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## REGIONS IN THE PERIOD OF CRISIS AND INTRODUCTION OF THE ECONOMIC REFORM

On the turn of the 1970s Poland entered a period of economic crisis. Since 1982 introduction of the socio-economic reforms has been under way. These two events exerted a decisive impact on the shaping of the economic situation and living standards of the society. They also found a reflection in the regional development of Poland. It is to the analysis of regional differentiation of development processes that the present paper is devoted.

Both the economic crisis and the economic reform were primarily of sectoral nature. Regions played essentially a passive role. Their situation reflected simply the situation of the branch-and-industry setting and the centrally made decisions. That is why it is necessary to make a short review of the general situation before starting the regionally oriented analysis.

### 1. GENERAL DEVELOPMENT

In the early 1950s Poland launched a development strategy which gave priority to extensive growth of heavy industries, this growth being carried out through engagement of the still free production factors, primarily broadly conceived material resources and labour force. The manner in which the economy functioned did not force to improve efficiency. Besides, there was an inconsequent agricultural policy. This manner of functioning of the economy was even amplified in the 1970s. An ambitious development programme was founded on the expansion of the economic potential acquired through increase in investments and purchases of equipment and know-how from abroad, which on the one hand resulted in overinvestment of the economy above its absorption capacities, and on the other hand in growing foreign debt. Low efficiency of economic activities and the world crisis, whose negative consequences started to be felt in the second half of the 1980s caused a slowdown of the economic development dynamics and then appearance of the crisis symptoms. This tendency was not, however, reversed, and in

1979 for the first time the national income decreased. Limitations on investments caused this decrease of the national income not to be directly reflected then in consumption, but merely delayed appearance of the consumption decline. In 1980 the economic crisis deepened and transformed itself into a socio-political one. The latter one added lower work discipline to other sources of the economic crisis, thus accelerating downward tendencies in production, simultaneously increasing social overheads and wages, which led to the breakdown of the market and the necessity of rationing. The drop in production affected to various degrees the particular branches and sectors of the economy. Least affected was electric power generation, which, in view of production decrease and therefore of decrease in industrial power demand in 1980—82, caused better supply to households, in particular in rural areas, where breaks in power supply had been most frequent. Limited industrial production entailed also certain limitation on air and water polluting substances, which, however, did not improve much a deplorable state of the environment. In 1980 agricultural production suffered an important drop, too. The fact that this drop occurred just in 1980 was due to climatic circumstances, but prerequisites for crisis in agriculture had been on the growth for several years. One of the domains which suffered most was housing construction, so that the housing situation, anyway not good, was further deteriorated. At the same time, the economic reform was proclaimed and the anticipated unemployment caused limitations in jobs offered in the socialized sector of the economy. Economic difficulties were also at the roots of underinvestments in the health care system, appearing since the second half of the 1970s. This was reflected, for instance, in the slower growth of the number of hospital beds than the population growth. In the period of open crisis this was accompanied by medicine supply difficulties and lowering of the service quality. For some time health indicators of the society were not affected, because the positive consequences of previous situations still prevailed. In 1985, however, an increase in infant mortality occurred indicating the delayed health crisis.

The martial law, introduced on December 13, 1981, allowed a certain improvement in work discipline to be made in 1982, along with some current economic policy moves aiming at remedying the economic balance. This, coupled with an improvement in raw material supply through increased imports, mainly from the USSR, and the returning growth of employment in the national economy, permitted the slowing down of the declining tendency of 1982 and gaining of production and national income increases in 1983 and 1984. Consequently, market supplies increased together with current consumption. Simultaneously, there

occurred a growth of polluting emissions and growth of electric power use by industry, which entailed some limitations on supplies for households, especially for the rural ones.

Economic reform, and more precisely new elements in the economic policy, created favourable conditions for the development of the private entrepreneurship, especially outside agriculture. This sector has shown over the whole period in question a positive dynamics of growth, steadily accelerating.

Altogether, Polish economy of the year 1985 has attained the level of effectiveness of the year 1979, with lower — especially when compared to the population number—employment, older-equipment, greater arrears in housing construction, greater foreign debt and, seemingly, worse health situation of the society.

## 2. REGIONS AT THE THRESHOLD OF CRISIS

### 2.1. Production

The analysis of production will be confined in the present paper to two most important sectors of the national economy: namely, industry and agriculture.

#### 2.1.1. Industry

Economic development of Poland in the post-war period was characterized by the industrial production increase, which continued, without any break, until 1979, with the rate of this increase varying in consecutive periods (Fig. 1).

Spatial differentiation of production was, in principle, stable. Regions having the highest global industrial production were in 1979 concentrated in the southern part of the country, along the border with Czechoslovakia, i.e. voivodship of Wrocław, Opole, Katowice, and Cracow, and in the greatest agglomerations of northern and central Poland, i.e. Warsaw, Poznań, Łódź, Bydgoszcz and Tri-city (Grańsk agglomeration). All the regions enumerated were centres of the previous, „big” voivodships, from before the change of the administrative divisions which took place in 1975. On the other hand, regions with the lowest production indices are concentrated in eastern and northeastern Poland, which results from historical and resourcewise causes.

With regard to spatial differentiation of industrial global production per capita, it can be observed that it is similar to the one of the production *in toto*. The most essential dissimilarity is the fact that two voivodships which entered the group characterized by the highest per

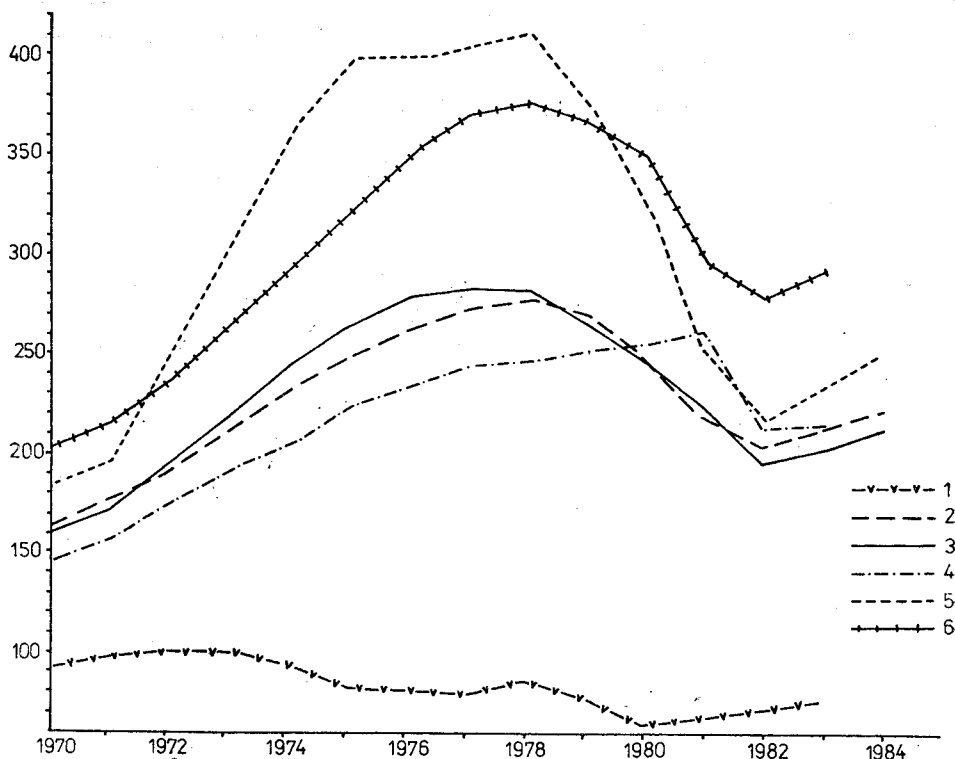


Fig. 1. Indices of the national socio-economic development level, chosen per capita; constant prices, 1960 = 100.

1. Net product of agriculture (1961—65 = 100) 2. Created national income 3. Divided national income 4. Real personal income of population 5. Investment outlays 6. Net product of industry

capita output, Legnica and Płock, are close to medium in total production, but have low population numbers (see Fig. 3).

In the period directly before the crisis, i.e. 1974—1979, spatial differentiation of production per capita was slightly growing, since the coefficient of variability (obtained by dividing standard deviation by arithmetic mean and multiplying by 100 in order to get percentage expression) was 38% in 1974 and 39% in 1979. This happened in spite of the fact that the rate of production growth was quicker in voivodships with the lowest production levels than in those with the highest production levels, by 7.5% and 5.9%, respectively, taking into account 10 voivodships from each end.

#### 2.1.2. Agriculture

In contradistinction to industry, growth of agricultural production was

in postwar Poland much slower and often intercepted by periods of decrease (see Fig. 1). This was caused both by climatic conditions and by the instability of the agricultural policy of the state, in which pragmatic reasons were interwound with the ideological ones. Attention should be turned to the fact that during all of the 1970s net agricultural product oscillated around the level attained at the beginning of the 1960s. Such a situation resulted from the increasing costs of agricultural production,



Fig. 2. Administrative division of Poland. List of voivodships:

- |                    |                    |
|--------------------|--------------------|
| 1. warszawskie     | 25. nowosądeckie   |
| 2. białkopodlaskie | 26. olsztyńskie    |
| 3. białostockie    | 27. opolskie       |
| 4. bielskie        | 28. ostrołęckie    |
| 5. bydgoskie       | 29. piłskie        |
| 6. chełmskie       | 30. piotrkowskie   |
| 7. ciechanowskie   | 31. płockie        |
| 8. częstochowskie  | 32. poznańskie     |
| 9. elbląskie       | 33. przemyskie     |
| 10. gdańskie       | 34. radomskie      |
| 11. gorzowskie     | 35. rzeszowskie    |
| 12. jeleniogórskie | 36. siedleckie     |
| 13. kaliskie       | 37. sieradzkie     |
| 14. katowickie     | 38. skierniewickie |
| 15. kieleckie      | 39. słupskie       |
| 16. konińskie      | 40. suwalskie      |
| 17. koszalińskie   | 41. szczecińskie   |
| 18. krakowskie     | 42. tarnobrzeskie  |
| 19. krośnieńskie   | 43. tarnowskie     |
| 20. legnickie      | 44. toruńskie      |
| 21. leszczyńskie   | 45. wałbrzyskie    |
| 22. lubelskie      | 46. wrocławskie    |
| 23. łomżyńskie     | 47. wrocławskie    |
| 24. łódzkie        | 48. zamojskie      |
|                    | 49. zielonogórskie |

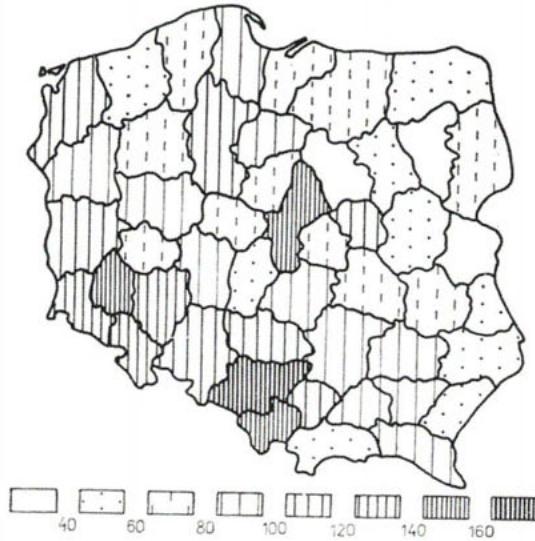


Fig. 3. Global production of the socialized industry per capita in 1979 (constant prices 1982), national average = 100.

which, in turn, were caused by the increasing share of the socialized agriculture, characterized by high production costs.

Spatial differentiation of the agricultural development level depends upon many factors: natural conditions, tradition, farm acreage structure, socio-professional rural population structure, i.e. the share of bi-professionals (peasants-workers), etc. Regions having the lowest agricultural output are concentrated mostly in southern, south-eastern and south-western Poland, that is, in areas with a high share of bi-professionals, located, at the same time, mostly in the mountains. Besides, some eastern and north-eastern voivodships of Poland can also be considered as regions of low production, because of their low agrarian culture and poor soils. On the other hand, the voivodships which show the highest production levels form a belt in central-western Poland, from the Gdańsk Bay up to the border with Czechoslovakia, where soils are of medium quality, but agrarian culture is high. Some other voivodships with high production values are located in eastern Poland, in areas with good soils. Besides, those voivodships which contain large industrial agglomerations serving as important demand markets are characterized by high agricultural output value per hectare (see Fig. 4).

Spatial differentiation of the value of agricultural output per hectare of agricultural land had been in the period just before the crisis, i.e. 1976—78, quite stable, its coefficient of variability being 25%.



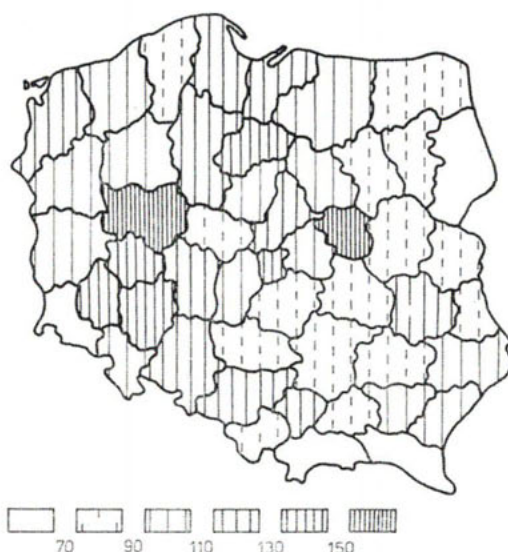


Fig. 4. Marketable agricultural production per 1 hectare of arable land in 1973 (constant prices 1982), national average = 100.

Correlation between the spatial differentiation of agricultural and industrial production, as measured by correlation coefficient is approximately 50%. Strong agricultural voivodships of the central-western Poland are simultaneously industrially strong, while strong agricultural voivodships of central-eastern Poland are considered rather industrially weak.

When analyzing the structure of agricultural production in the period before the crisis one should turn attention to the growing share of the socialized sector. This share in value of agricultural marketable output had grown from 27.4% in 1976 to 30.2% in 1978. Such change was related to the preferential policy of the state with regard to this sector, its easier access to technology and intensive, at this time, process of turning over the private farms to the state.

## 2.2. Sectoral Structure of Employment

Also from the point of view of employment, industry and agriculture are the most important sectors of the economy. Over the whole post-war period until 1978 the share of industry in the overall employment was growing, while the share of agriculture was diminishing. At the end of the 1970s employment in both these sectors was approximately equal, about 30%. Spatial differentiation of share of these two sectors in 1978 is

shown in Fig. 5 and 6. This differentiation depended upon natural factors, upon the history of the particular parts of the country and upon the economic policy. One should pay attention to the fact that spatial differentiation of the shares of both these sectors in employment is not like the spatial differentiation of production volumes. The dissimilarities result

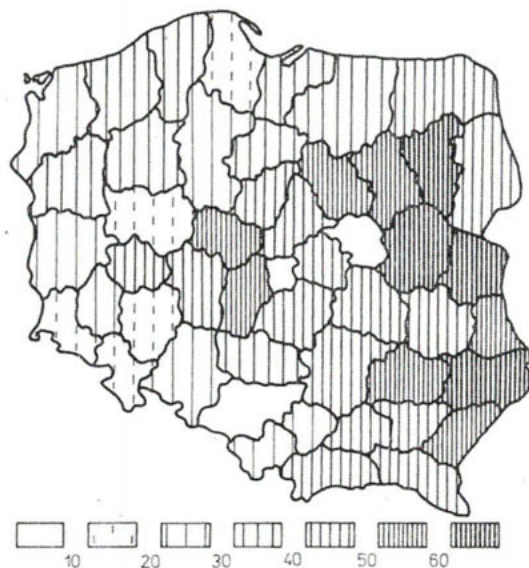


Fig. 5. Share of agriculture in total employment in 1978, in per cent.



Fig. 6. Share of industry in total employment in 1978, in per cent.



from the various production structures within a given sector in individual voivodships, from various work productivities and prices of goods produced.

Spatial differentiation of the shares of industry in total employment depends upon the natural conditions (thence high share of industrially employed in Katowice and Wałbrzych voivodships, where, coal deposits are located), tradition (thence high industrialization of eg. Łódź) and the spatial policies carried out since the Second World War which consisted, e.g. in locating industries in backward eastern areas (Białystok, Lublin, Rzeszów), and, partly for political reasons, in big cities (hence, locations of heavy industries in Cracow and Warsaw).

Spatial differentiation of employment in agriculture depends primarily upon the historical reasons. It is due to these reasons that private farming with small and labour-consuming acreages dominate in eastern, central and southern regions of Poland. In northern and western parts of the country approximately half of the agricultural land is taken by large state farms, while private farms are bigger there than in other regions. That is why agriculture of the eastern, central and southern regions absorbs more labour force than that of the northern and western regions. The other factor was industrialization. Location of industry in a region caused inadvertently a decrease of employment in agriculture.

It is frequent in Poland that members of rural population are bi-professionals. This phenomenon consists of employment of the same persons simultaneously on the farm and outside it, in industry or in other sectors. Such phenomenon is of massive nature in southern and south-eastern parts of Poland, where there are almost no families living exclusively off agriculture. In the analysis reported here bi-professionals were allocated to the two sectors on the basis of incomes earned.

### 2.3. Living Standard of Population

Attention was focussed on current consumption, as measured by the sales value of the retail trade and by the electric power consumption in the households per capita, as well as on housing situation, as measured by the combined index of housing surface per capita, water supply equipment and the inverse of the portion of population awaiting their flats. Over the postwar period in most of the above-mentioned domains a steady improvement occurred, both on the national and regional scale. An exception was constituted by the growing percentage of people not having their own flats or other living premises and staying in workers' hostels, renting flats, living with their parents, etc.

Spatial differentiation of living standards in 1979 is shown in Fig. 7

and 8. From the point of view of current consumption, the situation was at its best in large agglomerations and industrial centres, in which wages were highest and market supplies were best. These factors caused

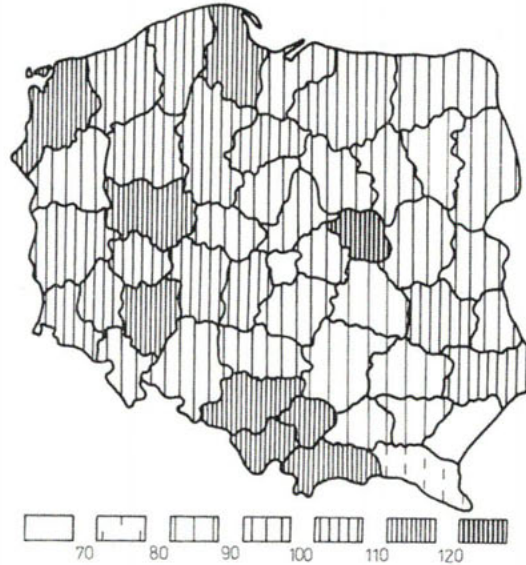


Fig. 7. Differentiation of current consumption in 1979, national average = 100.

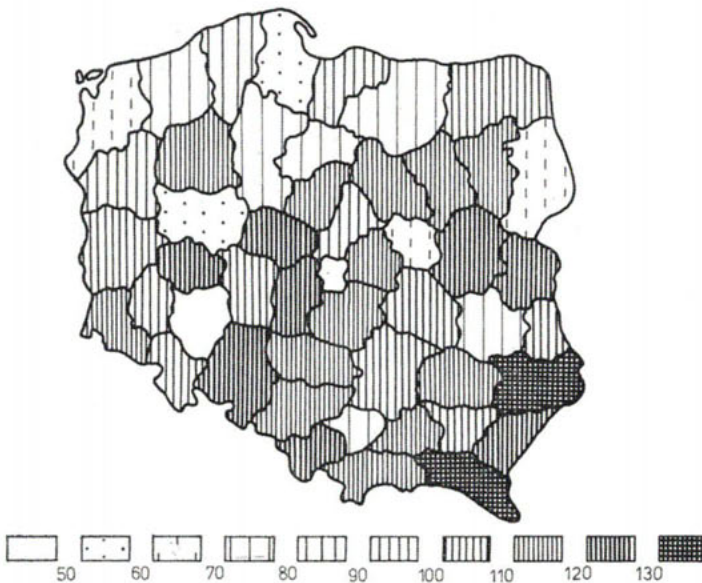


Fig. 8. Differentiation of housing conditions in 1979, national average = 100.

also rapid growth of population numbers in these regions after the Second World War. Rapid population growth and an ineffective, bureaucratic organization of housing construction in these areas resulted in the worst housing conditions prevailing there.

### 3. REGIONS IN THE PERIOD OF CRISIS AND INTRODUCTION OF THE ECONOMIC REFORM (NEW TRENDS)

#### 3.1. New Trends in Production Location

##### 3.1.1. Industry

The first crisis symptom, that is the drop of global production value in socialized industry, appeared in 1980. Production was falling also in two subsequent years. As compared to construction, where production decrease encompassed 4 years, and to investments, which decreased for 5 consecutive years, industry came out of the crisis relatively soon.

The years 1980—1982 were the toughest period in Polish economy after the Second World War. The level of production attained in 1982 meant a return to the situation from the mid-1970s. The depth of the crisis can be measured by the over 11% drop of production value in 1981 as compared to 1980. A certain role in the alleviating of the effects of the crisis was played by the private sector, whose role had been constantly growing since 1977, as compared with the socialized sector of economy.

Stability of the economic structure of strong and weak voivodships, observed before the crisis, persisted during the very crisis and thereafter.

In the period 1979—1982 production was falling on the average by 4.82% per annum and this decrease occurred in a majority of voivodships (see Fig. 9). In those voivodships in which an increase occurred, the crisis was simply delayed by a year. The greatest decreases happened in strong voivodships, while the smallest — in weak voivodships. This would indicate, apparently, a greater vulnerability in the first ones, and more robustness in the second ones. Reasons for that can be found in bigger inertia of the smaller productive potential, which is more independent (smaller number of cooperative links) and less exposed to adverse random disturbances. Besides, industries in smaller centres were less affected by the decrease in work discipline and productivity,

The years 1982—83 in which the overall national production grew by 6.16% per annum, did not mean production growth for all the voivodships (see Fig. 8). The burden of overcoming the crisis had to be taken up by the strong voivodships. Weak voivodships were still characterized at this time by important production decreases. The group of voivodships featuring the highest production growth rates included, however,

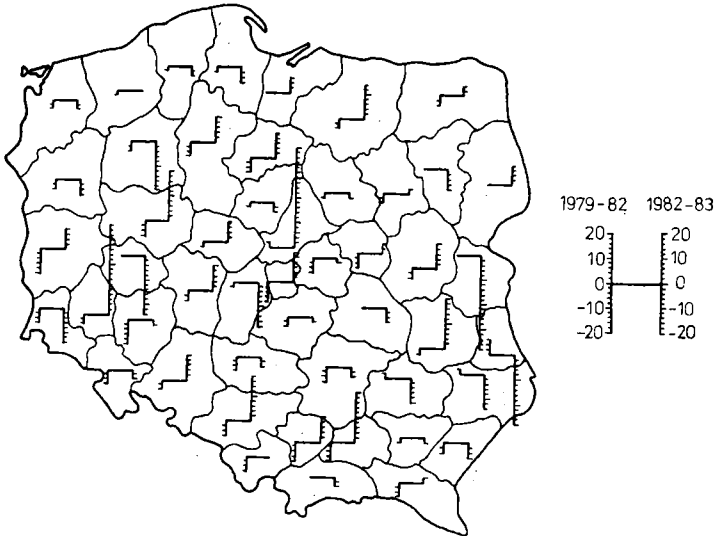


Fig. 9. Annual average growth rate of global production in socialized industry in 1979—1982, 1982—1983, in per cent.

some voivodships not considered as strong, which is probably due to the effects of the investments, which had been made in the previous period. This entailed an increase in the inter-voivodship differentiation of the industrial development. Thus, for the production value per capita the variability index was 35% in 1982 and 46% in 1983.

### 3.1.2. Agriculture

The level of the marketable agricultural production diminished for the first time in 1979 and crisis in agriculture lasted until 1981, when production attained the level of the first half of the 1970s. The years 1982—1984 might have brought a revival of agriculture, especially in view of a certain reduction of material costs, which could indicate a higher efficiency in agriculture in the years to follow.

The spatial structure of strong and weak voivodships after 1981 remained unchanged with respect to the previous period.

Over the years 1978—81 production diminished in all the voivodships (see Fig. 10), by 6.01% per annum on the average. Positive dynamics in the years 1981—82, which for the whole country averaged 4.29%, did not apply to all the voivodships. In 16 voivodships there was still a decline (see Fig. 10). In the first period, i.e. of the very crisis, the decline rates were similar in strong and weak voivodships. The averages in 10-voivodship groups from both ends were — 5.11% and — 6.48%, respecti-

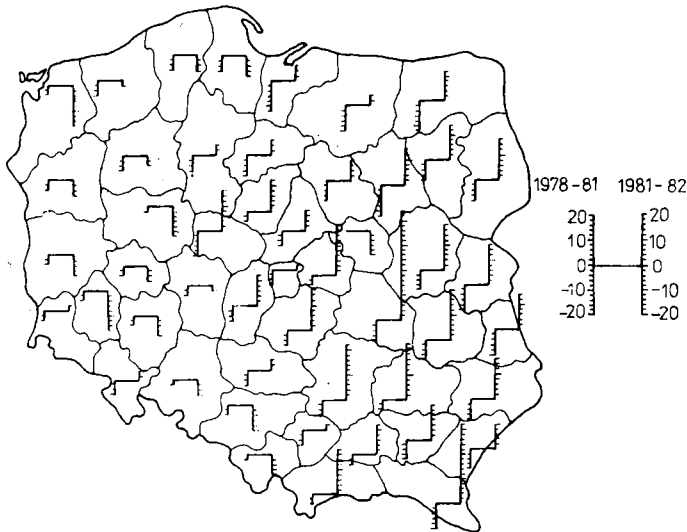


Fig. 10. Annual average growth rate of marketable agricultural production in 1978—1981, 1981—1982, in per cent.

vely. In the second period, i.e. after the crisis, this dynamics was, respectively 0.47% and 9.9%. Differentiation of the growth rates was for both these periods greater in the group of weak voivodships.

Generally speaking, agricultural crisis was more felt by the weak voivodships, while symptoms of overcoming of the crisis were stronger in this group. Voivodships agriculturally strong turned out more robust vis à vis the crisis but, simultaneously, less capable of rapid growth. Effectiveness lows hit these voivodships in 1981—82, when the weak ones were already recovering. Hence, the situation in agriculture was just opposite to the one in industry.

In contradistinction to the pre-crisis period, the role of the private sector has been growing in recent years. The share of the marketable product of this sector in the overall national one grew slightly in the crisis period from 69.8% in 1978 to 69.9% in 1983, and then significantly in the post-crisis year 1982, to 75.6%. The role of the private sector was also gradually growing in the particular voivodships. It should be presumed that the private sector suffered less from the crisis, and that it was more effective in adapting mechanisms of the economic reform than the socialized sector.

### 3.2. New Trends in the Employment Structure

In the crisis period there occurred an inversion of the existing trends in the sectoral structure of employment. The share of agriculture increased

from 29.5% in 1978 to 30.4% in 1982, and then decreased to 29.9% in 1984, while the share of industry decreased from 30.6% in 1978 to 29.1% in 1984. These new trends encompassed the majority of voivodships. Increases in the agricultural employment shares over the years 1978—82 occurred in 35 voivodships, out of the total of 49, while at the same time a drop in the industry's shares occurred in 41 voivodships. These new trends were most often not followed by eastern and north-eastern voivodships, least industrialized and most agricultural. They preserved, in spite of the crisis, their previous development dynamics. Directions of changes in the sectoral structure of employment in particular regions are presented in Fig. 11.

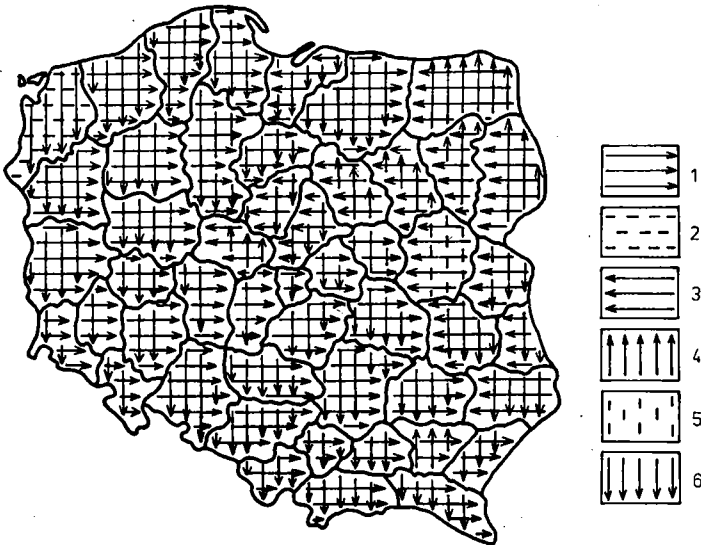


Fig. 11. Direction of changes in the sectoral structure of employment in 1978—1982.

1—3. Agriculture: 1. increase of the share in total employment; 2. stabilization of the share; 3. decrease of the share; 4—6. Industry: 4. increase of the share in total employment, 5. stabilization of the share; 6. decrease of the share.

In the period of crisis and introduction of economic reform there also occurred certain changes in the employment structure according to property forms. Over the years 1978—84 the share of the private sector grew from 26.2% to 29%. This phenomenon had several causes. First, there was an increase of profitability in private farming, and, simultaneously, a decline of attractiveness of work and living in towns; second, state policy with regard to private ownership of farms changed, as reflected by the amendment to Constitution, guaranteeing persistence of private ownership in agriculture; third, the private sector gained advantageous conditions of development through introduction of economic re-



form, which it knew how to use; fourth, the private sector outside agriculture did not undergo production and profitability decline, which enabled creation of attractive, competitive conditions for employees; and fifth, because of the state policy, carried out in anticipation of unemployment, in 1980—82 employment decrease in the socialized sector occurred, mainly through earlier retirement scheme.

Within the private sector employment grew quicker outside agriculture. The share of this sector in the employment outside private agriculture grew over the period 1978—83 from 4.3 to 6.5%. The quickest growth took place in the highly urbanized central voivodships, such as Łódź: from 4.0% to 8.4%, Poznań: from 6.6% to 10.7%, nad Warsaw: from 6.1% to 10.1%. Around Warsaw and between Warsaw and Łódź an „expansion zone” of private non-agricultural sector was created. Growth of this sector was not similar in all the regions. Especially important differences appeared in 1983. Employment in socialized sector started to grow in this year and a competition for employees started between sectors. The socialized sector won in few, less developed eastern voivodships, but it lost in most of the country's territory, and most of all in Warsaw, Łódź, Poznań and their surroundings. Reasons for such differences should be looked for in the level of development, as well

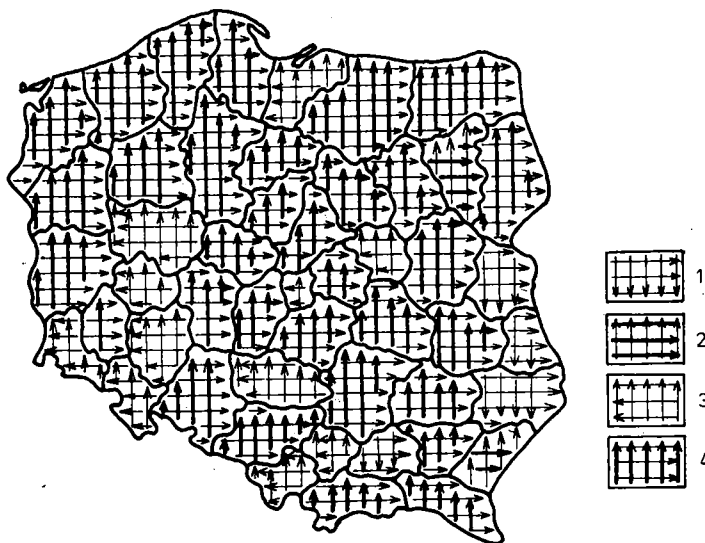


Fig. 12. Employment in socialized and private sector outside agriculture, in 1983.

1. decrease of the employment in the non-socialized sector and increase in the socialized sector, 2. increase of the employment in the socialized sector faster than the increase of the employment in the non-socialized sector, 3. decrease of the employment in the socialized sector and increase in the non socialized sector, 4. increase of the employment in the non-socialized sector faster than the increase in the socialized sector.

as in tradition and economic history of the particular regions. Results of the competition for employees are shown in Fig. 12.

### 3.3. Equalization of Living Standards

In the period of crisis an equalization of living standards took place. It resulted from the fact that the crisis affected more these regions which stood out better in this domain.

The situation in the domain of current consumption resulted from two component controversial trends: decrease of the retail trade sales and increase of electric power consumption in households. In 1979—82 decline of the retail trade sales, in constant prices, occurred in all the 49 voivodships, and was greatest in these voivodships, where this index had previously been the highest, i.e. Warsaw (decline by 28<sup>0</sup>/<sub>0</sub>) Katowice (by 24<sup>0</sup>/<sub>0</sub>) and other industrial urban centres. Equalization resulted primarily from rationing, which encompassed many sorts of goods. In the same period decrease of the industrial consumption of electric power caused an improvement in electric power supplies for households. Hence, in 1978—82 in all but two voivodships an increase in household electric power use took place, the increase being greatest in these voivodships, where previously consumption was the lowest. (In one of the voivodships, namely Przemyśl, this increase was by 82<sup>0</sup>/<sub>0</sub>). Consequently, in 1982 there ensued the flattening of differences in current consumption among the regions, as shown in Fig. 13.

In 1983 retail trade sales increased again in all voivodships due to improvements in industrial and agricultural production, while, for the same reasons, household electric power consumption slightly decreased, through breaks in supply (decrease of electric power consumption occurred in 31 voivodships, while increase in 18). In the same year, alongside the equalizing trend—weakest voivodships approaching the national averages, there appeared differentiating tendencies, especially among the strongest voivodships.

Internal migrations rapidly diminish starting from 1980, also due to the crisis, which was mainly reflected in migrations to urban centres and to highly urbanized and industrialized centres. This slowed down the growth of housing need in larger cities, i.e. where these needs were highest, and caused their acceleration in weakly urbanized regions. In general, the situation worsened everywhere, and differences consisted only of various speeds of worsening. The differences led to the diminishing disparity in housing situation in 1982 (see Fig. 14).

### 4. Concluding Remarks

The crisis which occurred at the turn of the 1970s pushed out of balance the previously stable regional economic structure of the country.

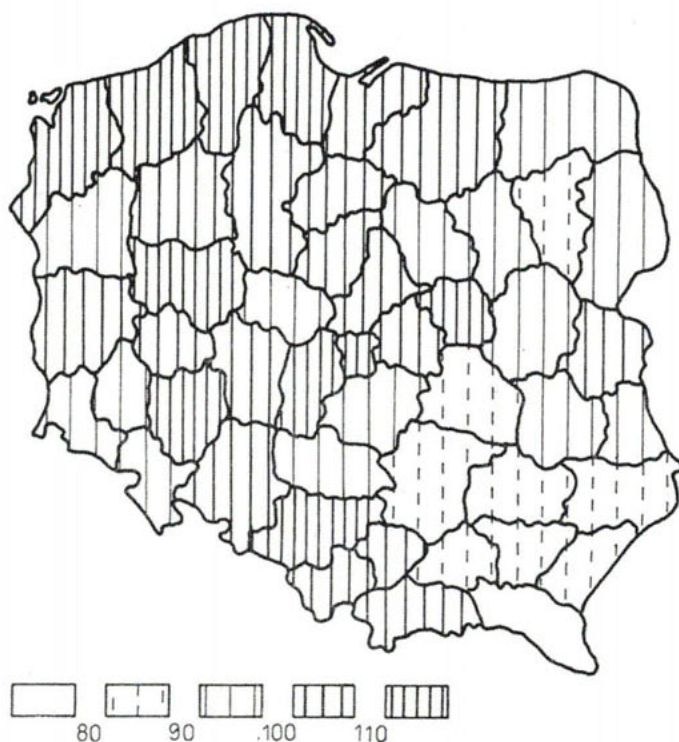


Fig. 13. Differentiation of current consumption in 1982, national average = 100.

In most domains there was some decrease in differences among regions. An exception was agricultural production. In the sphere of living standards equalization was especially distinct. This process touched also investments and construction, both of which were not reported in the present paper. Over the same period there also occurred an inversion of previous trends in changes of socio-professional structures of population, i.e. growth of agricultural and decrease of industrial shares in employment. These new trends did not affect only the weakest voivodships.

In the period after 1982, when simultaneously economic reform started to be implemented and an economic revival took place, in the production domain the trends prevailing during the crisis were inverted. The greatest increase in industrial production was observed in strong industrial voivodships, while the strong agricultural voivodships underwent the greatest drop in agricultural production, with production in weak voivodships increasing.

At the same time, the role of the private sector in economy grew.

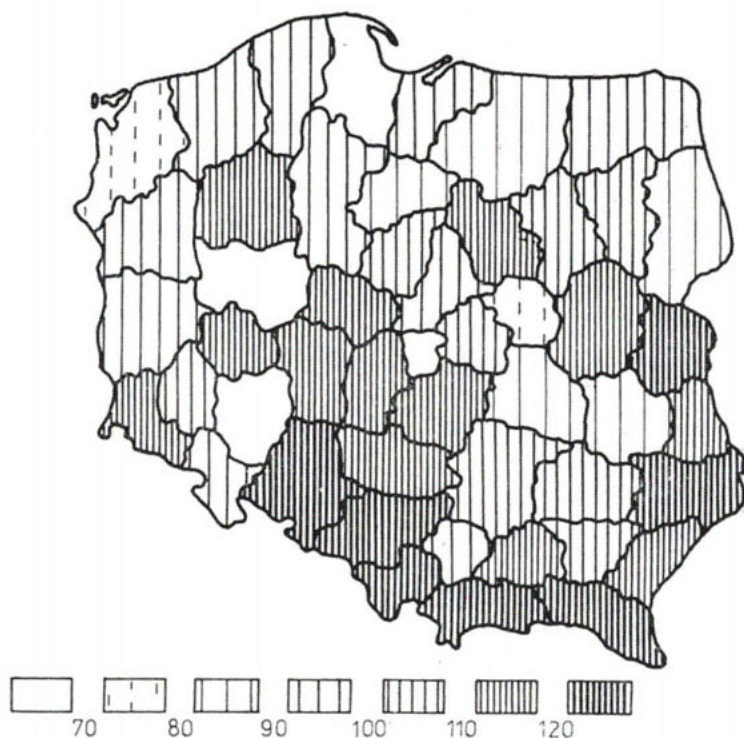


Fig. 14. Differentiation of housing conditions in 1982, national average = 100.

In agriculture this was reflected through increase in the production share of this sector in all the voivodships. Outside agriculture growth of this sector was reflected through increase in both production share and in employment in most voivodships, and especially in those with the highest development level.