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**Book Part**

## Economic development and regional disparities in France

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Serge Dormard

# Economic Development and Regional Disparities in France

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## **1. The Special Features of Regional Development in France**

Over the last decades, the studies performed on the agglomeration phenomena within the European Union seem to show a noticeable increase in the geographical concentration of the majority of industrial (Brülhart 1998, Amiti 1998, Midelfart-Knarvik et al. 2000) or technological activities (OST 1997), thus confirming a forecast from the geographical map for the new economy, according to which the sectors with growing yields tend to be the ones with the greatest geographical concentration. In parallel, and contrary to the observations one can make on the national level, the regional specializations seem to intensify, thus stressing the polarizations within the nations.

For France some recent studies provide quite similar results, although the development sometimes seems equivocal and often depends on the geographic scale used. Having presented some figures on the geographic distribution of the economic activities and of the employment over the national territory, we shall study the evolution of the geographic concentration in the activities and specialization of the French regions.

### **1.1 The Geographical Distribution of Economic Activity and Employment**

If you go down to the level of the eight zones of the studies and regional planning (Zones d'études et d'aménagement du territoire = Z.E.A.T.), corresponding to the nomenclature NUTS-1 (see map in the annex), the region of Paris (Île-de-France and Bassin Parisien) gather, in 2000, 44.3% of the national GDP (table 1), i.e. the same percent-

age as in 1980. But during this period, the weight of Île-de-France has clearly grown, now 28.6% compared to 27%, whereas that of the Bassin Parisien (Champagne-Ardenne, Picardie, Haute-Normandie, Basse-Normandie, Centre and Bourgogne) has noticeably diminished, now 15.7% compared to 17.3%. However, as far as the employment is concerned, the weight of the region of Paris has decreased, in particular since 1990.

Concerning the provincial zones, one will state a decrease in the Northern and Eastern parts of France. The weight of Nord-Pas-de-Calais and of the Eastern regions (Alsace, Lorraine, Franche-Comté) decreased from 15.2% in 1980 to 13.4% in 1990 and 2000 for the GDP. The same applies to the employment. All of the other zones, that of the Western and Southern parts of the country, make progress and represent a total of 42.4% of the GDP in 2000, compared to 41.5% in 1990 and 40.5% in 1980, and a total of 46.2% of the national employment compared to 45.2% in 1990 and 44.5% in 1980.

Thus, the last twenty years are marked by the continuance of a phenomenon already at work during the preceding decades (Uhrich 1987), marked by a reinforcement of the economic weight of Île-de-France, the West and the South of the country to the prejudice of the former industrial zones of Northern and of Eastern France.

Table 1: Distribution of the GDP and employment (NUTS-1)

Z.E.A.T.	GDP			Employment		
	1980	1990	2000	1980	1990	1999
Île-de-France	27.0	28.5	28.6	22.2	23.0	22.2
Bassin Parisien	17.3	16.3	15.7	18.2	17.5	17.3
Nord-Pas-de-Calais	6.3	5.4	5.5	6.3	5.8	5.9
Est	8.9	8.0	7.9	8.8	8.4	8.4
Ouest	10.8	10.8	11.1	12.8	12.6	12.9
Sud-Ouest	8.7	9.2	9.2	10.1	10.2	10.5
Centre-Est	11.1	11.4	11.8	11.9	12.0	12.1
Méditerranée	9.9	10.4	10.3	9.7	10.4	10.7
France	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Source: I.N.S.E.E.						

If one now passes to an even smaller geographical level, that of the regions (NUTS-2), in 2000 eight regions gathered more than two-thirds of the national GDP. Île-de-France largely dominates with 28.6% of the national GDP. It is followed by the regions Rhône-Alpes (10% of the GDP), Provence-Alpes-Côte d'Azur (7%), Nord-Pas-de-Calais and Pays de la Loire (5%), Aquitaine, Bretagne and Midi-Pyrénées (4%). This shows the extent of the enormous difference existing between Paris and the rest of the country: the GDP of Île-de-France represents nearly three times that of the most important provincial region, Rhône-Alpes. Add to this that the weight of the region of Île-de-France has been steadily growing from the beginning of the 1980s up to the middle of 90s: 27% of the nation-wide total in 1980, 28.5% in 1990, 29.1% in 1996. In 2000, it fell back to 28.6%.

In terms of employment, the same observation can be made, but the weight of the eight main regions seems to be a bit less overwhelming (64.5% of the nation-wide total, compared to 68%), in particular for Île-de-France, which in 1999 only represents 22.2%

of the nation-wide employment, compared to 28.6% for the value added. But there are important differences in productivity between the French regions, Île-de-France largely dominates over the other dynamic regions of the hexagon like Alsace, Rhône-Alpes and Provence-Alpes-Côte d'Azur (the only one in Table 1 with the GDP/employment ratio exceeding the unit).

## 1.2 The Localization of the Economic Activities

Table 2 shows, for each of the eight Z.E.A.T. that form the Metropolitan territory, the distribution of the value added and of the employment among the three main economic activities, i.e. agriculture, industry (including the building trade) and tertiary sector.

The centre of gravity of the agriculture is located in the Western regions (Bretagne, Pays de la Loire and Poitou-Charentes), of the Sud-Ouest (Aquitaine, Midi-Pyrénées and Limousin) and of the Centre-Est (Rhône-Alpes and Auvergne), which dispose of 54.7% of the employment and 45.6% of the value added. Table 2 shows that the portion these regions hold in the nation-wide value added has been slightly progressing since 1980, 45.6% compared to 45.2%.

Table 2: Geographical distribution of the economic activities in France (NUTS-1)

Z.E.A.T.	Agriculture		Industry		Tertiary sector	
	Value added	Employment	Value added	Employment	Value added	Employment
Île-de-France	2.0	1.8	20.4	16.9	32.5	25.3
Bassin Parisien	30.2	24.3	19.7	20.4	13.7	15.8
Nord-Pas-de-Calais	3.9	3.8	6.6	6.4	5.1	5.8
Est	7.4	5.7	9.9	10.7	7.1	7.8
Ouest	20.9	25.0	12.2	14.2	10.4	11.7
Sud-Ouest	16.8	19.0	8.5	9.5	9.1	10.3
Centre-Est	7.9	10.7	14.6	14.2	10.9	11.5
Méditerranée	11.1	9.7	7.9	7.7	11.1	11.8
<b>France</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Values added: year 2000 – Employment: on 1.1.1999						
Source: I.N.S.E.E.						

The industry is rather concentrated in the region of Paris and in Northern and Eastern France, which represent 56.6% of the industrial value added and 54.4% of the national employment. The region of Paris, Île-de-France and Bassin Parisien (Champagne-Ardenne, Picardie, Haute-Normandie, Centre, Basse-Normandie and Bourgogne) only concentrated 40.1% of the nation-wide industrial value added in 2000 compared to 42.4% in 1980 (table 3), due to the important decline of Île-de-France, 20.4% compared to 23.1% in 1980. Nord-Pas-de-Calais and the Eastern regions (Lorraine, Alsace and Franche-Comté) saw their portion noticeably diminish. The other regions made progress, particularly the West, the Sud-Ouest and the Centre-Est.

Table 3: Evolution of the geographical distribution of the economic activities (values added in %)

Z.E.A.T.	Agriculture		Industry		Tertiary	
	1980	2000	1980	2000	1980	2000
Île-de-France	3.3	2.0	23.1	20.4	31.0	32.5
Bassin Parisien	28.3	30.2	19.3	19.7	15.0	13.7
Nord-Pas-de-Calais	3.9	3.9	7.5	6.6	5.7	5.1
Est	8.2	7.4	10.7	9.9	7.8	7.1
Ouest	21.8	20.9	10.7	12.2	10.5	10.4
Sud-Ouest	14.8	16.8	8.1	8.5	8.8	9.1
Centre-Est	8.6	7.9	12.6	14.6	10.3	10.9
Méditerranée	11.1	11.1	8.0	7.9	10.9	11.1
<b>France</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Source: I.N.S.E.E. data						

Almost a third of the tertiary activity is located in the region Île-de-France, the portion of which has increased since 1980. The region of Paris concentrates 46.2% of the national tertiary value added. The North and the East have greatly fallen behind, 12.2% of the total in 2000 compared to 13.5% in 1980. The opposite applies to the Southern regions of the country, Sud-Ouest, Centre-Est and Méditerranée, which have been making very strong progress, 31.1% of the total value added in 2000 compared to 30% in 1980.

### 1.3 Concentration and Dispersion of the Economic Activities

In order to get a more complete and precise survey on the evolution of the concentration or dispersion of economic activities over the whole of the French territory, it is necessary to have recourse to synthetic indicators that take into account the whole of the activities. The obtained results depend, as we shall see, on the scale which you apply and of the indicator used, and it is also advisable to be prudent with respect to the conclusions one may draw.

If one goes to the regional level, the indicators of the geographic concentration, calculated from the values added of the French industry, show that the former noticeably grew during the 1980s, but diminished over the following decade (table 4). At the end of the 90s, the industrial activities seem geographically more dispersed than they were in 1980.

These results are not in contradiction with those obtained by other methods which show a depression of the entropy indicator from 1975 to 1982, then it rose again for the years 1989 and 1992 (Santi 1997). Thus, the geographic concentration would have diminished in France since the first oil crisis at the beginning of the 1980s, then would steadily have progressed up to this date.

Table 4: The geographic concentration of the French industry on the regional level (values added)

	1980*	1990	2000
Herfindahl indicator	0.0919	0.0961	0.0845
Entropy indicator	0.901	0.883	0.900
* without Corse			

But as the region could be a too large scale for the appropriate assessment of concentration and the dispersion of the movements of the economic activities, it is wise to verify these results on a smaller geographical level. Then the results present greater contrasts. At the level of the French departments and if one uses the employment as a variable, the geographic concentration of the economic activities has decreased in France between 1978 and 1992 (Houdebine 1997). The different indicators used show a greater dispersion of the staff of all companies on the national territory (table 5). This may be explained by the replacement of traditional industries relatively concentrated by tertiary activities with a better spatial distribution that has been observed in numerous regions during this period. This dispersion movement has been verified for the industry and for the services, but the latter seem globally less concentrated than the industrial activities, their sites being rather in the departments with larger territories and greater urbanization.

It also seems that the high-technology sectors, generally considered as those with localisation depending the most on external technological factors, thus connected with agglomeration economies from which they can benefit, do not escape this disengaging movement. Of the various top sectors studied, only two, the manufacturing of semiconductors and the pharmaceutical specialties, show an above-average geographic concentration. The other, in particular the fabrication of electronic or informatics material, are scattered all over the French territory.

A study for the year 1993, proceeding from paid staff of the French industrial companies (Maurel; Sédillot 1997), shows a strong spatial concentration, on the department level, for numerous industries. By means of an indicator derived from the Ellison-Glaeser index, it is possible to identify three major types of industries with strong geographical localization in France: the extractive industries, the localisation of which is determined by the access to raw materials, the traditional industries (textiles, shoes and leather), the implantation of which often dates back to the Industrial Revolution, and the high-technology industries, for which the external factors of proximity seem strong. Contrary to that, certain industries are revealed as little concentrated, particularly the automotive industry and the machine tool industry.

If you go to an even smaller spatial level, that of the employment zones, it seems that the geographic concentration of the activities made progress between 1984 and 1992 (Table 5). This is connected to the movement of renewal of the enterprise stocks, the foundation of new enterprises that took place in the most dynamic zones of employment, which did not always correspond to those where the disappearances of enterprises were located.

Table 5: Evolution of the geographical concentration in France (Gini indicators)

Geographic concentration	1978	1992
Departments:		
- All activities	0.2165	0.2053
- Industry	0.2420	0.2398
- Tertiary	0.1745	0.1687
Employment zones	0.2691	0.2702
Source: M. HOUDEBINE (1999)		

This phenomenon is confirmed in the case of a region of former industrialisation like Nord-Pas-de-Calais, where one may observe a clear decrease of the geographic concentration of the industrial employment between the various employment zones since the middle of the 1970s (Dormard 2001). Today, the productive structures of the different industrial basins seem better diversified, even if strong local specificities seem to be maintained. On the other hand, for the tertiary activities, a process of polarization seems under way in the regions since the first oil crisis, particularly in favour of the zone of Lille, which risks, taking into account the growing weight of the services in the regional economic activity, to accentuate the internal imbalances in the region.

#### 1.4 The Strong Concentration of the Innovation Activities

Several studies have shown the strong geographic concentration of innovation activities in the majority of the European nations. For France, the phenomenon seems particularly striking. Île-de-France includes the core of the French technological production. In 1997, almost 42.3% of expenses for public civil research were concentrated in Île-de-France (OST 1997), followed at very great distance by the regions Rhône-Alpes (10.8%), Midi-Pyrénées (9.6%), Provence-Alpes-Côte d'Azur (8.3%). Concerning the expenses for research and development made by the enterprises, the concentration is even stronger, as Île-de-France comprises 52.6% of these expenses compared to only 9.9% for Rhône-Alpes, 5.7% for Provence-Alpes-Côte d'Azur and 4.7% for Midi-Pyrénées. This concentration also concerns the employment: 40.1% of the staff of public research and 52.6% of the research staff of the enterprises are comprised by Île-de-France. From the preceding results that the region Île-de-France figures among the first European regions as for the number of patents granted (European Commission 2002), followed by the regions Rhône-Alpes, Alsace and Bourgogne.

Despite this potential, the number of public and private researchers diminishes since 1992, as does the number of scientific and techniques publications as well as the patent grants. Île-de-France seems to be more and more in concurrence with other European regions, London for the biotechnology, Stockholm for the information and communication technology and Frankfurt for the practical research (Ministry of Economy 2001).

#### 1.5 Strongly Marked Regional Specializations

However, the geographic concentration of activities does not tell us anything about the sectorial specialization of each region. To appreciate this, one needs to know the distribution of the total value added (or of the employment) of the region between the different sectors, and how to compare them to that observed in the whole nation. Thus, Table 6 allows to precise the specializations of the different French regions for the years 1980 and 2000.

It is possible to divide the Metropolitan territory in three major parts:

1. Western and Central France, where the agriculture remains relatively important. The agriculture represents 2.8% of the nation-wide value added, but in Aquitaine the portion of the agriculture is 6.3%, in Bretagne, 5.7%, in Poitou-Charentes 5.6%, in Pays de la Loire 4.8%, etc. However, in these regions the weight of the agriculture has diminished during the last twenty years. On the other side, one will note some regions in Northern France, for which the weight of the agriculture was found to be particularly elevated, Champagne-Ardenne with 11.1% and Bourgogne with 7.1% of the total value added, which is explained by a specific activity of these regions, the viticulture. The weight of the agriculture has also made progress in these regions during the two last decades.
2. Northern and Eastern France rather industrial. If the part of the industry (including the building industry) in the total value added in 2000 was at an average of 25.6% in France, in strong decrease since 1981, it achieves 39.4% in Haute-Normandie, 36% in Franche-Comté, 32.3% in Alsace, 32.4% in Picardie, 30.9% in the Nord-Pas-de-Calais, 32.1% in Basse-Normandie, 30.7% in Lorraine, 29.1% in Champagne-Ardenne. But certain regions not located in the North and the East have preserved an industrial sector that represents a still relatively important portion of their economic activity, although in regression: Rhône-Alpes, 32% of the total value added, Centre, 31.1%, Pays de la Loire, 31.6%, Auvergne, 30.7%.
3. Southern France and Île-de-France turned more towards the services. The portion the tertiary sector holds of the total value added is 71.6% in France in 2000, strongly increasing since 1980, but 84% in Corse, 77.6% in Provence-Alpes-Côte d'Azur, 76.2% in Languedoc-Roussillon, 72.5% in Midi-Pyrénées. These regions Île-de-France should be added where the portion of services in relation to the total activity amounts to 81.5%. Contrary to this, and this is explained by the relative importance of the agriculture or of the industry, the portion of the services seems weak in certain regions of the North and of the East of the nation: 58.4% in Haute-Normandie, 59.7% in Champagne-Ardenne, 60.6% in Franche-Comté, 62.6% in Picardie, etc. but this tertiary sub-specialization of these regions does not prevent a strong progression of the portion the services hold of the regional value added.

For a more global view of the movement of regional specialization in France, it is wise to use a synthetic indicator, for instance a Gini indicator (Houdebine 1999). Applied to the regional level for the period 1980-2000, proceeding from the values added of the sectors, it shows that the specialization in 15 for 22 regions has approached that stated on the national level. This in particular applies to the old industrial regions of the North and East, which saw disappear a great part of their traditional activities, and to the majority of the more rural regions of the West, which have been industrialized. But certain regions have increased their specialization during this period, particularly Île-de-France and Rhône-Alpes. Globally, the structures of activity of the whole of the French regions have noticeably approached each other during the last twenty years.

On the level of the departments and using the employment as variable, one will observe the same phenomenon. The average specialization of the French departments decreased from 1978 to 1992 (Houdebine 1999), as these depend ever less on their main sectors. The regression of the traditional industries in the very specialized departments of Northern or Eastern France and their replacement by more diversified activities explain this evolution. However, this does not mean that all of the French departments saw their specialization diminish and that the differences have faded.



Table 6: Evolution of the sectorial distribution of regional values added

Regions	Agriculture		Industry		Tertiary	
	1980	2000	1980	2000	1980	2000
Alsace	4.2	2.4	43.0	32.3	52.9	65.3
Aquitaine	6.4	6.3	36.0	23.3	57.7	70.5
Auvergne	5.4	4.0	40.5	30.7	54.1	65.2
Basse-Normandie	8.0	4.8	36.9	32.1	55.1	63.2
Bourgogne	6.8	7.1	39.3	27.1	53.9	65.7
Bretagne	8.8	5.7	31.2	25.2	60.0	69.1
Centre	7.0	4.4	40.9	31.1	52.1	64.6
Champagne-Ardenne	9.5	11.1	39.6	29.1	50.9	59.7
Corse*	-	2.4	-	13.6	-	84.0
Franche-Comté	4.0	3.4	49.6	36.0	46.4	60.6
Haute-Normandie	3.1	2.1	46.3	39.4	50.6	58.4
Île-de-France	0.5	0.2	31.5	18.3	68.0	81.5
Languedoc-Roussillon	8.8	4.9	28.9	18.9	62.3	76.2
Limousin	6.9	4.1	35.8	27.1	57.3	68.8
Lorraine	3.4	2.5	42.9	30.7	53.8	66.8
Midi-Pyrénées	7.5	4.1	31.2	23.5	61.2	72.5
Nord-Pas-de-Calais	2.6	2.0	43.7	30.9	53.8	67.1
Pays de la Loire	7.4	4.8	40.1	31.6	52.6	63.6
Picardie	7.3	5.0	42.7	32.4	50.0	62.6
Poitou-Charentes	8.3	5.6	34.2	26.6	57.5	67.8
Provence-Alpes-Côte d'Azur	3.0	2.3	30.3	20.2	66.7	77.6
Rhône-Alpes	2.7	1.5	41.9	32.0	55.4	66.5
<b>France</b>	<b>4.1</b>	<b>2.8</b>	<b>36.7</b>	<b>25.6</b>	<b>59.2</b>	<b>71.6</b>
* in 1980, the Corse has been attached to the statistics of the region Provence-Alpes-Côte d'Azur. Source: I.N.S.E.E. data						

Contrary to this, at the level of the employment zones, one states a noticeable increase of the specialization of these zones, in particular the most urbanized ones (Houdebine 1999). This result does not seem to be confirmed in the case of a region like Nord-Pas-de-Calais where, on the contrary, you may observe a better diversification of the industrial employment in the different zones of the region, with some exceptions like the zone de Saint-Omer, which is characterized by the growing domination of one activity, glass (Dormard 2001). But the region Nord-Pas-de-Calais is a particular case, as it has been marked by the disappearance of numerous traditional industries.

Thus, on the retained scale, the results differ very little. If one goes to a large spatial level, the region or department, one may state an attenuation of the territorial specializations during the two last decades. On the other hand, on a smaller geographical level, the employment zone for instance, the specializations are intensified, which tends to confirm the existence of local phenomena of a polarization of activities.

## 1.6 External Exchanges Marked by the Regional Specializations

The analysis of the foreign trade of the nations of the European Union shows that the development of the exchanges within the EU did not entail a strong specialization of the Member States: The trade between the branches has diminished since the beginning of the 1980s to the profit of the exchanges within the branches, which are based on a vertical differentiation of the products. The internal European exchanges of today are, above all, cross exchanges of products of different qualities (Maurel; Mouhoud 2001). But the nations differ with respect to the technological content and the quality of the exchanged products. France proved itself specialized in high technology and in the products of the middle and upper assortment (Fontagné; Freudenberg 1999).

The characteristics of the foreign trade of the French regions seem still to be little known. However, one may think that the accentuation of the regional specializations noted above should be reflected in foreign trade. The same applies to a region like Nord-Pas-de-Calais (Dormard 2001) the exchanges, imports and exports of which consist of products belonging to the same branches with, however, the exportations reflecting the regional specializations (steel and iron industry, automotive, chemistry, metallurgy, agriculture and food, textiles, glass, etc.).

## 1.7 Demographic Dynamics of the Western and Southern Regions

In the March 1999 census, France had 60,186,184 inhabitants, 58,518,748 for the Metropolitan area and 1,667,436 for the overseas departments (Départments d'Outre-Mer = D.O.M.). Compared with the previous census (1990), the increase is 0.37% a year on an average, slightly less as in the previous intervals between the census: 0.46% between 1975 and 1982 and 0.51% between 1982 and 1990.

The demographic gain of the period 1990-1999 seems to have a very unequal distribution. The South and the West of the country concentrate the core of the surplus of inhabitants: the Méditerranée region gained 439,000 inhabitants, the West 318,000 and the Sud-Ouest 222,000 (Table 7). These three zones include more than half the growth of the national population chart. But in these zones the natural gain seems very weak and only ensures a surplus of 142,000 inhabitants. Thus the migrational movements explain the core of the demographic dynamics of these regions.

Contrary to this, the regions in the North and East of the country, Île-de-France included, did only account for 15.3% of the demographic growth of France between 1990 and 1999. But they represent more than three quarters of the total natural surplus. All of them are characterized by negative migrational balances. Let us note the slight decline of Île-de-France, which concentrates 18.7% of the French population, compared to 18.8% in 1990.

Table 7: The distribution of the population on the French territory (1999)

Z.E.A.T.	Population		Natural surplus natural (thousands)	Entries minus losses (thousands)
	Total (1/3/1999)	1990/1999 (thousands)		
Île-de-France	10,952,011	+ 291	+ 786	- 494
Bassin Parisien	10,452,978	+ 185	+ 277	- 92
Nord-Pas-de-Calais	3,996,588	+ 32	+ 177	- 145
Est	5,161,580	+ 134	+ 176	- 42
Ouest	7,768,326	+ 318	+ 142	+ 176
Sud-Ouest	6,170,985	+ 222	- 23	+ 245
Centre-Est	6,954,285	+ 282	+ 227	+ 56
Méditerranée	7,061,995	+ 439	+ 92	+ 347
<b>Metropolitan France</b>	<b>58,518,748</b>	<b>+ 1,903</b>	<b>+ 1,853</b>	<b>+ 50</b>
Source: I.N.S.E.E. data				

## 2. Regional Disparities in France

Having presented and analyzed the main characteristics of the regional development in France, we are now able to ask the question of the regional disparities in France, in particular of their evolution over last decades.

### 2.1 Economic Growth with Very Unequal Distribution

Table 8 provides some data on the growth of the French regions. From 1980 to 2000, the French GDP has progressed by an average of 2.1%, the period 1990-2000 being characterized by a gross slowdown of the growth as compared to the preceding period, 1.6% compared to 2.5%. The employment has only increased by an average of 0.2% a year.

The differences in growth between the regions seem considerable. From 1980 to 2000, the GDP of Lorraine has only increased by an average of 1% a year, whereas it has progressed by 2.7% in the region Midi-Pyrénées.

The regions with weak growth are rather situated in the North of the country, Lorraine (1%), Champagne-Ardenne (1.2%), Franche-Comté (1.3%), Nord-Pas-de-Calais, Picardie and Haute-Normandie (1.4%), regions of former industrialization in a situation of reconversion. Some of these regions have, however, improved their performances a bit during the most recent years, in particular Haute-Normandie, Nord-Pas-de-Calais, whereas others seem to intensify the decline, Champagne-Ardenne, Lorraine, Picardie.

Contrary to that, the regions with strong growth are, apart from the region Midi-Pyrénées (2.7%), Languedoc-Roussillon (2.6%), Rhône-Alpes (2.5%), but also Île-de-France and Bretagne (2.3%), Aquitaine and Pays de la Loire (2.2%). Concerning Île-de-France, one will note the decrease by half its growth rate during the last decade.

Table 8: Evolution of the GDP and the employment in the French regions  
(yearly averages)

Regions	GDP (volume)			Employment	
	1980-2000	1980-1990	1990-2000	1980-1990	1990-1999
Alsace	2.1	2.0	2.1	+ 0.4	+ 0.7
Aquitaine	2.2	2.9	1.6	+ 0.4	+ 0.6
Auvergne	1.7	1.7	1.7	- 0.7	- 0.1
Basse-Normandie	1.9	2.0	1.7	- 0.2	+ 0.2
Bourgogne	1.8	2.5	1.1	- 0.2	+ 0.0
Bretagne	2.3	2.8	1.9	+ 0.0	+ 0.6
Centre	1.7	2.6	0.9	+ 0.1	+ 0.1
Champagne-Ardenne	1.2	1.8	0.6	- 0.4	- 0.2
Corse*	-	-	2.1	+ 0.8	+ 1.5
Franche-Comté	1.3	1.3	1.3	- 0.6	+ 0.1
Haute-Normandie	1.4	0.4	2.4	- 0.1	+ 0.2
Île-de-France	2.3	3.1	1.6	+ 0.6	- 0.1
Languedoc-Roussillon	2.6	3.2	2.0	+ 1.0	+ 1.0
Limousin	1.7	2.1	1.2	- 0.7	- 0.1
Lorraine	1.0	1.0	0.9	- 0.7	0.0
Midi-Pyrénées	2.7	3.8	1.6	+ 0.7	+ 0.6
Nord-Pas-de-Calais	1.4	1.0	1.8	- 0.6	+ 0.4
Pays de la Loire	2.2	2.3	2.1	+ 0.1	+ 0.6
Picardie	1.4	1.8	1.1	- 0.3	+ 0.3
Poitou-Charentes	1.9	2.4	1.5	- 0.2	+ 0.3
Provence-Alpes-Côte d'Azur	1.9	2.5	1.2	+ 0.9	+ 0.3
Rhône-Alpes	2.5	3.1	2.0	+ 0.6	+ 0.5
<b>France</b>	<b>2.1</b>	<b>2.5</b>	<b>1.6</b>	<b>+ 0.2</b>	<b>+ 0.2</b>
* In 1980, Corse has been attached to the statistics of the region Provence-Alpes-Côte d'Azur. Source: I.N.S.E.E. data					

### 2.1.1 The Per Capita GDP: the Contrast Paris-Province

Taking into account the important differences in size between the regions, the better indicator for the appreciation of the development level and their evolution is the per capita GDP. To begin with, let us state that France in 2000 had an indicator of 101.1, slightly above the European average (European Commission 2003), but in continuous decline for a decade: 108.4 in 1988, 104 in 1995. If you record the average of the years 1998 to 2000, France, with an indicator of 99.8, was found on the 12<sup>th</sup> position of the 15 nations of the European Union before Spain (indicator 81.2), Portugal (70.7) and Greece (67.6).

In this context, all of the French regions saw their position in Europe weaken, with only the regions Île-de-France, Alsace and Rhône-Alpes exceeding the EU average in 2000. Two regions (without overseas departments), Corse and Languedoc-Roussillon, are localized in a range between 75% and 80% of this average and five between 80% and 85%.

In the interior of the French territory, the differences seem considerable, especially between Île-de-France and the other French regions. In 2000, the per capita GDP of Île-de-France is by 53% higher than the average of the French regions, the second region, Rhône-Alpes only having an indicator of 102.6 (table 9). Moreover, the relative situation of Île-de-France has very clearly improved during the last twenty years: + 42.1% as compared to the French average in 1980, + 48.2% in 1990 and + 53% in 2000. Thus the gap has deepened between the capital and the province. On the European level (NUTS-2), Île-de-France had the 4<sup>th</sup> position in 2000, but it had been on the 2<sup>nd</sup> position in 1983 (indicator of 168) and on the 3<sup>rd</sup> in 1993 (indicator of 166). The decline of France on the European level also affects the capital region.

If one brings the per capita GDP in relation to the number of employments instead of the number of inhabitants, the advantage of Île-de-France seems less overwhelming (+ 28.5% as compared to the national average), which may be explained by the elevated employment rate of the population of Île-de-France (table 8) and the not unimportant number of employments in Île-de-France occupied by the residents of the neighbouring regions.

Table 9: Evolution of the per capita GDP in the French regions

<b>Regions</b>	<b>1980</b>	<b>1990</b>	<b>2000</b>
Alsace	102.6	102.7	101.2
Aquitaine	90.4	90.2	88.9
Auvergne	81.6	81.3	83.6
Basse-Normandie	86.8	86.6	83.1
Bourgogne	90.4	89.3	89.3
Bretagne	82.5	83.0	82.3
Centre	93.0	91.1	87.7
Champagne-Ardenne	104.4	100.0	92.8
Corse*	-	70.5	78.9
Franche-Comté	95.6	92.0	86.2
Haute-Normandie	102.6	94.6	97.5
Île-de-France	142.1	148.2	153.0
Languedoc-Roussillon	76.3	77.7	75.9
Limousin	77.2	77.7	80.3
Lorraine	93.9	87.5	81.6
Midi-Pyrénées	80.7	81.3	86.0
Nord-Pas-de-Calais	86.8	81.3	80.8
Pays de la Loire	87.7	86.6	87.0
Picardie	95.6	85.7	81.0
Poitou-Charentes	80.7	80.4	78.5
Provence-Alpes-Côte d'Azur	91.2	90.2	89.5
Rhône-Alpes	100.0	97.3	102.6
<b>France</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
* in 1980, Corse has been attached to the statistics of the region Provence-Alpes-Côte d'Azur. Source: I.N.S.E.E. data			

### 2.1.2 Differences in Income With Greater Limitation

The per capita GDP is not an indicator of the income level of each inhabitant. In particular as it does not take into account the retained amounts and the transfer income. Thus, other indicators are needed for the appreciation of the regional disparities in terms of income.

Concerning, for instance, the average gross yearly income, the region of Île-de-France had, in 1998, an indicator of 125.4, and the difference between the extreme regions (Île-de-France and Corse) was 29.1% (Colussi et al. 2001). But this difference is explained, for a large part, by the strong presence in Île-de-France of sectors that pay elevated salaries and employ an important proportion of senior staff. If you eliminate the structural effects connected with the distribution of the employment by sex, age, socio-professional category, sector of activity, etc., the gain (the proper effect) of Île-de-France is brought to about 10% (Rasolofoarison 2000). However, if one retains the net taxable income, which includes, apart from the wages and the income of the self-employed professions, the income of the capital, the gap deepens in favour of Île-de-France, which again raises up to the indicator of 133 for the year 1994.

One of the most appropriate indicators for measuring the effective standard of living of a population is the available gross income of the households, which comprises the primary income plus received transfer payments (social benefits) and reduced by the taxes and by the social contributions paid. That is the portion of the income that remains at the disposal of the households for consumption and savings. Calculated by inhabitant, in 1996, the available gross income of the households of the region Île-de-France had an indicator of 117.9, the region the least favoured, the Nord-Pas-de-Calais, having an indicator of 86.5.

If you calculate the variation coefficients (ratio standard deviation/average) of the different income types for the whole of the regions, the following figures will result: per capita GDP, 0.1789, net taxable income, 0.1152, average annual net wages, 0.0805, available gross income per inhabitant, 0.0625. Thus, the more you take into account the transfer and redistribution mechanisms, the more the differences between the regions are reduced. These mechanisms allowed to adjust or invert the effects of the spatial concentration of the produced wealth.

Thus, for instance, for the region of Île-de-France, the difference between the taxes collected and the government expenses from which this region benefits represents 3 to 6% of its per capita income (Davezies 2001). If you add the effects of social contributions and benefits, the effects of which are at least equivalent, you will measure the importance of this redistributing effects. Moreover, if the part of Île-de-France in the national per capita income did not stop to increase, its share in the income of the French households has constantly diminished since the 1960s.

## 2.2 Convergence or Divergence of the French Regions?

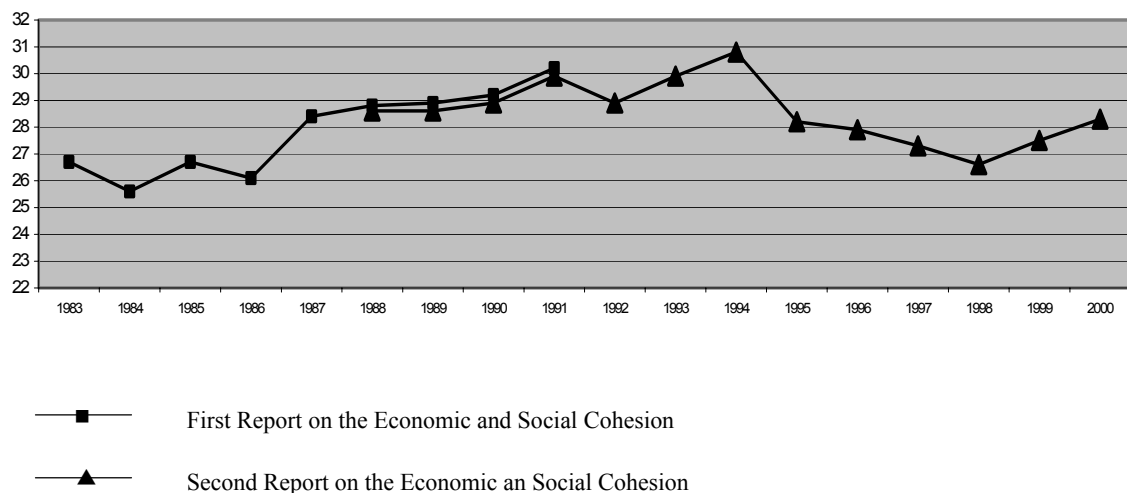
We provided the preceding data for a rather static appreciation of the regional disparities in France. For a more dynamic vision, it is prudent to study the eventual processes of convergence or divergence between the regions. The empirical studies on this question generally treated the whole of the European regions. From these studies we shall retain the parts that concern France, adding our own estimations. At first we shall discuss the question of the evolution of the differences development levels of the different regions calculated proceeding from indicators of dispersion ( $\sigma$ -convergence), then we

discuss the question of the capacities for a recovery of the regions the least developed ( $\beta$ -convergence).

### 2.2.1 Very Strong and Increasing Disparities

A convergence of the development levels of the different regions could be stated if the variation coefficient (standard deviation/average) of the per capita GDP of the French regions has diminished over the time ( $\sigma$ -convergence). Chart 1 represents the evolution of the regional disparities in France from 1983 to 2000. After a strong growth from 1983 to 1994, they went back, at the end of the 1990s, to the initial level before making progress again these last years. The regional disparities seem stronger today than twenty years before.

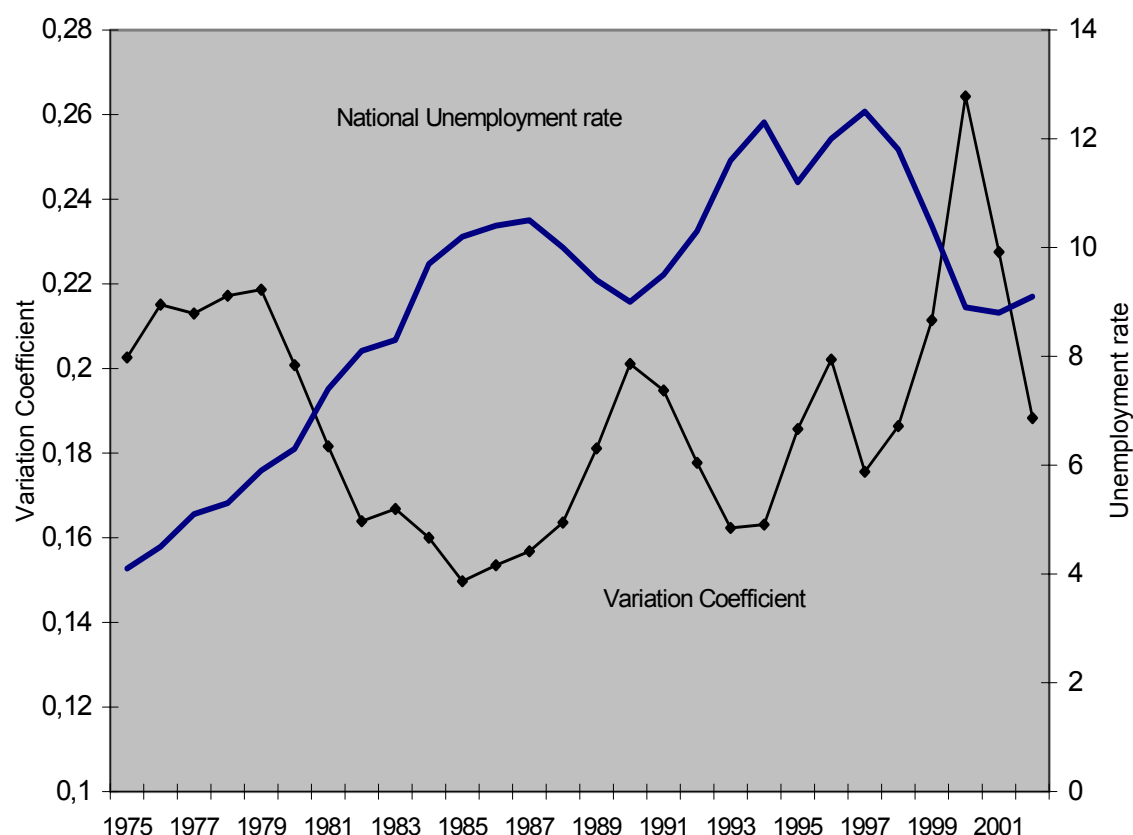
Chart 1: The evolution of the regional disparities of the per capita GDP en France (1983-2000) (coefficients of variation)



Let us state that, if you bring the evolution of the interregional disparities in relation with those of the weight of Île-de-France in the national per capita GDP, one states a clear parallelism between the two, which allows to verify that the problem of the inter-regional inequalities in France remains largely a question of Paris-province (Davezies 2001).

If you now examine the regional convergence in terms of unemployment, chart 2 shows that there is a certain inverse correlation between the evolution of the unemployment rate in France and that of the coefficient of variation of the regional unemployment rates. Except for the period 1975-1979, the years marked by a progression of the national unemployment correspond to a decrease of the regional disparities of the unemployment rate. This is true in particular for the period 1980-1985. Contrary to this, the periods of depression of the unemployment, the end of the 1980s or that of the 1990s in particular, were accompanied by a push of the regional disparities of the unemployment rate.

Chart 2: The regional disparities of the unemployment rate in France (1975-2002)



### 2.2.2 Slowness of the Recovery Process

An increase of the differences of development levels over a period does not exclude a process of recovery of the regions the least developed ( $\beta$ -convergence). An important deal of literature has been dedicated to this question, which has been the object of numerous empirical tests concerning the United States and different European nations, including France.

The calculations performed for the period 1950-1990, proceeding from per capita GDP of 21 French regions (Corse being attached to the region Provence-Alpes-Côte d'Azur) result, for France, in a value  $\beta$  comprised, following the calculations, between 0.012 (Barro; Sala-y-Martin 1995) and 0.016 (Sala-y-Martin 1996), i.e. a convergence speed of the per capita GDP of the French regions of 1.2% to 1.6% a year, as the case may be. It seems noticeably lower than the value stated in the other European nations. The process seems thus very slow, even in the most favourable case, as a convergence speed of 1.6% a year means that you would need 43 years to make half of the difference of the stationary situation disappear.

We have taken up the preceding calculations, extending the period until 2000, allowing to study the  $\beta$ -convergence over half a century (1950-2000), and dividing the period in several subperiods.



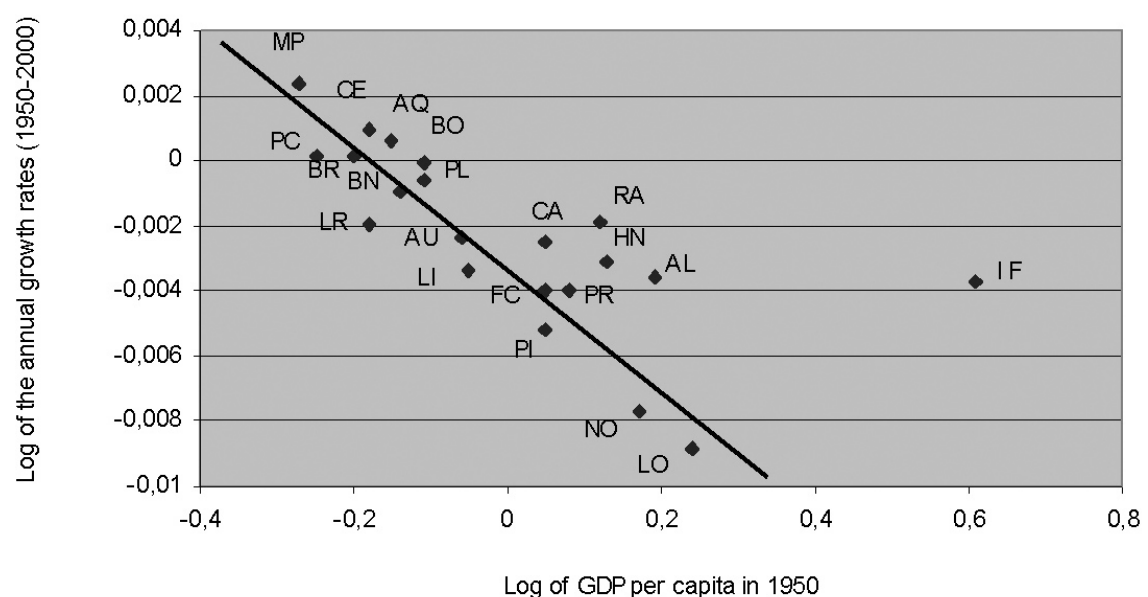
Chart 3 represents the convergence between the French regions over the period 1950-2000. The relation between the per capita GDP in 1950 and the mean growth rate from 1950 to 2000 seems quite negative, the regions with the greatest backlog having the highest growth rates. One region clearly distinguishes from the others, Île-de-France. If you set this region aside, the points seem relatively well aligned along a straight line. The coefficient  $\beta$  is equal to 0.016 without Île-de-France, but only to 0.009 with Île-de-France.

During the period 1980-2000, the coefficient  $\beta$  does not exceed 0.005 for the whole of the French regions, but it is 0.019 if you exclude Île-de-France. If you divide this period in two subperiods, the coefficients  $\beta$  are, for the years 1980-1990, 0.0058 with Île-de-France and 0.027 without Île-de-France and, for the period 1990-2000, 0.0084 with Île-de-France and 0.022 without Île-de-France.

In any case, even if you exclude the region of Île-de-France, the speed of convergence remains slow. It achieves its maximum over the period 1980-1990 with 2.7% a year (beyond Île-de-France), then adjusts itself to 2.2% during the last decade. If one takes into account the evolution of Île-de-France, the speed of convergence seems even slower and never exceeds 1% a year.

The analysis of the convergence may be realized by means of other variables than the per capita GDP. The use of the employment, for instance, provides the advantage of allowing to go down to a far smaller geographic level, especially the zone of employment. During the period 1982-1992, however, the speed of convergence of employment in the manufacturing industry seems very slow, 0.65% on an average, what means that a bit more than a century (106 years) is needed to make half of the difference of the stationary situation disappear (Maurel 1997). If you make use of the population as a variable, the speed is even slower, 0.16% a year. The phenomenon of convergence, however, seems more marked for the average wages in the industry with a speed of almost 5% a year.

Chart 3: Convergence of the per capita GDP of the French regions 1950-2000



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#### Annex: The French regions (NUTS-1 and NUTS-2)

