

# Changes of the Enterprise Characteristics of Spatial Economic Structure in the North-Hungarian Region

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## Abstract

*In this paper, I analysed the tendency of the number of people employed by enterprises that operate in the counties of the North-Hungarian region and the development of the GDP produced by such enterprises according to consolidated national economic sectors.*

*Considering the analysis, it can be stated that in the North-Hungarian region, and also in Hungary as a whole, the share of the manufacturing industry decreased, while the share of the tertiary industry increased. As a result, the possibility of the economic instability increased, because the role of industries that ensure the stability, primarily of those which are bound to place and capital equipment, diminished and the role of the easy-to-mobilise tertiary industry appreciated. Thus, on the long term the region's economic development can only be ensured by means of economic development policy inciting continuous investments.*

**Key words:** *spatial economic structure, GDP, employed, national economic sector, North-Hungary*

**JEL Classification:** *M21, R12*

## Introduction

In order to develop the regions' economy it is inevitable to be aware of which factors and to what extent they influence the economic development of a region.

The economic development of a region is to a great deal subject to the enterprises operating in the given region, to the number of such enterprises, to the scope of activities, to the number of the people employed by them, to the gross added value produced by them, to the capability of the enterprises to attract foreign capital and to a number of other features. From among the features, the number of people employed by the enterprises and the shaping of such is especially important, and also the gross added value produced by the enterprises and the tendency thereof according to national economic sectors.

In the course of the analysis the national economic sectors indicated are consolidated national economic sectors, which are the following: agriculture, forestry, wildlife management, fishing collectively named as "Agriculture"; the industry and building and construction hereinafter named collectively as "Industry"; and the Tertiary sector, which is the collective name for any other national economic sectors not mentioned previously; this includes commerce, repair, accommodation, catering, transportation, warehousing, postal services, telecommunication, financial mediation, real estate affairs, economic services, public administration, defence,

compulsory social security, education, health care, social care, other national economic sectors of community and personal service.

In this paper, the change in the above characteristics of the enterprises that operate in the North-Hungarian region is analysed according to national economic sectors.

## Employment

At the last two decades at the labour market one of the most significant change can be seen in the composition of the employed by national economic sectors. The examination of employed is important, because the economic situation of the region is determined significantly by the undertaking climate of which one of the most important indicators is the employed.<sup>1</sup>

Table 1 shows the changes in the distribution of the number of employed according to the consolidated national economic sectors between 1990 and 2008 in each region.<sup>2</sup>

**Table 1.** Distribution of the number of employed according to national economic sectors by regions

Regions	Agriculture (%)			Industry (%)			Services (%)		
	1990	2001	2008	1990	2001	2008	1990	2001	2008
Central Hungary	6.8	1.5	0.9	35.7	25.2	21.2	57.5	73.3	77.9
Central Dunántúl	14.7	5.2	3.6	44.6	43.4	43.8	40.6	51.4	52.6
West Dunántúl	16.5	5.6	3.5	39.0	40.9	38.8	44.5	53.4	57.6
South Dunántúl	19.8	8.2	5.7	35.9	32.7	30.3	44.3	59.1	64.0
<b>North Hungary</b>	<b>13.6</b>	<b>4.2</b>	<b>3.2</b>	<b>45.0</b>	<b>37.3</b>	<b>35.2</b>	<b>41.4</b>	<b>58.5</b>	<b>61.6</b>
North Alföld	21.8	7.8	4.9	35.4	32.4	31.5	42.8	59.8	63.6
South Alföld	26.5	12.5	6.1	33.5	31.6	31.5	39.9	55.9	62.3
<i>Hungary</i>	<i>15.4</i>	<i>5.5</i>	<i>3.1</i>	<i>37.9</i>	<i>32.9</i>	<i>29.7</i>	<i>46.7</i>	<i>61.6</i>	<i>67.2</i>

Source: own compilation on the basis of the HCSO data, 2011

On the basis of Table 1 it can be established that regarding Hungary, the distribution of employed between the national economic sectors significantly restructured from 1990 to 2008.

The proportion of those employed in the agricultural sector gradually decreased between 1990 and 2008, so much so that in 2008 only 3.1 percent of all employed were employed in the agricultural consolidated national economic sector.

From 1990 on – as the result of the social-economic changes – the drop-like decrease of the industrial production was accompanied by the extreme reduction of the number of employed. In 2008, the proportion of those employed in this consolidated economic sector decreased to 29.7 percent as compared to 37.9 percent in 1990.

While in 1990 46.7 percent of those employed in Hungary worked in tertiary industry-type sectors, by 2008 the tertiary sector ensured the subsistence for 67.3 percent of all the employed. From this we can see that the role of the tertiary sectors increased during not even two decades and according to the prognosis this tendency is expected to continue.

<sup>1</sup> György Kocziszký, *Examination of the innovation potential in the North Hungarian region*, Miskolc, 2004

<sup>2</sup> Hungarian Central Statistic Office (HCSO), *Regional statistical yearbook of Hungary*, Budapest, for years 1990, 2001 and 2008

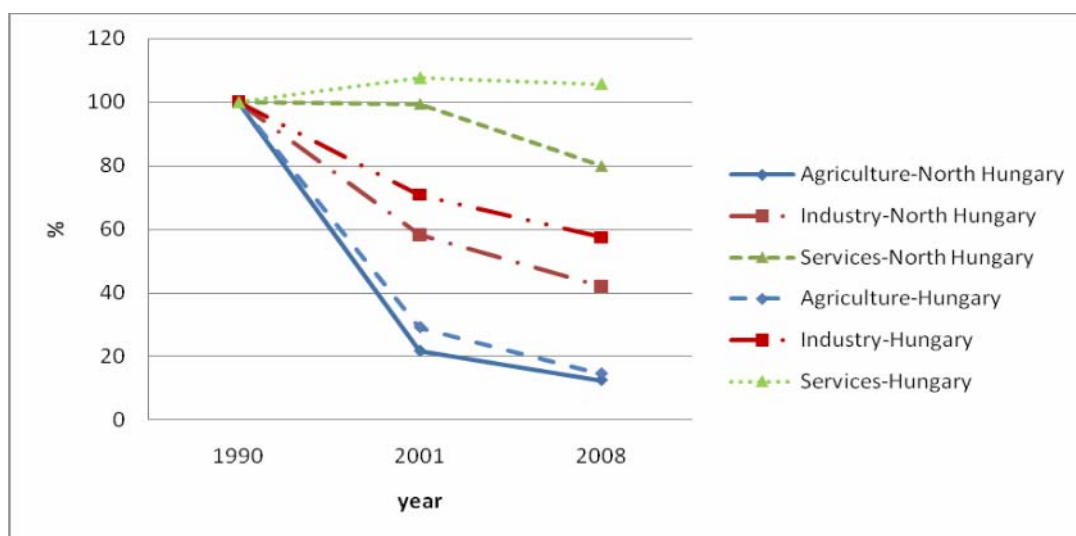
The structure of employment in North-Hungary is somewhat different as compared to the national average; however, the changes characteristic of the past decades went off in a similar way also here.

While in the North-Hungarian region in 1990 and 2001 the proportion of those employed in the agriculture was lower than the national average, this situation turned by 2008. In 2008, the proportion of those employed in the agricultural sector was 3.2 percent while the national average was 3.1 percent. Despite of this the national tendency, the North-Hungarian region also features the national tendency meaning that the proportion of those employed in the agriculture diminished during the period surveyed.

The industrial character of the North-Hungarian region is shown by the fact that the proportion of those employed in the industry was larger than the national average, while the proportion of those employed in the tertiary sector was always lower. However, the tendency that showed at national level is to observe also in the North-Hungarian region; namely the proportion of those employed in the industry decreased, while the proportion of those employed in the tertiary sector increased during the period between 1990 and 2008.

If we look at the reasons, the reason for this can be that other areas of the industry and the agriculture could not offer employment possibilities for the workers of the liquidated, in majority heavy industrial plants, thus vast majority of the employed, who would have become unemployed or inactive, found employment in the tertiary sector.

Figure 1 illustrates that in the North-Hungarian region the decrease of the number of employed compared to 1990 was larger in all three national economic sectors than in Hungary as a whole.<sup>3</sup>



**Fig. 1.** Changes in the number of employed as compared to 1990

Source: own compilation on the basis of the HCSO data, 2011

Andrea Homola Szalai conducted a similar research. In her article, she examined how the sectoral structure of employment developed between 1992 and 2008, and established that there is a striking change in the tendency of the distribution of employed in a breakdown by national economic sectors. The proportion of those employed in the tertiary sector significantly increased while the proportion of those working in the agricultural and industrial sector decreased.<sup>4</sup>

<sup>3</sup> Hungarian Central Statistic Office (HCSO), *Regional statistical yearbook of Hungary*, Budapest, for years 1990, 2001 and 2008

<sup>4</sup> Szalai Andrea Homola, About the employment in the North Hungarian region, *Területi Statisztika*, 2009/5, pp. 482-497.

However, the analysis made by her cover only 2 years and did not show that the majority of changes already went off by 2001.

This establishment is supported by a number of studies, among others dr. János Fóti and dr. Miklós Lakatos also examined the development of employment between 1980 and 2005 according to national economic sectors, according to spatial distribution, in distribution according to age groups and also according to educational categories, and it is verified also in this study that by the end of the period, the proportion of those employed in the manufacturing sector is insignificant as compared to those employed in the tertiary sector.<sup>5</sup>

## Gross Added Value

In the following lines, I will examine the changes of the gross added value not discounted with the inflation, i.e. the GDP in a breakdown according to national economic sectors at regional level.

Table 2 includes the shaping of the GDP according to national economic sectors by regions, on the basis of which it can be established that in the North-Hungarian region the proportion of GDP decreased in the agricultural national economic sector, while it increased in the industrial and tertiary national economic sectors.<sup>6</sup>

The shaping of the GDP is inconsistent with the shaping of the number of employed in the industrial national economic sector, which is the result of the significant productivity improvement due to the considerable technological development.

**Table 2.** Distribution of GDP according to national economic sectors by regions

Regions	Agriculture (Billion HUF)			Industry (Billion HUF)			Services (Billion HUF)		
	1995	2001	2007	1995	2001	2007	1995	2001	2007
Central Hungary	36.9	69.6	69.8	480.3	1,358.8	2,266.8	1,428.6	4,382.8	7923.1
Central Dunántúl	43.6	82.6	104.9	188.3	610.7	1,075.3	251.7	671.8	1,043.5
West Dunántúl	47.7	69.2	109.3	190.4	586.3	921.9	254.9	707.6	1,089.2
South Dunántúl	53.3	103.6	120.8	112.7	279.1	385.8	227.3	574.9	916.3
<b>North Hungary</b>	<b>39.9</b>	<b>58.8</b>	<b>72.3</b>	<b>166.0</b>	<b>427.1</b>	<b>692.2</b>	<b>246.1</b>	<b>600.6</b>	<b>960.5</b>
North Alföld	77.7	142.7	173.9	151.2	415.8	614.4	306.4	787.7	1,282.2
South Alföld	93.5	165.2	213.3	160.8	365.5	529.9	304.4	733.2	1,190.8
<i>Hungary</i>	392.6	691.7	864.3	1,449.7	4,043.3	6,486.3	3,019.4	8,458.6	14,405.6

Source: own compilation on the basis of the CSO figures, 2011

Figure 2 illustrates that in the North-Hungarian region the increase of GDP compared to 1995 was in all three national economic sectors smaller than in Hungary as a whole.<sup>7</sup>

<sup>5</sup> János Fóti, Miklós Lakatos, *Employment and unemployment*, National Employment Endowment, Budapest, 2006

<sup>6</sup> Hungarian Central Statistic Office (HCSO), *Regional statistical yearbook of Hungary*, Budapest, for years 1995 and 2001  
Hungarian Central Statistic Office (HCSO), *National Account in Hungary 1995-2007.*, Budapest, 2008

Hungarian Central Statistic Office (HCSO), *Regional statistical yearbook of Hungary 2008*, Budapest, 2009

<sup>7</sup> Hungarian Central Statistic Office (HCSO), *Regional statistical yearbook of Hungary*, 1995, Budapest, 1996

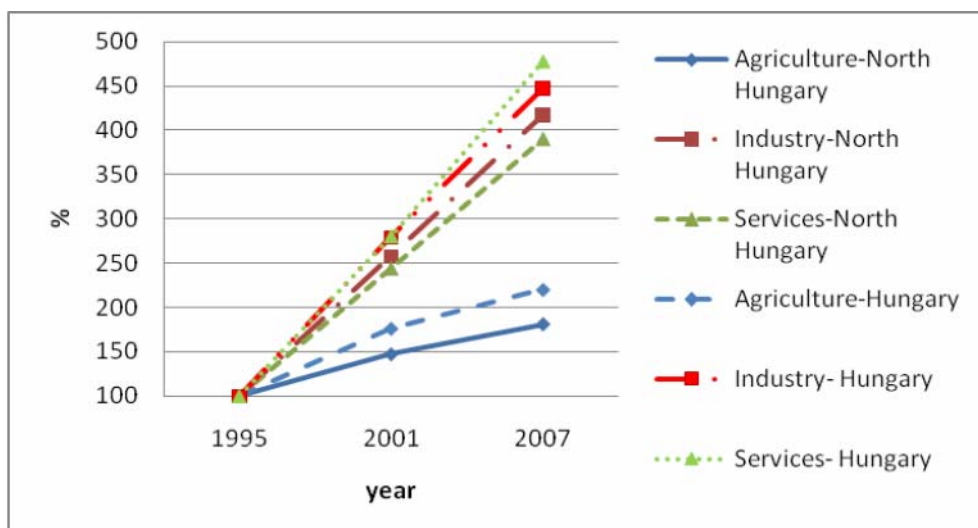


Fig. 2. Changes of the GDP compared to 1995

Source: own compilation on the basis of the HCSO data, 2011

In the following, I will examine the annual inflation-adjusted GDP. For the calculation I use the annual inflation data of the HCSO.

Table 3 illustrates the shaping of the annual inflation-adjusted GDP according to national economic sectors by regions.

Table 3. Shaping of the annual inflation-adjusted GDP according to national economic sectors by regions

Regions	Agriculture (Billion HUF)			Industry (Billion HUF)			Services (Billion HUF)		
	1995	2001	2007	1995	2001	2007	1995	2001	2007
Central Hungary	28.8	24.6	18.1	374.6	480.9	586.0	1,114.3	1,550.9	2,048.3
Central Dunántúl	34.0	29.2	27.1	146.9	216.1	278.0	196.4	237.7	269.8
West Dunántúl	37.2	24.5	28.3	148.5	207.5	238.3	198.9	250.4	281.6
South Dunántúl	41.6	36.7	31.2	87.9	98.8	99.7	177.3	203.4	236.9
<b>North Hungary</b>	<b>31.1</b>	<b>20.8</b>	<b>18.7</b>	<b>129.5</b>	<b>151.1</b>	<b>179.0</b>	<b>192.0</b>	<b>212.6</b>	<b>248.3</b>
North Alföld	60.6	50.5	45.0	118.0	147.1	158.8	239.0	278.8	331.5
South Alföld	72.9	58.5	55.1	125.4	129.3	137.0	237.5	259.5	307.8
<i>Hungary</i>	306.2	244.8	223.5	1,130.8	1,430.8	1,676.8	2,355.4	2,993.3	3,724.2

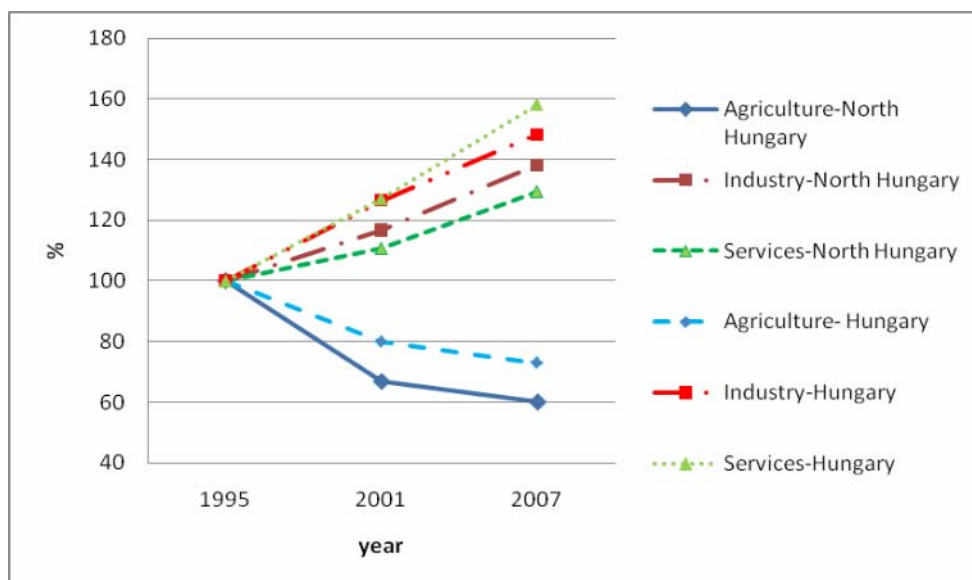
Source: own compilation on the basis of the HCSO data, 2011

Figure 3 illustrates the changes of the annual inflation-adjusted GDP in all three national economic sectors in the North-Hungarian region as compared to 1995.

Hungarian Central Statistic Office (HCSO), *Regional statistical yearbook of Hungary 2001*, Budapest, 2002

Hungarian Central Statistic Office (HCSO), *National Account in Hungary 1995-2007*, Budapest, 2008

Hungarian Central Statistic Office (HCSO), *Regional statistical yearbook of Hungary 2008*, Budapest, 2009



**Fig. 3.** Changes of the annual inflation-adjusted GDP in the North-Hungarian region as compared to 1995  
Source: own compilation on the basis of the HCSO data, 2011

On the basis of Figure 3 it can be established that the value of real GDP significantly decreased in the agricultural national economic sector both in Hungary and in the North-Hungarian region between 1995 and 2007, showing that the agriculture contributes to an always less degree to the primary gross income generation of the country, and the value of the produced products intended for final consumption continually decreased.

In the following, I will examine the annual inflation-adjusted GDP per capita. For the calculation I use the annual inflation data of the HCSO.

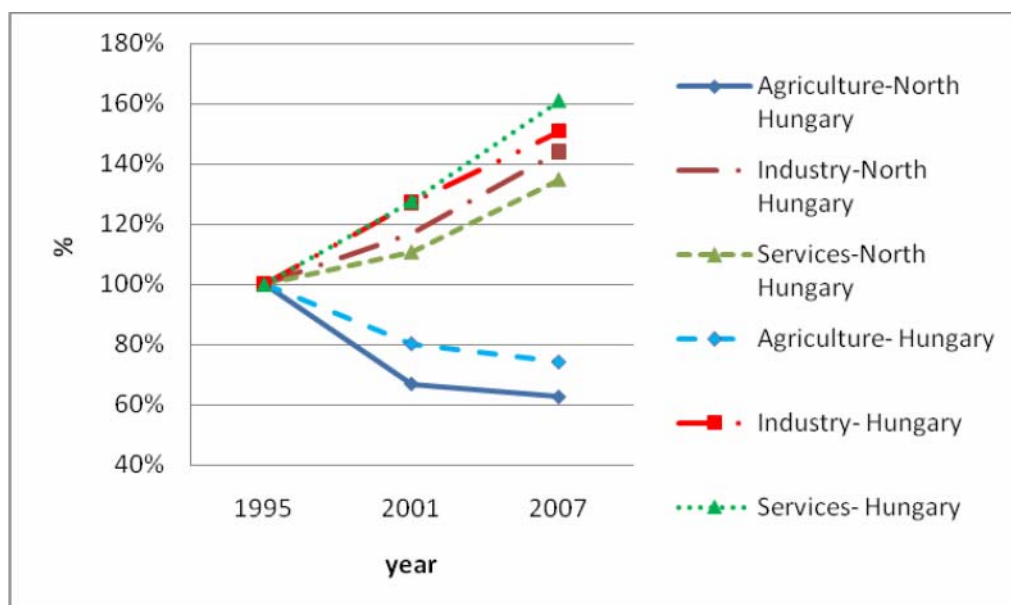
Table 4 illustrates the shaping of the annual inflation-adjusted GDP per capita according to national economic sectors by regions.

**Table 4.** Shaping of the annual inflation-adjusted GDP per capita according to national economic sectors by regions

Regions	Agriculture (Thousand HUF/capita)			Industry (Thousand HUF/capita)			Service (Thousand HUF/capita)		
	1995	2001	2007	1995	2001	2007	1995	2001	2007
Central Hungary	9.9	8.7	6.3	129.0	169.8	204.0	383.8	547.8	713.0
Central Dunántúl	30.4	26.1	24.5	13.5	192.8	251.0	175.8	212.1	243.6
West Dunántúl	37.2	24.4	28.3	148.5	206.7	238.5	198.8	249.4	281.8
South Dunántúl	41.6	36.8	32.3	87.9	99.0	103.1	177.2	203.9	244.8
<b>North Hungary</b>	<b>23.9</b>	<b>16.0</b>	<b>14.9</b>	<b>99.3</b>	<b>116.0</b>	<b>143.0</b>	<b>147.3</b>	<b>163.1</b>	<b>198.4</b>
North Alföld	39.2	32.3	29.5	76.3	94.1	104.1	154.7	178.3	217.3
South Alföld	53.0	42.3	41.1	91.2	93.7	102.1	172.7	188.0	229.3
<i>Hungary</i>	29.9	24.0	22.2	110.4	140.3	166.6	229.9	293.5	370.0

Source: own compilation on the basis of the CSO figures, 2011

Figure 4 illustrates the changes of the annual inflation-adjusted GDP per capita in all three national economic sectors in the North-Hungarian region as compared to 1995.



**Fig. 4.** Changes of the annual inflation-adjusted GDP per capita in the North-Hungarian region as compared to 1995

Source: own compilation on the basis of the HCSO data, 2011

On the basis of Figure 4 it can be established that not only the production capacity of the agricultural sector decreased, but also the efficiency of production dropped very significantly as opposed to the production efficiency improvement of the industry and the tertiary sector.

## Conclusion

In this paper, I analysed the tendency of the number of people employed by enterprises that operate in the counties of the North-Hungarian region and the development of the GDP produced by such enterprises according to consolidated national economy sectors, by comparing it to the changes of the Hungarian spatial economic structure.

Considering the analysis, we can state that a similar tendency is observable concerning the shaping of both the number of employed and the GDP in a breakdown according to the consolidated national economic sectors.

In the surveyed period, the proportion of people employed by enterprises operating in the agricultural and industrial consolidated national economic sectors decreased, whereas in the tertiary type sectors an increase shows.

On the basis of my study we can state that the GDP produced by enterprises grew in all three consolidated national economic sectors, however, the growth was the smallest in the agricultural consolidated national economic sector, which might be the result of the largest decrease in the number of employees.

Significant difference between the Hungarian and the North-Hungarian average was that the decrease in the number of employed was larger, while the GDP growth was smaller in the North-Hungarian region as compared to Hungary as a whole.

Concerning the annual inflation-adjusted GDP the significant loss of ground of the agricultural sector can be clearly established both in the Hungarian and the North-Hungarian spatial economic structure.

Such significant loss of ground of the agriculture may be one of the reasons of the current indebtedness of the Hungarian economy, because the GDP decrease of the agriculture could not

be compensated by the GDP increase of the industrial and tertiary sectors to the same extent to which the state debts grew.

Based on the above it can be established that in the North-Hungarian region, and also in Hungary, the share of the manufacturing industry decreased while the share of the tertiary industry increased. As the result of this, the possibility of the economic instability increased, because the role of industries that ensure the stability, primarily of those bound to place and capital equipment, diminished and the role of the easy-to-mobilise tertiary industry appreciated. Thus, the region's economic development can only be ensured on the long term by means of economic development policy inciting continuous investments.

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## Modificarea caracteristicilor structurii economice în regiunea nordică a Ungariei

### Rezumat

*În acest articol au fost examinate două caracteristici importante ale structurii economice, respectiv variațiile ocupării forței de muncă și ale valorii PIB în regiunea din nordul Ungariei, totalizate pe fiecare ramură națională.*

*Pe baza examinării se poate afirma că în regiunea nordică a Ungariei, respectiv în întreaga Ungarie, în timp ce cota ce revine sectoarelor productive a scăzut, cea a sectoarelor prestatoare de servicii a crescut. Aceasta a avut drept rezultat creșterea probabilității instabilității economice, deoarece rolul sectoarelor care asigură stabilitatea - legate în principal de locul și mijloacele de producție, cum ar fi mineritul, metalurgia - a scăzut, iar rolul sectorului prestator de servicii, ușor de mobilizat, a crescut. Astfel, dezvoltarea economică a regiunii poate fi asigurată, pe termen lung, numai de o politică economică corespunzătoare, care să stimuleze permanent investițiile.*