

# AGENCY FOR ECONOMIC COORDINATION & DEVELOPMENT

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## WORKING PAPER SERIES

### **UNEMPLOYMENT IN BULGARIA, 1991 – 1993**

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## 1. DATA SOURCES

The first half of 1990 marked the appearance of „open“ unemployment in the Bulgarian economy as a result of the inability of the government budget to finance the artificially sustained level of over-employment. „Full“ employment of the working-age population was a characteristic feature of the former centrally-planned economy. The share of working-age population in the labour force was kept high. In contrast to market economies, there was a constant shortage of skilled labour across different branches. At the same time, the utilization of labour force was far from optimal since almost all enterprises did not cut inefficient jobs and were permanently over-manned.

The number of unemployed has been statistically recorded since mid-1990, based on data from the National Employment Service (NES) with the Ministry of Labour and Social Welfare. This has been the only regular source of information on the quantity and structure of registered unemployment.

The National Statistical Institute (NSI) does not yet carry regular assessments of employment and unemployment. The first such instance was a sample survey on unemployment conducted alongside the 1992 census (end of 1992). According to the age structure, it is compatible with NES data on registered unemployment. Another survey was made at the end of September 1993, based on a method used in most developed countries and coordinated with ILO. 30 000 households were surveyed. The labour force consisted of all persons above 16 years of age who were employed or wished (and sought) employment. This is one of the reasons for the incompatibility of these data with NES data.

Hereafter, the source of data on registered unemployment is the NES, while the NSI is the source of data on overall unemployment, of which registered unemployment is a part.

## 2. OVERALL DYNAMICS OF REGISTERED UNEMPLOYED

The dynamics of registered unemployment in Bulgaria can be divided into three sub-periods.

Table 1

### Unemployment dynamics and the main macroeconomic parameters

		1990	1991	1992	1993
Registered unemployed (end of year)	x1000	65.1	419.1	576.9	626.1
Number of unemployed	x1000			638.3 <sup>2)</sup>	814.7 <sup>3)</sup>
Change in the registered unemployed (average monthly rate)	%		16.8	2.7	0.7
Subsidies to state-owned enterprises (share of GDP)	%	14.9	4.2	1.9	2.3 <sup>1)</sup>
Rate of GDP real growth	%	-9.1	-11.7	-5.7	-4.2 <sup>1)</sup>
Rate of real growth of the industrial output	%	-10.7	-43.4	-19.4	-2.8 <sup>1)</sup>

1) preliminary

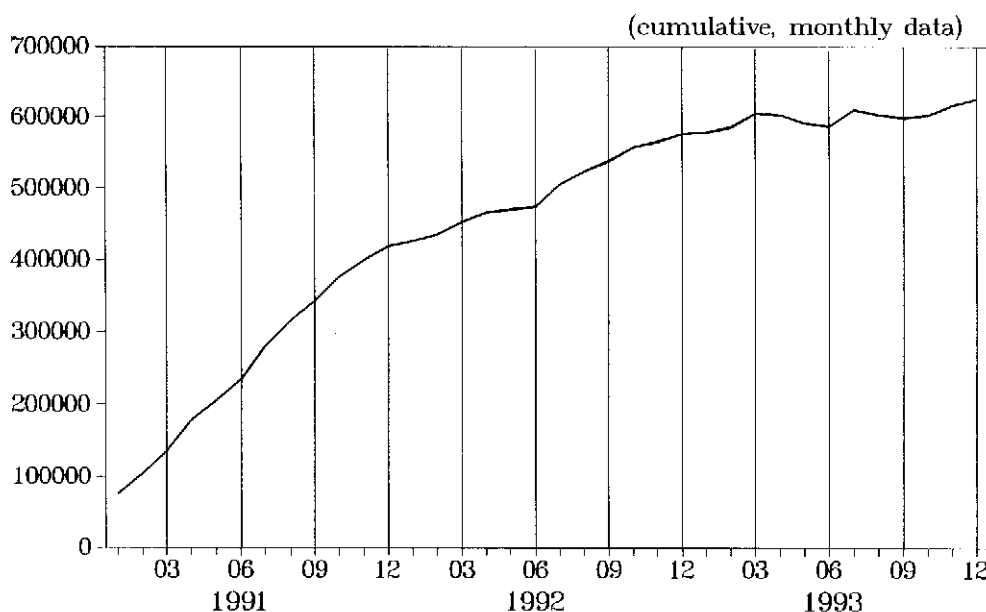
2) end of November

3) end of September

Till the end of 1990 enterprises did not yet function as genuine market agents. Relatively hard budget constraints were not yet in force which allowed them to sustain an inefficient level of employment. As a

result, registered unemployment grew on a very low rate over the period, while the number of vacancies matched or, in certain months, even exceeded the number of unemployed. In other words, we can speak of labour „shortage“ supported by the powerful trade unions.

Number of Unemployed



Source: MLSW, AECD

The second sub-period stretches from January 1991 till March 1993. It was generally characterized by the emergence and expansion of the unemployment cohort and witnessed a steady upward trend in registered unemployment. The average monthly growth rate was 16.8% in 1991, and 2.5% over the January 1992 - March 1993 period. The unemployment dynamics of the sub-period was determined by mass layoffs in the public sector on one hand, and on the other, by a slower expansion of the private sector which was thus unable to accommodate public sector unemployment. The collapse of employment in enterprises in the state and co-operative sector was influenced by the sharp drop in real output (particularly large in 1991) and by the huge cuts in budget subsidies.

Since March 1993 the trend in registered unemployment has changed its slope. In the last two months of 1993 however the value of the indicator rose again. Data available do not allow for a clear distinction of the reasons for the fall in registered unemployment. It may have been due to the simultaneous influence of three factors: 1) the more dynamic development of the private sector which has substantially offset the fall in public sector employment; 2) the upward trend in seasonal employment in the summer period; 3) part of the unemployed deleted from registration lists have not found new jobs, thus preserving their status of unemployed.

Both NSI surveys registered a greater number of unemployed relative to the number given by NES. The discrepancy of figures has been determined by two divergent factors. On one hand, since part of the unemployed do not rely on employment agencies for finding a new job, they do not register or are deleted from registration lists after a certain time span (usually after the term of benefit has expired) without finding new employment. In this way actual unemployment outweighs registered unemployment. The disparity grows with the increase in the number of students and pensioners who search for jobs without being eligible to register with the employment agencies. On the other hand, some register as unemployed only to receive benefits or social assistance. At the same time, they may have found a job, or may not look for any (by definition they should drop out of the labour force). The overestimation of registered unemployment is due to this very cohort.

The actual ratio of unemployment „overestimation“ to its „underestimation“ cannot be derived from the existing statistical data. In the Czech republic (by 1992 the only former socialist country with unemployment statistics based on household surveys similar to the NSI survey) the level of unemployment substantially exceeds the estimates

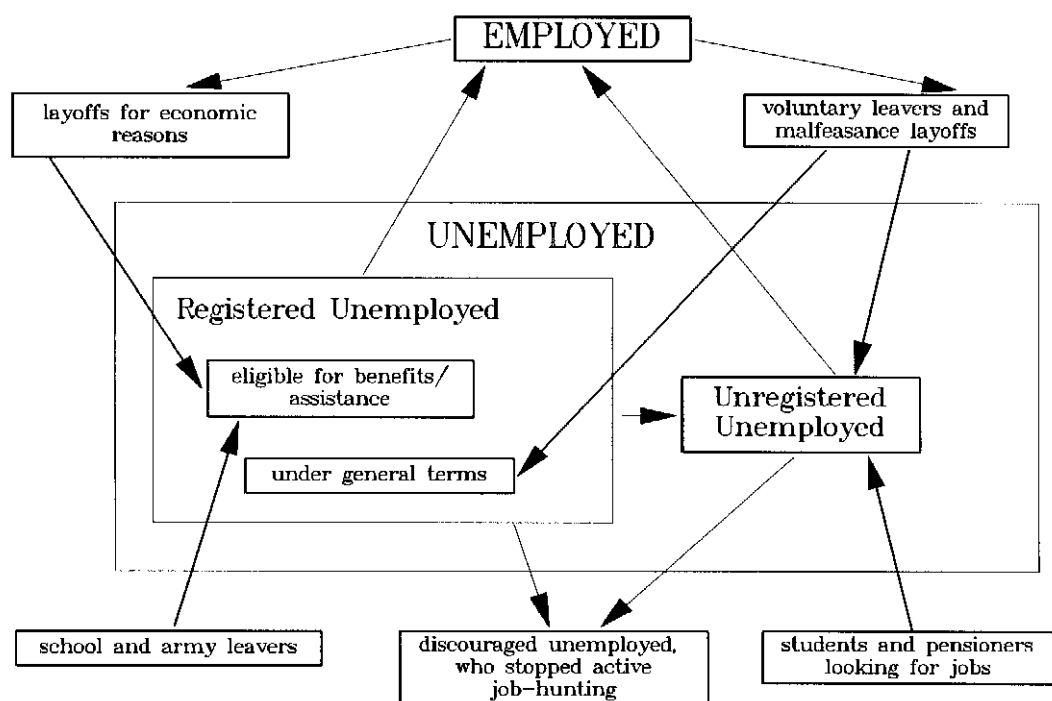


based on data on registered unemployment. (It is similar to the case of Bulgaria). This, however, is radically different from the situation in the OECD countries where survey unemployment is in most cases lower than registered unemployment.

The December 1992 survey of the NSI put unemployment at 12.9% above registered unemployment, and the September 1993 survey - at 25.3% above. (Unemployed with the exception of students and pensioners). The disparity in assessment indicates the low confidence of unemployed in employment agencies as a means for finding a job.

### 3. WHAT DETERMINES UNEMPLOYMENT DYNAMICS?

Changes in unemployment are determined by the dynamics of the inflow and outflow of unemployed as shown on figure 2.



\* Thick lines indicate the inflows to unemployment, thin lines indicate the outflows from unemployment.

Table 2

**Unemployment Inflow and Outflow**

		1991	1992	1993
1. Inflow	x 1000	622.7	639.4	539.2
1.1. Laid-off and registered under Decree 57	x 1000	378.4	306.3	259.4
1.2. Public sector layoffs under Art.328 of the Labour Code	x 1000		265.7	257.6
1.3. Inflow Intensity	%	1.4	1.8	1.4
2. Outflow				
2.1. Appointments through the labour agencies	x 1000	106.4	74.2	68.3
2.2. Outflow Intensity	%	8.2	6.2	6.2

Source: NSI, NES, AECD

1.3. - as percentage of the labour force minus registered unemployed

2.2. - as percentage of registered unemployed

The main source of unemployment are public-sector employed. Those laid off for economic reasons (enterprise close-downs and personnel cuts) are eligible for unemployment benefits, and as a rule register with the employment agencies at least for the term of unemployment benefits. Those dismissed on the grounds of malfeasance are not eligible for benefits; therefore, a larger part of them (relative to the former cohort) do not register with the agencies. They join unregistered unemployment which may be estimated only using the NSI surveys on the labour force. Similar is the case of those dismissed

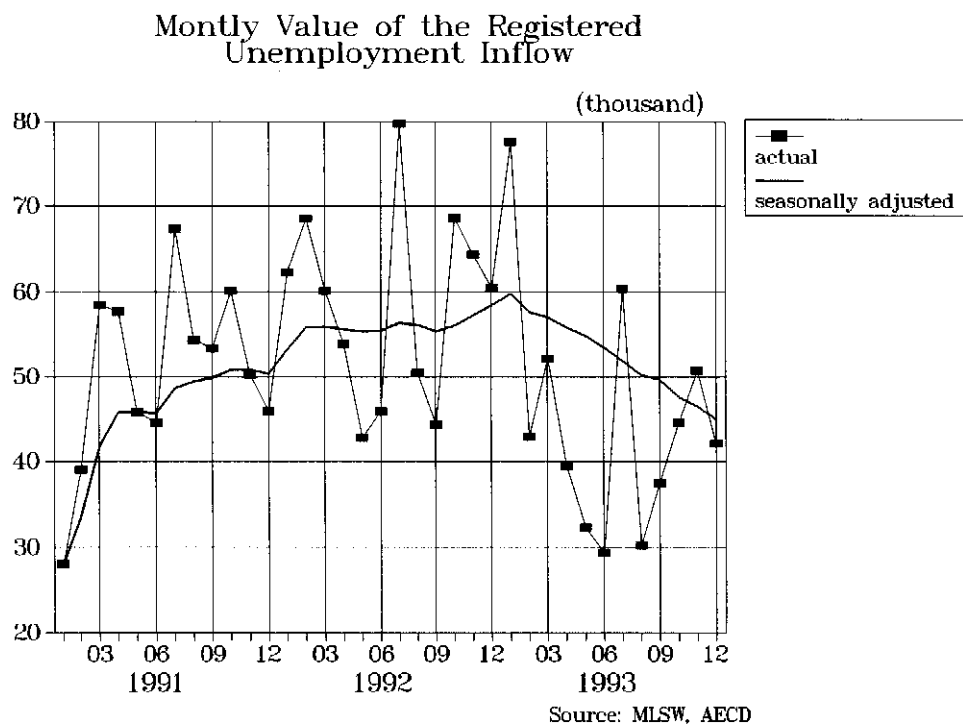
on their own will. It can be assumed that most of them leave to take another job, so they do not join the unemployment cohort.

Another important source of unemployment are people in search of a first job. They are entitled to unemployment benefits if they fail to get work and then register with the agencies.

Discouraged people who have dropped active job-search are an important source of both the inflow and outflow. Their behavior is very often similar to that of the unemployed. That is why in most cases the difference between these two cohorts is very slight.

### 3.1. The Registered Unemployment Inflow

The inflow of registered unemployed may be divided into four major groups: 1) lay-offs for economic reasons; 2) dismissed on their own will or on grounds other than in item 1); 3) school graduates and discharged soldiers in search of a first job; 4) initial or reentry unemployment. Only people in group 1 and 3 are eligible for unemployment benefits.



The inflow reached its peak in 1992. This was not, however, the highest absolute and relative growth in unemployment, since the outflow was also larger.

The dynamics of the monthly number of newly-registered unemployed displays strong seasonal variations. The seasonally adjusted trend (cf. figure 2) indicates a clear downward trend of the inflow, leading to a relative stagnation of registered unemployment in 1993.

School and army leavers are one of the factors determining the seasonal inflow dynamics. Its influence may be offset by adjusting the inflow for its value. Since the latter is not statistically measured, it may be obtained by deducting the number of lay-offs from the overall number of registered unemployed who are eligible for unemployment benefits in a given month. This calculation gives plausible results only for the period since March 1992.

These assessments lead to the conclusion that in 1992 and 1993 the annual inflow of registered unemployment of the third group amounted to 75000-80000. The indicator did not display any substantial variations by years. Therefore, the group of people in search of a first job influences the monthly inflow without sizably affecting its annual values.

Having been adjusted for the number of school and army leavers, the inflow dynamics is still susceptible to seasonal influences. Residual seasonal influences are determined by the impact of seasonal employment on the dynamics of the other two groups in the inflow.

Newly-registered unemployment of the first group (lay-offs for economic reasons) depends exclusively on the output dynamics. It has been following a clear downward trend: from 378000 in 1991 dropping to 259000 in 1993. The largest share belongs to public-sector lay-offs which amounted to 266000 in 1992.

There are no data available on the private sector lay-offs for economic reasons. Indirect estimates can be made by deducting public-sector lay-offs for economic reasons from the overall number of newly-registered unemployed on an annual basis. However, this will not match the exact figure for two reasons: 1) Part of those registered as unemployed at the beginning of a certain year have been laid-off at the end of the previous year; on the other hand part of those laid off from the public sector at the end of the year may register as unemployed in the beginning of the next. Generally the values of these two flows differ and their balance will affect the estimates. 2) Part of public sector lay-offs concern people who could find a new job right away without registering as unemployed.

The first factor is purely technical and does not influence the precision of estimates. The second, however, is essential and may distort the estimates on private sector lay-offs for economic reasons in a highly mobile and flexible labour market. Therefore, the figures should be interpreted only as the lower bound of private sector lay-offs for economic reasons.

AECD estimates put the minimum value of registered private sector lay-offs at 40594 in 1992 and 1789 in 1993. Its share in overall registered unemployment for economic reason is 13.3% in 1992, and 0.7% in 1993. These figures identify the public sector as the main source of newly-registered unemployed for economic reasons. The sharp fall in private sector lay-offs in 1993 may be due to two factors: 1) Assuming the figures are close to the actual ones (which would be the case in a labour market of low mobility and turnover), the only determining factor is the higher stability of private sector jobs in 1993. 2) If the assumption is not true, the fall may be due to a higher flexibility of the labour market which allows a larger number of transfers from one job

to another. It may also be indicative of a future increase in the turnover on the labour market. In this way the estimate of private sector lay-offs will be less compatible with their actual level and serve as its lower bound.

Table 3  
**Coefficients of Correlation Between Employment / Layoff Dynamics and Various Economic Parameters**

	Output (%)	Unit labour costs (%)	Produc- tivity (%)	Average Wage (%)
Dynamics of layoffs under Art.328 (%)	-0.195	-0.003	-0.213	-0.53*
Dynamics of Employment (%)**	0.643*	-0.014	0.13	0.105

\* Significant at a level of significance  $\leq 5\%$ .

\*\* Dynamics of labour-contract employment in industry 1993/1992.

To identify the factors determining lay-offs, a cross-section correlation analysis was made of both the percentage change in lay-offs in 1993 (relative to 1992) and the percentage change in output, unit labour costs, labour productivity and the average wage in 1993 relative to 1992<sup>1</sup>.

The results indicate that a high degree of correlation is observed only with respect to the average wage.

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<sup>1</sup> Based on data from the industrial state sector with the exclusion of the oil and gas extraction industry where no lay-offs were registered.

The same analysis relative to employment dynamics yielded different results. The percentage change of employment in 1993 (compared to 1992) in the surveyed branches indicates a high positive degree of correlation only with respect to the output change. This distinction may be partially due to the fact that the fall in employment is not solely conditional on layoffs. Some of the positions vacated either voluntarily or due to natural causes and malfeasance, have been closed. Layoffs for economic reasons come as the next step.

The general-term unemployment cohort includes layoffs due to malfeasance, voluntary leavers as well as reentry unemployment.

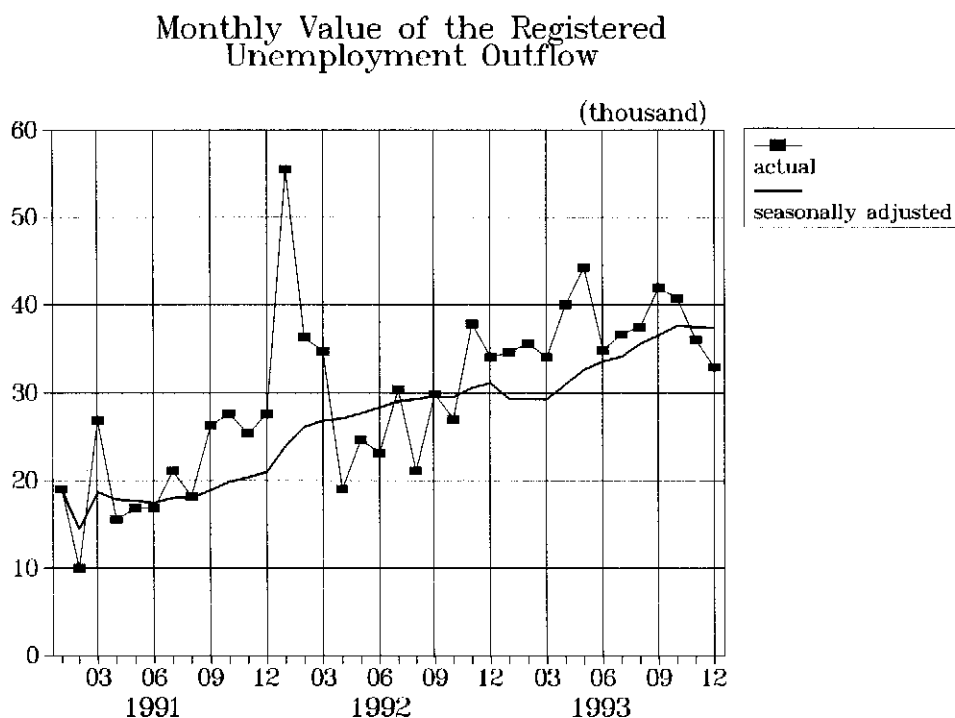
The lack of any information on this cohort prevents assessments of the sub-groups' impact on the overall dynamics of the cohort. It should be noted that in 1993 newly-registered unemployment under general terms fell by 41% compared to 1992. At the same time the share of general-term unemployment in overall unemployment has been steadily growing due to the increasing share of long-term unemployed whose term of benefits has expired. This is a process of inner restructuring of unemployment in the absence of any external inflow.

### **3.2. The Registered Unemployment Outflow**

The unemployment outflow includes 1) the number of people who have found new jobs through the employment agencies; 2) the number of people deleted from the registration lists.

Despite monthly fluctuations, there has been a steady annual upward trend in the outflow. The number of people deleted from registration lists or having found new jobs through the agencies amounted to 251 000 in 1991, and in 1993 rose by 78.8% to reach 449 000. The increase has been due to: 1) higher labour demand; 2) expired term of

benefits leading to deletion from registration lists; 3) discouragement and withdrawal from active job-seeking; 4) natural causes. Data available do not allow to assess the impact of each factor.



Source: MLSW, AECD

The number of deletions from registration lists due to natural causes amounted to 33 000 in 1992 (8.9% of the outflow) and to 35 000 in 1993 (7.8% of the outflow). Their absolute amount has steadied at too low a level to influence the outflow dynamics. At the same time, average monthly registered unemployment stepped up by 20.2% in 1993 relative to 1992. Under equal conditions, deletions due to natural causes should have increased at the same rate and reach 40 000 in 1993.

These data indicate that initial layoffs involved a relatively higher number of people near retirement age or in maternity leave. In subsequent periods (when these opportunities had been exhausted) layoffs have increasingly affected the other employment cohorts.



Employment through the agencies has been constantly declining both in absolute and relative (% of the outflow) terms. In 1991 it amounted to 106 000 (42.2% of the outflow), falling to 68 000 (15.2%) in 1993. Whereas in late 1990 it closed on or exceeded 2/3 of the monthly outflow, in the second half of 1993 its share plunged to 10-15%. Employment through the agencies has not contributed to the outflow increase.

New employment in the state and co-operative sector amounted to 473 000 in 1991, 335 000 in 1992, and 401 000 in 1993. Private sector employment has been steadily increasing although there are available data. Thus new employment in the private sector is at least equal to the absolute employment growth<sup>2</sup> there. It was no less than 120 000 in 1991, 220 000 in 1992 and 90 000 in the nine-month period of 1993. Therefore, employment through the agencies did not exceed 17.9% and 13.3% of overall new employment in 1991 and 1992 respectively. Its 1993 share is again expected to verge on 13%.

The falling share of employment through the agencies in overall new employment may be due to two major factors. 1) The increasing number of job changes without an intermediary period of unemployment. This trend would signal poorer employment prospects for the unemployed, since employers would prefer to hire people with uninterrupted job records. Long-term unemployed have the poorest prospects, since they suffer the highest degradation of acquired skills. 2) Employment agencies are not seen as the only (or the basic) vehicle for finding a job. According to the NSI survey from 04.12.1992, 59.2% of all unemployed regarded the employment service as a way to find new jobs, while in September 1993 their share amounted to 63.3% (students and pensioners excluded). About 180 000 of the 565 000-strong regis-

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<sup>2</sup> *The natural employment turnover due to filled-in vacancies and job cuts for economic reasons has been excluded.*

tered unemployed at the end of November 1992 did not rely on the agencies, while at the end of September 1993 their number amounted to some 120 000 out of 598 000. Their sole motive for registration was unemployment benefits and social assistance, and not active job-seeking.

The outflow growth has been entirely due to the increasing number of unemployed deleted from registration lists. In 1991 they amounted to 145 000, in 1992 - to 299 000, and in 1993 - to 381 000. It was already noted that deletions due to natural causes had a negligible impact. The major reason for the trend has been the increasing significance of other means for finding a job besides the employment service. On one hand, more unemployed have been able to start work without the direct intermediation of the agencies (whose share has fallen, as already noted). On the other, this development reduces the credibility of agencies as a possible source for employment; hence the motive for extended registration in the absence of any other reasons. Part of those dropping out of registration have possibly been discouraged and stopped active job-seeking. According to the classification used, they no longer belong to the labour force. However, their behavior does not seem to differ much from that of the unemployed as sometimes there is only a slight distinction between the categories of „unemployed“ and „out of the labour force“. Besides, withdrawals are often short-term, breaking a long unemployment term into several shorter periods.

Data available do not indicate what share of the unemployed deleted from registration lists have found jobs, what share are still unemployed and what share have withdrawn from the labour force. An indirect assessment can be made by comparing data from the two NSI surveys over the period December 1992 - September 1993 which was characterized by a relative stagnation of registered unemployment.

Deletions from registration over the period amounted to 313 300, 28 600 of them due to natural causes while the remaining 284 700 cannot be accounted for.

The December 1992 survey put unemployment in Bulgaria at 638 300, and the September 1993 survey - at 750 200 (students and pensioners excluded), indicating an increase of 111 900. At the same time the growth in registered unemployment amounted to only 33400. Assuming a negligible share of people who lost their jobs over the period and did not register at the agencies, the difference of 78 500 represents those deleted from registration lists who have preserved their status of unemployed. Therefore, 27.6% of deletions from registration (without those due to natural causes) have maintained their status of unemployed, while the other 73.4% have found jobs or have stopped active job-seeking and withdrawn from the labour force.

Assuming that the number of people outside the labour force has not changed significantly over the period, some 200 000 have found jobs without the help of the employment agencies. Employment through the agencies was three times lower (60 000) over the same period. This is yet another indication of the falling significance of the employment service.

### **3.3. Intensity of Flows and Unemployment Duration**

The dynamics of both the inflow and outflow conditions the changes in the cohort of unemployed. The intensity of flows together with the average duration of unemployment characterize the cohort in terms of turnover and mobility.

The inflow intensity is assessed as percentage of the labour force less the number of unemployed. The outflow intensity is assessed as percentage of the number of unemployed (Table 2).

Only the two NSI surveys contain data on unemployment duration. They represent a breakdown of unemployment by duration at a given moment. NES has not begun releasing data on the duration of unemployment registration before deletion from the agencies' registration lists. Even if such information was available, in many cases the duration of unemployment extends over the period of registered unemployment since part of the people deleted from registration lists maintain their status of unemployed.

One way to assess the average duration of concluded periods of unemployment is:<sup>3</sup>

**DU = U/O**, where

**DU** is the average duration of concluded periods of unemployment in a given month;

**U** is the number of registered unemployed at the end of the month;

**O** is the outflow value in the given month.

Obviously, the outflow increase will reduce the average duration, while the increase in unemployment will extend it. This assessment indicates the number of months necessary for a complete turnover of the existing pool of unemployed at a given moment, a given outflow value and an equal inflow of newly-registered unemployed.

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<sup>3</sup> *Elmeskov, Jorgen, „High and Persistent Unemployment: Assessment of the Problem and its Causes“, OECD, Economic Department, Working Papers No.132, Paris 1993, p.48. The outflow is calculated according to:*

$$O = (I_t + I_{t-1})/2 - (U_t - U_{t-1})/12, \text{ where } I \text{ is the inflow value.}$$

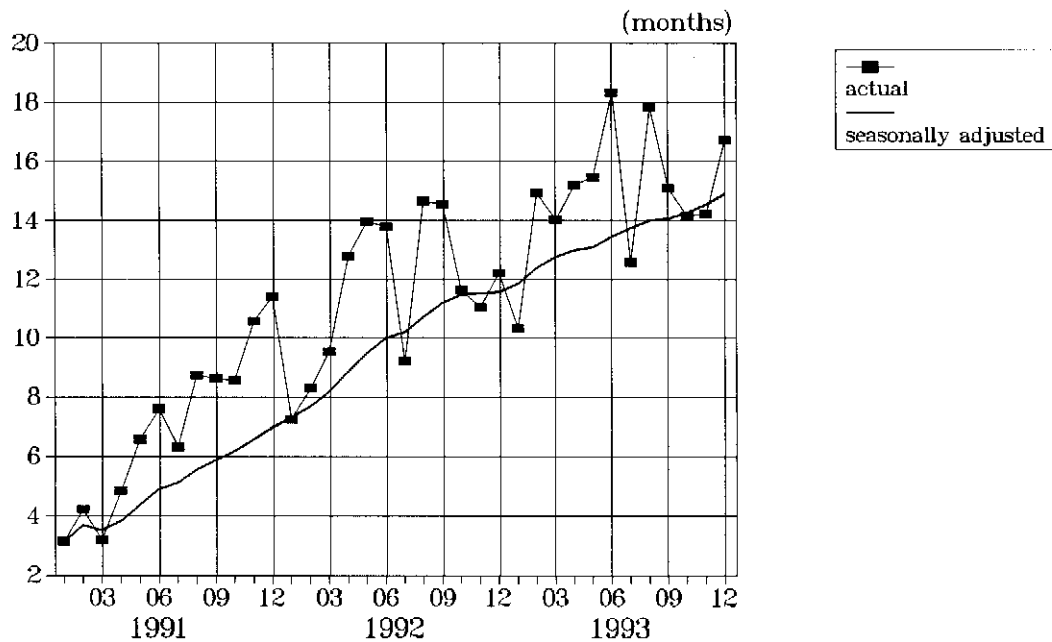
*Both flows present annual values.*

*In Hagemeyer, Krzysztof, Krzysztof Rybinski, „The Labour Market in Poland in 1990-1992: Unemployment Trends“, Paper for the Second Workshop, World Bank Research Project on „The Labour Market in Transitional Socialist Economies“, April 1993, chart. 18 the average duration of unemployment is assessed using the formula*

$$DU = U / ((O + I) / 2)$$

*If the outflow and the inflow are equal in value, the two formulas yield identical results. The second formula is rather a measure of the unemployment duration of those presently unemployed, i.e. of periods of ongoing unemployment.*

Average Duration of Unemployment Periods



Source: MLSW, AECD

Table 2 shows that the outflow intensity weakened in 1992 and steadied down in 1993 despite the above-noted upward trend in its absolute value. Therefore, in 1992 the stock of unemployed was growing at a higher rate than the outflow, whereas in 1993 both increased at relatively equal rates. The inflow intensity peaked in 1992 (with the highest absolute value), while 1993 marked a plunge to its 1991 level.

Table 4 shows data on the intensity of the flows and the average unemployment duration in some developed market economies. It outlines two groups of countries. The first (Canada, Finland, USA) is characterized by a high turnover of unemployed and short periods of unemployment. The inflow intensity is high (close to the Bulgarian case), while the outflow intensity is much higher (3-4 times higher than the Bulgarian case).<sup>4</sup>

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<sup>4</sup> It is another matter how many of the outflow have found jobs and how many have actually remained unemployed.

The second group (Belgium, Italy, Spain, France, Portugal) is characterized by hard-core unemployment of low turnover, low intensity of both flows and quite long average duration of unemployment periods.

Table 4

**Average Duration of Unemployment Period in Some OECD Countries**

	Inflow Intensity <sup>1),3)</sup> (%)	Outflow Intensity <sup>2),3)</sup> (%)	Average Unemployment Period (in months) <sup>4)</sup>
Australia	0.92	18.2	5.4
Belgium	0.10	2.7	54.2
U.K.	0.68	9.5	10.2
Germany	0.26	6.3	16.4
Greece	0.28	5.3	17.2
Denmark	0.44	8.3	10.0
Ireland	0.37	3.2	36.9
Spain	0.12	1.3	86.7
Italy	0.18	2.3	36.6
Canada	1.89	30.8	3.3
Norway	0.79	30.3	3.4
U.S.A.	1.98	45.7	2.2
France	0.33	5.7	18.2
The Netherlands	0.23		22.5
Sweden	0.40	30.4	3.3
Japan	0.37	17.2	5.6

Source: OECD: Employment Outlook. 1990, pp.12-12; Elmeskov, Jorgen, „High and Persistent Unemployment Assessment of the Problem and its Causes“, OECD, Economics Department, Working Papers No 132, Paris, 1993, p.48

1) (%) of labour force (monthly data)

2) (%) of unemployment (monthly data)

3) in 1988

4) average for 1987-1989

Table 5  
Average Duration of Unemployment Period in Bulgaria (in months)\*

	1992	1993
Total	11.2	14.6
Women	11.7	14.8
Unemployed below 30 yrs	11.6	13.3
Unemployed university graduates	9.8	10.1
Workers	11.3	12.1
Specialists	10.5	13
Unemployed with no professional qualification	12.6	16.4

Source: NSI, NES, AECD

\* Assessed using the formula  $P = U/O$ , where

**P** is the average unemployment period for the respective demographic group (in months)

**U** is the average number of registered unemployed of the respective group in the year

**O** is the average monthly registered unemployment outflow for the respective group in the year

The inflow intensity in Bulgaria is relatively high, which accounts for the rapid unemployment rise in 1991 and 1992. The outflow intensity verges on the average for the countries in Table 4. Concluded periods of unemployment have relatively long duration which is, however, much shorter than in the countries with peak values.<sup>5</sup> The latter is partly due to the short history of unemployment surveys in

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<sup>5</sup> The average unemployment duration in Poland (another transitional economy) was 20-40 months for the February-October 1992 period. (Cf. Hagemeyer, Krzysztof, Krzysztof Rybinski, „The Labor Market in Poland in 1990-1992: Unemployment Trends“, Paper for the Second Workshop, World Bank Research Project on „The Labor Market in Transitional Socialist Economies“, April 1993, chart. 18).

Bulgaria - some 40 months by the end of 1993. The average unemployment duration has been ever increasing: from 6.8 months in 1991 to 14 months in 1993. This is indicative of the formation of a hard-core unemployment with low (and still falling) chances for new jobs.

The comparison between the structure of unemployment by duration in both NSI surveys indirectly corroborates the above conclusion. Unemployment periods over 1 year marked a growing share: from 39.6% in early December 1992 to 53.8% in late September 1993.

The first survey featured a 3.2% share of unemployment periods of 4 and more years. Unemployment periods of 3 and more years amounted to 13.9% of the total in the second survey.

Part of the increase is due to the inconsistency of both surveys. The classification of unemployment by duration has certain discrepancies in the time-spans. In the December 1992 survey part of the polled (21.4%) gave a „I haven't worked“ answer to the question on unemployment duration. Such a response relates to previous employment and job-seeking rather than to the duration of the unemployment period. Nevertheless, these differences cannot fully account for the growth in long-term unemployment registered in the 1993 survey.

#### **4. CAUSES FOR UNEMPLOYMENT**

Analyzing the registered unemployment inflow, we made certain assumptions about its structure according to the causes for unemployment. Thus, according to the 1992 assessments, about 12% of the registered unemployment inflow consists of school and army leavers, about 34% - of laid-off for economic reasons, and about 54% - of people dismissed on their own will or due to malfeasance, as well as of reentry unemployment. In 1993 the share of the first cohort did not change



much (14%), whereas the share of the second cohort sharply increased (48%) at the expense of the third cohort (38%).

NSI surveys contain data on unemployment structure according to the causes for unemployment. According to the December 1992 survey, employment among school and army leavers amounted to 23.4%, layoffs for economic reasons reached 59.7%, and the third cohort amounted to 16.9%. The results of the September 1993 survey indicated 18.9%, 55.8% and 9.2% respectively.

These data are incomparable. The surveys are different in scope, and there are ambiguities in the classification of the groups in the September 1993 survey. Lay-offs include dismissals due to malfeasance, which is incompatible with NES data. Pensioners have not been recorded as unemployed; they have neither been included in total work force by the NSI 1992 survey, as well as by the NES surveys. In the 1993 survey these individuals have been recorded as unemployed and included in the group of people that left job on their own will. Finally, two new cohorts are formed<sup>6</sup> with unclear classification according to the criteria in the other two data sources.

Nevertheless, two basic conclusions can be drawn: 1) The relative share of school and army leavers in the stock of unemployment is much larger than in the annual registered unemployment inflow. Part of the difference is probably due to the timing of surveys - they were conducted slightly after the annual peak of labour force inflow. The lower chances of these people to find jobs has also influenced the results. 2) The share of lay-offs in the unemployment stock is much larger than in the annual registered unemployment inflow. They do not display a clear annual seasonal pattern and therefore the timing is not so important. The large relative share of lay-offs in the unemployment

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<sup>6</sup> *Unemployment after seasonal or temporary jobs, and unemployment for other reasons, including students who are absent from the other two surveys.*

stock indicates that the greater part of them consists of reentry unemployment.

. In this way they raise the share of registered unemployment under general term in the inflow without changing the share of the latter in the unemployment stock. This shows that a large part of unemployment is long-term, and the unemployment period consists of several relatively short periods of unemployment. Output decline and the shrinking demand for labour have been the key factors for the high level of unemployment.

These results indicate that all efforts to curb unemployment that are not linked to output recovery are irrelevant. They are rather a smoke-screen activity than a solution to the problem.

## **5. UNEMPLOYMENT STRUCTURE**

### **5.1. Gender Structure**

There is a steady downward trend in the relative share of women in the structure of registered unemployment by gender. At the end of 1990 their share in the stock was 67.6%. It gradually fell down, fluctuating at about 52% in 1993.

The decline in the relative share of registered female unemployment has been due to several factors. The initial pressure for lay-offs at the end of 1990 and throughout 1991 concerned mainly women. The process of cutting down the existing over-manning reduced the lay-offs imbalance, which reflected on the inflow structure. Women have a larger relative share in the outflow as well, due mostly to the number of unemployed women deleted from registration lists. Thus, in 1992 they amounted to 53.4% of the outflow, and in 1993 - to 51.3%.

Despite the above considerations, the larger relative share of women in the registered unemployment flow has been preserved: 52.4% in 1992 and 51.7% in 1993. Therefore, the increase in the unemployment stock has been contributing for the fall in the relative share of women registered as unemployed.

Table 6

**Unemployment Levels\***

	December 1992	September 1993
Total	16.3	21.4
Men	15.9	20.8
Women	16.9	22
15-24 years of age	32.9	47
25-34 years of age	27.7	22
35-44 years of age	22.7	16
45-54 years of age	15.1	14.1
55-64 years of age	1.6	17.6
Over 65 years of age		13.4
University graduates	7.8	9.7
College graduates	6.9	8.6
Technical school graduates	15.1	16.5
Secondary school graduates	20.2	22.2
Primary school graduates and lower education	29.2	30.1
In towns and cities	15.2	19.5
In villages	19.2	26.3

Source: NSI, AECD

\* Number of unemployed from the respective group as percentage of the labour force in the same group.

The two NSI surveys give a different structure of unemployment by gender. In early December 1992 women accounted for 49.7% of unemployment, and in late September 1993 - to 48.8%. Assuming the credibility of both sources, the difference may be explained by the subjective preferences of men and women concerning unemployment registration. Many factors influence these preferences, a key one being that men have lower confidence in employment agencies as a means for finding a job. This is corroborated by data on the activity of unemployed in search of a job. Both NSI surveys feature a higher relative share of women for whom the agencies are a possible way to find new employment: according to the December 1992 survey they amounted to 63% of unemployed women (against 55.7% for men), whereas the September 1993 survey put them at 60.7% (against 55.9% for men).

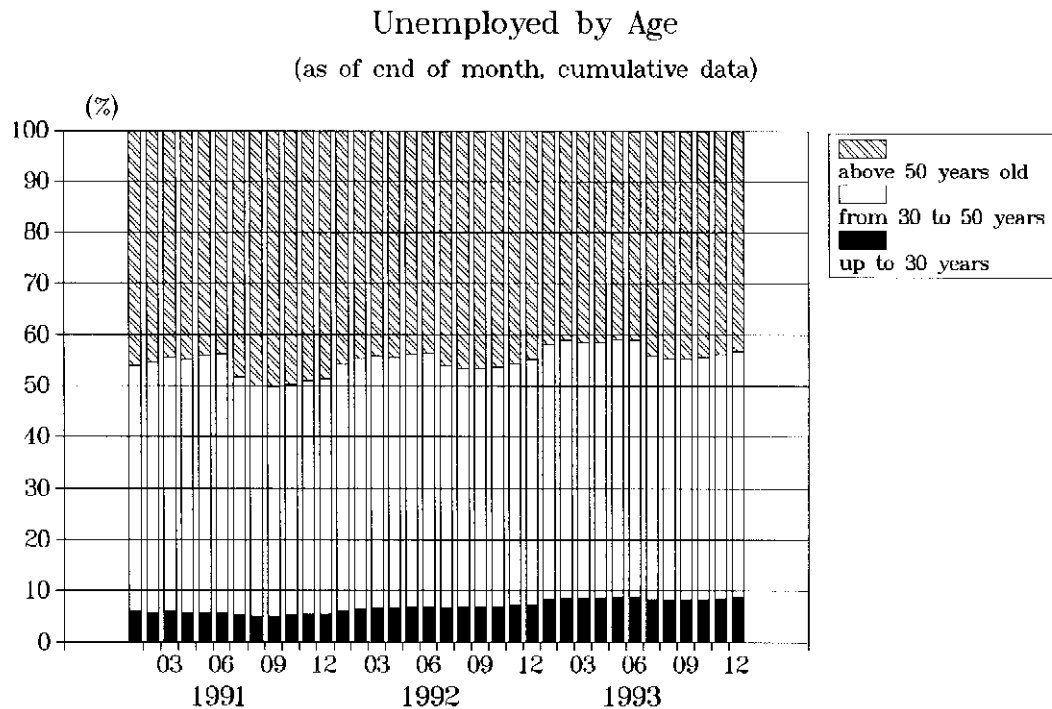
Even NSI data (where the absolute number of unemployed women is lower than of men) register a higher level of female unemployment. The December 1992 survey put female unemployment at 1% higher than male unemployment and the September 1993 survey - at 1.2%. (The difference will be still higher if only Labour Ministry data on registered unemployment are used). Thus, compared to men, women run a higher risk of unemployment. This trend slightly accelerated in the nine-month period of 1993.

## **5.2. Age Structure**

The dynamics of the age structure of registered unemployment has outlined two distinct trends.

Registered unemployment in the lowest age cohort (below 30 years) has been following slower growth rates than overall unemployment. Moreover, throughout most of 1993 their absolute number declined even in the months when the overall number of registered

unemployed rose. The inflow of school and army leavers into the labour force leads to seasonal peaks in the registered unemployment inflow and disrupts the general trend of its dynamics.



Source: MLSW, AECD

The absolute and relative value of unemployed in the highest age cohort (over 50 years) has been constantly increasing. In the beginning of 1991 they amounted to 5.9% of overall registered unemployment, whereas at the end of 1993 they reached 8.9%, following an upward trend. The share of long-term unemployment among the higher age cohorts is also larger. The December 1992 survey indicated that 5.7% of unemployed over 50 years of age had been jobless for 4 and more years - the highest value across the age structure. The share of this age cohort in unemployment from 1 to 3 years is also high - 44%, but lower than the share of the second age cohort (30-50 years) - 47.2%.

Therefore, the rise in hard-core long-term unemployment reflects the ageing of the cohort of unemployed. The acquired skills of unemployed in the higher age cohorts degrade more rapidly over longer unemployment periods.

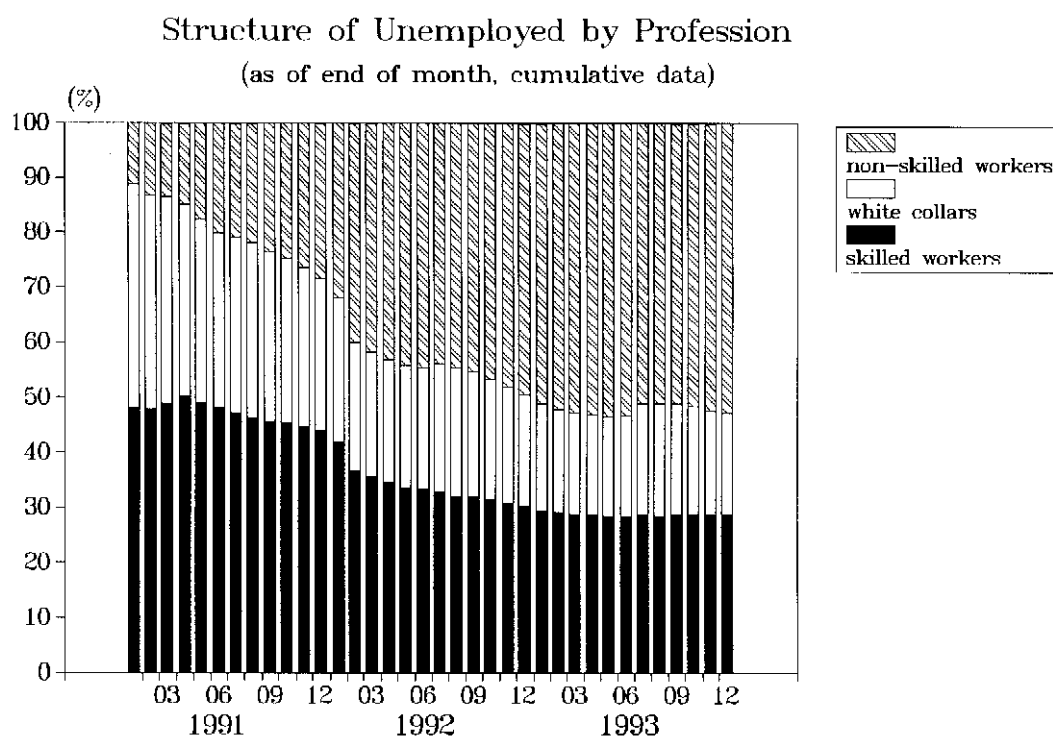
NSI survey data on the age structure of unemployment differ substantially from Labour Ministry figures. According to the December 1992 survey, the share of unemployed below 30 years amounted to 47.5% (against 45.6% of registered unemployed according to the NES), the share of unemployed between 30 and 50 years - to 45% (against 47.4%), and the share of unemployed over 50 years - to 7.5% (against 7%). No such comparison is possible between the second NSI survey and NES data on registered unemployment structure due to the different age brackets.

The highest level of unemployment is registered in the lowest age cohorts. The December 1992 survey put the share of unemployed between 16 and 29 years to 26.7% - nearly twice higher than the other age cohorts. The September 1993 survey put the share of unemployed between 16 and 24 years at 47%, and the share of the next cohort (25-34 years) at 22%. Therefore, young people run the highest risk of unemployment. Clearly, the financial concessions in Decree 110/1991 of the Council of Ministers, encouraging the employment of young people, do not have any noticeable impact.

The high level of unemployment in the lowest age cohort (16-25 years) is partly due to the large number of students. This is corroborated by their rather low degree of economic activity (43%), which, together with their insufficient level of qualification and education, makes them uncompetitive on the labour market. It should also be noted that both NSI surveys were conducted soon after the large influx of school and army leavers into the labour force (in early December and late September respectively) which influenced the results.

### 5.3. Professional and Educational Structure

The major trend in the dynamics of registered unemployment is the steady increase in the relative share of unemployed of no professional qualification at the expense of workers and specialists. In early 1992 the latter accounted for 88.8% of registered unemployment, and the former - to only 11.2%. At the end of 1993 the situation was radically different - unemployed workers and specialists accounted for 47.2% of registered unemployment and still following a downward trend, while the share of unemployed of no professional qualification amounted to 52.8%.



Source: MLSW, AECD

The initial wave of lay-offs affected workers and specialists mostly. Thus, in 1990 only 21.9% of those laid-off for economic reasons were with less than secondary education (they are the major part of unemployed of no professional qualification). Their share increased

gradually, reaching 47.3% of lay-offs in 1993. The rising number of unemployed of no professional qualification has also been conditioned by their predominance in the general-term unemployment inflow. (In 1992 they accounted for 52.2% of newly-registered unemployment under general terms, and in 1993 - for 64%). At the same time, the average unemployment period for people of no professional qualification is 4 months longer (16 months) than for the other two cohorts.

The professional structure of registered unemployment is closely linked to its educational structure, data on which are available in both NSI surveys. People with high-school and primary (or lower) education make up the cohort of unemployed of no professional qualification. Data from both NSI surveys coincide with NES data on registered unemployment, confirming the upward trend in the relative share of unemployed with lower education. The NSI December 1992 survey put the share of unemployed with high-school or primary and lower education at 69%. and the survey of September 1993 registered a rise to 75.5%.

The unemployment probability for people with primary or lower education is about 30%, and for university graduates - 10%. Hardcore long-term unemployment comprises people of no professional qualification and low level of education, which makes the task of permanent reduction of the overall unemployment level extremely difficult.

#### **5.4. Structure According to the Last Job Held**

Table 7 shows unemployment levels according to the last job held by the unemployed. The source of data is the NSI December 1992 survey.



**Table 7**  
**Unemployment Levels According to Last Job Held\***

	(%)
Top Government and Municipal Officials	5.2
Managing Directors	3.5
Engineering Staff	13.6
Agronomists, Zoo-technicians, Veterinary Surgeons and Foresters	21.1
R&D Staff	8.5
School and University Heads and Staff	4.6
Art, Culture, Mass Media Professionals	12.2
Health Care, Physical Training, Sports Professionals	2.8
Lawyers	2.3
Security and Bodyguards	6.2
Financial, Accounting and Economic Staff	10
Other Intellectual Professions	4.1
Computer Specialists	14.6
Miners	7.8
Metallurgists, Foundrymen	13.8
Metal and Electrical Engineering Professionals	
Chemical, Oil-Processing and Rubber Industries Professionals	8.5
Construction Material Production Professionals	18.4
Timber Professionals	10.8
Wood-Processing Professionals	12.2
Pulp and Paper Industry Professionals	7.8
China, Sanitary Ware and Glass Industry Professionals	14.9
Textile Industry Professionals	18.2
Clothing Industry Professionals	17.7
Leather and Fur Industry Professionals	10.1
Footwear Professionals	9
Printing Industry Professionals	12.7
Food and Fodder Industry Professionals	12.9
Energy Generation Professionals	5.9
Construction and Lifting-Trucks Professionals	19.5
Farming Professionals	17.7
Forestry Professionals	16
Railway Transport Professionals	5.6
Auto- and Electro-transport Professionals	15
Water Transport Professionals	5.8
Air Transport Professionals	4
Other Transport Professions	26.6
Communications Professionals	5
Trade Professionals	13.5
Public Utilities Professionals	13.3
Hospital Attendants, Nurses and Related Staff	4.5
Other Physical Labour Professions	18.7

\* - % of employed in the respective profession according to the NSI survey of December 1992.

Source: NSI

Unemployment above the average level is usually registered in the industrial and agricultural sectors. (For instance, in the construction materials, textile and clothing industries etc.). Lower levels of unemployment are recorded among specialists; in this group the highest unemployment probability again relates to the above mentioned sectors: agronomists, zootechnicians, veterinary surgeons, silviculturists, engineers and technicians. Overall, those employed in the industrial and agricultural sectors run the highest risk of unemployment. On the other hand, these sectors account for the major part of total employment in the economy. That is why the slowdown in the lay-offs rate there is a key factor for the overall unemployment dynamics.

Relatively low unemployment levels are registered in professions requiring a high level of education and special qualifications. (Lawyers, health care specialists, managers etc.). This confirms the conclusions about the educational and professional structure of unemployment.

### **5.5. Regional Structure**

The regional structure of registered unemployment is too uneven. The unevenness coefficient by regions<sup>7</sup> oscillated around a monthly value of 0.6 in 1991-1993, indicating a highly uneven regional structure of registered unemployment. The main reasons for that are the uneven distribution of the labour force and the different unemployment levels by regions.

The first factor is highly inert. Under equal conditions (i.e. assuming that the only factor determining the regional structure of registered unemployment is the distribution of the labour force), the

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<sup>7</sup> It is calculated using the formula

$$k_i = \sqrt{1 - 2 / (1 + 9 \sum k_i^2)}, \text{ where}$$

$k_i$  is the relative share of registered unemployment in the region  $i$  in overall unemployment.

structure of the labour force should coincide with the structure of registered unemployment. Since they differ, the unevenness of the regional structure of unemployment is due to the different unemployment levels by regions.

The difference coefficient between the two structures<sup>8</sup> oscillated around a monthly value of 0.12 in 1991-1993. This indicates small differences between both structures. Therefore, the basic reason for the uneven regional structure of registered unemployment is the uneven regional structure of the labour force. As long as both structures are not identical, the uneven regional distribution of registered unemployment is partly due to the different unemployment level by regions as well.

According to NES data, regions in Bulgaria can be divided in three groups: 1) with unemployment level below the national average (Greater Sofia; Varna region in certain periods); 2) with unemployment level close to the average (most of the regions); 3) with unemployment level above the average (the regions of Montana and Haskovo; the regions of Lovech and Plovdiv in certain periods).

Regions are quite large territorial units. At a lower level the differences between unemployment levels widen. Consistently high levels of unemployment have been mainly registered in municipalities in mountainous and semi-mountainous regions where one or two state-owned firms-employers have been dominating the labour market.

The NSI surveys contain data on urban and rural unemployment. Both register a higher level of rural unemployment as the gap between the two levels widened in 1993 (from 4.5% in the 1992 survey to 6.8% in the 1993 survey) due to two major reasons: on one hand and, the land reform swept away the existing structures, and on the other, the

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<sup>8</sup> It is calculated using the formula

$$k_r = \sqrt{\sum(k_{pc} - k_g)^2 / (\sum k_{pc}^2 + \sum k_g^2)}, \text{ where}$$

$k_{pc}$  are the relative shares of economically active population by regions,

$k_g$  are the relative shares of registered unemployed by regions.

industrial output stagnation has led to sharp labour cuts and close-downs of auxiliary workshops in towns and villages.

The regional unemployment structure makes the task of unemployment reduction extremely hard. The labour market mobility is still very low. According to the 1992 NSI survey, 55% of the unemployed would not relocate to work in another settlement, while 17.9% would do that under certain conditions. One of the reasons for this is the sharp fall in the living standards and the inability to cover the expenditures of relocation. Also, the professional qualification and education level of the rural labour force is relatively lower, downgrading its competitiveness.

## **6. CONCLUSIONS AND OUTLOOK**

The following major conclusions can be drawn about the **dynamics, structure and causes for unemployment**:

- The output decline and the shrinking labour market are the key factors for the high level of unemployment. Industry and agriculture are most affected since the largest share of the labour force was concentrated there. Women, young people under 30 years, people of no professional qualification, with low education level and rural dwellers are the highest-risk groups. This makes the task of unemployment reduction very difficult to achieve.

- The larger part of the unemployment cohort was formed in 1991-1992. 1993 witnessed lower growth rates.

- A key source of unemployment are public sector lay-offs for economic reasons. Their dynamics in the industrial sector is negatively correlated to the average wage dynamics.

- The annual unemployment inflow of school and army leavers amounts to 75000-80000. There is no considerable difference in its values year on year.

- The increase in the registered unemployment outflow has been entirely due to the unemployed deleted from registration lists. Part of them have preserved their status as unemployed.

- The average duration of unemployment is relatively long, but still below the highest world levels. It should be noted that the average duration increased nearly twice over 1991-1993, indicating the formation of hard-core unemployment with low chances for new jobs.

- Long-term unemployment may include a sizable portion of unemployed, although the period of unemployment consists of several relatively short sub-periods of registration with the employment agencies.

The analysis points to certain trends in the **employment policy** at macro-and microeconomic levels. Clearly, all anti-unemployment efforts that are not linked to output recovery are irrelevant. They are rather a smoke-screen activity than a genuine solution to the problem.

The efficiency of employment agencies as intermediaries is not particularly high. Their predominant function has been the payment of unemployment benefits. The number of unemployed who have found new jobs through the agencies has been steadily falling both in absolute and relative terms. AECD estimates put new employment outside the agencies at 200 000 over December 1992 - September 1993. This is three times higher than the level of new employment through the agencies.

It should be noted that the initial policy of cuts has mostly affected women and people of high qualification and education level. The ensuing process reduced the imbalance between male and female lay-offs. Regarding the professional and educational structure of unem-

ployment, there is an upward trend of lay-offs concerning people of no professional qualification and low education level.

The **unemployment dynamics outlook** is quite uncertain. It will depend on the passing of bankruptcy legislation, the domestic political set-up and other events which cannot be measured<sup>9</sup>.

The fall in public sector employment may be expected to continue. In 1994 the unemployment inflow from this source will not exceed 200 000. The inflow of school and army leavers will close on the annual value in the previous years (some 80 000). It can be assumed that the number of people outside the labour force will not substantially influence the 1994 unemployment dynamics. Private sector employment will continue its upward trend, dampening the growth in overall unemployment. AECD estimates put the number of unemployed who have found jobs in the nine-month period of 1993 at about 230 000. (Including employment through the agencies). Assuming this to be their minimum number in 1994, the 1994 growth in unemployment will not exceed 50 000.

On the basis of these assumptions, we do not expect the overall unemployment stock to exceed 860 000 at the end of 1994. (The rate of unemployment will amount to about 22%).

In our view, registered unemployment has reached a relative equilibrium and will hardly exceed 650 000 in certain months in 1994. The share of unemployed receiving benefits will be sustained at about 30-35%.

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<sup>9</sup> *The actual liquidation of already bankrupt state enterprises is a long process which would hardly round off by the end of 1994, even if the bankruptcy legislation was passed as soon as possible. AECD estimates put employment in the enterprises whose liquidation is unavoidable at about 170 000. However, not all of those people will be on the labour market by the end of 1994. The privatization of some enterprises may save part of these „doomed“ jobs.*

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