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STRUCTURAL CHANGES IN GROUPS OF EMPLOYEES IN BIG CITIES IN POLAND, 1992-2001

ABSTRACT. In the period of economic transformation, economic changes in Poland contributed to changes in the structure of employment. Many institutions and factories closed, production profiles and ownership forms changed, new technologies were introduced, and, as the result of all those factors, labor force decreased in industry and in building industry. The character and scope of the phenomenon was analyzed in this paper, based on the data from a number of cities, where, after 1992, the population was 100,000 or more. Forty two cities were included in the research (data from smaller cities aren't available). Positive input data were collected in 1992 and 2001.

Based on research data, participation of employed people (in %) in groups of working age people was established in three categories: industrial and construction workers, employees in other areas of employment, unemployed. The categories were used in order to analyze the situation in different periods of time, to compare the results, and to analyze the changes, which occurred in different periods.

In general, time of self-correlation was analyzed in reference to each category of employed and unemployed people. Also, the analysis included the correlation between the range of changes in the percentage of industry and construction workers, the range of changes in the percentage of people employed in other sectors, and the percentage of unemployed people.

In particular, the structure of changes was analyzed in reference to the participation of industry and construction workers, and in other employment sectors, and the participation of unemployed people in reference to input data (1992, see charts). Typological groups were established for different cities in connection with the character of changes in a researched time period. Functional classification was established for different cities.

KEY WORDS: economic activity, industry and construction workers, employment in other sectors, unemployed, functional types of cities.

The process of recent changes in employment structure in Poland is usually described in the context of increasing unemployment. Also, economic transformation discussed in the context of its positive influence in the third sector. The goal of our research described in tjis paper was to describe the range and directions of the changes in the structure of groups of economically active people living in big cities in Poland. Forty two cities with the population of 100,000 and more were included in the research. Big, multifunctional cities better cope with negative aspects of the transformation than functionally limited, smaller cities. The research includes data from 1992 to 2001, because those data were published by GUS according to identical convention and aggregation.

Input data included (1):

— population in genenral,
— working age population,
— industry and construction workers (2),
— employment in other sectors,
— unemployed.

Positive data were considered as the basis of analysis, which included comparative values of change variables.

1. ECONOMICALLY ACTIVE - GROUP STRUCTURE

The analysis was based on three characteristics of relative values (in %) regarding people of working age, including:

— percentage of employees in industry and construction sector,
— percentage of employees in other sectors,
— percentage of unemployed.

Combined characteristics show the participation of economically active people in population groups (working age) (Table1).

Each characteristics was analyzed according to changes in research period (Fig. 1, 3, 5), and, in details, in 42 cities; also, the scope and character of changes was analyzed in the period from 1992 to 2001 (Fig. 2, 4, 6). Self–correlative diagrams show not only the strength of correlation, but, rather, correlation tendencies. Detailed analysis included the changes, compared with the situation at the beginning of the process (1992), and the list of cities was arranged from big to smaller values of researched characteristics.

Table 1. The structure of economically active people of working age in big cities in Poland, 1992(a) and 2001 (b)

Cities		Participation [%] regarding working age people			
		Working in		Unemployed	Economically active
		industry and construction	other sectors		
1		2	3	4	5
1. Wrocław	a	19.5	30.6	5.2	55.3
	b	13.2	34.6	6.9	54.7
2. Legnica		19.6	30.4	14.1	64.1
		13.4	28.2	14.2	55.8
3. Wałbrzych		22.0	25.0	15.1	62.1
		12.2	22.3	16.6	51.1
4. Bydgoszcz		23.8	26.8	9.9	60.5
		17.9	29.6	8.4	55.9
5. Toruń		26.0	27.9	12.4	66.3
		19.5	29.8	10.0	59.3
6. Włocławek		27.6	25.5	19.8	72.9
		19.2	23.1	17.0	59.3
7. Grudziądz		19.3	21.8	16.3	57.4
		11.5	21.8	19.0	52.3
8. Lublin		19.2	34.6	9.0	62.8
		11.4	35.6	7.2	54.2
9. Gorzów Wlkp.		21.0	30.1	14.8	65.9
		17.7	28.2	10.9	56.8
10. Zielona Góra		21.2	35.1	7.5	63.8
		14.4	36.1	9.0	59.5
11. Łódź		17.7	25.5	14.3	57.5
		14.4	28.7	12.2	55.3
12. Kraków		23.4	31.8	6.7	61.9
		16.1	37.2	6.2	59.5
13. Tarnów		35.0	34.3	13.5	82.8
		23.6	34.6	10.1	68.3
14. Warszawa		17.3	36.7	3.3	57.3
		17.3	58.7	5.2	81.2
15. Płock		32.6	25.2	16.8	74.6
		26.3	28.1	14.9	69.3
16. Radom		37.5	12.6	15.6	65.7
		11.7	24.6	18.4	54.7
17. Rzeszów		32.6	40.7	12.2	85.5
		23.7	44.1	8.6	76.4

1	2	3	4	5
18. Białystok	18.7	31.8	9.2	59.7
	11.8	31.5	8.7	52.0
19. Gdańsk	19.5	30.2	10.9	60.6
	14.7	33.4	7.1	55.2
20. Gdynia	19.0	30.6	7.2	56.8
	16.7	30.0	5.6	52.3
21. Słupsk	16.2	29.8	15.4	61.4
	13.7	29.6	15.6	58.9
22. Katowice	29.6	37.5	4.2	71.3
	24.3	48.6	6.8	79.7
23. Bielsko Biała	35.3	28.4	4.8	68.5
	21.0	31.2	8.5	60.7
24. Bytom	28.6	17.2	3.1	48.9
	14.5	18.4	12.4	45.3
25. Chorzów	26.9	20.3	4.5	51.7
	14.5	22.9	13.1	50.5
26. Częstochowa	23.5	26.8	12.9	63.2
	19.0	28.7	10.8	58.5
27. Dąbrowa Górnicza	51.9	16.8	11.7	80.4
	27.3	23.2	12.8	63.3
28. Gliwice	30.5	23.5	7.0	61.0
	18.5	27.5	9.0	55.0
29. Jastrzębie Zdr.	55.2	15.4	9.0	79.6
	27.6	19.8	10.7	58.1
30. Ruda Śląska	30.6	12.9	5.7	49.2
	26.4	14.4	8.9	49.7
31. Rybnik	33.1	22.4	6.6	62.1
	21.1	26.7	8.8	56.6
32. Sosnowiec	26.4	16.2	8.2	50.8
	13.2	17.7	12.0	42.9
33. Tychy	19.5	17.6	7.7	44.8
	19.6	22.1	10.5	52.2
34. Zabrze	25.2	15.9	6.2	47.3
	14.3	19.4	12.2	45.9
35. Kielce	22.7	31.2	12.2	66.1
	17.4	35.0	12.0	64.4
36. Olsztyn	15.4	36.4	15.5	67.3
	15.0	36.0	14.3	65.3
37. Elbląg	20.3	23.5	16.3	60.1
	14.7	22.0	16.0	52.7

1	2	3	4	5
38. Poznań	19.5	34.2	4.5	58.2
	18.2	42.0	4.6	64.8
39. Kalisz	30.4	28.8	14.2	73.4
	21.4	28.3	11.9	61.6
40. Szczecin	18.4	32.6	5.0	56.0
	13.5	31.0	7.9	52.4
41. Koszalin	13.5	30.4	18.4	62.3
	12.1	27.6	13.3	53.0
42. Opole	23.0	40.7	4.8	68.5
	15.8	36.2	7.6	59.6

Source: own calculations, based on Table 1

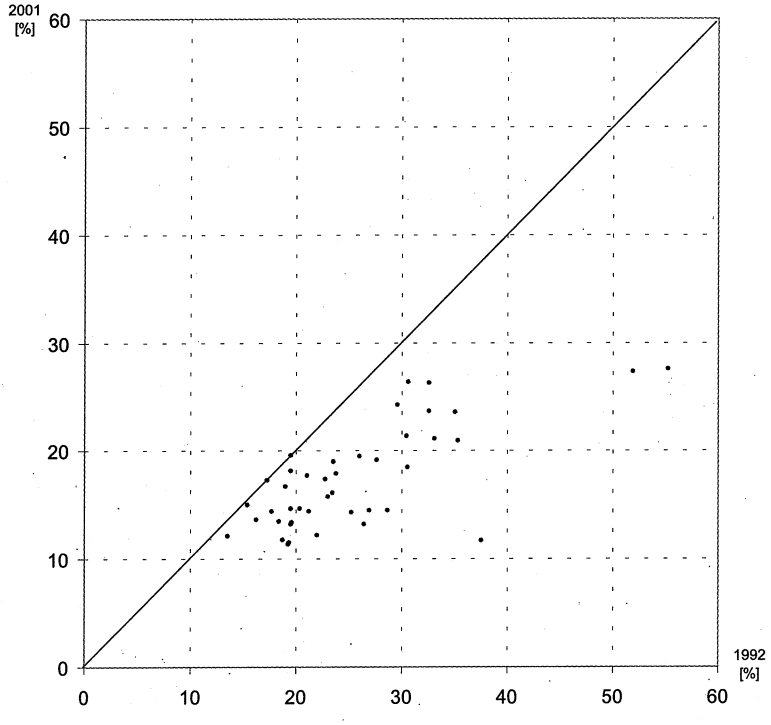


Fig. 1. Time-self-correlation – correlation diagram – the percentage of industry and construction workers (in %, economically active), 1992, 2001

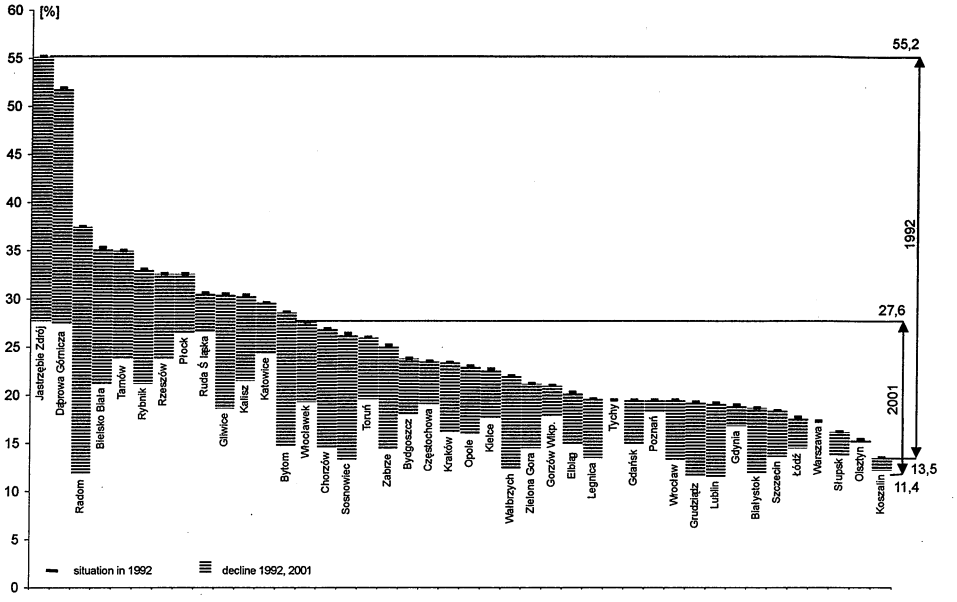


Fig. 2. The changes of the percentage of industry and construction workers (in %, economically active), 1992, 2001, in big cities in Poland, compared with the situation in 1992

In all cities, excluding two, there was a decrease of the percentage of workers in industry and construction sector, from the minimum (0.4%) to significant maximum (27%). The smallest decrease was recorded in Olsztyn, Koszalin, Poznań, Słupsk and Gdynia. The biggest decrease was recorded in Jastrzębie Zdrój, Radom, Dąbrowa Górnicza and other cities in Silesia. In Tychy, there was a small increase, and in Warsaw, there were no changes in participation. The proportions of the decrease are different and they depend on the situation in 1992 (the cloud of points, Fig. 1). The biggest decrease was recorded in 3 cities, where there were many people employed in industry and construction sector in 1992. However, significant decrease also were recorded in cities with higher input participation (1992), and in cities where participation was small or very big. Small decrease was recorded in the cities with different structure, such as Ruda Śląska (30.6%). In all towns the percentage of industry and construction workers ranged from 13.5% to 55.2% in 1992, and from 11.7 to 27.6% in 2001. Variable range decreased 2.5 times. The data from big cities show fewer differences (big cities more resemble each other). Negative phenomenon is most significant; it is connected with the fact, that extreme values (regarding industry and construction workers) were so much smaller in 2001 than in 1992.

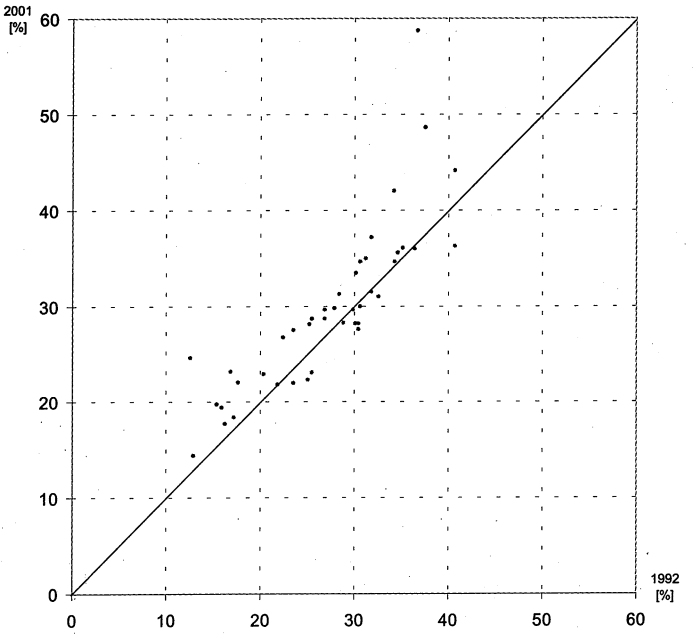


Fig. 3. Time-self-correlation – correlation diagram – (in %, working age), 1992, 2001

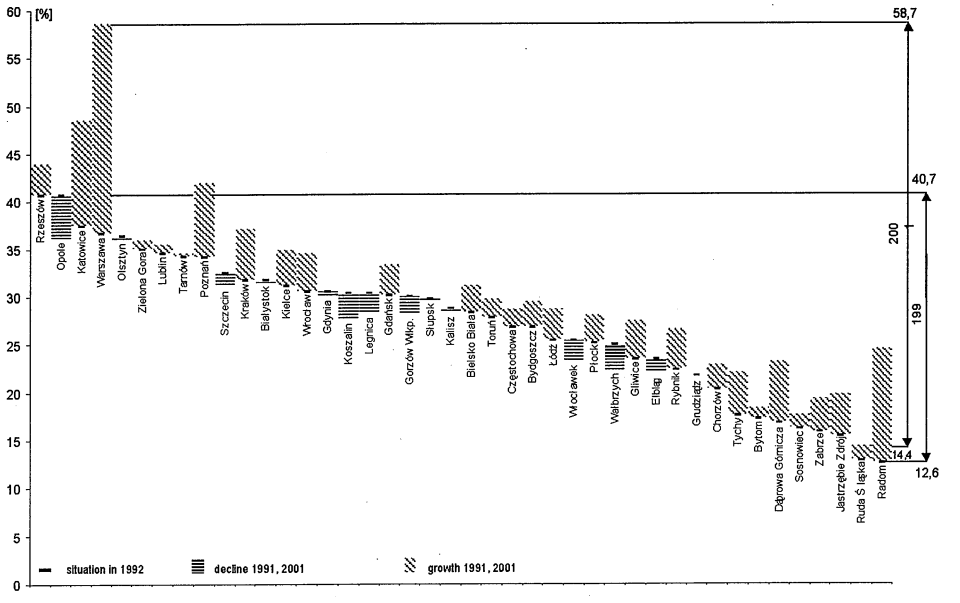


Fig. 4. The percentage of employees in other sectors (in %, working age), 1992-2001 in big cities in Poland, compared with the situation in 1992.

The diagram of self-correlation shows the percentage of employees in service sector in 2001, which depended more on that participation in 1992 than in industrial and construction sectors. The number of service sector workers only decreased in 13 cities (the cities below 'balance line'). In other cities, there was an increase, and in a few cities, there was a significant increase in that sector (Fig. 4). The group included: Warsaw, Katowice (with very big input of participation), and Radom (in 1992, the participation was the lowest-ranking, but, in 2001, the participation was almost two times bigger in that city).

The decrease of the percentage of employees in service sector was recorded in 13 cities, and it was a very small decrease, ranging from almost undetectable (Białystok, Słupsk, Olsztyn, Gdynia, Kalisz), to the maximum of 4.5% (Opole). The range of values changed from 1992 to 201 as follows: the minimal value was 12.6% in 1992, and 14.4% in 2001; the maximum value changed from 40.7% to 58.7%. The difference between participation values in service sector was much bigger in 2001 (the increase was recorded for extreme values) than in 1992 (in industry and construction sector, there was diametrically different situation). Most importantly, the extreme values increased to the following levels: the minimal – insignificantly, by 1.8%; the maximal – significantly, by 18.0%.

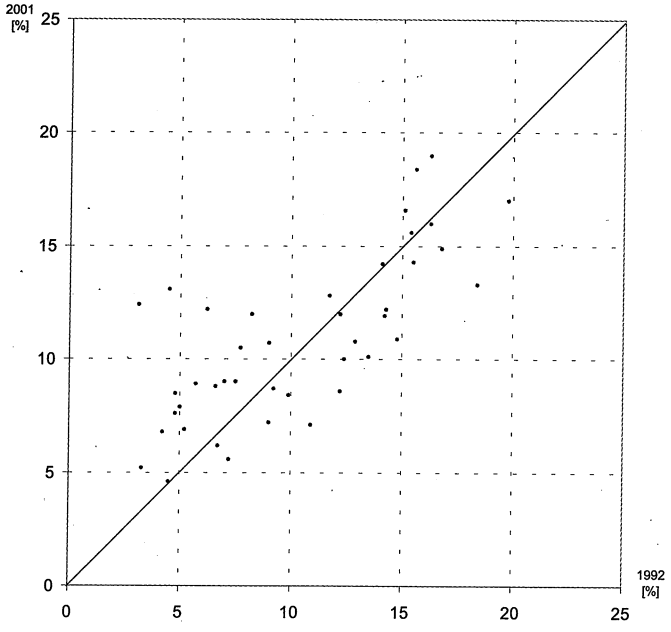


Fig. 5. Time-self-correlation – correlation diagram – the percentage of unemployed (in %, working age) in 1992, 2001

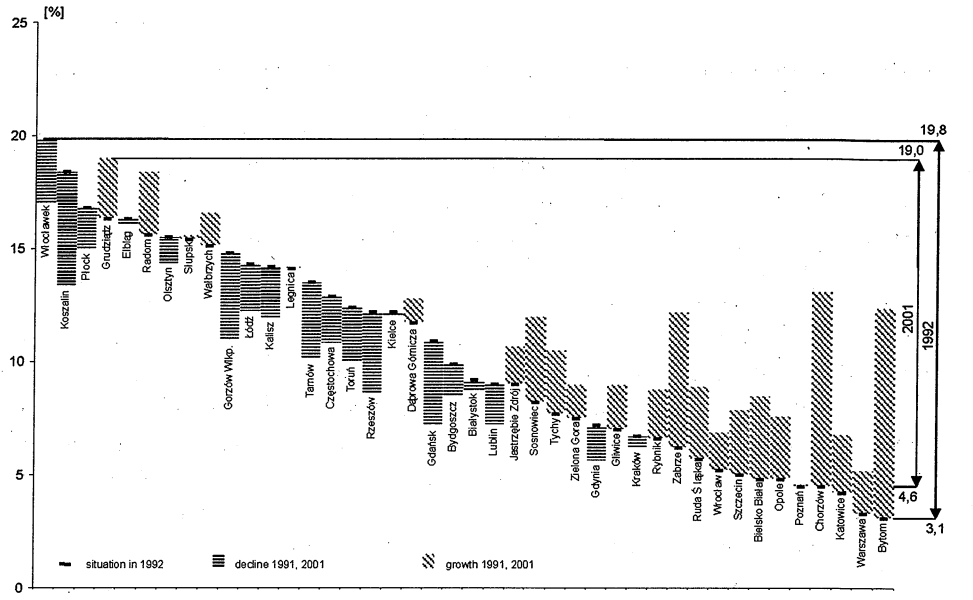


Fig. 6. The changes of the percentage of unemployed (in %, working age), 1992, 2001, in big cities in Poland, compared with the situation in 1992.

The changes in the cities included in our analysis in 1992 and in 2001, in regards with the number of unemployed people of working age, were diametrically different. In 19 cities, the number of unemployed decreased (positive factor) by 0.2% in Kielce and by 5.1% in Koszalin. In other 23 cities, the percentage of unemployed increased from 0.1% in Poznań and Legnica to significant 9.3% in Bytom. In Bytom, the percentage of unemployed increased four times, from 3.1% to 12.4%, and that was a catastrophic proportion. Very negative changes also were recorded in Chorzów – the number of unemployed increased three times, from 4.5% to 13.1%. The percentage of unemployed was significant in both periods. The decrease of unemployment was mostly recorded in cities with the highest and the lowest unemployment rates (from 9.0% to 19.8%). There was an increase of unemployment in cities with lower and the lowest unemployment rates in 1992 (from 3.1% to 9.0%). The situation in Grudziądz, Radom, Słupsk, Wałbrzych, Legnica, Dąbrowa Górnicza was different: in 1992 unemployment rate was very high, and it went up even higher. Gdynia and Kraków were the only exceptions with relatively low unemployment rate in 1992; unemployment further decreased in those two cities, but the decrease wasn't significant.

The participation of unemployed in researched cities was from 3.1% to 19.8% in 1992, and from 4.6% to 19.0% in 2001. In general, the situation in big cities didn't change. There was only a castling within the group of cities.

THE TYPOLOGY OF CITIES IN REGARDS TO THE CHARACTER OF CHANGES, 1992-2001

The analysis included the changes in three categories, the scope and the character (direction) of changes. Different character of changes (lower and higher rates) in three different population groups (economically active people), was the basis of cities' typology. Four typological groups were considered in the analysis.

The first group (type - + -) included cities with the decrease of employees in industry and construction industry (-), which corresponded with the increase of employees in other sectors (+), and lower unemployment rate (-). The group included 11 cities; their location and the range of changes for each index is shown in Fig. 7. The cities were located in southern and central Poland. The situation in those cities is considered as the best, compared with the situation in other typological groups. There was no city, though, where the scope of the decrease in percentage of employees in industry and construction industry wasn't compensated by the scope of the increase of percentage of employees in other sectors.

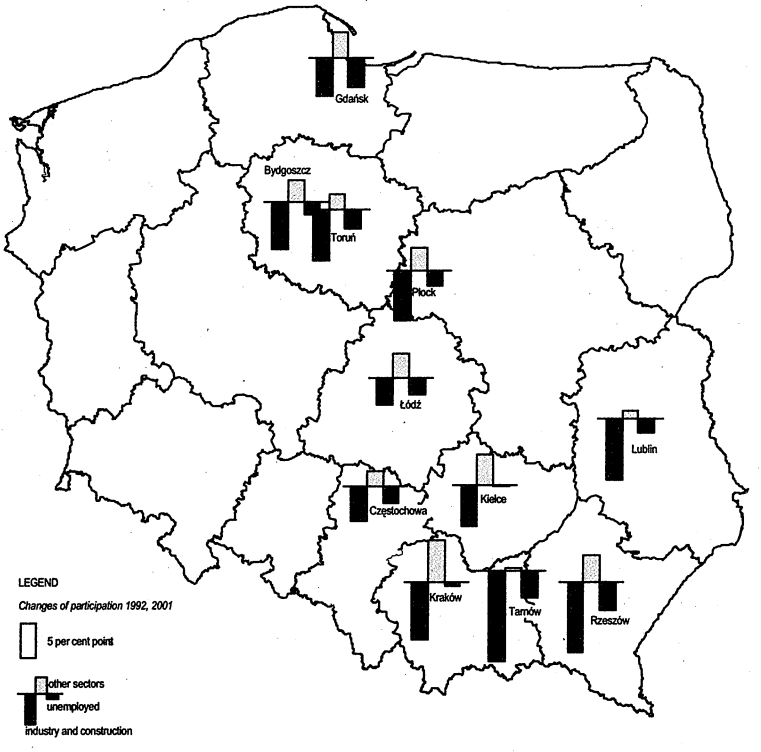


Fig. 7. The changes of participation – industry and construction workers; in other sectors; unemployed (in %, working age), 1992, 2001, in the cities in typological group 1 (type - + -), according to the character of changes

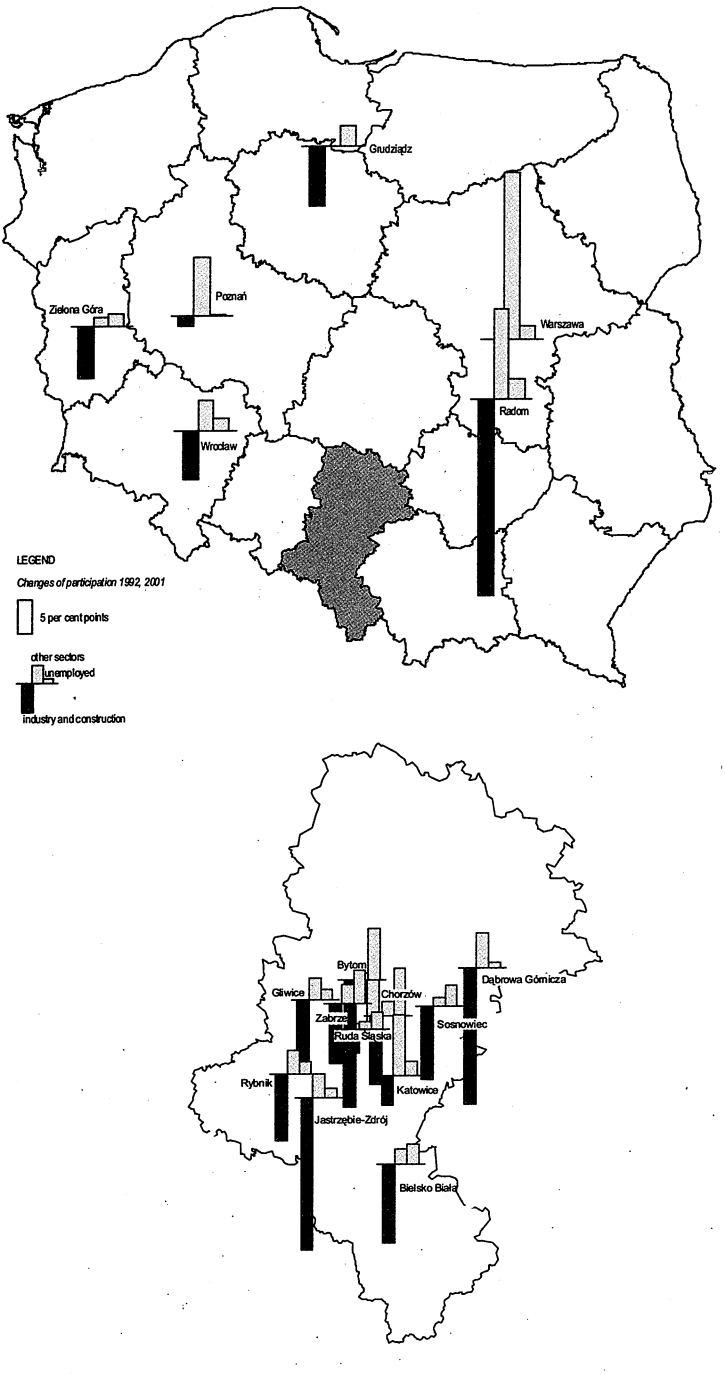


Fig. 8. The changes of participation: - working in industry and construction; in other sectors; unemployed (in %, working age) 1992, 2001, in the cities in typological group 2 (type - + +), according to the character of changes

In typological group 2 (- + +), there were 17 cities (Fig. 8). There were 11 ities located in Silesia, with very big employment decrease in industry and construction industry. Also, the group included Zielona Góra, Wrocław, Poznań, Radom, Warsaw and Grudziądz (Warsaw and Grudziądz were considered as exceptional). In the service sector, participation in Grudziądz didn't change and was at 21.8%. In Warsaw, the percentage of employees in industry and construction industry didn't change and was at 17.3%. Warsaw was one of the two cities, where there was no decrease of the value regarding that index. The decrease of the percentage of employees in industry and construction industry was recorded in Katowice, Ruda Śląska and Poznań. It was compensated, though, by a small increase in service sector. Unemployment in the cities in group 2 didn't change much. In Poznań, there was a minimal change of 0.1%. In Bytom, there was a maximum change of 9.3%. Biggest unemployment increase was recorded in the cities in Silesia.

Group 3 (type - - -) included 8 cities (Fig. 9). It includes the area in northern and central Poland. Small decrease of employment was recorded in industry and construction industry, and in other sectors. Also, there was a small decrease of unemployment rate, which contributed to improving situation.

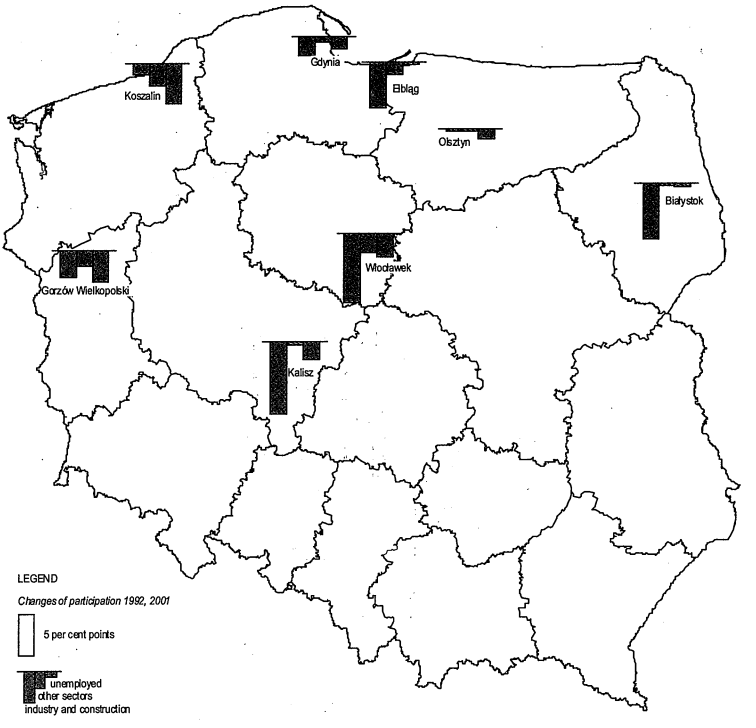


Fig. 9. The changes of participation: - working in industry and construction; in other sectors; unemployed (in %, working age)1992 – 2001, in typological group 3 big cities in Poland (type - - -), according to the character of changes

The worst situation was recorded in 5 cities in group 4 (type - - +) located in south-western and north-western Poland (Fig. 10). From 1992 to 2001, the participation of unemployed increased, and there was a simultaneous decrease of employed in industry, construction industry and in other sectors. Only Tychy was considered as not belonging to any typological group because there was an increase of participation regarding all three characteristics.

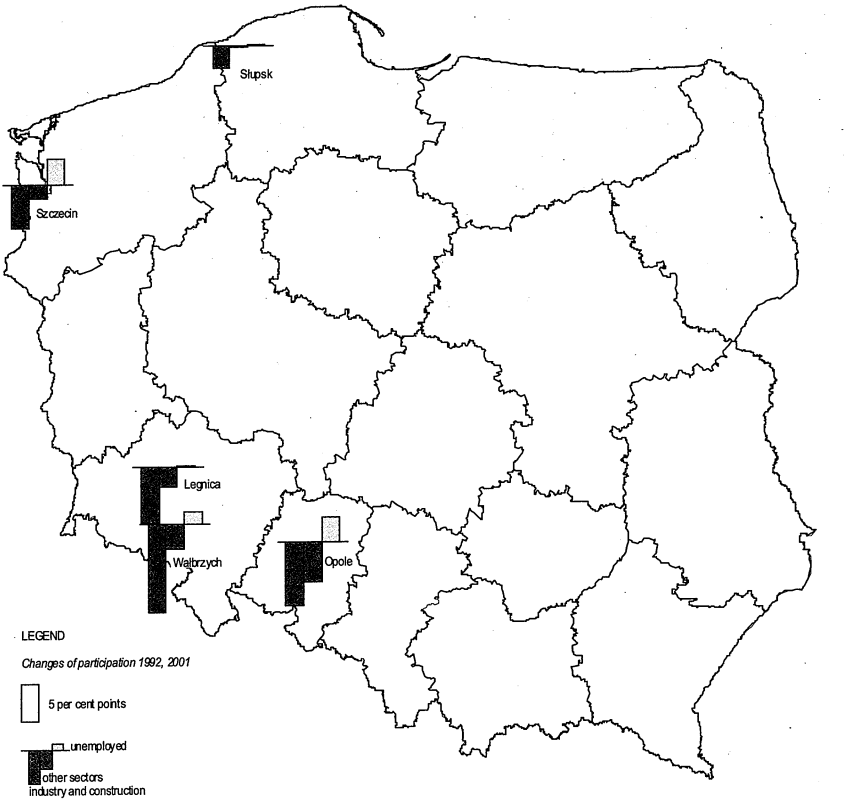


Fig. 10. The changes of participation: - working in industry and construction, in other sectors; - unemployed (in %, working age), 1992–2001, in typological group 4 cities (type - -+), according to the character of changes

2. ECONOMIC ACTIVITY OF PEOPLE OF WORKING AGE BIG CITIES IN POLAND

The negative results of changes in one index were compensated by positive changes in other indexes. Also, there were simultaneous negative changes in more than one index, and the situation in those areas didn't improve. The ana-

lysis of negative changes (decreasing participation) in industry and construction sector (1992 – 2001) included such aspects of those changes as:

— compensation by the increase in other sectors, or the decrease of unemployment rate;

— strengthening of the negative trend in connection of the decrease in service sector, and the increase of unemployment rate.

Diagrams in Fig.11 and 12 include diagonal lines, which refer to counter-balance trends in researched period. A diagram in Fig.11 shows negative participation (decrease) in industry and construction sector, which was recorded everywhere, except two cities in sector 3, where positive changes were recorded, in connection with the changes in service sector (3). In three cities, the changes were compensated more than adequately. The cities were shown above counter-balance line. In 23 cities, there was partial compensation of losses – points between counter-balance line and the axel of cut values. In other 13 cities (points below counter-balance line), negative changes in participation of industry and construction workers were strengthened by simultaneous decrease in service sector.

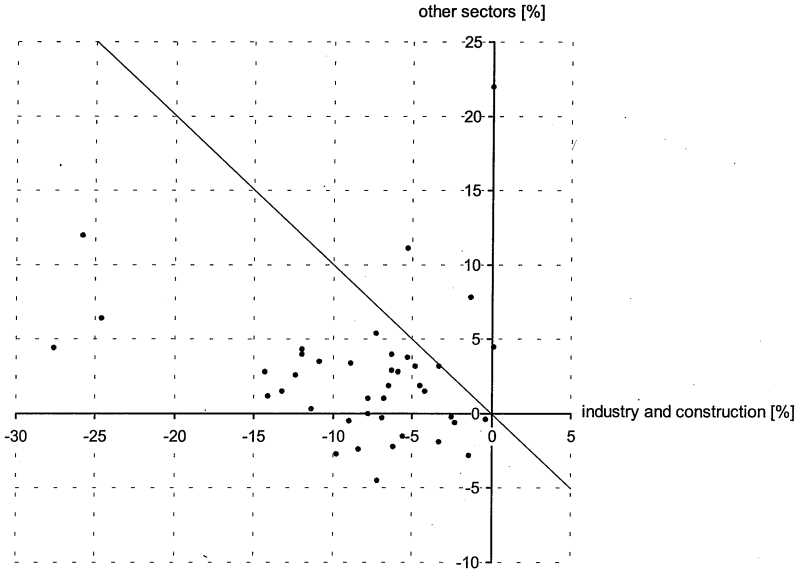


Fig. 11. The scope of changes in 1992–2001, the percentage of industry and construction workers, compared with the scope of changes in % in other sectors – correlative diagram

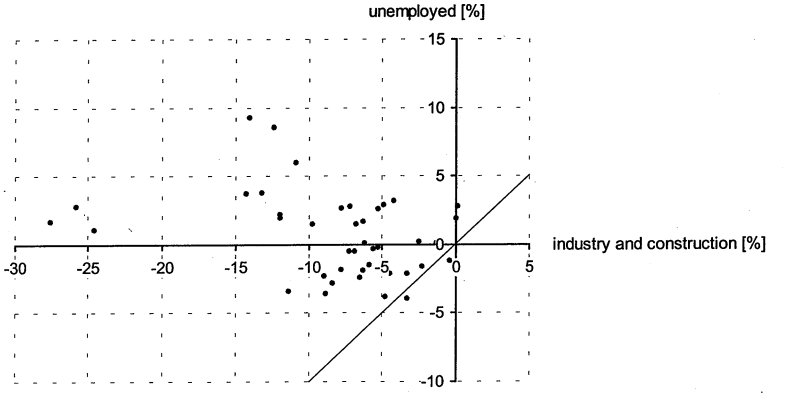


Fig. 12. The scope of changes 1992–2001 of the percentage of employees in industry and construction, and the changes in the percentage of unemployed – correlation diagram

The second diagram in Figure 12 shows how the falling percentage of employees in industry and building sector influenced the changes in unemployment. In cities below the line (Gorzów Wielkopolski, Olsztyn), there was more than adequate compensation of unemployment. In 17 cities, decreasing unemployment contributed to partial leveling of losses in working force in sector 2 (points between counter-balance line and the axis of the cut values). In other cities (points above counter-balance the axis of cut values), the process of negative changes connected with the decrease of the percentage of industry and construction sector employees, deepened as the result of simultaneous increase of unemployment.

The diagram shows counter-balance line as $y = x$, because, considering the development of economy, the compensation of the negative results of decreasing employment in industry and building sector, is connected with the decrease of unemployment participation.

The changes in the participation (% refers to working age people) of economically active people (working in industry and building industry, in other sectors, and unemployed, considered as a group), were shown in Table 1. The chart includes such parameters as the scope and character of changes (increase, decrease), and participation (in range classes) of economically active people in 1992. Input level (1992) of economically active people, was at 40.1% to 50% (minimum participation), and was recorded in 4 cities. The second class included ten cities with.1% to 60% participation, The third class included 20 cities with 60.1% to 70% participation. There were 5 and 3 cities in two other classes. Figure 13 show the location of those cities. Only in 5 cities, there was an increase of economic activity, and that group included Warsaw (24.9%), Katowice (8.4%), Tychy (7.4%), Poznań (6.6%) and Ruda Śląska (0.5%). In 37 cities, the

number of economically active people decreased: in Wrocław by 0.5% (minimum), in Jastrzębie Zdrój by 21.5% (maximum). Five percent decrease was recorded in 14 cities, and 5.1% to 10% decrease was recorded in 16 cities. Bigger decrease was recorded in 5 cities (up to 15%, in Dąbrowa Górnicza (17.1%), and Jastrzębie Zdrój (21.5%).

As the result of changes, the participation of economivally active people, in 2001, in 4 cities was from 40.1% to 50%, and in 27 cities (the majority of researched agglomerations), was from 50.1% to 60%. In 8 cities, it was from 60% to 70%. In three cities, it was above 75% (Rzeszów – 76.4%, Katowice – 79.7%, and Warsaw – 81.2% (see Table 1).

3. TYPOLOGICAL FUNCTION OF BIG CITIES IN POLAND

The analysis was based on the number of economically active people, and the participation (in %) was researched in three groups of people (Table 2):

— working in industry and construction industry;
— working in other sectors (service as dominant function),
— unemployed people.

Functional type of cities and the number of cities in each typological group was shown in both time sections (Ossan Triangle, Fig. 14). In 1992 and in 2001, there were three types of cities:

I. with industrial and construction dominant function,
II. with service as dominant function
III. and with those two functions combined.

The range of variable values and the number of cities in each type in 1992 and in 2001 is shown in tab. 3.

Fig. 15 includes cities listed in Table 1. It illustrates changes from 1992 to 2001. Functional types of several cities didn't change in that period of time. There were changes, however, in the participation of different functions. In other cities, there were changes in leading functions, therefore, there were changes in their functional type.

The biggest change was recorded in Radom (No.16), and in type 1 cities (industrial), where the participation of industry and construction employees fell dramatically. In industrial group, in 2001, there only was one city left – Ruda Sląska, where functional participation decreased. In other cities, except Bielsko Biała (No. 23), researchers recorded mixed participation.

In 2001, many big cities in Poland didn't have leading function (mixed function cities). the group included 23 cities, more than 50% of researched group. There only was a small change in participation in three groups of economically active citizens. Eighteen other cities had dominant service function. In those cities, the percentage of employees increased by 50 to 75%. However, also unemployment increased. from by 25 to 50%.

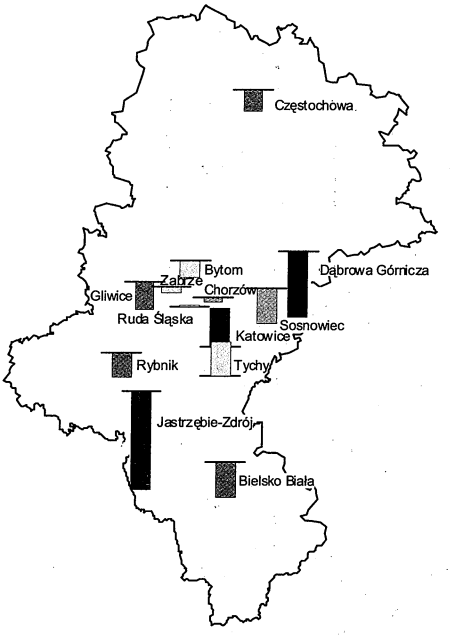
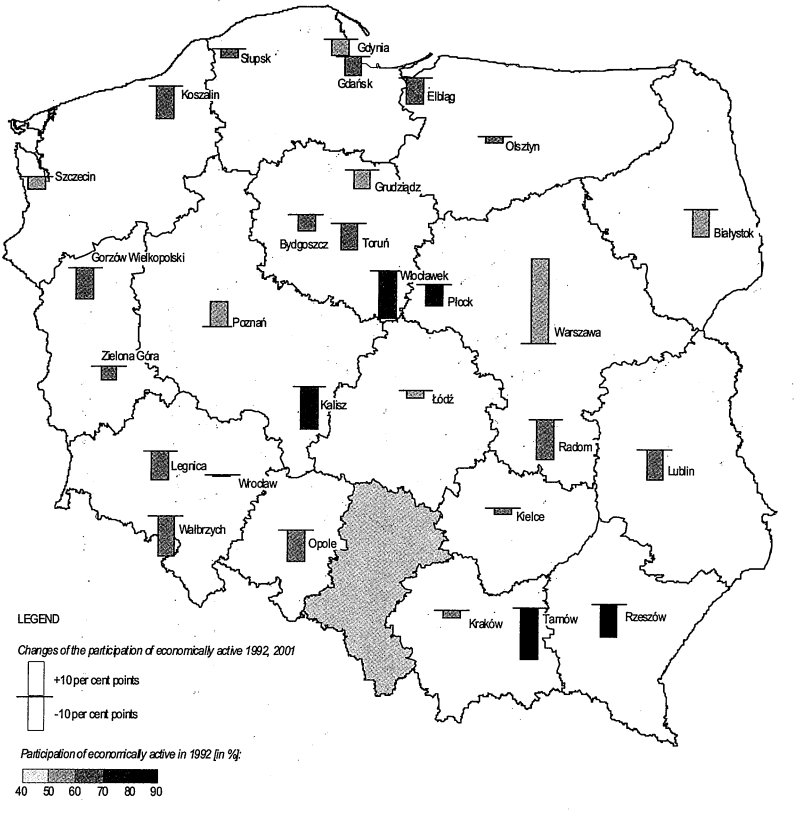


Fig. 13. The changes of the participation of economically active (in %, working age), 1992– 2001 in big cities, including the scope of the participation in 1992



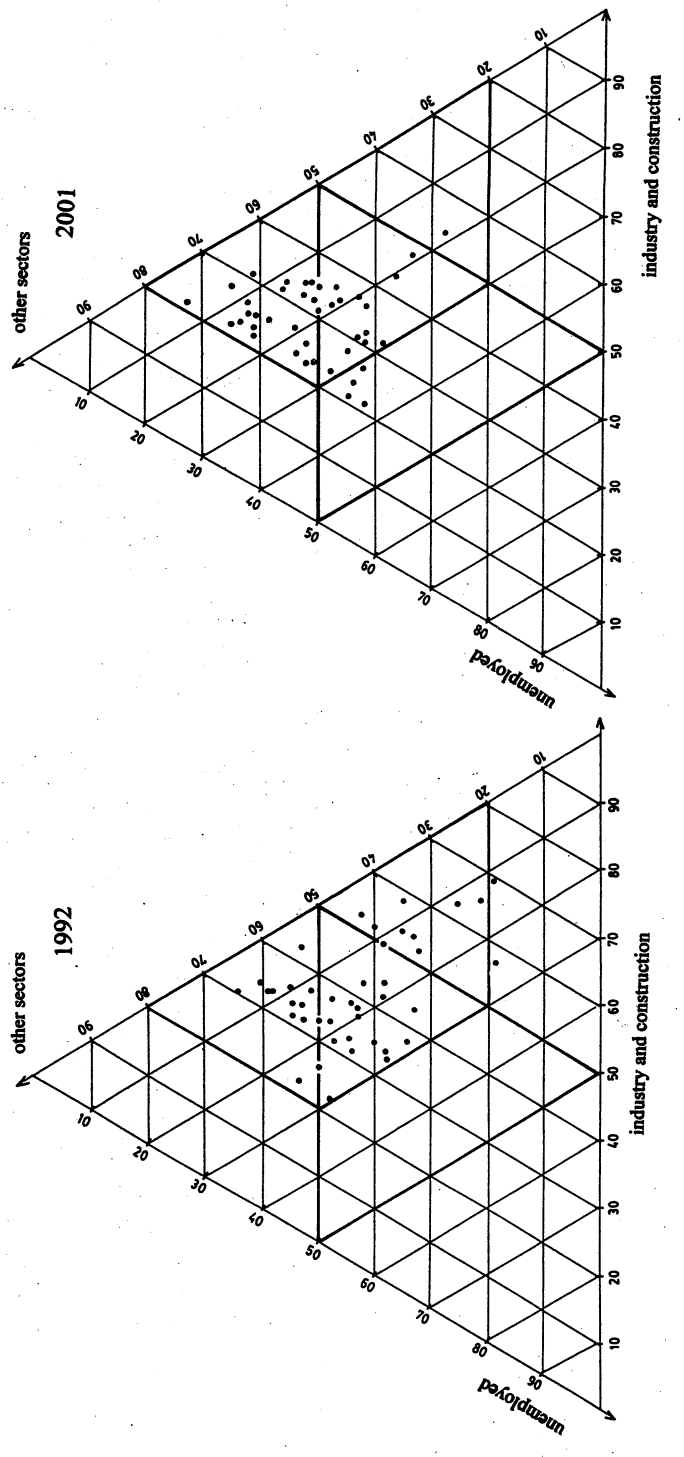


Fig. 14. Functional typology of big cities in Poland, 1992–2001 – Ossan Triangle

Table 2. The structure of economically active people in big cities in Poland in 1992 and 2001

City	Economically active in 1992				Economically active in 2001			
		participation [in %]				participation (in %)		
		employed		unemployed		employed		unemployed
	in general	in industry and construction	in other sectors		in general	in industry and construction	in other sectors	
1	2	3	4	5	6	7	8	9
Wrocław	218,578	35.2	55.4	9.4	225,438	24.1	63.3	12.6
Legnica	41,482	30.6	47.5	21.9	39,521	24.0	50.5	25.5
Wałbrzych	52,955	35.4	40.3	24.3	43,248	23.9	43.7	32.4
Bydgoszcz	140,809	39.4	44.3	16.3	138,145	32.0	53.0	15.0
Toruń	81,047	39.2	42.1	18.7	79,541	32.9	50.3	16.8
Włocławek	53,685	37.8	34.0	27.2	47,350	32.6	38.7	28.7
Grudziądz	34,913	33.7	37.9	28.4	33,596	22.0	41.6	36.4
Lublin	135,101	30.6	55.0	14.4	124,795	21.1	65.7	13.2
Gorzów Wlkp.	49,402	31.8	45.7	22.5	47,023	31.1	49.7	19.2
Zielona Góra	45,422	33.3	55.0	11.7	46,888	24.3	60.7	15.0
Łódź	291,892	30.8	44.3	24.9	279,891	25.9	51.9	22.2
Kraków	284,653	37.8	51.3	10.9	285,584	27.1	62.5	10.4
Tarnów	58,892	42.3	41.4	16.3	52,176	34.6	50.7	14.7
Warszawa	577,200	30.3	64.0	5.7	832,257	21.2	72.3	6.5
Płock	57,151	43.7	33.8	22.5	60,096	37.9	40.6	21.5
Radom	88,233	57.0	19.2	23.8	79,364	21.4	45.0	33.6
Rzeszów	80,663	38.1	47.6	14.3	80,875	31.1	57.7	11.2
Białystok	98,578	31.2	53.3	15.5	95,941	22.7	60.6	16.7
Gdańsk	171,659	32.1	49.9	18.0	161,697	26.6	60.6	12.8
Gdynia	87,569	33.6	53.8	12.6	86,478	32.0	57.3	10.7
Słupsk	39,188	25.6	50.1	24.3	37,977	23.9	48.9	27.2
Katowice	160,095	41.5	52.6	5.9	173,777	30.5	61.0	8.5
Bielsko Biała	73,152	51.5	41.5	7.0	70,031	34.5	51.5	14.0
Bytom	69,572	58.6	35.1	6.3	58,632	32.1	40.6	27.3
Chorzów	42,239	51.3	40.1	8.6	38,178	28.7	45.4	25.9
Częstochowa	98,678	37.2	42.4	20.4	95,410	32.5	49.1	18.5
Dąbrowa Górnicza	63,099	64.5	20.9	14.6	54,802	43.1	36.6	20.3
Gliwice	84,526	50.0	38.5	11.5	76,609	33.7	50.0	16.3
Jastrzębie Zdrój	54,516	69.3	19.4	11.3	39,539	47.6	34.1	18.3
Ruda Śląska	50,929	62.2	26.3	11.5	49,132	53.2	29.0	17.8
Rybnik	52,507	53.3	36.0	10.7	52,198	37.3	47.1	15.6
Sosnowiec	78,745	51.9	32.0	16.1	69,322	30.7	41.4	27.9

1	2	3	4	5	6	7	8	9
Tychy	36,578	43.5	39.4	17.1	44,761	37.6	42.4	20.0
Zabrze	60,139	53.3	33.5	13.2	57,801	31.3	42.2	26.5
Kielce	85,914	34.4	47.2	18.4	89,042	27.0	54.3	18.7
Olsztyn	68,566	22.9	54.1	23.0	75,932	23.0	55.1	21.9
Elbląg	45,371	33.7	39.2	27.1	44,197	27.9	41.7	30.4
Poznań	204,566	33.5	58.8	7.7	241,215	28.1	64.8	7.1
Kalisz	47,080	41.4	39.2	19.4	42,163	34.7	46.0	19.3
Szczecin	145,721	32.9	58.1	9.0	142,217	25.7	59.2	15.1
Koszalin	43,113	21.7	48.8	29.5	39,278	22.8	52.0	25.2
Opole	55,760	33.6	59.5	7.0	52,926	25.7	61.9	12.4

Source: own calculations, based on source data (see page 1)

Table 3. Functional types of big cities in Poland, based on the structure of economically active population (1992–2001)

Function	Year	Percentage regarding economically active		
		Type I	Type II	Type III
Industry and construction workers	1992	50–70	20–45	20–45
	2001	52.3	20–40	20–50
Service employees	1992	20–45	50–65	30–50
	2001	29	50–75	30–50
Unemployed	1992	5–15	5–25	15–30
	2001	17.8	25–50	15–40
No. of cities	1992	11	17	14
	2001	1	18	23

Source: calculation based on data from Tab 3.

4. CONCLUSIONS

From different points of view, the analysis of the structure of employment and economic activity in big cities in Poland in 1992 and 2001 reveals negative results.

There are 4 types of cities: I (- + -), II (- + +), III (- - -) i IV (- - +). The classification of types was based on the character (direction) of changes in three groups of economic activity among people of working age.

The first two factors (the participation of industry and construction workers, and workers in other sectors), stimulate economic growth. The third factor – the participation of unemployed people – doesn't stimulate the growth. The group of cities representing type three includes 30 cities, where researchers recorded clear negative changes.

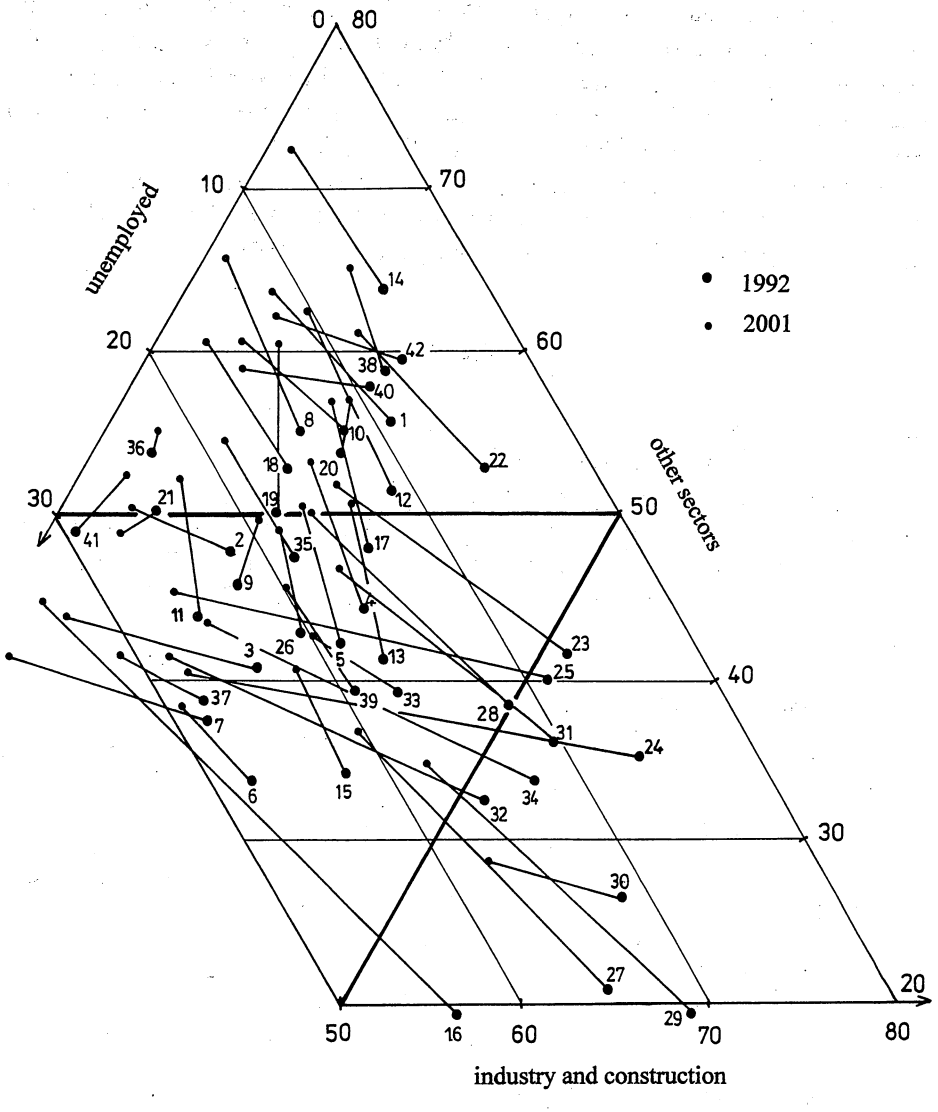


Fig. 15. Functional changes in big cities in Poland, 1992–2001 – Ossan Triangle

Only in five cities, the participation of economically active people of working age grew by maximum 21.5%. In other 37 cities, there was a decrease in that index. The biggest group included 64% of cities, where the participation of economically active people was from 50 to 60%. In 2001, 45.5 to 81.2 of people of working age were economically active, and 18.8 to 54.7% of people were not economically active.

Functional type of cities was based on the analysis of economically active groups in 1992 and 2001. In 2001, there were no big cities in Poland with

leading industrial function (only one city, Ruda Sląska, can be considered as the city with that function). Mixed indexes dominate in big cities. In 2001, service sector was more developed than in 1992. In other cities, service sector dominated, and was at 50 to 75%. The participation of unemployed grew in that group and was at 5 to 25% in 1992, and 25 to 50% in 2001.

From 1992 to 2001, the only positive characteristic of changes in big cities was the growth of the participation in non-industrial (service) sector. The situation can be considered in terms of economic tertialization.

NOTES

(1) a) 1992 – towns in Poland, GUS, Warszawa 1994
b) 2001 – voivodship annual records
– employment in Polish economy sector, 2001 GUS.

(2) The data from 1992 and 201 aren't completely comparable because of the fact, that there were, in 1999, changes in definition of working people; therefore, there were more employed people than shown in the statistics from 2001.

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