughout the business cycle. The primary objective of such policy is to affect the structural component unemployment that does not depend on the cycle, and to prevent a growth of this component resulting from a negative shock on the labour market, when the displaced workers lose their abilities to perform work after long period of unemployment. In other words, the primary objective of ALMP is to shorten the period, in which labour market reacts to the improvement of economic situation after the negative impact of the shock ceases. International experiences indicate that even if ALMP are not effective means of reducing unemployment during recession, they might influence considerably the pace of the further reduction of unemployment, especially in case of the groups with relatively lower chances of finding employment. It seems thus that the lowering the scale of the active labour market in Poland, when the number of unemployed grew rapidly in 1999, might have been the factor prolonging the effect of the Russian crisis on the Polish labour market.

Figure 73. Labour market policy expenditures in 1997 - 2004



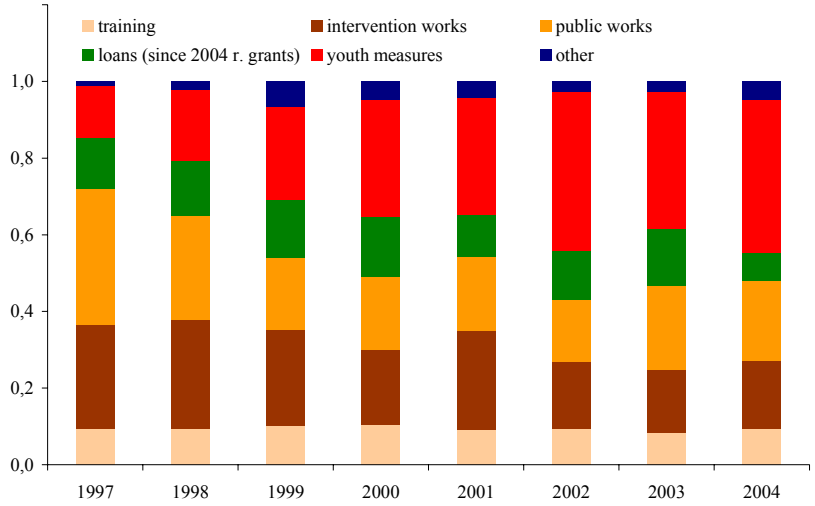
Source: DAE MGiP calculations based on the MGiP and the Central Statistical Office data

In 2004, spending for ALMP reached 1 323.5 million PLN i.e. 0.15% of GDP,[155] and the majority of these was transferred for activation of graduates (40% of the total) and subsidized employment ("public works" - 21% and the so-called "intervention works" 18%). The share of the last two diminished significantly in comparison to the late 1990s, but the spending for the graduate-related

[155] Additionally, 141 million PLN was spent to reimburse the youth wages.

projects increased (cfr. Figure 74).[156] The popularity, costs and effectiveness of various projects run by the labour offices are very differentiated, but because the detailed data is unavailable,[157] the evaluation of policy effectiveness is not possible using the methods analogous to the ones used in ALMP effectiveness studies presented in the first part of the chapter; thus in the further part of the chapter only the qualitative evaluation will be done.

Figure 74. Labour Fund spending for ALMP in 1997-2004



Source: DAE MGiP calculations based on the MGiP data

5.3.2. ALMP instruments in Poland and the attempt to evaluate their effectiveness

On the basis of experiences of the OECD countries it can be recognized that the **job-search assistance** and **career counselling** seem to be the two most important elements of ALMP, for their effectiveness demonstrated both on the micro and macroeconomic level. Despite this, their role in Poland is very limited. The labour offices declare the career counselling to be an important support for i.e. training participants; however, its quality and scale are unconvincing. Although it is impossible to define the total amount spent to this purpose, because they are reported by local employment offices together with operational costs of the offices, the weak development of career counselling is proved by the statistics concerning employment services. The data of 2002 shows that one counsellor should work with 6674 unemployed, what makes it impossible in practice to provide effective counselling. Moreover, in 40% of cases, the counsellors do not have specialized educational background (CASE 2004b). On the other hand, the unemployed themselves do not appreciate this instrument – the CASE analyses, commissioned by the Ministry of the Economy and Labour, suggests that the career counselling services are used only by 5% of unemployed men; this number is much higher among unemployed women and it reaches 56%. Despite the priorities declared by the Public Employment Services (i.e. mainly the local employment offices), which state that the career counselling should include people at risk of prolonged unemployment or the ones actually experiencing it, the counselling concerns 16% of long-term unemployed, and 19% of unemployed over 25. Equivalent values for the short-term unemployed and those under 25 are 42% and 46%, respectively (CASE 2004b). Counselling is thus used mostly by the individuals with relatively better prospects of employment; the

[156] It is mainly related to the new complex programmes and to qualify part of the expenditures of other categories to the graduate programmes.

[157] To conduct the econometric analysis of the ALMP programme effectiveness, the information describing its participants (age, gender, education, work experience, occupation, residency etc.) is necessary; it makes it possible to confront the situation on the labour market with the situation of the people of similar characteristics, but not participating in ALMP programmes. Another method can be to compare the chances for employment before and after the programme. The microeconomic studies make it possible to estimate the deadweight losses. The evaluation of the replacement or crowding-out effect can be conducted using the surveys of entrepreneurs or through the analysis of the regional differentiation of the spendings for individual programmes and the number of its participants. The data indispensable to conduct such analyses are not available at present.

unemployed at risk of permanent unemployment and exclusion on the labour market are less prone to use this service. Comparison of the Polish practice with the international experiences suggests that the job-search assistance and career counselling potential is not fully exploited in Poland. It seems that the change requires improving the quality and availability of these services on one hand, and making them obligatory for the unemployed on the other.

According to the above-mentioned CASE report, there is also scarcity of information held by PUPs on the local labour market, concerning the employers' needs in terms of qualifications, changes in demand for certain occupations and specializations, planned investments. Too few people are involved in the collecting such information,[158] and relying on preferences of the unemployed while elaborating training programmes does not lead to compatibility with employers' needs (CASE 2004b). Insufficient contact with the labour demand also makes the counselling and job-search assistance harder, since the majority of available jobs may be unreported at PUPs.

Vocational trainings are probably the most effective of the present ALMP in Polish reality (on the micro level)[159] - in 2003, the cost of one person, who found employment after the training, amounted to ca. 2300 PLN. At the same time the spending on trainings has not exceeded 10 percent of the Labour Fund pool for ALMP. The studies conducted for Poland show that the professional trainings have positive influence on employment in short term (Kluve et al. 2001).[160] The studies (CASE 2004b) showed however that frequently the content of PUP-run trainings is not connected to the local labour market, what reduces their effectiveness. It should be thus observed that training participants can have higher human capital. Therefore, to evaluate training effectiveness, one should compare chances of employment of training participants with a control group of similar characteristics; this is however limited by the lacking available data. Since the most important criteria for qualification to trainings is young age, length of unemployment and high motivation and activeness in job-search (CASE 2004b), the risk of deadweight loss is high – since a large portion of the training participants are these type unemployed who have relatively the highest chances to find work without the need to receive training. Starting from 2004, the novelty in the training offer is the vocational training in the work place, which, as the international experiences have shown, can become an efficient instrument in case of the low-educated people.

Intervention works, which constitute a form of subsidised employment in the private sector (the cost of the wage and social security contribution are partly reimbursed), play an important role in ALMP in Poland, although the spending to this purpose have recently dropped, when comparing to mid-1990s. O'Leary (O'Leary 1997) studies show that in 1990s, participation in intervention works translated into an increase of probability of finding a job by 26%. Relative effectiveness of subsidised employment (in comparison to other actions directed at active employment assistance) is proved also by the cost of one created job that amounted to 3.271 PLN in 2003; it is higher than in the case of trainings but it is much lower than for the public works. There are no estimates concerning the scale of substitution of other unemployed by the people with subsidised employment, nor the estimates concerning the related job-loss among the employed, i.e. replacement effects. Subsidised employment is addressed primarily to long-term unemployed (CASE 2004b), what is a reasonable provided that it contributes to the accumulation of the required practical skills by an unemployed. It can be expected that it is not so in the case of the subsidised employment organised for low-educated and low-skilled people. In their case, the chances of taking up unsubsidised employment can remain unaffected. Moreover, it seems

[158] In 87% of PUPs (included in survey) up to 3 employees worked in this area (CASE 2004).

[159] International experiences have shown that in the case of trainings, the scale of replacement and crowding-out effects, which on aggregate level cancel the positive effects of trainings on the individual level, is very small; thus it can be expected that the effectiveness on the micro level results in effectiveness on the macro level.

[160] Kluve et al. (2001), the results of the research conducted using the LFS data of 1996; the study employed so called quasi-experimental method, were the individuals studied are compared to so called reference groups, i.e. „comparable individuals", of the same characteristics, who do not participate in the programme. Similar studies were conducted by Puhani (1998) for 1990–1997, however his results did not demonstrate a positive influence of trainings for the employment. The studies of O'Leary (1997) showed a positive effect of trainings: 12% more people found unsubsidised employment, with a wage higher on average by 23 PLN; they were mostly men in prime age, with secondary or lower level of educational attainment.

that the whole potential of intervention works is not used to activate professionally passive individuals, who try to return to the labour market.

The most controversial active labour market policy is organisation of the **public works**. Considering the results showing that it is ineffective also in Poland,[161] and especially that it is very expensive (with the cost of one job amounting to 20.218 PLN in 2003, nine times higher than in the case of trainings), the high share of these very forms of counteracting unemployment in general Polish ALMP spending is indeed surprising. The World Bank report shows that public works have been frequently addressed to long-term unemployed, uneducated, for which other forms of support prove to be ineffective (World Bank 2001). For such people, the participation in the public works constituted important source of income, and it would help to re-establish the entitlement to unemployment insurance benefits (the average period of participation in the programme equalled the exact number of months needed to regain entitlement to unemployment benefits). Such feature of public works reveals their *de facto* social welfare character, and this form of assistance is especially dangerous since the unemployed switch between the periods of participation in the public works and the periods when they claim unemployment benefits, what causes their stigmatization on the labour market. The Act on employment promotion and labour market institutions of April 20 2004 introduced a provision saying that the period, when the unemployment insurance benefits can be claimed is shorten by the period of employment in form of intervention works, public works, traineeship or professional training, taking place in the period when the UI benefit could be claimed. Thus, these programmes do not guarantee regaining the eligibility to unemployment benefits anymore. Moreover, an unjustified refusal to participate in these programmes causes expiration of the UI benefits entitlement, and subsequently, it can result in reduction of any future entitlement by the period of no-entitlement caused by such a refusal. Public works, the same as intervention works, trainings and professional training can be offered only to so called "people in a special situation on the labour market".[162] The unemployed under 25 and over 50 should be offered a job or participation in the programme within 6 months from registration.

Loans, provided for the start of business activity and for creation of additional jobs for unemployed were transformed into non-returnable subventions when the Act came into force. However, until 2003, they constituted ca. 15% of the Labour Fund expenditures for ALMP. Self-employment requires significant enterepreneurism, thus this form of assistance should be addressed primarily to motivated and active unemployed (CASE 2004b).

Graduate activation programmes have been enjoying growing popularity ("The Graduate" in 1998–2001 and "First job" since 2002). Their share in ALMP spending increases gradually, and since 2000, this share has been the largest in the total spending (cfr. Figure 74), despite that the share of people under 25 in the population of unemployed aged 15-64 decreased from 28.5% in 2000 and 2001 to 25% in 2004.[163] The programme "The First Job" includes activities aiming at facilitation entry to the labour market for the young people (unemployed under 25 and unemployed graduates up to 27). It includes the following initiatives:

- organization of graduate internships for people without professional experience; during the internship the participants obtain a grant equal to unemployment insurance benefit,
- vocational training for people with professional experience, but lacking required skills, which lasts for 3 to 6 month; during the training, the participants obtain a grant equal to unemployment insurance benefit,
- grants to continue education in a secondary school,

[161] Using the LFS data of 1996, Kluve et al. (2001) demonstrated that the public works did not have any influence on employment of women and they did have negative effect on further employment of men; O'Leary (1997) estimated their negative influence on employment. His analyses show that participation on the public works lowered the chances of finding employment by 5%.

[162] According to the Act, people in a special situation on the labour market are: the unemployed under 25 or over 50 years of age; long-term unemployed; unskilled unemployed; unemployed single parents with at least one child under 7; and unemployed with disabilities.

[163] Calculation based on LFS data seasonally and methodologically adjusted.

- training grants,
- reimbursement of commuting and accommodation costs.

Between June 2002 and May 2004, over 384 000 people participated in the programme "The First Job"; over 55% chose graduate internships, 15% – vocational training, and in 14% of cases the wage and social security contributions were reimbursed. The effective cost of creating one job in the case of graduate internships amounted to ca. 7.600 PLN, and in the case of reimbursement – 3 000 PLN. Until now there has been no attempts to evaluate the external effects that might balance on the aggregated level the benefits gained by the programme participants. International experiences have shown that the risk of deadweight loss might be substantial, especially accounting for the fact that PUPs prefer educated, motivated and active individuals for graduate internships programme.

To sum up, it can be said that the active labour market policy in Poland is still not responsive enough to the changes in the labour demand, its local differentiation and specifics. It makes it difficult to conduct such a policy in an effective way and to modify it easily in later stages. The criteria of choosing the ALMP participants show that the effectiveness estimates are biased up when they are measured on the micro level , since the preferred unemployed are better qualified, have high attachment to labour market and actively search for a job. The effectiveness of the programmes as a form of reduction of general unemployment in Poland is unknown, but it can be guessed that because there is a high risk involved of deadweight loss as well as replacement and substitution effects, it is very limited. Interestingly enough, employment services rather tend to avoid actions addressed to the groups at high risk of exclusion from the labour market, what is evidently a contradiction of the whole idea of ALMP profiling and addressing the programmes to specific groups, for which these actions may result efficient i.e. increase their chances of employment. Only to a minimal extent are ALMP in Poland of preventional character and targeted at individuals at risk of long-term unemployment. It seems that identification of these people does not occur on such a scale and by using such methods[164] as it should be.

5.4. Labour market policy organization

Labour market policy in Poland is run by institutions that include, according to the Act on employment promotion and labour market institutions of 20. April 2004: public employment services, Voluntary Labour Corps, non-public job agencies, personal counselling agencies, career counselling agencies, temporary work agencies, public and private training institutions, social dialogue and local partnership bodies. Passive policy and ALMP programmes taken up by labour market policy public entities are financed by Labour Fund. Institutional factor resulting from organizational structure of the labour market entities influences also the effectiveness of the implemented programmes.

5.4.1. Public employment services

Public Employment Services (PES) include 16 voivodeship labour offices, 338 local employment offices, and their branches. The PES structure, defined by the Act of 28. December 1989, on employment and counteracting unemployment, was changing in the 1990s, and the most important changes, related to the administrative reform of the country, took place in the years 1999–2000. General labour market policy guidelines are defined on the national level, but poviat and voivodeship labour offices have a possibility to complement it in line with the local labour market needs. However, the sources of financing for the programmes led by the local employment offices are defined on the state level. Thus the decentralization included the employment service structure, but it covered the management of the labour market and employment policy to a lesser extent. Further reforms of the PES were introduced by the Act of 20. April 2004 (see Box 21).[165]

[164] I.e. based on a certain algorythm or a model describing the relation between the characteristics of an unemployed, conditions of the environment, and the long-term unemployment risk.

[165] After Poland's accession to the EU, Polish public employment services became a member of European Recruitment Services – EURES network. EURES services include international job-search assistance in the European Economic Area and in Switzerland, information about living and working in these countries, and assistance for employers willing to hire workers

The main task of PES – supporting unemployed with coming back to work – is carried out by the PUPs, which get financing and organize certain types of activities. At the same time, PUPs are also institutions responsible for unemployed registration and payment of unemployment insurance benefits, and earlier – pre-retirement allowances. However, the potential of the labour market institutions and instruments is not effectively used, what is partially caused by financial problems and understaffing of the labour offices. The local authorities have difficulties to create integrated labour market programmes that would allow for effective employment policy. PES effectiveness is probably lowered by the organizational structure of these services, and especially the character of employment at the PUPs. Financial limitations affect instability of employment at labour offices. In the end of 2004, PES employed 18.575 people, of which 1.927 in the voivodeship labour offices, and 16.648 in the local employment offices. The rotation scale[166] of the employees was however very high and it amounted to 65% in the case of hiring and 58% in case of firing. The fluctuation in the poviat offices was higher (68 and 63%, respectively) than in voivodeship offices (41% and 15%, respectively). Higher rotations of employment in PUPs, which employees stay in a close contact with the unemployed, make it more difficult to run continuous and coherent actions based on long-term strategy matching the local labour market needs. Moreover, the highest fluctuations in the labour offices occurred in the voivodeships of high unemployment rate: lower Silesia (Dolnoslaskie), Opolskie, Silesia (Slaskie) and Lubuskie, and the correlation between the unemployment rate and the rotation scale on the voivodeship level was 0.53 for hiring and 0.50 for firing. Most likely, it is related to the limited financial possibilities of the local governments in these areas, what forces them to use the intervention work budget, and not their own budget, to finance PUP employment contracts. Interestingly enough, half of 10.818 employees dismissed from labour offices in 2004, left them because they finished participation in an ALMP programme. It demonstrates that management engagement of professionals in employment services is very low, the services are not enough focused on their activities , which in addition makes any long-term priorities and their accomplishment very difficult. On the other hand, it is unlikely that the unemployed taking a PUP job (especially short-term) in the framework of public works can expect a significant increase of the skills in demand on the labour market, i.e. improvement of their employment prospects. Increase of the quality of employment services, requiring among others also a better remuneration of its employees (what can reduce the fluctuation of employees), seems to be a condition *sine qua non* of the efficacy of their actions. It is clearly visible in the rate of high-educated employees and it should further proceed with introduction of the provisions included in the Act of 20. April 2004.

Specific role in the system of public employment services is played by the Voluntary Labour Corps (OHP). They specialize in the actions addressed to young people at risk of exclusion and undertaking measures focused on education, training, job-search assistance, and career counselling. Moreover, they refund the employment of minors in terms of wages and social security contributions. OHP activities are supported by the affiliated work clubs, youth job offices, Mobile Centres of Employment information, training centres. Despite they are financed from the Labour Fund budget, OHP carry active labour market policy to a lesser extent, their aim is mainly to prevent the individuals at risk falling into social exclusion, what is a needed and wanted action in the light of the international experiences.

from other countries. EURES partners are public employment services, trade unions and employers' organizations; the network is coordinated by the European Commission.

[166] Quotient of the hired (fired) in 2004 over total employment in the end of 2004. Calculation based on MGiP data.

Box 21. Act on employment promotion and labour market institutions of 2004

The objective of the new Act, which replaced the earlier one of 1994, was to direct the labour market institutions towards promotion of employment – instead of focusing mainly on unemployment benefits. To increase the efficacy of the labour market policy, many of their duties have been reduced, especially the ones related to payments of UI benefits and pre-retirement allowances, and deciding about the entitlement to them.

The core element of the Act was the definition of the labour market institution, the core services rendered, and definition of the programme instruments. The range of the offers was broadened, appreciating thus the role of human resources development and educational process in all age groups. The access to scholarships for further education for unemployed became common, the loans were replaced with subsidies for business activities, there have occurred new possibilities of increasing participation of the people over 50 through vocational training. "Graduate" was replaced with "unemployed under or 25", what allowed for widening the group of people, to whom the actions facilitating labour market entry are addressed. The Act defines groups in a special situation on the labour market, including: people under 25, over 50, long-term unemployed, disabled people, single parents.

The Act regulates also the requirements towards the employees of the public employment services, and it defines standards of the services carried out. It ordinates the qualification requirements for the employees of the public employment services and it opens up the possibility to provide bonuses depending on the license, quality and quantity of the performed work. Moreover, the key professions include (apart from job-search assistants and job counsellors) specialists of career development and training, specialists of programmes, work club leaders, and national EURES staff. To ensure stable mid- and long-term planning and pursuing of policies, employment of management in voivodeships and in poviats has been also regulated.

5.4.2. Labour Fund

Means for active and passive labour market policies in Poland come from Labour Fund, which is financed mainly from the tax paid by the employers (2.45% of the pension and insurance contributions basis) and the subventions from the state budget. The share of the subventions in the total Labour Fund revenues was highly irregular, however until mid-1990s it had constituted the main source of Fund's income. The situation changed in 1999, when its amount decreased four times, because of a significant reduction of benefits and allowances on one hand, and on the other hand – an increase of the income received from contributions. In the years 2001–2003 the subvention increased again and it amounted to 31% (2001) up to 40% (2003) of the total Labour Fund expenditure. However, it was not enough in the face of growing expenditures for passive policies, and especially for pre-retirement allowances. Therefore, the Labour Fund deficit grew, what allowed for keeping the state budget deficit on a lower level.[167] The need to increase the budget subvention to cover the Labour Fund expenditure was caused mostly by the high increase in the expenditures for benefits and pre-retirement allowances and increase of unemployment rate (drawing a loan in a commercial bank was necessary in 2000–2002). In 2004 the decrease in subvention and its share in total Fund's income was observed, this time mainly due to institutional changes and moving the tasks related to financing benefits and pre-retirement allowances to Social Insurance Institution (ZUS). Labour Fund finances also the activities related to day-to-day operations of public employment services.[168]

[167] It was a form of hiding the actual size of imbalance between public revenues and spending on the level of state budget; in the next years, the Labour Fund subvention was too low in relation to pre-retirement allowances. Thus the passive labour market policies did not only influence the level of employment activity and the employment rate, but they also considerably influenced the condition of general government finance and imbalance inside it (the costs of financing the loan taken by Labour Fund are higher than the costs of financing the debt issued by the State). It was taking place at the expense of the spendings for active labour market policies.

[168] Labour Fund finances also the support for: labour market institutions activities with respect to programmes and projects related to development of services and labour market instruments as well as social integration; training of public employment services staff; wages of PUP employees carrying out the tasks related to the EFS co-financed projects; tasks related to participation of employment services in EURES network; bonuses for public employment service staff (job-search assistants,

The limits of Labour Fund means ear-marked to finance ALMP are set by the Minister of Labour using an algorithm, which has undergone important, positive changes in the recent years. In 2003, there was a change of the weights, which were attributed to share of the long-term unemployed people and unemployed graduates among unemployed in a given poviat; also the portion of unemployed not eligible to benefits in the total of unemployed ceased to be considered. In 2004, more changes were introduced, adding the share of unemployed youth (under 25) among the unemployed in a given poviat – instead of graduates. The number of long-term unemployed was also removed from the algorithm (enclosing this factor in the algorithm for financial means distribution among poviats used to hamper the assistance offered to long-term unemployed in job-search because of financial gains stemming from keeping them in the unemployment register), but the share of unemployed over 50 was taken into consideration.

As a result, a higher percentage of financial means can reach the poviats, where the need for ALMP is greater. Moreover, the way they are distributed acknowledges the "effectiveness" and "activity" of a given local employment office, and it is measured by the quotient of the unemployed outflow to their inflow (newly registered). On one hand, the office running the efficient policies will be somehow rewarded for its activity, on the other, there is a risk of abuses related to targeting the activities towards the people with high chances of employment.

job counsellors, specialists of career development and training, specialists of programmes, work club leaders, and national EURES staff); costs of calls, notifications, buying or printing registration cards, transferring the due benefits to unemployed, communication with employers and unemployed, with pension bodies and tax offices; etc.

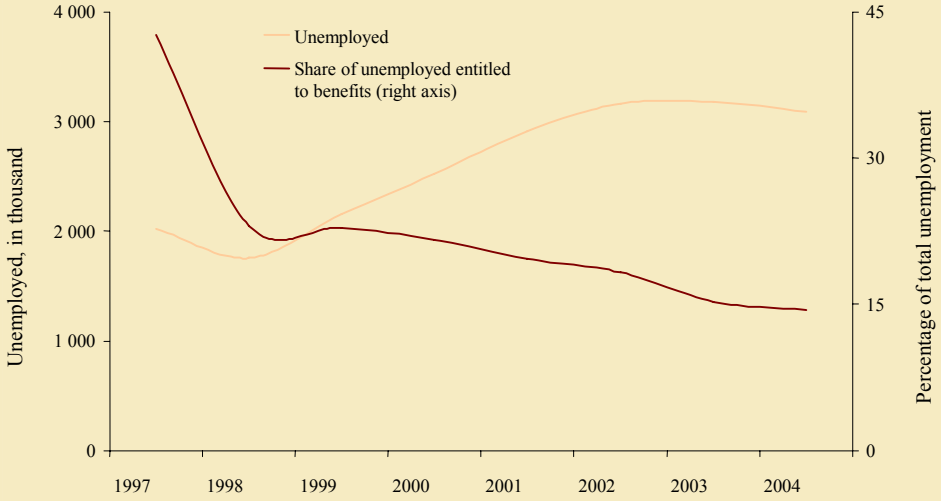
Box 22. Unemployment benefits in Poland

The unemployment benefit system in Poland is organized in a relatively simple way. There is one rate, irrespective of the previous wage (however, it is by 20% higher for people with 20 years of work experience or more, and by 20% lower for people with 5 years of work experience or less), and the length of the unemployed insurance benefit period is 6, 12 or 18 months (depending on the level of unemployment in the region, and the age of the unemployed). The net replacement rate for the minimum wage is 60, 73 and 86% for 80, 100 and 120% of the UI benefit amount, respectively. One should prove that s/he worked for at least 12 months within the 18 months prior to registration. In Poland there is no unemployment assistance, as it is the case in many European countries, and thus the unemployed can only get less welfare payments after their entitlement to UI expires.

A rather limited influence of unemployment benefits on the labour market is caused not only by their relatively small amount and restricted entitlement period; it is so also because only small fraction of unemployed is entitled to the UI benefits (on average 14.4% in 2004). This is caused by several factors; prominent is the fact that there are fairly small inflows of unemployed (in relation to the total number of unemployed), and these are mainly the labour market entrants who do not have a right to UI benefits. Another reason is the high persistence of unemployment.

The share of the UI-entitled unemployed was decreasing in the last years, mainly because of the worsening labour market situation (i.e. longer average period of joblessness), but also for legislative changes. At the beginning of the 1990s the conditions of the UI benefits entitlement were relaxed. According to the act of 29. December, 1989, every unemployed who could not get a suitable job offer (or training or intervention work) was entitled to UI benefits. The UI benefits were unlimited in time but decreasing with each payment and the initial amount was 70% of the earlier wage (not more than average payment and not less than the minimum wage). In 1990 the most liberal provisions were restricted. In following years the conditions were further restricted – the amount was lowered, the period of entitlement was introduced, the requirements for entitlement were increased, and the graduates were entirely excluded from the scheme. At the beginning of the 1997, the provisions giving older people with long work experience the right to UI benefits until retirement were overruled (they were replaced by pre-retirement benefits and allowances, see chapter 2 of this part of the Report), what caused a sudden decrease in the share of entitled unemployed in the total number in 1997 and 1998. Since then, in Poland there have been no UI benefits granted for unlimited period.

Figure 75. Registered unemployed, in total and entitled to UI benefits (yearly average) in 1997-2004

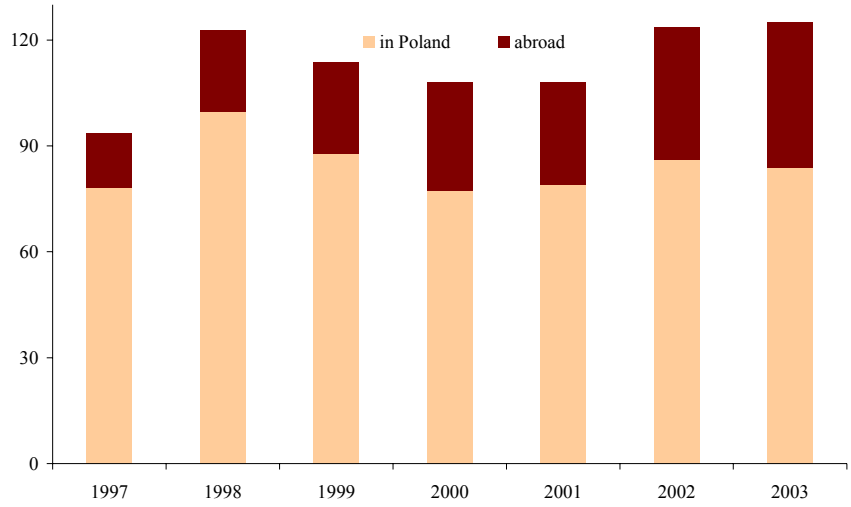


Source: MGiP data

5.4.3. Non-public recruitment services

Non-public institutions of labour market, including the recruitment agencies for work in Poland, recruitment agencies for work abroad, career counselling agencies, job counselling agencies, and temporary work agencies, have been present in Poland since the early 1990s, when the monopoly of public employment services was broken. In July 2004, the number of non-public employment agencies amounted to 976, with 483 recruitment agencies, 295 career counselling agencies and 198 temporary work agencies.[169] 1990s was the period of development of the recruitment agencies, which was reflected in the increase of the people finding a job through them (cfr. Figure 76). Deteriorating situation on the labour market, and thus longer average job-search period resulted in a decrease in these numbers and their only slight increase since 2000. However in 2002 and 2003, considerably more people found employment abroad through these agencies, what reflects both supply (increase of inclination to take up employment abroad) and demand side factors (development of employment services).[170]

Figure 76. Number of people finding employment through recruitment agencies in the years 1997-2003



Source: MGiP data

New legal provisions, aiming at development of this sector, were introduced with the Act of 20. April 2004 on promotion of employment and labour market institutions. The non-public agencies were defined as institutions obliged to participate in the labour market policy carried out by the public employment services; this opens up the door to transferring part of the tasks, until now carried out solely by PES, to these agencies. Contracting of these services to the private entities can widen the range of PES services and they might become addressed to a more differentiated group. In consequence, private recruitment agencies can play a role complementary to the public employment services, what complies with the tendencies observed in other EU countries.

The temporary agency activities are regulated by the Act on employment of temporary workers, which entered in force on 1. January 2004. After a year, however, it turned out that some provisions regulating the temporary agency activity make it difficult to take up this type of employment. Specifically it concerned the definition of maximum duration of temporary contract with one employer;[171] limitation of the number of situations, when the temporary employment is allowed;

[169] The number of registered non-public employment services in 2003 amounted to 384, of which 214 employment services in Poland, 158 employment services to work abroad, 88 career counselling agencies and 56 temporary work agencies. Such a fast growth of registered subjects proves that there has been a development of the market of these services, but it also is a result of registration procedures introduced by the Act of 20. April 2004.

[170] However, in 1992-2003, 63% of people employed abroad through employment services were working in the maritime sector.

[171] Within three years, the total time worked by a temporary employee for one employer cannot exceed 12 months, unless it is a replacement job – then it can be performed for three years.

introduction the right to days-off on demand; and increase of agency costs.[172] They can make it difficult to develop the temporary work development in Poland, which has been quite intensive. Member agencies of the Association of Temporary Work Agencies (ZAPT) employed 51 000 people in 2002, 59 000 people in 2003, and in 2004 65 000 people [173]. Since February 2005, there has been also an Association of Recruitment Agencies, which 12 members declare a joint employment of ca. 80000 people. Both the changes in the number of agencies, as well as the growing number of people taking up temporary work indicate that there has been a remarkable development of this sector of the market in the recent years. Since the majority of the people taking up temporary work are young people, trying to enhance their skills this way, the development of temporary work is one of the conditions of complementarity of PES and non-governmental institutions' activities.

[172] Resulting from an increase of formal requirements towards temporary work.

[173] ZAPT was established in 2002 and its members are 10 largest agencies on the Polish market.

6. Conclusions

Social transfer system in Poland is the main institutional factor increasing incentives for premature leaving the labour market by people over 45 and various elements of this scheme exert different influence here. The most important passive policy instruments are: early retirement (relevant for some professional groups), pre-retirement allowances (relevant for the unemployed) and disability pensions (relevant for people who are classified as unable to work and also for disabled working in agriculture). Each year over 300 000-350 000 people have been granted one of these benefits, what translates into ca. 4 million of claimants below statutory retirement age. The required public expenditure involve ca. 5.7% of GDP.

The literature does not provide any empirical nor theoretical evidence that taxation in general, and labour taxation especially, is one of the factors explaining the differences in the levels of employment and unemployment in OECD countries. This is so since the changes in taxes are absorbed mainly by net wages level, and not by the employment level. The impact of taxes on unemployment and employment is not strong in the long-term, and it depends on the other labour market institutions, especially on the model of the wage bargaining and social transfer system. The more generous and easier to obtain the social transfer are, and the more the wage bargaining is concentrated at the sectoral level, the more higher taxes lower the employment. Then again, if wages are elastic, subsidies to the leisure low, and possibilities to "escape into pension" are limited, then the influence of taxes is negligible. Therefore, the influence of the so-called tax-wedge on the employment level in Poland is enhanced by a low scale of progression within the lowest income range (with a very high average rate), and by high availability of social benefits to the persons threatened by unemployment, who are often the least-skilled people. These factors make work less profitable and increase the attractiveness of the leisure for people who found themselves in the worst situation on the labour market. Tax-wedge has no special meaning for the employment prospects of better educated and prime-aged workers, but it lowers their private consumption and welfare.

International experience shows that the role of flexible employment protection legislation is primarily to influence the employment structure so as to facilitate employment of the groups, which economic activity is limited. Making the labour law less strict in the given institutional environment results in general mainly in an increase of employment among the youth and women, and a decrease in employment among men, so a general level of employment and unemployment does not change much. Polish employment protection legislation is relatively flexible in comparison with other OECD countries. Poland is much similar in this respect to Anglosaxon than to Western European countries. Amendments of 2001-2004 have contributed to the loosening of the legal provisions that now allow enterprises to carry out their human resources policy rather freely. In fact the only area of Polish labour law that can be said to be relatively inflexible and increasing excessively employer's costs are collective dismissals. They are characterized by a long period of consultations and an obligation to pay the severance payments, which makes Poland an exception among other OECD countries, and which makes the collective dismissals different from individual ones.

Scope of active labour market policy in Poland is small, especially when compared to passive policies. ALMP include only a very limited number of preventive actions targeted at individuals at risk of a permanent unemployment, while at the same time they are only to a low degree related to changes in labour demand and its local specifics. Criteria of selection of the ALMP programme participants' cause an overestimation of their effectiveness, since they favour the unemployed with high qualifications, high motivation and actively looking for a job. Employment services avoid actions directed at groups at high risk of labour market exclusion, what is a contradiction of the idea, widely found in the literature, of ALMP profiling and addressing its programmes to the most needy groups, and not to the individuals who can manage to find employment without them. The efficacy of the active programmes as a form of limiting general unemployment in Poland is unknown, it can be however suspected that because of a significant level of deadweight loss, substitution and displacement effects, it is limited.

Conclusions for the labour market policy

The analysis conducted in this Report makes it possible to view problems of the Polish labour market from various sides, each of them providing additional information about the nature of transformations taking place in the labour market within the last few years; it also informs of the effects of the labour market policy implemented during that time. What is more, it makes it possible to formulate targeted recommendations for the labour market, many of which supplement, develop or detail postulates presented by Polish experts, recommendations of the European Commission or the OECD Secretariat. It is worth stressing that the major part of conclusions for the labour market policy resulting from the findings of this Report remains fully compliant with new guidelines of the Lisbon Strategy. During the Spring Summit in 2005, the Council approved of changes in the Strategy and redefined macroeconomic and employment guidelines defining two key priorities: high economic growth and full employment. Guidelines from specific areas were subordinated to them tackling the following activities: investments in new technologies, improvement of the human capital quality, labour supply increase, maintenance of the largest possible number of older employees in the labour market and increase in labour productivity. These priorities are well matched with the basic challenges for the Polish labour market diagnosed in this document.

Productivity and change of employment structure

The first part of this Report identified the main reasons for the rapid drop in employment and unemployment increase in 1999, as well as reasons for the maintenance and even deepening of these disadvantageous phenomena in subsequent years. Diametrical deterioration of the situation in the Polish labour market was brought about by an external demand shock in the commodity market, which consequences were subsequently intensified due to a negative internal technological shock. As a result, the Polish labour market was affected by the consequences of the Russian crisis in a much stronger and long-lasting manner than the labour markets in other countries in Central and Eastern Europe. The presented arguments prove that the power of influence of both shocks on the labour market would have been less intense, had the average quality of labour force in Poland been higher – especially among people over 35 years old – and had the employment structure in the economy been significantly less based on agriculture and traditional industries in need of restructuring. Considerable persistence of influence of the shock also depended on institutional solutions promoting withdrawal of older workers from the labour market. It is likely that the rapid slump in foreign trade or cyclical weakening of economic growth can also entail serious consequences for the labour market in the future. The ability of the Polish economy to absorb the consequences of trend fluctuations is relatively low, although, due to structural changes taking place within the last few years, Poland is probably slightly better prepared for them in 2005 than seven years earlier. However, it should be remembered that the observed improvements, among others, in education and industrial productivity, are of a relative nature: there has been an improvement in comparison with the initial status but it is not very high in absolute terms. Structural and institutional difference between Poland and the EU15 are responsible to a major degree for the 13 percentage points difference in employment rates between both economic areas.

One of such important differences identified in Part II is the different sectoral structure of the Polish economy. Low productivity of the Polish industry limits growth opportunity for the service sector. As a result the service sector cannot quickly attain the size allowing for an increase in the economic activity of schools attendants and for full absorption of the labour surplus in agriculture. It applies, in particular, to those regions of Poland, in which industry is underdeveloped and the tourism potential does not allow for development of the service sector without substantial productivity growth in the industry. It is worth mentioning that the construction, industry and simple services were those sectors in which employment outflow was most visible in 1999-2003. Thus, employment restructuring was the principal way to improve productivity in industrial enterprises during a rapid demand fall; it caused also the reduction of economic activity and employment in both remaining sectors. These observations lead to conclusion, that economic policy aiming at employment increase and taking into account the challenges related to restructuring of employment, has to focus on the development of modern, highly productive industries. Although the enterprises in these industries do not employ a large number of workers, the value added per one employee they generate is the necessary condition for creation of jobs in labour-intensive sectors, especially services. Considerable employment increase in services will not be possible without a productivity increase in the industry and the value added

generated there – in regions where such industries emerge and in regions able to sell services to the inhabitants of industrial regions, e.g. in tourism. Because of that, a necessary element of the pro-employment economic policy stressed as one of priorities of the EU cohesion policy is taking measures promoting highly productive investments in areas having a chance for prompt real convergence, including investments in the infrastructure, research potential and innovativeness as well as education of the staff necessary to create highly productive industries. It seems that, in Poland, it also entails the need for considerable investments in the transport and telecommunication infrastructure, and education in regions where the creation of attractive conditions for modern entrepreneurs and their high-skilled employees can bring about the promptest productivity increase in the shortest time period. These conclusions fully comply with the assumptions of the Lisbon Strategy redefined at the beginning of 2005. It states that high economic growth and full employment require, among other things, modernization of economies of European states, i.e. commitment to research and development, development of highly productive industries and the use of IT technologies by employers and the possibly largest part of the society.

Education and young people's entry into the labour market

Information society development, increasing employees' abilities to adapt to changes taking place in the labour market with consequential employment increase, require increased investments in the human capital. Thus, it is necessary, among other things, to make the majority of young people attain full secondary education, to give young people the skills necessary to enter the labour market, find a job and retain it. In that context, both the European Commission and OECD consider it necessary to guarantee a high average level of skills related to general knowledge, ability of creative use of the native language and at least one foreign language, analysis of the information and reading skills to lower secondary school graduates. Both European Commission and OECD particularly stress the importance of increasing the percentage of young people with appropriately high skills in the area of mathematic thinking, who decide to continue their education on the university level at technical, mathematical and scientific faculties. Moreover, both institutions believe that it is necessary for member countries to take measures aiming at promoting lifelong learning among young people still at school, as well as among those who already finished their training within the formal system of education.

An important factor reducing the employment rate in Poland is the relatively low average level of educational attainment in comparison with other EU25 member countries. This observation applies to education in the nominal aspect as well as deeper competence mismatches between the labour demand and supply. People on the primary and basic vocational level of educational attainment are strongly over-represented in unemployment and economic inactivity and, at the same time, under-represented in employment. According to the flow analysis presented in Part II, such people have relatively greatest difficulties with finding a job and the highest probability of its loss; as a result, they dominate among the long-term unemployed and their risk of early withdrawal from the labour market is much higher than for people with secondary or tertiary level of educational attainment. However, the nominal average educational attainment quickly improves in younger age cohorts although Poland still lags behind Western Europe in that aspect. At the same time, average quality of education on all educational levels is lower in Poland than in many EU25 and OECD countries. The problem of quality of the Polish education, very important as far as employability is concerned, can be observed in the results of state exams on the lower secondary school level and of maturity exams. It is also depicted by the results of the Programme of International Student Assessment (PISA). Polish student achieving average results in reading skills, processing of basic information and foreign languages have also considerable difficulties with overcoming the habits of schematic and algorithmic thinking. Their learning strategies are frequently based on a purely mnemonic scheme and, as a consequence, they are rarely able to plan and execute more complex and non-standard thinking, achieving particularly poor results in natural sciences and mathematics. Average low mathematical abilities are an important but not the only reason for which exact sciences or technical studies were only to a minimum degree affected by the consequences of the educational boom within the last few years. University education structure in Poland, dominated by business, social, humanities and pedagogical faculties clearly deviates from the structure typical for other OECD states. The relatively small number of people studying natural sciences and engineering even now causes a substantial mismatch between the

demand and supply of labour of the highest-skilled people and can be a serious hindrance for necessary transformations in the labour market within the next several years. Prompt improvement of labour productivity in the industry and attracting investments in the most modern industries can be difficult with the lack of a properly educated scientific and engineering staff. By implication, increasing the number of highly productive jobs – which is a necessary condition for a considerable increase in the number of jobs in services and employment reduction in agriculture – can be impossible in many regions of Poland if the current structure of university studies is retained in the future.

Due to their inherent nature, changes in the education system cannot have an immediate influence on the economy and the labour market. However, the quality of education is of great long-term importance for the economic growth and labour market situation. It seems that the argumentation presented in Part III of this document as well as the European Commission and OECD recommendations show that it is necessary to increase the importance of formation of pupils' mathematical skills and abstractive thinking within the common education system. It can be stated that a necessary element of that process is the reinstatement of mathematics as the obligatory subject for the maturity exam, which has also been provided for in the Education Development Strategy for 2007-2013. In particular, the methods of teaching exact sciences and mathematics have to be changed on all the stages of education. It is absolutely possible according to the experience of Scandinavian countries, which managed to achieve excellent results in that area within the last twenty five years.

An important conclusion of this Report suggests that the current faculty structure of university studies in Poland is not correct and a significant increase in the number of graduates from sciences and technical faculties is much needed in the Polish labour market and the economy as a whole. This process (stressed in strategic European documents) could also be supplemented by the development of postgraduate studies encouraging a greater number of young people to specialize in scientific and technical research. It seems that necessary elements of such a reform include: consideration of the introduction of joint payments for studies (suggested in the Education Development Strategy for 2007-2013) with an appropriate system of scholarships and a state programme encouraging universities to open and students to take up studies at faculties of particular importance from the point of view of economic development. Taking into consideration the impact the high inactivity of young students on employment and problems with the attainment of an appropriate quality of education in many Polish universities, it seems that an important element of changes should also include full implementation of the Bologna process in Polish universities, with an increased importance of baccalaureate diplomas as its significant part, enabling a much larger number of full-time students than currently to enter the labour market even after the sixth semester of studies.

Life-long learning and higher adaptability of the elderly

Participation in life-long learning is very low in Poland. Few people in a particularly disadvantageous position in the labour market, i.e. the unemployed, low-skilled and the elderly take part in it. However, the number of university graduates improving their skills in the course of a professional career is increasing annually. Such a situation poses a threat of a gradual deepening of the competence gap between employees in various socio-professional groups. Because of that, the support for coherent lifelong education strategies should be one of the priorities of the labour market policy. According to the guidelines of the Lisbon Strategy, life-long learning should cover the largest number of people possible. Considering the assumed goals, it means the doubling of the number of participants in life-long learning in the 5-year perspective in Poland. In turn, the Lisbon Strategy puts much stress on the need to cover the largest possible number of the unemployed and, in particular, people remaining without a job for a long time, i.e. most threatened with depreciation of professional skills, which are already low in the majority of cases, with life-long learning (in the form of training courses or a change of skills). Within the next several years, changes in the demographic structure of the Polish society will facilitate the utilisation of a part of educational resources to create a complex life-long learning system. Coping with such a challenge is one of the key tasks of the labour market policy in Poland. It should be accompanied by the creation of conditions for gradual popularisation of the age management system in Polish enterprises so that younger workers would be able to take advantage of

older employees' experience to a greater degree and, in turn, older workers should have an opportunity to learn the skills that they would not be able to learn within their formal education.

Unemployment of the disadvantaged and the role of employment services

The conducted analysis stresses that very high unemployment reaching 18% in Poland affects individual groups to a varied degree. Factors particularly differentiating an individual labour market situation include age and educational attainment. Age is particularly significant when differentiating between those below 25 and over 45 years of age and the prime-aged while educational attainment strongly differentiates chances for taking up and retaining a job in all age groups. The analysis conducted in Part II of the Report indicates that individual groups differ not only with regard to the unemployment rate but also with regard to its nature. The intensity of flows in the labour market decisive of whether unemployment is frictional or structural is particularly important. Undoubtedly, the unemployment of university graduates is frictional: for such people it is a relatively short stage of job-search. It also applies to young people because, although the percentage of the unemployed among those 15-24 years old reaches 40%, their unemployment is related, in particular, to a natural process of entry to the labour market and the search for the first job. The fact that it lasts longer than in countries with lower unemployment rates is a consequence of the generally more difficult labour market situation in Poland and not a unique feature of the Polish youngsters or a consequence of demographic factors. However, it should be remembered that the young people are a heterogeneous group including many persons that have no skills demanded by employers and are unprepared to look for a job (especially those with incomplete vocational education). Unemployment of that group is structural and, contrary to other young people, does not diminish for those who turn 25. Differences in the nature of unemployment between individual groups can also be seen in older age groups. Lower intensity of transitions from employment to unemployment and from unemployment to employment is the reason why the unemployment rate among those with post-secondary and secondary educational attainment is lower than the unemployment rate among those with basic vocational educational attainment. Such unemployment is more of structural character; this is because many of the unemployed with vocational educational attainment have an opportunity to find temporary and seasonal jobs, which make their unemployment frictional to a major degree. However, a group of people threatened with structural unemployment can be distinguished among the unemployed with vocational educational attainment. In particular, it includes those over 44 years old living in regions with a particularly high unemployment rate, low activity and industrial productivity.

Considerable internal differences in the character of unemployment within individual groups (also in the regional aspect) are very significant, in particular, when confronted with active labour market policies implemented in Poland. ALMP are supposed to fight unemployment among those particularly affected or threatened with it, and their goal is to increase chances for prompt taking up a job by those who would not have been able to find a job without such aid. International experience shows that such policies need to be adjusted to the local specificity of the labour market and to changes in the labour demand; they should also be implemented in a properly profiled manner addressed to those whom they can really help. Arguments presented in Part IV prove that the addressing ALMP tools in Poland are of doubtful quality because people whose chances for independent job finding are very high take too much advantage of them while those who really need such aid, do not participate in them. A major part of funds assigned to the active labour market policies is spent on subsidized employment which, in the light of international experience, is very ineffective. It should also be mentioned that public employment services have hardly any programmes for older workers threatened with unemployment; at the same time such people are addressed by passive policies from the social security system. The importance of activities related to the activation of graduates and those who due to their educational attainment experience frictional unemployment only grows quickly. However, job-search assistance – which - as proven by labour economics - is a particularly effective and cheap form of aid to those threatened with structural unemployment – operates relatively ineffectively. Thus, it can be said the ALMP effectiveness in Poland is probably very limited in the macro scale due to the considerable scale of the effects of substitution, displacement and deadweight loss. It is so because public employment services are, on the average, organizationally and personally weak, which is reflected, among other things, in the very high rotation of employment based mainly on subsidized employment. Institutional changes introduced, among others, in the Act on employment promotion and labour

market institutions of 2004 started the process of organizational reform of the system of an active labour market policy in Poland but it is still at the beginning of its road. In that context, a particularly important problem is the lack of the appropriate statistics and developed methodology enabling the evaluation of the true effectiveness of introduced actions (and not the seeming one as it is now). It makes the evaluation of actions taken in the macro scale and the flexible profiling of the current employment policy in the local scale impossible.

Thus, it seems that the system of public employment services and active labour market policies have to be considerably strengthened and the goal of such strengthening should be, in particular, a much greater than currently pro-user orientation achieved thanks to modern job-search assistance and considerable improvement of addressability of ALMP instruments. Because of a high risk of substitution and displacement effects, the introduction of cyclical evaluations of the operating effectiveness of employment services based on statistical reporting and easily available databases of disaggregated unit data should be considered particularly important. Such actions also seem to be significant because of the expected increase in public expenditure for activation programmes within the next few years thanks to funds from the European Social Fund. It seems that, with the introduction of such a system of evaluations, the algorithm of assignment of funds from the Labour Fund should include unburdened effectiveness measures to an extent greater than currently. An important conclusion from the completed ALMP evaluation is the attention on the need of a prompt professionalisation of employment services, without which the construction of an effective job-search assistance will not be possible. To this end, the stability of financing has to be much higher than in 1999-2002.

Social security and early withdrawal from the labour market of the elderly

The extremely low economic activity of people over 44 remains the key problem of the Polish labour market. That group experienced particularly high outflows to unemployment and a drop in chances to take up employment during the Russian shock and subsequent cyclical growth slowdown. That phenomenon increased the pressure – also existing with a considerable intensity before 1998 – on early withdrawal of the oldest participants from the labour market. The intense rate of transitions to inactivity of people over 44 is responsible for a considerable part of the employment gap between Poland and the EU15 countries and other new member states of the European Union. Arguments presented in Part IV explicitly prove that this process is conditioned institutionally by the existence of easily available social benefits. Among those benefits, early retirement pensions available to the (numerous) group of people employed in privileged professions and pre-retirement allowances (being permanent benefits for the older unemployed) have the most significant impact on the labour market participation. Low statutory retirement age of women, unchanged despite the considerable extension of their expected lives is also significant. Pre-retirement benefits and disability pensions were also of high importance in previous years but, as a result of their abolition (in the case of benefits) or in-depth reform (pensions), their significance was reduced. However, beneficiaries of disability pensions in Poland are still a few years younger than in other OECD countries.

Arguments presented in this Report prove that there is a strict connection between the security system currently functioning in Poland and very low employment and economic activity rates for people over 45, responsible for the considerable part of the employment gap between Poland and other member countries of the European Union. It will not be possible to reduce that gap without reforms in the area. The European Commission and OECD recommend taking steps aimed at the retaining the elderly in the labour market. They should include not only the support of an active ageing (in particular, by way of incentives encouraging to remain in the labour market) but also changes in retirement systems and social security systems (abolition of the possibility of early withdrawal from the labour market). In the view of institutional channels of transitions to inactivity identified in this Report, it seems that, in Poland, they particularly require prompt abolition of the possibility to retire early – except for a small group of professions entailing work in special conditions, for which a system of bridging pensions available as of the 55th year of age would be assigned in the transition period. The government has already prepared an appropriate draft. Early retirement is contrary to the structure of the new retirement pension system and harmful for the labour market. For the same reasons, pre-retirement allowances should be abandoned as their influence is very similar from the point of view of the labour

market. In the longer term due to the ageing of the population, which will be visible already after 2010, it seems necessary to emulate countries such as, e.g. Denmark or Sweden, and gradually unify the retirement age for women and men. An important medium-term goal for the professional rehabilitation system of the disabled should also include the situation, in which the average age of a disability pensioners would rise a few years up to the level characteristic for other OECD countries. Reforms of the social security system of farmers are also necessary to increase its self-financing and more strongly relate acquired benefits to paid contributions so that it would not generate barriers for employment restructuring in that sector – which requires considerable acceleration according to facts presented in the diagnosis.

Labour taxation and employment perspectives for the low-skilled

According to the argumentation presented in Part III, the high tax wedge is an additional element providing an incentive for older workers including, in particular, those with lower skills, to withdraw early from the labour market. An interaction between high taxes imposed on the income from labour and the system of social transfers subsidizing the leisure of those over 45-50 years of age is one of the main two areas identified in the Report, in which the tax system distorts the labour market in Poland thus stimulating early withdrawal from the labour market among older workers. Another area includes low-skilled prime-aged people and young labour market entrants. High marginal tax rates combined with the existence of the minimum wage reduce the supply and demand for (legal) labour of those who, due to acquired skills or age, are not sufficiently productive as their gross wages would exceed the minimum wage or the reservation wage. An important observation of the fourth part is that, in the case of skilled people with some professional experience, whose productivity is higher, high average taxes on labour reduce neither the labour supply, which is quite inelastic, nor the demand for it, because taxes are absorbed by net wages in the long term and do not change labour costs.

Theoretical and empirical premises presented in the Report show that the influence of taxation on the labour market in the long term is lower than the influence of other institutional solutions, in particular, strengthening their negative impact on the general level of employment and unemployment. However, the presented arguments also show that its importance is quite high for selected groups, especially the low- and medium-paid elderly people, for whom the replacement rate determined by social benefits is particularly high and those for whom the demand barrier of employment is the gross minimum wage. For that reason, it seems that the tax wedge reduction for those with the lowest income via the introduction of a strong progression at the very beginning of the taxation scale without an increase in the marginal rate, would bring about maximum effects in the labour market in the form of an increase in legal employment of the lowest-skilled, while minimising the cost for the general government. It would change the current situation, in which Poland is among the countries with the highest labour taxation in Europe and very low progression scale at the beginning of the income scale.

Labour market flexibility and changes in employment relationship

The last area of institutional solutions described in detail in the Report is the issue of influence of the labour law flexibility on the level and structure of employment in Poland. It was mentioned in Part IV that, according to the empirical evidence, weaker regulation of the employment relationship influences the employment and unemployment structure much more strongly than their level. For that reasons, significant increase in the flexibility of the labour law within the last few years entailed a considerable increase in the percentage of fixed-term employed but, at the same time, did not lead to changes in total employment. An increase in employment and unemployment fall observed for several months is related to the economic boom rather than code changes that, at the outmost, have a positive influence on the dynamics of the boom in the labour market (but they will also facilitate slowdown during a recession). However, the fact that the Polish law is currently relatively flexible is very beneficial. Lower expenses of dismissals and recruitment make it possible to reduce the persistence and severity of unemployment for people particularly threatened with it although employment they get in return is usually less stable than employment pursuant to traditional contracts, and they have to consider the higher risk of dismissal. However, the role of the labour code is not to maximize employment but to balance the interests of the unemployed and those who have jobs. It seems that the labour code currently functioning in Poland plays that role relatively well, giving employers and employees

considerable freedom to adapt the type of concluded contracts to the specific nature of the job done. The area probably in need of some reforms includes regulations related to collective labour relationships. However, their importance is not high in Poland. Thus, the key conclusion from the prepared diagnosis is that the Polish labour law requires, at the outmost, only slight corrections leading to the reduction of bureaucratisation of some procedures and simplification of regulations concerning the principles of conclusion of collective contracts. In that context, it seems that its legislative stabilization should be a priority because changes introduced within the last few years seem to be fully sufficient from the point of view of the Polish labour market and, in general, they properly balance the interests of an employer and an employee.

Annexes

Annex 1. Glossary

Labour Force Survey (LFS)
The study of population economic activity is conducted using representative method, on the sample of 19 000 – 22 000 of households (48 –55 000 people), quarterly, by continued observation. The study has been carried out periodically since May 1992 (with exception of the 2nd and 3rd quarter of 1999).

Registered employment
Ministry of Economy and Labour reporting, prepared by the local employment offices, defines the unemployed as a person without employment contract, who does not perform any other type of paid work, capable and ready to take up a full-time job, who does not study as a full-time student, registered in the labour office in her/his residency district, if:

- s/he is 18 (with the exception of the adolescent),
- a woman is under 60, and a man is under 65,
- s/he has not acquire the right to retirement or the right to disability pension; nor, in case her/his employment ceased or s/he discontinues non-agricultural self-employment, s/he gets unemployment benefits, pre-retirement payments, rehabilitation payments, illness allowance, nor maternity leave benefits.
- s/he is not an owner nor holder of farming real estate over 2 parity hectares,
- s/he is not subject to social security contributions for future pension for a full-time employee in quality of a spouse or a household member on a farm with over 2 parity hectares of cultivated land,
- s/he has not undertaken extra-agricultural business activity nor is s/he subject – by the force of other regulations – to the obligatory social security or pension contributions,
- s/he is a disabled person, who can take up part-time employment equal to half of the total time load valid in the given profession or service,
- s/he is not temporarily arrested nor does s/he serve a sentence of imprisonment,
- s/he does not make a monthly profit from other sources than employment or paid work, which would exceed the lowest wage,
- s/he does not receive a continued benefit, continued compensation allowance, guaranteed periodical allowance, or social allowance pension.

Unemployed
According to LFS, unemployed are individuals aged 15-74, who fulfil three requirements:

- during the week of the LFS study they were not working,
- they were actively searching for a job – i.e. they undertook substantial efforts to find a job within 4 weeks,
- they were ready (able) to undertake a job in the week of the LFS study or in the next one.

Unemployed were also defined as people who were not searching for a job, because they had been guaranteed a job and they were waiting for its start within 3 months.

Economically inactive people
Economically inactive people, i.e. people outside of the work force, are all the people aged 15 and more who have not been qualifies as working or unemployed.

Unemployment hysteresis
Hysteresis is the term derived from the theory of dynamic systems. It describes a situation in which a given phenomena (biological, physical, economical) evoked by a certain event which took place in the past, withdraws gradually instead of disappearing immediately afterwards. In economics this term is used i.e. in the labour market theory to describe the unemployment which occurs rapidly as a result of the negative shock and declines gradually and very slowly after the shock ceases and the overall economic situation is identical as before the emergence of the shock.

Cohort (age)
Group of individuals born in the same period, e.g. in 1979 or in the years 1944-1949.

Economically active people (labour force)
Or working or unemployed people.

Working population
LFS included in the working population category all the individuals aged 15 and more, who during the week of LFS study:

- performed a paid activity at least for one hour (employed as wage-earner, or worked on their own or leased farm, or were running an extra-agricultural business activity, or helped without wage at a family farm or a family non-agricultural business),
- did not perform any work (e.g. because of illness, holiday, temporary business closure, difficult weather conditions, strike), but who were formally employed as wage-earners or self-employed people.

Moreover, according to the LFS method, the number of working individuals does not include the ones living in worker's hotel and working abroad for Polish employers.

Shock
An event leading to a rapid shift in the economic situation, which is related either to demand factors (demand shock) meaning the changes in the demand for a given good, or to supply factors (supply shock) influencing its production. The shocks can be of a permanent or temporary nature, and they can influence both the product market as well as production factors market, including the labour market.

Unemployment rate
Percentage of unemployed in the total of economically active population (employed and unemployed).

Economic activity rate
Percentage of economically active people in the total population in a given category.

Labour Productivity
the quantity of output (or value added) per unit of input (i.e. employee or per working hour)

Capital Productivity
As in case of labour productivity, this term defines the quantity of output (or value added) per unit of capital. It is more difficult to quantify than labour productivity due to problems related to estimation of the amount of capital used in the production process, in which making specific *ad hoc* assumptions is necessary, which is not the case of labour productivity estimation. It results from the fact that capital is more heterogenic than labour and its book and economic value may be unequal.

Gross Enrolment rate
Ratio of learners on the given educational level to the total population of individuals in the age nominally ascribed to that level, in per cent.

Net Enrolment rate
Ratio of learners on the given educational level, in the age nominally ascribed to that level, to the total population in this age, in per cent.

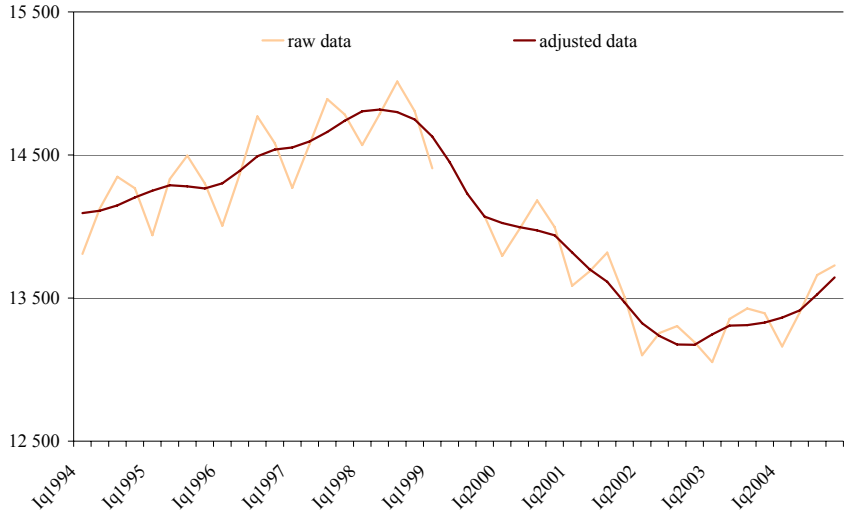
Employment rate
Percentage of working individuals in the total population in a given category.

Annex 2. LFS data series – seasonally adjusted

Following the National Census of 2002, the Central Statistical Office made some corrections in the LFS estimates accounting for the number of individuals working in the national economy. At the same time, however, there were no corrections of the earlier values present in the study. It caused a discontinuity of the analyzed data which can weight on the evaluation of the labour market situation in the recent years. For this reason, the Department of Economic Analyses and Forecasts of the Ministry of Economy and Labour has made appropriate corrections of the series published by the Central Statistical Office. Migrations were the main source of problems present in the estimates. It was thus assumed that intensification of migrations was constant in the sampling period. Therefore, the series of seasonal fluctuations were adjusted before 2003, and then the trends were corrected so that the average level of appropriate corrected values in 2002 corresponded to the average level showed by estimates based on the National Census in that year. Thus, the assumption was made that the study correctly demonstrated short-term fluctuations present on the labour market, and the error was that the international migrations balance was underestimated.

Data series matched in such way – before 2002 and after the Census – constitutes the basis for further data processing. Seasonal fluctuations in the series concerning the labour market have various sources. Firstly, there are differences in the intensification of the entry and exit of individuals from the analyzed groups (births, deaths, completion of education, etc.) Secondly, the entries and exits depend on weather – seasonal jobs (agriculture, subsidized jobs), employment in the sectors sensitive to weather conditions (e.g. construction). The third group of reasons include the statistical procedures adopted by Central Statistical Office concerning the weighting of the individual LFS data, which leads to seasonality of the population in some age groups. To eliminate the fluctuation of seasonal character, the software DEMETRA was used; it operates using TRAMO/SEATS. In the two-stage procedure, in the first stage (TRAMO) the missing observation was completed (second and third quarter of 1999). In the next step, the series was decomposed to the following elements: seasonal, trend, and irregular component (random error). This step was accomplished using SEATS procedure based on Wiener-Kolmogorov linear filter.

Comparison of the raw and adjusted data – employment in the 15-64 age group



Sources: DAE MGiP calculations based on LFS data

Working population, unemployed, inactive and the basic indicators – age group 15-64

	Working population	Unemployed	Inactive	Economic activity rate	Employment rate	Unemployment rate
I 1994	14093	2533	7429	69.1	58.6	15.2
II 1994	14111	2489	7571	68.7	58.4	15.0
III 1994	14147	2435	7807	68.0	58.0	14.7
IV 1994	14203	2370	7875	67.8	58.1	14.3
I 1995	14250	2310	7934	67.6	58.2	14.0
II 1995	14288	2255	7988	67.4	58.2	13.6
III 1995	14281	2238	8044	67.3	58.1	13.6
IV 1995	14266	2238	8096	67.1	58.0	13.6
I 1996	14302	2203	8140	67.0	58.0	13.3
II 1996	14390	2133	8169	66.9	58.3	12.9
III 1996	14491	2054	8192	66.9	58.6	12.4
IV 1996	14537	2006	8239	66.8	58.7	12.1
I 1997	14552	1983	8291	66.6	58.6	12.0
II 1997	14596	1940	8338	66.5	58.7	11.7
III 1997	14661	1868	8393	66.3	58.8	11.3
IV 1997	14740	1776	8456	66.1	59.0	10.8
I 1998	14805	1817	8397	66.4	59.2	10.9
II 1998	14818	1779	8476	66.2	59.1	10.7
III 1998	14800	1793	8536	66.0	58.9	10.8
IV 1998	14749	1852	8588	65.9	58.6	11.2
I 1999	14629	1976	8611	65.9	58.0	11.9
II 1999	14450	2169	8663	65.7	57.2	13.1
III 1999	14231	2410	8705	65.7	56.1	14.5
IV 1999	14069	2579	8767	65.5	55.4	15.5
I 2000	14024	2732	8648	66.0	55.2	16.3
II 2000	13995	2747	8720	65.8	55.0	16.4
III 2000	13973	2752	8785	65.6	54.8	16.5
IV 2000	13939	2799	8807	65.5	54.6	16.7
I 2001	13819	2962	8787	65.6	54.0	17.7
II 2001	13702	3091	8798	65.6	53.5	18.4
III 2001	13613	3144	8859	65.4	53.1	18.8
IV 2001	13468	3221	8953	65.1	52.5	19.3
I 2002	13324	3303	9052	64.8	51.9	19.9
II 2002	13235	3357	9129	64.5	51.5	20.2
III 2002	13176	3391	9197	64.3	51.1	20.5
IV 2002	13174	3382	9250	64.2	51.0	20.4
I 2003	13246	3334	9262	64.2	51.3	20.1
II 2003	13308	3309	9256	64.2	51.4	19.9
III 2003	13310	3333	9258	64.3	51.4	20.0
IV 2003	13328	3341	9261	64.3	51.4	20.0
I 2004	13363	3320	9277	64.3	51.5	19.9
II 2004	13413	3272	9305	64.2	51.6	19.6
III 2004	13525	3187	9309	64.2	52.0	19.1
IV 2004	13644	3104	9304	64.3	52.4	18.5

Source: DAE MGiP calculation.

Annex 3. Decomposition of the sources of unemployment

Decomposition of the sources of unemployment illustrates to what extent is the change in unemployment caused by demographic factors (e.g. the increase in the number of people in the working age accompanied by the increase in employment), changes in economic activity (e.g. fall in the activity rate accompanied by the change in unemployment) or by changes in the labour market itself (change in unemployment proportionate to the change in unemployment rate). Using the law on total derivative the following formula was applied to perform the decomposition:

$$\frac{\Delta U_t}{U_{t-1}} = \frac{\Delta P_t}{P_{t-1}} + \frac{\Delta LFPR_t}{LFPR_{t-1}} + \frac{\Delta UR_t}{UR_{t-1}} + R_t$$

$$\Delta X_t = X_t - X_{t-1}$$

by implication:

$$\Delta U_t = \frac{\Delta P_t}{P_{t-1}} U_{t-1} + \frac{\Delta LFPR_t}{LFPR_{t-1}} U_{t-1} + \frac{\Delta UR_t}{UR_{t-1}} U_{t-1} + R_t$$

while:

$$UR = \frac{U}{LF} = \frac{LF - E}{LF}$$

where:

U – unemployment (the number of unemployed)
P – population
LF – labour force (the number of active)
E – employment (the number of employed)
LFPR – labour force participation rate (activity rate)
UR – unemployment rate
R - error of smaller order resulting from an approximation of the total derivative by difference equation

Annex 4. Equilibrium unemployment

The term of natural unemployment rate, introduced by Friedman, and the concept of NAIRU, authored by Phelps, explain the existence of a certain level of unemployment implied by the structural characteristics of the labour force and by the institutional framework of the labour market. Despite their elegant theoretical foundations, both concepts provide difficulties in terms of practical implementation and calculating specific values for a given economy. Methods of estimations of NAIRU, most commonly used in the literature include: the technique based on the Philips curve enhanced by adaptive expectations; the method based on the comparison of unemployment and the number of vacancies; and the flow approach. In this Report the latter method was used. It consists in calculating the unemployment rate assuming a steady labour market state, i.e. a situation when the numbers of the employed, the unemployed and the active remain constant over time, while there are given intensities of flows between the labour market states.

Let U, E and I be respectively the number of unemployed, employed and economically inactive, and let UE be the number of unemployed finding a job in the given period, i.e. flowing from unemployment to employment. The remaining flows are defined analogically. Steady labour market state implies that the numbers of individuals in each of the three labour market states remain constant in the course of the processes taking place in the labour market. This in turn entails that each of states records equal inflows and outflows. Consequently, we shall compare respective inflows and outflows:

$$ueU + ieI = (eu + ei)E$$
$$euE + iuI = (ui + ue)U$$
$$uiU + eiE = (ie + iu)I$$

where ue=UE/U is the proportion of the unemployed who found a job, i.e. the intensity of flow from unemployment to employment. The remaining intensities are defined analogically and denoted with small caps. The above equations are the conditions of constant employment, unemployment and inactivity, respectively. Note that the third equation is an obvious implication of the first two equations. Moreover the following identity holds:

$$\frac{U}{U+E+I} + \frac{E}{U+E+I} + \frac{I}{U+E+I} = 1$$

Solving the above system, comprising e.g. the first two labour force stability equations and the above identity, yields the unemployment rate of the steady state, in which the numbers of individuals in each of the distinguished states remain constant, with given flow intensities. It equals:

$$u^* = \frac{ei \cdot iu + ie \cdot eu + eu \cdot iu}{ei \cdot iu + ie \cdot eu + iu \cdot eu + ui \cdot ie + iu \cdot ue + ue \cdot ie}$$

Of course, one can similarly calculate the rates of activity and employment
Employment rate equals:

$$e^* = \frac{ui \cdot ie + iu \cdot ue + ue \cdot ie}{ei \cdot iu + ie \cdot eu + iu \cdot eu + ui \cdot ie + iu \cdot ue + ue \cdot ie + ue \cdot ei + eu \cdot ui + ei \cdot ui}$$

while the activity rate:

$$a^* = 1 - \frac{ue \cdot ei + eu \cdot ui + ui \cdot ei}{ei \cdot iu + ie \cdot eu + iu \cdot eu + ui \cdot ie + iu \cdot ue + ue \cdot ie + ue \cdot ei + eu \cdot ui + ei \cdot ui}$$

Annex 5. Decomposition of the employment gap Poland-EU

Employment gap (EG) is determined by the characteristics of the labour force of the country under consideration (C) as compared to the reference country (R). The gap illustrates the difference in the employment rates between country C and country R. It is composed of the differences in: the demographic structure (D), intensity of labour force utilisation (I) and labour force quality (Q). Let the subscripts "e", "g" and "a" denote respectively the educational attainment, gender and age cohort. The employment gap can be decomposed into contributions of different groups (e.g. women with tertiary education, aged 25-44 or men with primary education aged 15-24). The following formulas have been used:

Decomposition of the gap

$$EG_K = ER_R - ER_C = \sum_{ega} \left(D_{ga} + I_{ega} + Q_{ega} \right)$$

The demographic component

$$D_{ga} = ER_{Cga} \left(\frac{P_{Rga}}{P_R} - \frac{P_{Cga}}{P_C} \right)$$

The quality of labour force component

$$Q_{ega} = ER_{\mathrm{Re}\,ga} \frac{P_{Rpk}}{P_R} \left(\frac{P_{\mathrm{Re}\,ga}}{P_{Rga}} - \frac{P_{Cega}}{P_{Cga}} \right)$$

The intenstity of labour utilisation component

$$I_{ega} = \left(ER_{\mathrm{Re}\,ga} - ER_{Cega} \right) \frac{P_{Rga}}{PR} * \frac{P_{\mathrm{Re}\,ga}}{P_{Cga}} * P_C$$

where:

ER – employment rate
P – population (total number of indiviudals of an age group)
e – education (tertiary or non-tertiary);
g – gender (male, female)
a – age group (five-year age groups between 15-64).
C – area under consideration (e.g. Poland)
O- reference area (e.g. EU15)

In calculations Eurostat data for 2q1998 and 2q2003 for EU15 and Poland were used. In case of EU15 one had to supplement the data with an estimation of the part of population, for which the level of educational attainment was not specified.

It was necessary to use only two levels of educational attainment due to the incomparability of the primary and secondary education in Poland and EU15 (basic vocational education is considered to be secondary in Poland while primary in the EU15).

Annex 6. Multinomial logit model of the labour market transitions

Multinomial logit model of the labour market transitions makes it possible to estimate the influence of individual factors on the probability of the change of the labour market state. Traditional econometric model is inadequate here, because the explained variable in such a model can take infinitely many values. In certain situations the explained variable can be a discrete variable; this is the case with individual labour supply (a person can be employed, unemployed or inactive) or with the labour market flows (an employed person can remain employed, become unemployed or inactive). This is why, it is assumed that the occurrence of a given (discrete) explained variable is ruled by an unobservable continuous variable y^*, which can be explained using a linear model. For instance, consider the case of outflows from employment (denoted by E) to unemployment (U) or inactivity (I). Of course, each of the transitions: y_{EE}, y_{EU} or y_{EI}, excludes the two remaining ones. Thus for the individual i the model can be written down in the following way:

$$y_i^* = X_i'\beta^U + \varepsilon_i$$

Moreover, y_{EE}=1 when $y^*_i < k_1$, y_{EU}=1 when $k_1 \le y^*_i < k_2$, y_{EI}=1 when $y^*_i \ge k_2$, where k_1 i k_2 are certain limit values. Since y^* is an unobservable auxiliary variable, representing the process that determines labour market transitions, the values of k_1 i k_2 have no interpretation. In the above model X_i stands for the vector of explaining variables for the individual i. These variables can have a continuous (e.g. work experience) or a zero-one nature (e.g. 1 for people being belonging of a certain age group, 0 otherwise). This vector comprises of individual characteristics and of variables common for varied individuals (employment rate in a given voivodeship at a given point of time, sector of the economy in which the individual works, or dummy variables for time effects).

Let P_{Ej} be the probability of transition from state E to state j, i.e. the probability of y_{EE}=1, y_{EU}=1 or y_{EI}=1, respectively. Probability of transition from the E to U can be expressed in terms of explaining variables and parameters in the following way (for the outflow to I or no flow the expression is analogous):

$$P_{EU} = P(y_{EU} = 1) = P(k_1 \le y_i^* < k_2) = P(y_i^* < k_2) - P(y_i^* < k_1) = P(X_i'\beta + \varepsilon_i < k_2) - P(X_i'\beta + \varepsilon_i < k_1) =$$
$$= F_\varepsilon(k_2 - X_i'\beta) - F_\varepsilon(k_1 - X_i'\beta)$$

where F_ε is the cumulative distribution function of the random error. Assuming its logit distribution, $P(\varepsilon<a)=F_\varepsilon=(1+e^{-a})^{-1}$, one gets a multinomial logit model. The problem is how to estimate the influence of the characteristics constant for each of the states, i.e. individual characteristics. This is why the distribution is normalised to one of the states, usually the one occurring most frequently in the given sample. In this case, the most frequent event is remaining in employment, and that is why the probability distribution of transition from employment to any of the other states j ($j=U, I$) takes the following form:

$$P_{Ej} = \frac{\exp(X_i'\beta^j)}{1 + \exp(X_i'\beta^U) + \exp(X_i'\beta^I)}$$

The model of outflows from unemployment is derived analogically: unemployment is the initial category and the point of reference, while symbols E and U in the above formulas take each other's places.

Multinomial logit model is estimated by the maximum likelihood estimation (MLE) method.. However the estimations of the parameters are interpreted differently than in a traditional linear model; in particular one has to cope with the problem that the marginal effect of the change of the specific variable vary with the values of other explanatory variables. Since (for $i=U,I$):

$$\ln\left[\frac{P_{Ej}}{P_{EE}}\right] = X_i^{'}\beta^j$$

the estimation of the parameters of the explaining variable in the equation illustrating a given flow shows how the probability of this flow changes as compared to the probability of remaining in the initial state. Consequently, to assess the influence of a given variable on the probability of occurrence of a given realisation of the explained variable, one has to calculate a so called Relative Risk Ratio (RRR), which indicates by how many percent does the probability of occurrence of a given realisation change, if the explaining variable changes by a unity. RRR is equal to Euler's constant to the power equivalent to the estimated parameter's value.

Annex 7. EPL index components for Poland in 1999 and 2003

Regulation	Index in 1999	Index in 1999 related to OECD average	Index in 2003	Index in 2003 related to OECD average
Synthetic index	1.9	0.87	2.1	0.98
Employment contracts, including:	2.2	1.00	2.2	1.00
Procedural inconveniences	3.0	1.40	3.0	1.39
Notice and severance pay	1.4	0.82	1.4	0.84
Difficulty of dismissal	2.3	0.83	2.3	0.84
Temporary contracts, including:	0.8	0.43	1.3	0.72
Fixed-term contracts	1.0	0.58	0.0	0.00
Temporary work	0.5	0.24	2.5	1.33
Collective dismissals	4.1	1.36	4.1	1.36

Source: Authors' calculations based on the OECD data.

Annex 8. Algorithm used to transfer the funds from the Labour Funds to the Voivodeship and poviat governments.

In compliance with the decision of the Council of Ministers of 28. September 2004, (*Dziennik Ustaw* 04.224.2273), the algorithm calculating the funds of the Labour Fund transferred to cover the expenditure for the tasks in a Voivodeship is as follows:

$$Ap = 0{,}9xPax\frac{\{(Ldw_n x1{,}3 + Law_n + Lpw_n x0{,}8)xWk_n xWo_n\}}{\sum_{N=1}^{16}\{(Ldw_n x1{,}3 + Law_n + Lpw_n x0{,}8)xWk_n xWo_n\}} + Pm_n$$

where:

Ap - the total sum of the Labour Fund funding that can be used to finance the Voivodeship tasks related to promotion of employment, attenuation of the unemployment effects, and economic activation.

Pa - the sum defined in the Labour Fund plan, needed to carry out the tasks described in § 2.1 item 1of the Act, in a given budget year, minus the sum for these tasks defined by the Minister, Voivodeship governments, and Voluntary Labour Corps, and minus the planned sum of revenues from the EU funds generated by the realization of the projects co-financed from the European Social Fund.

Ldw_n - number of unemployed aged 50+, registered in the local employment offices of the Voivodeship, as of 30. September of the year preceding the year, for which the current amount of the Labour Fund funding is being defined, hereafter referred to as "previous year"; to define the funding for 2005, the number of unemployed aged 49+ is considered.

Law_n - number of unemployed under 25, registered in the local employment offices of the Voivodeship, as of 30. September of the previous year; to define the funding for 2005, the number of unemployed under 24 is considered.

Lpw_n - number of unemployed registered in the local employment offices, minus the number of unemployed over 50 (Ldw) and minus the unemployed under 25 (Law), as of 30. September of the previous year; to define the funding for 2005, the number of unemployed under 24 and over 49 is considered,

Wk_n - corrective coefficient 1.0 is assumed for the Voivodeship with the lowest unemployment rate, as of 30. September of the previous year; it is increased by 0,002 for all other voivodeships for each 0.1 of the percentage point of unemployment rate in a Voivodeship that exceeds the unemployment rate in the Voivodeship with the lowest unemployment rate.

Wo_n - corrective coefficient defined as a quotient of the unregistered unemployed (outflow) in the PUPs within 12 months prior to 1. October of the previous year to the number of the newly registered unemployed (influx) in this period,

Pm_n - Labour Fund planned sum of revenues from the EU funds generated in the Voivodeship by the realization of the projects co-financed from the European Social Fund in the budget; in case the actual takings are higher or lower than planned, then in the next budget year the Pm_n for the Voivodeship is decreased or increased, respectively.

n - given Voivodeship.

Annex 9. Bologna Process

Bologna Process is defined as changes in the tertiary education initiated by the Bologna Declaration in 1999, signed by the European ministers in charge of education. Declaration constituted the basis for actions, which the final objective was to create the European Higher Education Area. The Declaration defined the basic initiatives aimed at coordination of the tertiary education systems, adjustment of the education system on the tertiary level to the labour market requirements, and the increase of competitiveness of the European tertiary education system. Therefore, Bologna Declaration included numerous postulates, which realization would further the achievement of the defined objectives. The postulates included:

- introduction of the two-stage degree programmes (BA and MA levels);
- introduction of the credit system - ECTS,
- adoption of the "clear" and comparable diplomas by introducing the supplement of diploma, and by defining qualifications acquired during studies,
- elimination of the obstacles to the mobility of students and employees – initiation of Socrates-Erasmus programme, continuation of the studies of the II level at some other university (also abroad), introduction of the common degree programmes carried out by universities from different countries.

In 2001, after the first conference of the European ministers in charge of education of the countries, which signed Bologna Declaration, Prague Communiqué was issued. It completed the Declaration's objectives by:

- development of lifelong learning,
- cooperation of universities and students in realization of the Bologna Process,
- propagating European Higher Education Area outside Europe.

Berlin Communiqué of 2003 not only summed up the works carried out to fulfil the Bologna Declaration and Prague Communiqué objectives, but it also broadened them. The need to strengthen the collaboration between the European Higher Education Area and the European Research Area was stressed. Inclusion of the doctoral studies in the two-stage structure of studies, and development of interdisciplinary education were deemed necessary to incorporate in Bologna Process

Actions related to the Bologna Process, are realized through collaboration on the intergovernmental level; actions undertaken by higher education institutions; and collaboration between student organizations.

Annex 10. Matching the LFS data sets

The logit model construction and the assessment of flows on the Polish labour market required data which would include information on the situation on the labour market of a given individual in two different points in time. Such possibility – because of the specific scheme of sample rotation – is offered by LFS. In this study, the sample consists of four basic sub-samples, which are exchanged every quarter: in a given quarter, two sub-samples interviewed in the previous quarter are interviewed, as well as one sub-sample introduced to the study for the first time and one sub-sample interviewed in the previous year. As a result, every respondent participates in the study for two subsequent quarters, then for two quarters s/he is not interviewed, and after this pause s/he returns as a participant in the study. A detailed scheme of the rotation of all sub-samples is placed in the quarterly publications of the Central Statistical Office "Labour Force Survey in Poland". For the analyses presented in the Report, the data sets were matched so that in one data set there is information about the same respondents from the same quarters of two subsequent years (e.g. the 1st quarter of 2000 and the 1st quarter of 2001).

To match the data sets, a variable identifying the respondents was established; the variable included the following:

- apartment number,
- household number,
- number of individual in the household,
- Voivodeship number,
- number of territorial district (or – for the sets of 1992-1998 – number of the interviewer),
- year of birth,
- sex.

In 1999, the study was suspended. When Central Statistical Office resumed the process, new samples were drawn, therefore the data sets that would include information from 1999/2000 turned out to be impossible. Moreover, in 2003, Central Statistical Office changed the territorial district codes (a part of territorial units received a new number, and some kept the previous one); consequently, some sets of data for 2001-2003 include fewer records.

Important abbreviations

ALMP	Active Labour Market Policies
LFS	Labour Force Survey
CASE	CASE – Center for Social and Economic Research (Centrum Analiz Spoleczno-Ekonomicznych)
CBOS	Public Opinion Research Centre (Centrum Badania Opinii Spolecznej)
CKE	Central Exam Commission (Centralna Komisja Egzaminacyjna)
CIT	Corporate Income Tax
DAE	Economic Analyses and Forecasts Department (Departament Analiz i Prognoz Ekonomicznych)
EFS	European Social Fund
EPL	Employment Protection Legislation
EURES	European Employment services
FGSP	Guaranteed Employee Benefits Fund (Fundusz Gwarantowanych Swiadczen Pracowniczych)
FP	Labour Fund
FUS	Social Insurance Fund (Fundusz Ubezpieczen Spolecznych)
GUS	Central Statistical Office (Glowny Urząd Statytstyczny)
ILO	International Labour Organization
ISCED	International Standard Classification of Education
KRUS	Agricultural Social Insurance Fund (Kasa Rolniczego Ubezpieczenia Spolecznego)
MENiS	Ministry of National Education and Sport (Ministerstwo Edukacji Narodowej i Sportu)
MGiP	Ministry of Economy and Labour (Ministerstwo Gospodarki i Pracy)
MPS	Ministry of Social Policy (Ministerstwo Polityki Spolecznej)
NMS	New Member States
NFZ	National Health Fund (Narodowy Fundusz Zdrowia)
NSP	National Census (Narodowy Spis Powszechny)
NSZZ	Independent Trade Union (Niezalezny Samorządny Związek Zawodowy)
OECD	Organisation for Economic Cooperation and Development
OFE	Open Pension Fund (Otwarty Fundusz Emerytalny)
OHP	Voluntary Labour Corps (Ochotnicze Hufce Pracy)
OPZZ	Polish Association of the Trade Unions (Ogolnopolskie Porozumienie Związkow Zawodowych)
PIP	National Labour Inspectorate (Panstwowa Inspekcja Pracy)
PISA	Programme of International Student Assessment
GDP	Gross Domestic Product
NACE	Statistical Classification of Economic Activities in the European Community (corresponding to the Polish PKD classification)
PIT	Personal Income Tax
PSR	Universal Farm Census (Powszechny Spis Rolny)
PSZ	Public employment services (Publiczne Sluzby Zatrudnienia)
PUP	Local employment office (Powiatowy Urząd Pracy)
puz	Multi-employer collective agreements (Ponadzakladowe uklady zbiorowe)
SFP	General government (Sektor Finansow Publicznych)
TZB	Trilateral Branch Teams (Trojstronne Zespoly Branzowe)
EU	European Union
EU15	EU member states before 1. May 2004
VAT	Value Added Tax
ZUS	Social Insurance Institution (ZUS)
zuz	Institutional collective agreement (Zakladowe uklady zbiorowe)

Abbreviations – names of the countries

AUS	Australia
AUT	Austria
BEL	Belgium
BGR	Bulgaria
CAN	Canada
CHE	Switzerland
CYP	Cyprus
CZE	Czech Republic
DEU	Germany
DNK	Denmark
ESP	Spain
EST	Estonia
FIN	Finland
FRA	France
GBR	Great Britain
GRC	Greece
HUN	Hungary
IRL	Ireland
ISL	Island
ITA	Italy
JPN	Japan
KOR	South Korea
LTU	Lithuania
LUX	Luxembourg
LVA	Latvia
MEX	Mexico
MLT	Malta
NLD	Netherlands
NOR	Norway
NZL	New Zealand
POL	Poland
PRT	Portugal
ROM	Romania
SVK	Slovakia
SVN	Slovenia
SWE	Switzerland
TUR	Turkey
USA	United States of America

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