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The phenomenon of deindustrialisation during the period  
of transition and its impact on the geodemography and the  
habitat in the Hunedoara County

-PhD Thesis-  
Summary

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**Key-words:** industrialisation, urbanisation, deindustrialisation, economic decline, geo-demographic impact, migration of the population, decline in population size, unemployment, decommissioning and conversion of industrial areas, economic recovery

## **Introduction**

The diversity of resources in the Hunedoara county enabled the development of several industrial branches, whose finished products came to be known worldwide (the syderurgy). However, the fall of the communism and the transition towards the market economy only had negative effects. The Hunedoara county changed from being the most industrialised county in the country to being one of the most heavily affected by unemployment, poverty, delinquency, a county whose population has decreased in size and has aged, everything happening because of deindustrialisation.

The topic of this thesis is meant to be of present interest, especially if we take into consideration the social and economic conditions in the Hunedoara county, contributing to the understanding of the phenomenon of deindustrialisation with its negative and positive effects (fewer, that is true), with the implications for the population and the habitat, but it is also meant to draw attention to the importance of the correct management of some exhaustible resources.

This work has tried to trace the economic development of the Hunedoara county in a chronological order, including facts from the earliest times (antiquity) up to the present. Divided into eleven chapters, the thesis presents the development of the economy in the Hunedoara county, followed by the economic decline after 1989, with all its implications.

## **Chapter 1. Geographical location. Limits**

This chapter presents the position of the county within the territory of the country, its main neighbours and the present administrative–territorial organisation of the county. At present, in the Hunedoara county there are 7 municipalities (Deva-the capital of the Hunedoara county, Hunedoara, Petroșani, Orăștie, Brad, Lupeni, Vulcan), 7 towns (Hateg, Aninoasa, Călan, Petrila, Simeria, Uricani și Geoagiu-the last one became a town in 2000), 55 communes and 457 villages.

## **Chapter 2. Stage of knowledge. Theoretical and methodological aspects**

The methodological frame of the research brings together a set of principles, methods and means. The main principles of the thesis are the following: the principle of **spaciousness**, of **causality** and **integration**, the **historical** and **anthropogenic** principles. Some of the methods that have been used we can mention the **method of observation** (both direct and indirect), taking into consideration the more descriptive feature used in the first chapters of the thesis (the evolution of industry), the **comparison method** (in the comparative analysis of the data concerning the unemployment rate, the crime rate, the number of dwellings that have been built etc.) and also a **historical analysis** of the data, of the topic of the thesis from the perspective of its evolution in time, through transversal studies, the **typological method** and the most important method of the geographer – the **cartographic method**.

The long journey of knowledge is often accompanied by difficulties, which might test your wish to complete your research or to slow down your enthusiasm as a beginner. In my research I have tried to study both scientific works and articles in geography magazines or articles in financial newspapers, and this chapter presents only some of them.

### Chapter 3. Physical-geographical premises of the industry development in the Hunedoara County

The third chapter presents an overview of the territory under analysis, from a physical and geographical point of view. The territory of the Hunedoara County has a complex geological structure, since it comprises several major structural units. The majority of the geological formations belong to the Meridional Carpathians; more precisely to the North-Western part of the Southern curve of this mountain range and the Northern part of the county includes the Southern ends of the Apuseni Mountains (the Metaliferi Mountains). From a tectonic-structural and lithological point of view, all this variety of rocks is related to the following two major units: the Danubian characteristic and the Getic Layer.

The landscape is characterised by a great variety, here one can find plains, hills and even high mountains which contrast with the inner mountain depressions and the depression corridors, where the first human dwellings in the county were to be found.

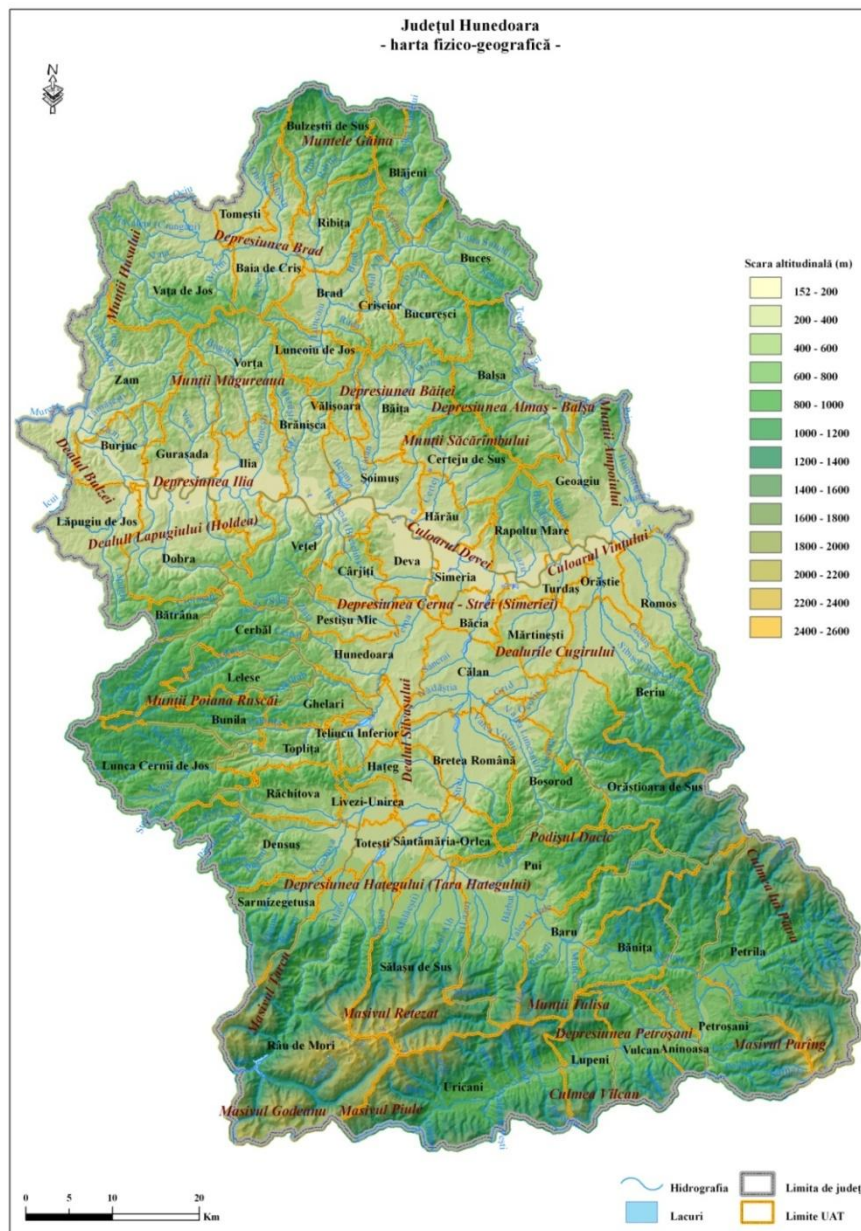


Figure.1- The physical and geographical map of the Hunedoara county

From the climatic point of view, the Hunedoara county can be included in two climate types: the mountain climate with lower temperatures and more abundant rainfall and the moderate continental climate to be found in the hill area with higher temperatures and moderate rainfall, the latter being favourable to the local economic activities.

An essential element of the landscape, hydrography reflects the resultant of the interdependence of the rest of physical and geographical factors : climate, landscape, lithology, vegetation, soil, and the human being joins them impetuously, with their direct and indirect activity. Due to the setting of the landscape and the geological variety, the hydrographic network of the Hunedoara county is a very rich one, which enabled its exploitation for hydro-energetic purposes, in industry, in the production process, and in order to provide drinking water..

Variety is not only a characteristic of the landscape, but of the natural resources as well, which were ultimately the basis of the industry development in this county. Thus, we are talking about the coal resources, which transformed the Hunedoara county, more precisely, Valea Jiului, the most important coal region in the country, about the iron resources in the Poiana Rusca mountains, which enabled the development of the mineral extraction and processing industry, the industry that placed the Hunedoara county on top as an industrial activity, about the gold and silver ores, so much desired ever since the Dacian and Roman times and about the numerous building rocks to be found all over the territory of the county. All the resources mentioned above, together with the water and forest resources, transformed the Hunedoara county into one of the most developed counties in the country from an economic point of view, which determined a large population, a development of the infrastructure.

#### **Chapter 4. The main stages of the industry development in the Hunedoara county**

The fourth chapter actually begins the first part of the thesis, dealing with the evolution of industry in this county. The following have been presented in this chapter: the main chronological stages of the emergence and development of industry, since antiquity until the period of transition towards the market economy, with the focus on the capitalist and socialist period.

#### **Chapter 5. The characteristics of the emergence and the development of the main industrial branches, from the most ancient times until the end of 1989**

The following chapter is of utmost importance and it analyses the characteristics of the emergence and development of the main industrial branches in the county, since antiquity until the key moment, 1989. A division of the chapter in two parts has been attempted: antiquity – 1984, the year of the nationalization, and 1948-1989, the period of the economic boom of the county. All the industrial branches have been analysed from the point of view of the evolution in the county, of the modernization of the working tools, of the extracting methods etc.

Industry in the Hunedoara county appeared and developed along several centuries, some of the branches have their beginning in antiquity, some others developed later, at the end of the 18th century, the beginning of the 19th. Still, this evolution has had its regression moments, since the historical conditions also marked the industrial development of the region.

The diversity of the useful ore resources enabled a somewhat thematic division of the main existing mines, in the way they appeared: the gold mines, the iron mines, the coal mines, various non-ferrous metal mines or quarries.

In the period Antiquity-1948 the extracting industry of the **gold and silver ores** was established, this occupation dating back to Dacian times. We can identify two important areas in the exploitation of the gold ore: Brad and Săcărâmb, where the presence of 13 types of tellurium out of 40 known on the globe has been identified, as well as of a great number of minerals, "almost 100 minerals, some of which very rare minerals [...] 6 native elements (Au, Ag, As, Cu, S,

Te), 32 sulphides and sulfur salts, a selenide, 13 types of tellurium and 9 oxides”<sup>1</sup>. Sacaramb is also the only place in the country where the following have been identified „eukarit, jordanit, plumbogumit and skorodit”<sup>2</sup>. ”The first school with a mining specialization in Transylvania, unique in Central Europe”<sup>3</sup> was established here.

As old as gold extraction on the territory of the county is **iron extraction**. Mines belonged to the Romans and the ore extracted by the local people was mostly used to satisfy the needs of the Roman provinces. Like in the case of the gold mines, the iron mines ”had some leaders, a „conductores fierarium” and a „collegium fabrum” of the iron masters”<sup>4</sup> who were actually responsible for the entire activity. All the discoveries, numerous enough, prove the fact that the region of Teliuc-Ghelari has been an important mining center ever since the Dacian-Roman times.

The reserves of iron ore in the region of the Poiana Rusca mountains and the old tradition of its processing in the Hunedoara county, gave birth to the idea that a furnace should be built next to Hunedoara, in Toplița. When it was exactly brought into service is not known. Still, the documents of the time mention 1754 or 1781. It ”generally produced white cast iron (90%), grey cast iron (7,5%) and cast iron mirror (2,5%).”<sup>5</sup> ”The furnace in Toplița ends its activity on the 15th of January 1837, when a fire destroyed the building and the additional installations.”<sup>6</sup>

The insufficiency of production of the furnace in Toplița preoccupied the local administration that decided to start the construction of a new furnace in 1806 ”in the Govajdie commune, on the location of the workshop named Limpertul Vechi ”<sup>7</sup>, finished in 1810 and brought into service in April 1813. Some of the elements which even today are part of the foundation underlying the building structure of Eiffel Tower were cast here.

But the key moment of the emergence of siderurgy in Hunedoara is the moment when the plants in Hunedoara were built, due to the fact that some of the old workshops had become unprofitable, and also due to the situation created by the appearance of the railway system and the development of the car building industry. The year 1884 actually marks the beginning of siderurgy in Hunedoara, when the first furnace in Hunedoara was brought into service on the 25th of May, 1884.

But although the main siderurgical center-to-be is in Hunedoara, we should not overlook the importance of the plant in Călan. It had a furnace that produced pig iron used to make stoves, laundry boilers and other household items. The building of the furnace began on the 25th of May 186 by the „Kronstoder Verein” corporation, the owner of the mines in Teliuc, and it was brought into service in 1871.

The Hunedoara county there are also **coal deposits**, the most important coalfield in Transylvania is found in the county. The first notifications about the presence of the coal in the area were made in 1782 by the mineralogist Benko Janos, but the proper exploitation began later, ”around 1835 the first prospecting and exploiting activities were performed in the Valea Jiului basin, [...] and in 1840 the brothers Hoffmann and Carol Madespach, the owners of several mines in Rusca Montană performed exploitation activities in Valea Jiului.”<sup>8</sup>

After a period of time in which coal exploitation was handled by several corporations, in 1920 the Romanian Anonymous Society "Petroșani" is established and it is going to manage the deposits consisting of 25 coal layers of various types of thickness (40-80 m), dividing the mines in

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<sup>1</sup> Nichițean, N., Jianu Coralia, Maria 2006, page 14

<sup>2</sup> Idem

<sup>3</sup> Work cited, 2006, page 52

<sup>4</sup> Fodor, D., 2005, page 109

<sup>5</sup> \*\*\* „Din istoricul metalurgiei hunedorene. 110 ani de la punerea în funcțiune a primului furnal de la Hunedoara. 1884-1994”, 1994, page 259

<sup>6</sup> \*\*\* ”Combinatul Siderurgic Hunedoara. Tradiție și progres în siderurgie. 1884-1974”, 1974, page 34

<sup>7</sup> Work cited., 1974, page 36

<sup>8</sup> Work cited, 2005, page 206



two groups: the Petrosani group (with the mines - Eastern Petroșani, Western Petroșani, Dîlja, Petrila, Aninoasa) and the Vulcan group (with the following mines – Eastern Vulcan, Western Vulcan, Dr. Chorin). (Gruescu, I.S., 1970, pages 40-43)

The following figure presents the evolution of coal production of the society since it took over the management until the beginning of the Second World War.

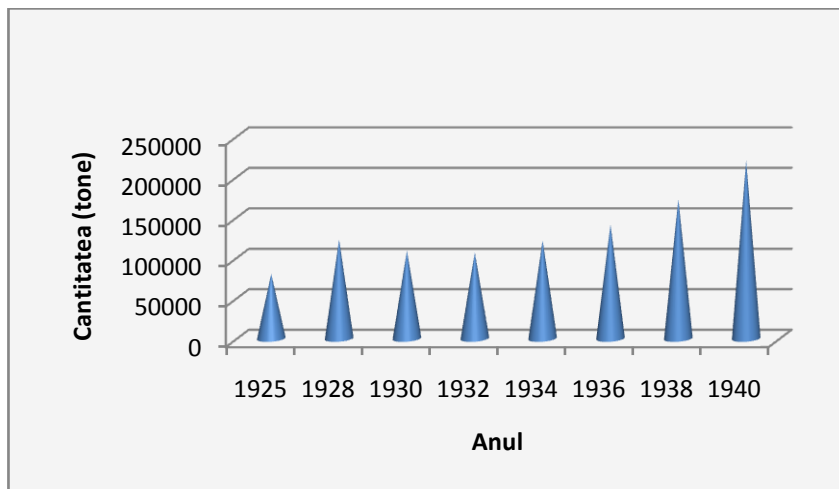


Figure 2.- The coal production of the "Petroșani" Society, 1925-1940  
(source: The National Archives of the State in the Hunedoara county, the "Petroșani" Society Fund)

The foundations of the electric energy industry are laid, when the first power stations appear, in Vulcan, Lupeni, Gura Barza and with the appearance of some electrogenic groups which used to function within various industrial factories. The chemical industry began its development in the Hunedoara county ever since the end of the 19th century, when several sub-branches started to exist (the factory "Vâscoza" Lupeni, the future Chimica SA Orăștie, the Cooperative „Digitalis" Orăștie, the future SC Fares SA etc.).

The foundations of the leather and fur industry are also laid now, and it is represented by "The first systematic fur factory" in Romania, the future factory „Vidra" Orăștie, the boot factory "Ardealul". Other renowned factories of the time were the brick factory "Robert Fraenk" (1898), the gypsum factory "Kaston Aladar" (1910), "The Ceramics Industry SA" – a factory of refractories with the headquarters in Barul Mare, the vinegar factory in Hateg, a salami and sausage factory "Gotlieb Sergir Sucursorii" and two beer factories in Deva etc. (Gruescu, I.S., 1970, pages 96-100)

The second period is represented by the years 1948-1990, when the great desire of the power during the socialist years was to boost the development process of industry, especially the heavy industry. Due to the rich natural resources, which were the basis of the developing extraction industry, of the siderurgical and energetic industry etc., the county occupied an important position in the national economy. New mines were opened, new ore processing plants were built, new modern equipment was brought, and all this determined an increase in industrial production and in the number of the jobs in industry.

As far as the energetic industry is concerned, activities of hydroenergetic development are performed in Râul Mare Retezat and there are going to be 12 hydroelectric plants and the main plant Retezat of 335 MW which was brought into service in 1986. The modernization of the power-plant in Mintia takes place and it reaches the power of 1.260 MW, the Power plant Paroșeni is brought into service (1956), its purpose is to provide the consumers in valea Jiului with electric power, the following are also brought into service: the factory in Hunedoara, the factories "Oțelul Rosu" and the oil exploitation in Oltenia.

In the coal industry research and geological designing work, drilling, an improvement of the exploitation methods take place, the mines Lonea I, Lonea II, Vulcan are reopened, a new mine in Uricani is opened, the mines in Bărbăteni and Livezeni were designed, the preparation installations appear, such as the ones in Coroești (1961-1965), Livezeni (1987), Uricani (1989).(www.cnh.ro/istoric)

After the nationalization process, the State Iron Factories Hunedoara were transformed into the State Siderurgical Factories Hunedoara which included the factories in the county and the iron mines in Ghelari, Teliuc and the forest exploitation centres. Thus, in the following period production was meant to increase, which meant that the existing mines had to be enlarged and modernized, new ones were exploited, more furnaces had to be built etc., at the end of 1989 a complete metallurgical cycle was functioning : iron – cast iron – steel – laminated elements. The following figure illustrates the place of the main products made in Hunedoara in the national production.

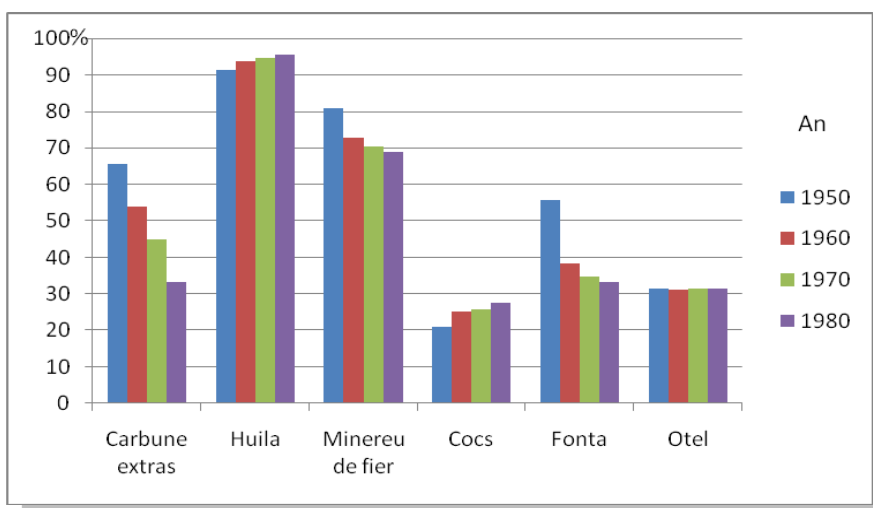


Figure 3- The place of the main products made in Hunedoara in the national production (%) (source: taken from I.S.Gruescu, C.Grumāzescu -,„Judetele Patriei. Judetul Hunedoara”)

Together with the siderurgical activity performed in Hunedoara, the second siderurgical center in the region developed, the siderurgical factory in Călan, and until 1990, the factory Victoria reached a number of four furnaces and a new type of production – coke, semi coke, grey cast ironans cast items.

Within the extraction and processing industry of nonferrous metals, new mines and quarries appeared and the extraction of gold and silver ores reached substantial values, in the year before the revolution 1,56 million tons were extracted.

The chemical industry represented by the factory in Orăștie, the factory ” Vâscoza” Lupeni and the oxygen production in Hunedoara, develops its main branches during the socialist period and it also opens new units. After the nationalization process, the chemical industry was reorganized and re-equipped, which determined a development of this industrial sector.

The presence of a large quantity of valuable natural resources in the county determined the development of the extraction and production industry of building material as well : the limestone deposits situated in the region of Banița, Băița, Crăciunești, Peștera Bolii were exploited and used for the production of binders or for the siderurgy in Hunedoara. In 1978 the binder factory in Chișcădağa was established and it produced different types of cement and lime, the terracotta factory in Deva and the refractory brick factory in Baru Mare were also in use based on these different types of clay. The marble industry highly developed in Simeria, especially after the second world war, where the factory”Marmura” was established at the beginning of the 1960s.

The commercial society with the highest production volume in the field of the building materials was established in 1963 under the name the Factory of Insulation Materials and will join

the Factory of Precast Concrete Products in 1973 (1969) with the name – the Factory of Building Materials, the future SC Macon SA, after 1990.

As a necessity in order to provide the population in the country with clothes, societies belonging to the textile industry appeared and developed after 1970. Two of them greatly developed in the county, the Silk Factory in Deva, which was established in 1974 and it mostly produced and sold different types of cloth used for linings, sportswear, outerwear (suits, ski clothes), technical items and the Wool Knitwear Factory Hunedoara, which produced knitwear made of PNA threads for children and adults.

The fur and leather industry which developed after 1950 led to the appearance of a new brand – "Vidra" Orăștie, known both nationally and internationally, it produced various items: clothing (hats, collars, jackets) coats made of suede leather, gloves, covers, hunting apparel etc. Along the socialist period, the products of the "Vidra" factory was famous worldwide, the renowned "Alain Delon" produced in Orăștie was a fashion favourite in Milan, Paris, Moscow.

On the list of the existing firms in the food industry, in 1973 a company for the industrialization of meat functioned in Deva, it also provided meat products and canned meat, there were a milk factory, "Devil", in Simeria, the beer factory in Hateg and the vineyard and wine company in Deva, the company for the production and industrialization of fruit and vegetables in Hateg etc.

## **Chapter 6. The effects of industrialisation**

The impact of the enforced industrialization of the communist regime had numerous effects on the Hunedoara county, some of them beneficial to the economic development, some others on the contrary. We can mention some of them: the populating process of the county, the emergence of some industrial areas and the emergence of urban centres, most of them with a monoindustrial characteristic, pollution, which are all the topic of this chapter.

The population of the county gradually increased, a fact which is proved by the figures registered during the main censuses starting with the 1930s and until 1990, and the phenomenon of industrialization only led to an increase in the number of people.

Thus, in 1930, the population of the Hunedoara county registered 319.929, in 1960 there were 423.373 inhabitants and in 1980 there were 531.634 inhabitants. The census in 1992 recorded 547.950 inhabitants in the Hunedoara county, out of whom almost 400.000 came from the urban environment and the rest from the rural environment.

In conclusion, the Hunedoara county is characterized by the highest degree of urbanization in the country, after the capital, 77% urban population (data given by the County Statistics) 5 towns – in 1930, 12 towns – in 1990 and now there are 14 towns.

The two main poles of the county (Valea Jiului, Valea Cernei) attracted the population in the poor areas of the country (Moldova, Oltenia), especially the male population able to participate in the production of the two main branches of industry (siderurgy, the coal industry).

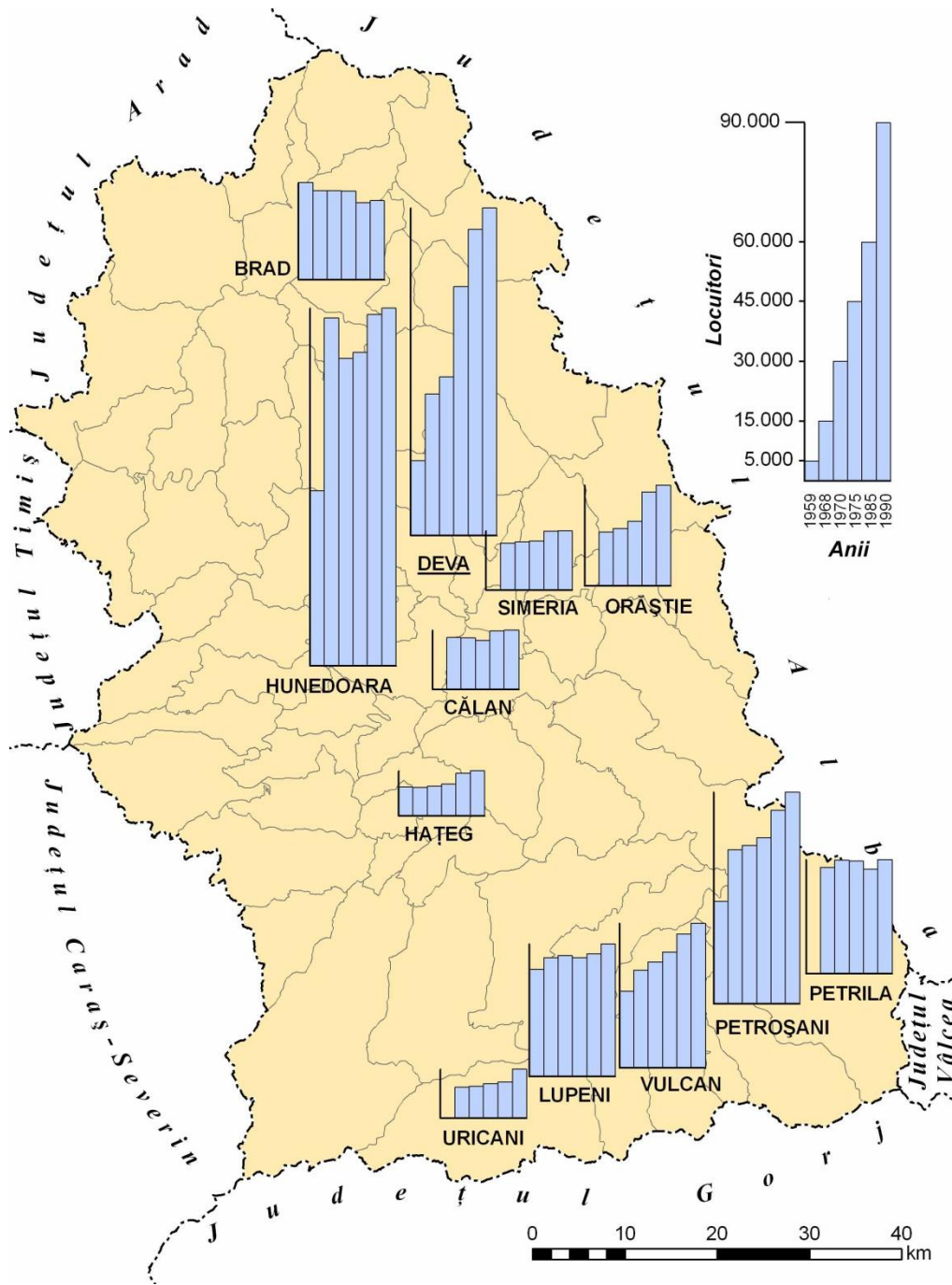


Figure 4. The numerical evolution of the population in the towns of the Hunedoara county during the period 1959-1990

(source - The National Archives of the State in the Hunedoara county, the County Statistics Fund)

The economic development of the Hunedoara county has always been in close relation with the migration movement of the population, a phenomenon which intensified especially after the first mines in Valea Jiului had been opened and the Iron Factories in Hunedoara had begun their activities. Over 95.000 people settled in the county during this period, mostly young people, able to work, with ages between 14 and 24 and especially male population. In this way, changes of the demographic indices, of the age pyramid take place and the presence of a young population in the county and a modification of the social and economic structure of the population are recorded (active population, the structure of the population based on types of activity etc.).

Table 1.- Migration of the population in the Hunedoara county between 1956-1989  
(source - The National Archives of the State in the Hunedoara county, the County Statistics Fund)

Year	1956	1960	1965	1970	1975	1980	1985	1989
<b>Number of people who came to the Hunedoara county (total)</b>	15.900	27.644	26.865	18.798	17.696	10.592	7.479	7.864
<b>Number of people who left the Hunedoara county (total)</b>	13.105	18.989	21.725	17.719	15.185	10.069	5.798	5.890

The process of industrialization which took place on the territory of the Hunedoara county determined the appearance of some distinct industrial areas within this territory, each with its industrial characteristic, due to the main type of resource to be found nearby.

Consequently, three distinct industrial areas appeared in the Hunedoara county : the region of Valea Jiului, with industrial activities focused on coal extraction and processing, on electric energy production (Paroşeni); the region Hunedoara-Călan-Deva, with activities focused on siderurgy in the first two centres and with activities related to the industry of building materials (Chişcădağa, Bârcea, Simeria), to the energetic industry (Mintia), and related to the light industry; and the region of Brad, with a mining characteristic, an area which was known ever since antiquity for its deposits of gold and silver ores.

The most important inheritance left by the communist regime in the Hunedoara county was and will be pollution. Pollution of the water, soil, air, they have all existed and still exist due to the economic characteristic of the county.

### **Chapter 7. The economic decline**

The revolution in December 1989 marks a turning point in the economic history of the Hunedoara county, because the transition from the system of a centralized economy to the one of a market economy caused great changes in all the branches belonging to the economic field. These changes only made the economic situation in the county worse, leading to a decline of the county's industry, which attracted major changes as far as the population and the habitat, were concerned.

An area which was mostly industrialized, Hunedoara was the most affected county immediately after 1989, due to the chaotic restructuring performed by the various governments that were in power. Unemployment, dropout, an increasing number of offenses, pollution, these are only a few of the effects of industrialization, and these effects are known even today, 22 years after the great revolution.

### **Chapter 8. The phenomenon of deindustrialisation in the Hunedoara county in the main industrial branches**

This chapter presents the way in which the phenomenon of deindustrialisation affected each industrial branch: restructuring, mine closures, privatisation of the former companies etc.

In the coal industry numerous changes took place, which mainly affected the population in the area, because they entirely depended on the work in mines. Gradually, several mining sites were closed:

- in 1994 – the activity of the mining site Lonea-Pilier ends;

- in 1997 the mine Aninoasa Nord is closed;
- in 1999 the activity of the mining sites Câmpu lui Neag and Petrila Sud ends;
- in 2001 the mining sites Uricani Est and Sud, the mines Brazi Vest, Paroşeni Sud and Livezeni Est are closed;
- in 2002 the mines Valea Arsului, Ştefan, Aninoasa, Vulcan II are closed;
- in 2003 the mining sites Dâlja and Valea de Brazi are closed;
- and in 2005 the mining site Bărbăteni is closed.

The processing stations are also closed in the following order:

- in 1990 the processing station Uricani is closed;
- in 1996 the processing station Livezeni is closed;
- in 2002 the processing station in Petrila is closed;
- and in 2004 the processing station Lupeni<sup>9</sup> is closed.

In 2007 several monitoring and post-closure activities took place in the mines Lonea, Bărbăteni, Lupeni, Aninoasa, Uricani, Petrila, etc.

As far as the siderurgical industry is concerned, in 1998 eleven commercial societies are formed, based on the factory in Călan. We are talking about „SC Cilindrul SA, SC Piese Turnate SA, SC Prelucrări Mecanice SA, SC Transport Uzinal SA, SC Reparații Siderurgice SA, SC Coloana Auto SA, SC Pram Control SA, SC Agro Flori SA, SC Bobinatorul SA, SC Turnătoria 1 SA, SC Minac Val SA”<sup>10</sup>, they all went bankrupt in 2012.

As far as the factory in Hunedoara is concerned, it becomes a commercial society in 1990 and it functions with an integrated flow until 1999. In 2004 it will be taken over by the Indian Mittal Steel group, which will join the Arcelor group two years later and will become Arcelor Mittal Hunedoara.

During 2008-2009, together with the global crisis, there were numerous interruptions of the production flow, lists of layoffs were issued, and at present only approximately 814 people are still working for the society (end of 2011) out of 20 000 people who used to work here, and the sections which are still active are the following: the electric steelworks (OE2), the rolling mill 750 mm and the continuous casting department.



Photo 1. The ruins of the factory in Călan

Within the extracting and processing industry of nonferrous ores, in 1998-2010 eleven government decisions were issued, concerning the process of closure, conservation and post-closure monitoring of some mines and quarries, belonging to the two societies: SC Minvest SA Deva SC Minexfor SA.

<sup>9</sup> Source of information : [www.cnh.ro-istoric](http://www.cnh.ro-istoric)

<sup>10</sup> Ognean, D., 2009, pages 33-34

Table 2. – The situation of mine closures in the Hunedoara county  
(source: processing based on HG concerning the closure and conservation of the mines in the Hunedoara county)

Current number	Name of mine/quarry	Year of closure	Total closing costs (lei)
<b>I. SC MINVEST SA</b>			
1.	Mine Ghelari	2005	14.156.512
2.	Mine Teliuc	2005	41.561.905
3.	Mine Barza	2005	14.870.826
4.	Mine Vețel	2005	5.700.948
5.	Mine Zlatna (Hunedoara)	2003	12.054.152
6.	Mine Deva	2003	85.684
7.	Mine Brad (partially)	1998	72.340
8.	Muncel (lucrări post-închidere)	1999	28.106
9.	Boița-Hațeg (post-closure activities)	1997	234.273
10.	Ruda-Brad (post-closure activities)	1997	3.193
11.	Ghelari Est	1999	36.624
12.	Mina Certej	2006	99.291.849
13.	Deva-Bolcana	2006	85.692.194
14.	Vorța	2005	11.329.778
15.	Brad-Gurabarza	2006	63.250.13
<b>II. SC MINEXFOR SA</b>			
1.	Mine Săcărâmb	1998	1.143
2.	Mine Caraci	1999	345
3.	Mine Coranda-Hondol	2000	3.318
4.	Mine Băița-Crăciunești	2004	6.029
<b>III. SOCIETATEA SIDERURGICA SA</b>			

Although the Hunedoara county was a great producer of steel, laminates and it was a national leader in metallurgy, it has never been a leader in the car building industry, not before 1990, not after that. A poor area, overwhelmed by layoffs, Hunedoara rapidly attracted foreign investors who found cheap workforce here. In this way, the famous electric wiring companies were established here, such as the multinational with Japanese capital Sumitomo Electric Wiring Systems (SEWS) with work centers in Deva, Orăștie, Hațeg, Brad, and in Hunedoara – the electric wiring company Lisa Drăxlmaier, which took over the people who had been laid off by the steel factory.

The chemical industry in Hunedoara was affected by major changes after 1989. The most representative company before 1990 was Întreprinderea Chimică Orăștie, which produced plastic household items, plastic auto parts and polyurethane foam, organic pigments, and out of which several societies were born: SC Rompiro SA, SC Chimplast SA, SC Chimsport SA.

SC Fares SA Orăștie has been continuously prospering after the years of the revolution, and it succeeded in becoming a national leader, since 2002 it has been processing half of the production of medicinal and aromatic plants in Romania.

Within the extractive and production industry of building materials, most of the companies that existed before 1990 continued their activity after the revolution in 1989, when they underwent the process of privatisation, and due to that, they also changed their names.

Within the industry of consumer goods, we can talk about production diversification, about the closure of unprofitable companies and the emergence of new ones.

### Chapter 9. The impact of deindustrialisation on the population in the Hunedoara county

If the period 1948 - 1990 was marked by the process of forced industrialisation, the period after 1989 had the opposite effect, it was marked by the restructuring process of all industrial branches, by massive layoffs especially in the mining field and in siderurgy, by deindustrialisation in one word.

The period of economic transition brought several changes, economical and socio-professional ones. We are talking about unemployment, about the type production and work in the outsourcing system ("lohn"<sup>11</sup>). There were numerous effects of the post-socialist deindustrialisation in the Hunedoara county. This phenomenon affected the county both economically and socially, having a powerful impact on the geodemographic structures, on the phenomenon of delinquency, it generated a phenomenon of remigration back to the native places of the thousands of people who were laid off from industry, it led to pollution in the urban environment.

We can talk about a true chain of the negative effects of deindustrialisation, each leading to another : declining birth rates, population decline – population aging; deindustrialisation – unemployment - increasing crime rates; unemployment – migration of population - increasing divorce rate etc.

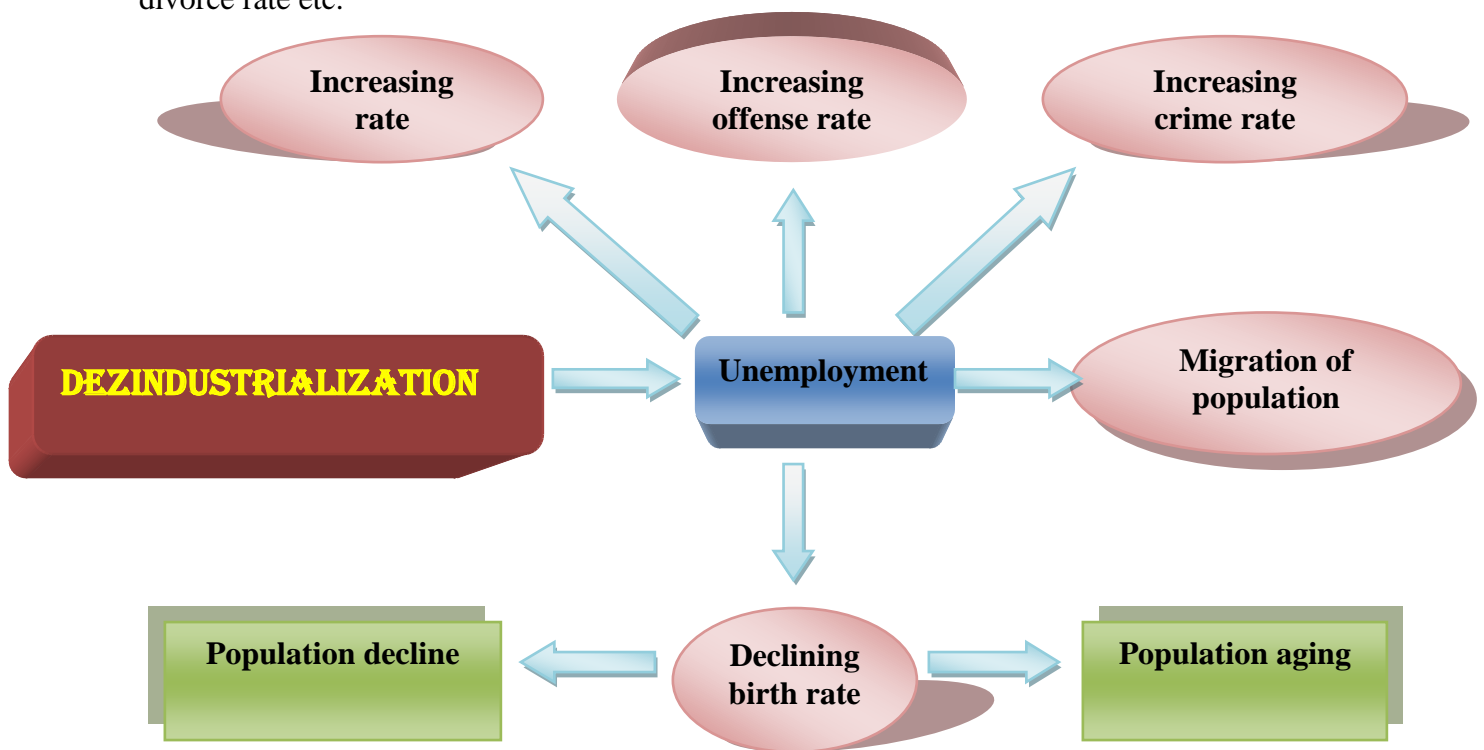


Figure 5. The impact of deindustrialisation on the population in the Hunedoara county

<sup>11</sup> Word derived from Deutsch "lohn"= pay, representing the manufacture of certain items using cheap workforce. The raw material is imported, processed and then exported again. The two parties are represented by the exporter and importer. This type of business is more commonly found in the light industry ([http://ro.wikipedia.org/wiki/Regim\\_de\\_lohn](http://ro.wikipedia.org/wiki/Regim_de_lohn)).



One of the first effects was the population decline, followed by the aging process of the population. The phenomenon can easily be studied both in the Hunedoara county and in each town, a greater reduction in the number of people is recorded especially in those towns where industry used to play a leading role (Hunedoara, Brad, the towns in Valea Jiului).

If the census in January 1992 recorded 547.950 inhabitants, after this period, however, the major changes which took place in industry led to population decline and consequently, the census in 2011 recorded a stable population of 396.253 people in the Hunedoara county. In Deva there are 56.647 inhabitants and in this way it outnumbers the population in Hunedoara (55.384 inhabitants), which used to be top of the list and had the largest population. There are fewer people in the towns of valea Jiului, Petroșani-34.331 inhabitants, Vulcan-22.906 inhabitants, Lupeni-21.986 inhabitants.<sup>12</sup>

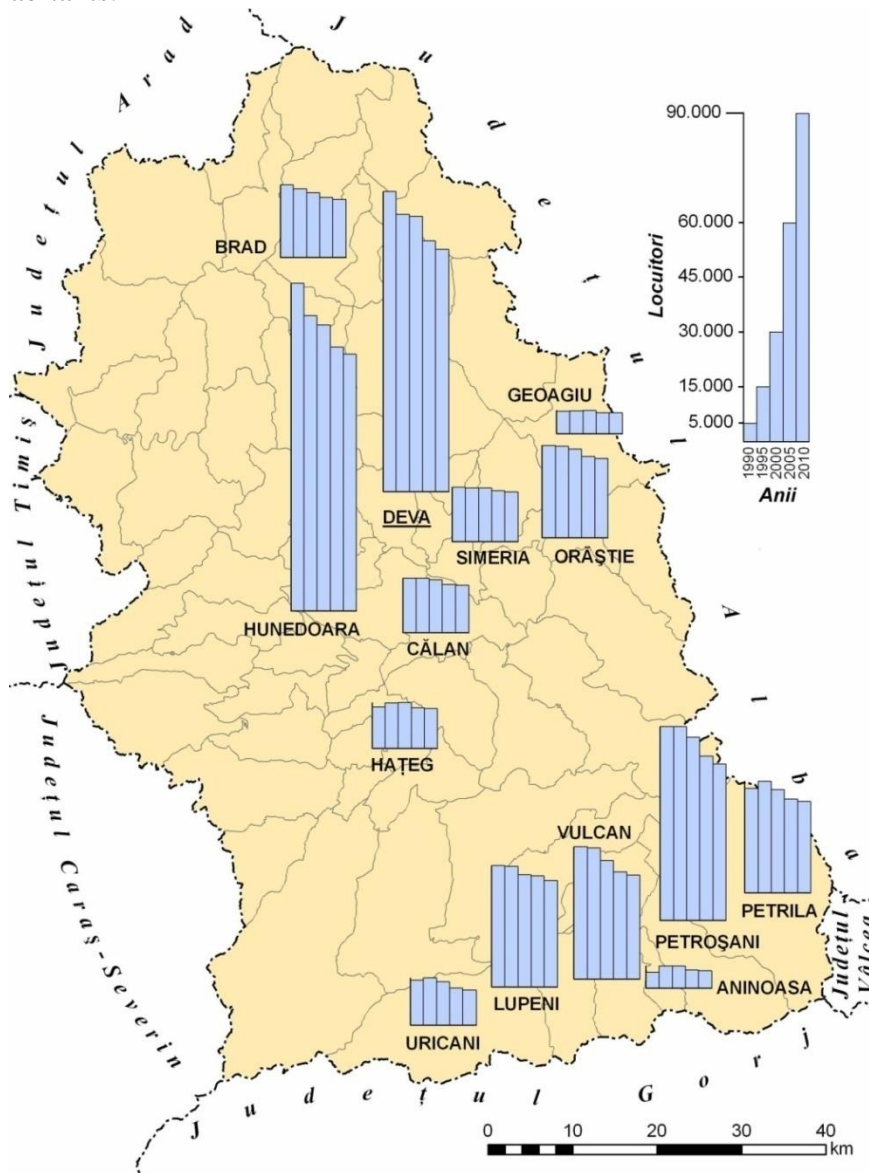


Figure 6. - Numerical evolution of the population in the towns of the Hunedoara county (1990-2010)

(source: based on the County Statistics Hunedoara)

”A phenomenon generated by the restructuration of the county’s industry and which existed before, but in the opposite direction, is human migration. If until 1990, the Hunedoara county

<sup>12</sup> Temporary results - Population and Housing Census 2011

functioned as a true pole of attraction for the population in the Eastern and Southern counties, once the economy of the county has collapsed, the surplus of the population reorientated themselves towards other areas of the country, where achieving a steady income would be relatively easy, or they even went abroad.”<sup>13</sup>

The phenomenon of intra-county migration intensified, and among the favourite destinations there were the counties in the West of the country, especially Timiș and Arad, two of the most developed counties, listed among the first within the Western Region. Together with the urban-urban migration, the urban-rural migration also intensifies, which used to be in the reversed order. The population who had been laid off from industry go to live in the countryside, where living costs were lower and where they can perform agricultural activities which can partially ensure their daily needs.

Daily migration is another phenomenon to be found in the Hunedoara county, especially in the socialist period. The deindustrialisation of the county did not stop the phenomenon, it only diminished it, and that happened due to the reduction in the number of the employees in siderurgy, mining or other industrial sectors. Commuting was a phenomenon which was directly generated by the industrial development of the county, and also by the inability to build dwellings for all workers, and the evolution of the commuters of the Steel Factory Călan proves it.

Table 3–Numerical evolution of commuters towards the Steel Factory Călan  
(source: based on Biscărean Raluca-„Siderurgia Hunedoara-Călan. Implicații geospațiale”)

<b>Current number</b>	<b>Place of origin</b>	<b>Year 1991 Number of commuters</b>	<b>Year 1998 Number of commuters</b>
1.	Batiz	90	30
2.	Călanul Mic	47	7
3.	Grid	54	12
4.	Nădăștia de Sus	59	19
5.	Nădăștia de Jos	60	20
6.	Ohaba Strei	20	3
7.	Sâncrai	41	7
8.	Sântămăria de Piatră	23	5
9.	Strei	42	1
0.	Strei Săcel	95	23
11.	Strei Sângeorgiu	86	20
12.	Valea Sângeorgiului	100	28
	<b>Total</b>	<b>727</b>	<b>185</b>

Of all the effects of deindustrialisation maybe the worst was the emergence of unemployment. The restructuring of the county’s economy in the 1990s caused the emergence of unemployment, and layoffs were caused either by the upgrading process of some factories or by the closure of those which were not profitable. The decline of employment in the industry of the Hunedoara county was visible; it dropped by almost 50% between 1995-2003.

”If by the end of 1991 the number of unemployed people was of 12.636, in 2000 it reached 39.163 including 19.169 women and the unemployment rate was of 16.4%. The emergence of some new economic units on the territory of the Hunedoara county, after 2000 gradually reduced

<sup>13</sup> Mateș, Adela-Ioana, 2011, page 186

this unemployment rate by integrating a great number of unemployed people, ”<sup>14</sup> so by the end of October 2011 unemployment reaches the level of 5,79%, with a number of 11.278 unemployed people, including 5.969 people who received jobseeker’s allowance and the rest did not.

The following chart illustrates the situation of the unemployment rate in 1991-2010 in the Hunedoara county.

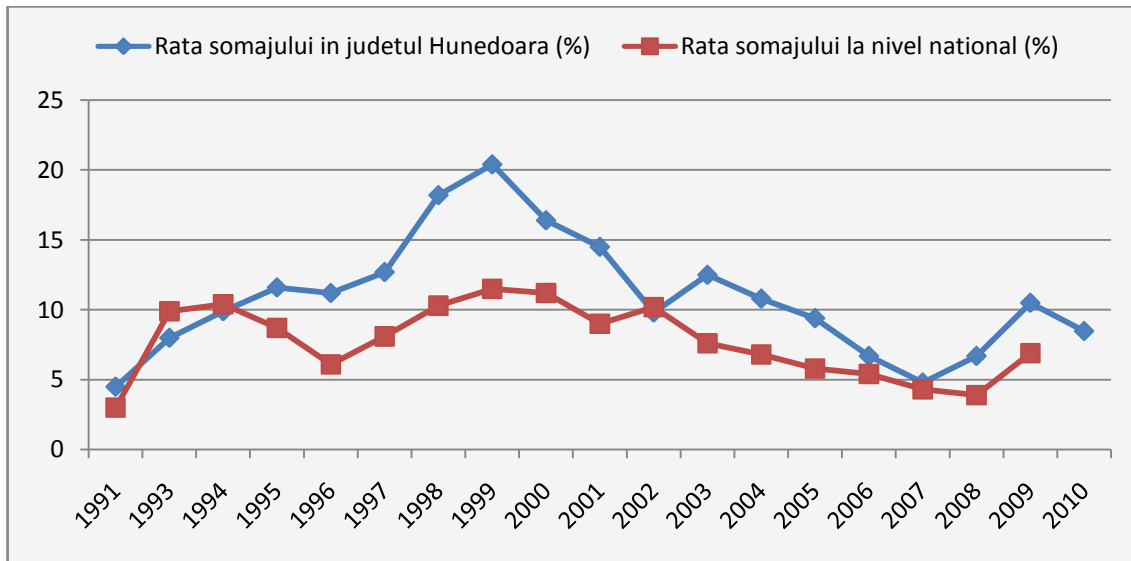


Figure 7 – The evolution of the unemployment rate in the country and in the county (1991-2010)  
(source: based on AJOFM Hunedoara)

In 2012, although during the past years the unemployment rate registered decreasing values, the Hunedoara county is still one of the first counties in the country from the point of view of the unemployment rate. Unemployment is found around urban areas, most of them having had a monoindustrial profile, which makes economic recovery even harder.

Poverty caused by the lack of jobs, the widening gap between social classes, especially after the phenomenon of unemployment had intensified, the degradation of the urban landscape and of social life, they all gradually led to the emergence and intensification of the delinquency and offense phenomenon. One of the main factors which contributed to the rise in the number of offenses, in the case of adults and the under age population as well, was ‘scrap’, resulting from the decommissioning process of the major steel giants, from the closure of numerous mines, quarries etc. in this way, everything that could be exploited later was stolen, becoming the main source of income for some people.

Of all crimes, most occur in urban areas, and among the areas in which the phenomenon manifests itself in the highest degree there are Valea Jiului, followed by Deva, Hunedoara and the rest of the towns.

A recent study, performed in 2011 in the whole country by Econtext, based on the most recent data in the country (2009), situated the Hunedoara county together with the counties Gorj, Alba, Mehedinți, Vaslui and Galați on top as far as the number of committed offenses and of convictions is concerned. The counties Hunedoara, Alba and Gorj were even considered to be offense centers.

<sup>14</sup> Mateș, Adela-Ioana, 2011, page 187

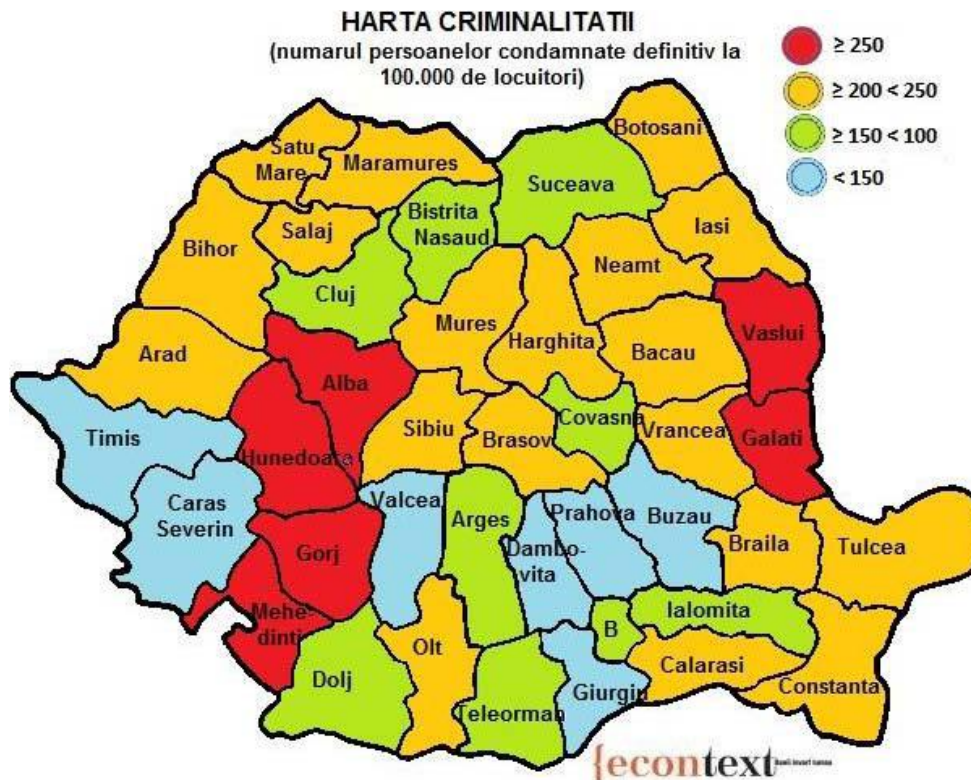


Figure 8.-Crime rate in Romania  
(source: [www.econtext.ro](http://www.econtext.ro))

The economic restructuring of the Hunedoara county had consequences on several social structures and education is one of them. If we look closer at the evolution of the dropout rate, we can notice that it has risen since 1990, and in 2008 the number of illiterate individuals was double compared to the number in 1992. The phenomenon is more frequent in disorganised families or in those whose parents work abroad.

For the entire county, based on the data provided by ISJ Hunedoara, for 2011, the dropout rate was of 0,39%. Most cases were registered in the regions of Uricani (1,1 %), Vulcan (0,96 %) and Orăștie (0,9%). At the opposite pole there are Petritla (0,08%), Petroșani (0,1%) and Hunedoara (0,21%). Deva has registered a rate of 0,33%, close to the average of the county.

As far as the gender situation is concerned, most students who drop out of school are usually boys (56,7% in the school year 2010-2011), the critical periods are the 5th and the 9th grades.

In conclusion, as we can easily notice, the phenomenon of deindustrialisation has greatly influenced the population in the Hunedoara county and it has numerous and long-lasting negative effects.

## Chapter 10. The impact of deindustrialisation on the habitat

Together with the economic development and the demographic growth of the Hunedoara county, before 1990, a lot of funds were given for the construction of dwellings, schools, hospitals, sewerage systems, drinking water networks etc., and they all gradually contributed to the urbanisation of the Hunedoara county. However, the phenomenon of deindustrialisation which has affected the society in the county, has also influenced the habitat, and today several buildings are in ruins, you can also find the ruins of the former industrial platforms and debris everywhere.

A conversion of the former industrial areas has been attempted, but the operation has only been partially successful. The ecologisation of the former industrial areas is nobody's

responsibility and nothing is done to solve this problem. Most of the decommissioned areas are an inheritance of almost two centuries of industrial and mining activities and the preoccupation with the conversion of these areas in order to integrate them into the public circuit started to take shape in the 70s in the western countries and only after 1995, or even later, in our country.

In the Hunedoara county we can talk about the existence of an industrial park, in Hunedoara, where there are several commercial societies and we can also talk about the existence of several projects concerning the opening of an industrial park in the region of Valea Jiului, where the former industrial sites used to be, after the ecologisation activity in the area, and the opening of another one in Calan.

But the mine in Aninoasa is the only one whose conversion will be profitable, because at the end of the ecologisation process it will be transformed into a museum-mine and it will occupy a surface of 2 ha. The project also includes the plans of some underground bars and restaurants and on the surface, within the mine, the existence of an artificial lake. The museum will show the mining history in Valea Jiului, from its beginning until all the mines were closed, by photo and tool display etc.

If between 1950-1990 we could talk about a rise in the number of built dwellings, after this period we have an accentuated decline in the number of built dwellings, the smallest number was registered in 2002 and after that there was some improvement and in 2008 there were 459 built dwellings.

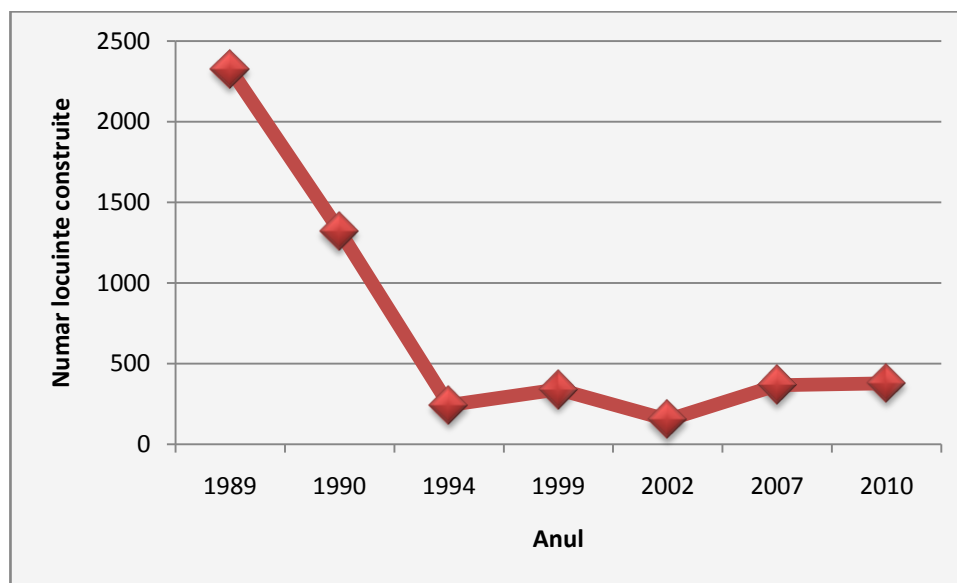


Figure 9.– Record of the new built dwellings between 1989-2010  
(source: based on the County Statistics Hunedoara)

But the gradual falling number of the built dwellings is not the worst problem, because together with this phenomenon we can also witness the degradation of the urban environment. Unfinished blocks or abandoned flats, buildings which could collapse at the slightest gust of wind, or entire colonies where several communities of gypsies live and they have almost completely destroyed them, this the current image of Valea Jiului and not only. This is the situation that we find in Hunedoara, a former siderurgical town, or at the mining sites Gura Barza and Ghelari. A devastating landscape, the result of the industrial decline of the county, of massive layoffs and the remigration of the population towards their native places.



Photo 2.-Ghelari 2011- workers' dwellings Photo 3.- Hunedoara- workers' dwellings

The phenomenon of deindustrialisation greatly affected not only the dwelling space, but also several other institutional buildings, the buildings of certain societies, schools and sanitary units, whose number has been reduced or whose destination has been modified. We are talking about a phenomenon of migration of the medical staff, a merger of schools as a consequence of a falling number of students, a process of degradation of the cultural institutions in villages etc.

## Chapter 11. Projects and programs of economic recovery

The last chapter of the thesis is allocated to the programs and projects of economic recovery going on in the county and its main regions. Clearly the most important of all is the Development Plan of the county for 2007-2013. The strategy of the Hunedoara county represents the fundamental document of the Development Plan of the county, having the role to orientate the development of the county between 2007–2013 and to guarantee the access of the county to the Structural and Cohesion Funds of the European Union.

After this strategy had been drawn up, a number of 1431 projects were in progress in the Hunedoara county, and they were concerned with the eight domains of interest: infrastructure and energy, economic competitiveness, tourism, territorial cooperation, rural development, development of human resources and of social services, environment, urban development.

As far as the social sphere is concerned, several strategies have also been drawn up:

1. The county's strategy concerning special protection and social integration of disabled persons and other adults in difficulty 2005-2008
2. The county's strategy concerning children in difficulty 2002-2007
3. The county's strategy concerning children's protection and the promotion of their rights and social assistance for disabled people 2008-2010
4. The project "Support for the unemployed people in the counties Hunedoara and Timiș in order to integrate them on the job market" 2011-2013, a project which is co-financed by the **Social European Fund through the Sectorial Operational Program for the Development of Human Resources 2007-2013, whose purpose is to decrease the number of unemployed people in both counties, by offering courses of professional re-qualification.**

The last sub-chapter of the PhD thesis is concerned with the attempt to draw up a project for the economic recovery of the county, with the focus on tourism, a combination of the industrial tradition with the ethnographic traditions, a circuit for tourists, which could combine cultural tourism with tourism meant for relaxation and which could attract tourists from the country and from abroad if they were included in the programs of the tourism agencies, since, unfortunately, there are Romanians who do not know these areas.

## **Conclusions**

The economic, political, social and cultural modifications and changes in Romania and, consequently in the Hunedoara county have led, as reality proves it, to loss of balance, widening gaps between social classes, have given birth to a true phenomenon, which has influenced the entire county and which has left a lot of problems behind. Deindustrialisation is the name of this phenomenon.

The research whose results have been shown in the PhD thesis, has attempted to capture as accurately as possible this phenomenon of deindustrialisation, since the beginning and to the present day, trying to emphasize its long term impact on the county's population, on the habitat and on the human psyche.

There were changes from forced industrialisation in the socialist years to deliberate deindustrialisation in the capitalist years, from a massive populating process in the county as a consequence of industrialisation to the county's depopulation and aging, from the old slogans of the type "no matter what the cost, build anything", or "dear student, sleep well, the country will make sure you will become an engineer" to real social dramas caused by the lack of jobs.

Deindustrialisation has gradually affected all the branches of the county's industry, everything that once made the county famous: siderurgy in Hunedoara, the extracting industry of the gold and silver ores, the energetic industry, the coal industry, the textile industry etc. Unfortunately, the phenomenon of deindustrialisation is synonymous with industry bankruptcy, with the destruction and transformation of the industrial heritage in a pile of rubble and scrap metal.

That does not mean that these problems do not have solutions, but the global economic crisis only caused a deeper immersion of the county in the multitude of problems that it had already been facing. Economic recovery is often discussed, but without the involvement of all parties (local authorities, investors, the population), the industry in the county cannot recover by itself.

It is not enough only to establish development strategies; it is also necessary for the population to know and understand these strategies, to get to know them and try to put them into practice, influencing in this way their own economic and social behaviour.

There is still much to be said about and done in the Hunedoara county, and this work is only meant to warn those who can and especially those who want to understand the decline of the Hunedoara county, which in the socialist period used to be one of the most developed counties from an economic point of view. The resources used to build the industry of this county in the past are not exhausted, they still exist, but the involvement of those who can bring it back to its former glory is absent.

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## **Interviews**

1. Interview with Mr. Trosan Ioan, employee of SC Minvest SA Deva, February 2010;
2. Interview with Mr. Refec Ioan, chief geologist of SC Minexfor SA Deva, March 2010;
3. Interview with Mr. Bodrean Viorel, 82 years old, former miner Certej-Sacaramb, deposit Coranda, June 2009;
4. Interview with Mrs. Sâncrăian Victoria, economic manager of SC Matex SA Deva, March 2010;
5. Interview with Mr. Iancu Filișan, general manager of SC Chimica SA 1997-2007, April 2010;
6. Interview with Mr. Bodrean Ioan, administrator SC Hifcon SA Deva, September 2011;
7. Interview with Mr. Munteanu Radu, employee of SC SEWS SA Deva, September 2011;
8. Interview with Mrs. Papeț Tania, economist SC ICSH SA Hunedoara, May 2010;

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