

FINAL REPORT

OF

THE STUDY OF THE COSTS OF

PERIPHERALITY

PRESENTED TO THE DIRECTORATE GENERAL FOR

RESEARCH OF THE EUROPEAN PARLIAMENT

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1. Introduction

The Directorate General for Research of the European Parliament contracted with the University of the Azores (Department of Business and Economics), to do a study of the “Costs of Peripherality”.

According to the work plan set for the study, it involved development of the following sections:

- i) Definition of the objectives of the study (comprising a meeting with the European Parliament office that contracted the study for fine tuning these objectives);
- ii) Revision of relevant legislation (that determines the need for this study permitting the clarification of the process of preparation of EC policies)
- iii) Revision of relevant bibliography (allowing us to obtain a global view of the methodologies used in the past to measure the disadvantages of peripheral regions);
- iv) Refining a methodology for measuring the costs of peripherality (taking into account what was advanced in our proposal);
- v) Statistical review of the peripheral regions (identifying statistical sources and the socio-economic situation of each of the regions as well as significant gaps in statistical information);
- vi) Estimation of the costs of peripherality;
- vii) Revision of policies (EC, national and regional) for the periphery;
- viii) Analysis of the policies on the costs of peripherality;
- ix) Conclusions;
- x) Recommendations.

This report is the final work done in response to the terms of the contract.

In the process of completing this report the team involved has consulted a diverse bibliography from academics, governments and laws and regulations emanating from parliaments, on the matters being analysed and had various meetings with services of the European Parliament, with representatives to the European Parliament, with representatives of the governments of the countries involved, with members of regional governments and with business associations of the regions in visits to Brussels, the Azores, Madeira, the Canary Islands, La Reunion, Martinique, Guadeloupe and Guiana.

2. Objectives of the Study

In accordance with the terms of reference, the study should:

- 1 – look at the EU's outermost regions mentioned above, and review existing statistical material for measuring the disadvantages caused by peripherality¹;
- 2 - analyse the situation and developments at the EU institutional level, including the Commission's report on ultra-peripheral regions (COM(2000)147 final);
- 3 – analyse the Member States' positions on this issue;
- 4 – analyse the Member States' reactions to the Commission's new proposals;
- 5 – deliver a quantification of the costs arising from the disadvantages due to peripherality and to what extent the Commission's proposal would possibly remedy the situation;
- 6 – evaluate if today's EU structural funds available to the peripheral regions together with national transfers are compensating the costs of peripherality. (Is the gap widening?);
- 7 – show the relative socio/economic position of peripheral regions and their development perspectives with regard to the average position of EU regions;
- 8 – make a presentation of policy options, with conclusions and proposals, for Parliament, to be considered in its deliberations on the Commission's report and proposals.

In a meeting held on the 10th of July with members of the Directorate General for Research of the European Parliament, it was further agreed that there are three major issues that the work should address:

- 1 – the evaluation of the Commission's report on the impact of the policies in favour of the peripheral regions executed up to 1999;
- 2 – the evaluation of the Commission's proposal, for the future, contained in the report, and;
- 3 – new proposals to deal with the costs of peripherality.

¹ In particular the studies produced by EURISLES: "Transport systems in the islands" 1996; "Statistical indicators of regional disparities caused by insularity and ultra-peripherality" 1997; "The island regions and the price of intra-EU transport of goods" 1999 as well as publications of the CPMR.

3. Review of Legislation

The ultra-peripherality concept was first used in the European Union (EU) in the mid eighties, on suggestion of the Portuguese government. Before this date, the French departments already benefited from a special statute without any generalization of the concept².

With Portugal's and Spain's entry into the EU the problem of the territories at a considerable distance from the European continent became more significant since it now involved three Member States as opposed to one. The specific problems of these regions are then considered as an EU problem and not just of the respective countries.

The specificities of the French territories had already been recognised in number 2 of article 227 of the Treaty of Rome.

As of the approval of the Maastricht Treaty, the specificities of the UPRs are specifically referred in the declaration annex to that law. According to declaration:

"... while the provisions of the Treaty establishing the European Community and secondary legislation apply automatically to outermost regions, it is nonetheless possible to adopt specific measures with a view to the economic and social development of these regions. Such measures should have as their aim both the completion of the internal market and recognition of the regional reality to enable the outermost regions to achieve the average economic and social level of the Community."³

This was a first step, on the part of the EU, towards recognizing that there are regions with peculiar characteristics, different from all others and that, for this reason, specific policies are justified.

On the basis of this declaration and following the programs for the French Overseas Departments (DOM), the POSEI⁴ program was developed and called POSEIDOM for the DOM, POSEICAN for the Canary Islands and POSEIMA for the Portuguese archipelagos of Madeira and the Azores.

The program included a set of temporary measures, some with budget implications and others as exceptions to community norms.

² See, for example, Patrick Guillaumin. 2000. La Dimension Ultrapériphérique de L'Union Européenne. Mimeo.

³ Treaty of the European Union (Maastricht)

⁴ Programme d'Options Spécifique à l'Éloignement et l'Insularité

Contrary to what happened relative to other regions, it became more evident that the specific measures in favour of the UPRs should be of a more permanent nature, warranting a firmer compromise on the part of the EU.

This difference was expressed in the Treaty of Amsterdam where the concept of ultraperiphery is recognized with the corresponding economic and social implications.

Specific reference to the less developed insular regions starts in article 158 of the Treaty as revised in Amsterdam⁵,

“In order to promote its overall harmonious development, the Community shall develop and pursue its actions leading to the strengthening of its economic and social cohesion.

In particular, the **Community shall aim at reducing** disparity between the levels of development of the various regions and the **backwardness of the less favoured regions or islands**, including rural areas.”

Article 159, on the other hand, clarifies which instruments are available for conducting economic and social policy, admitting that the Council conceive specific actions if it considers them necessary. The article states that:

“... The formulation and the implementation of the policies and actions of the Community’s policies and actions and the implementation of the internal market shall take into account the objectives set out in Article 158 and shall contribute to their achievement. The Community shall also support the achievement of these objectives by actions it takes ...

The Commission shall submit a report ...every three years on the progress made towards achieving economic and social cohesion and on the manner in which the various means provided for in this article have contributed to it. **This report shall, if necessary, be accompanied by appropriate proposals.**

If specific actions prove necessary outside the Funds and without prejudice of the measures decided upon within the framework of the other Community policies, such actions may be adopted by the Council ...”

On the other hand, number 2 of article 299, dedicated to the ultra-peripheral regions, states that:

“2. The provisions of this Treaty shall apply to the French overseas departments, the Azores, Madeira and the Canary Islands.

However, taking account of the social and economic situation of the French overseas departments, the Azores, Madeira and the Canary Islands which is compounded by their remoteness, insularity, small size, difficult topography

⁵ Jornal Oficial das Comunidades Europeias, 97/C340/01.

and climate, economic dependence on a few products, the permanence and combination of which severely restrain their development, the Council, ... shall adopt specific measures aimed, in particular, at laying down the conditions of application of the present Treaty to those regions, including common policies.

The Council shall, when adopting the relevant measures referred to in the second subparagraph, take into account areas such as customs and trade policies, fiscal policy, free zones, agriculture and fisheries policies, conditions for supply of raw material and essential consumer goods, State aids and conditions for access to structural funds and to horizontal Community programs.

The Council shall adopt the measures referred to in the second subparagraph taking into account the special characteristics and constraints of the outermost regions without undermining the integrity and the coherence of the Community legal order, including the internal market and common policies.”

This article commits the EU to pursue, with the countries involved, the development of these regions through adequate specific measures.

For the purpose of the present report, it is supposed that this article implies an unquestionable will to undertake the measures necessary to reduce the disadvantages identified and to promote the development convergence of these regions when compared to the EU average, as measured by per capita national income.

4. Literature Review

The introduction of the concept of ultra-peripherality has led a considerable number of researchers to discuss its precise definition. We highlight here three approaches:

- I. One that identifies differences in the development processes and integration to justify policies as is explicit in the report COM(2000) 147 final and as is implied in the Treaty of Amsterdam;
- II. One that seeks to construct indicators that highlight differences in development processes that justify specific policies, as happens with the works of EURISLES⁶;
- II. Finally, one that seeks to understand the development and integration processes of the ultra-peripheral regions and to specify instruments to promote sustainable development, as is the case of the work of Tomaz Dentinho⁷, which is the basis for the concept of ultra-peripherality adopted in the present report.

The Treaty of Amsterdam and the Commission's Report

By specifying the regions that fall within its concept of ultra-peripherality, the Treaty of Amsterdam limits some aspects of the concept as it intends to use it.

To justify specific actions the Treaty starts by recognizing that here is a **difficult structural social and economic situation**. On this matter the report of the Commission⁸ states that six out of the seven regions involved are among the poorest of the EU. The Commission further specifies their low per capita income (59% of the EU average) and, in most cases, excessively high unemployment rates.

It is this situation that constitutes the starting point to justify specific economic policies. Various factors are listed to explain the backwardness of these regions. Number 2 of article 299 explicitly refers to **remoteness, insularity, small size, difficult topography and climate**, and the dependence of a **small number of products**.

The Commission's report also refers that "... these regions are very far from the European continent and at the same time, in the majority of the cases, near third countries that are less developed."⁹

⁶Jean-Didier Hache. 1997. Statistical Indicators of Regional Disparities Generated by Insularity. Eurisles.

⁷ Dentinho, Tomaz (1995) - Information and Communication Technologies and Regional Development: The Case of the Azores Dairy Value Chain. PhD dissertation, Centre for Urban and Regional Development Studies, University of Newcastle upon Tyne.

⁸ COM (2000) 147, pp. 5

⁹ COM (2000) 147, pp. 5

Eurisles

The EURISLES study tries to identify indicators that characterize restrictions to development specific to the ultra-peripheral regions. Their selection goes to indicators of accessibility conceived by reference to a relevant economic center. The study assumes, in its analysis of the UPRs, that the relevant center is Maastricht. This assumption imposes a strong restriction since for the Azores the center is still mainland Portugal which is better represented by Lisbon. For Madeira it can be Lisbon or some capital city in the North of Europe where its tourists come from. For the Canary Islands it will be Madrid or Barcelona. For the DOM it might be Paris.

Still according to this study, the concept of ultra-periphery, which is not limited to the concept of island or of insularity, is characterized by five factors. Two are of a geographical nature: remoteness from Europe and climatic conditions. Two are of an institutional and political nature: European frontier and specific institutional arrangements. One is economic: socio-economic weakness.¹⁰

The climate and distance parameters cannot be altered. However, they can be seen as a restriction or as a potential. Climate is beneficial for tourism in the Canary Islands and to milk production in the Azores. Distance is costly for exports but a protection of local production.

The institutional parameter refers to the political solutions that each country has found for its internal organization and to the special situations accepted by the EU

The frontier parameter refers to a function which is also political and which may legitimise an interventionist strategy in these regions. It appeals to the geo strategic interest that might be associated with the fact that these regions are part of the EU.¹¹

Finally, the socio-economic vulnerability associated to insularity¹² is also reflected in accessibility, independently of the distance to the central regions because it limits the forms of transport of goods and people. Consequently, the access of people is invariably

¹⁰ According to the study

- “ultra-peripherality can be defined as the extreme distance of these territories from the European continent;
- ultra-peripherality is characterised by climatic constraints and by specifically tropical or sub-tropical productions;
- ultra-peripherality also has an additional role of EU frontier;
- ultra-peripherality is an accumulation of constraints, the result of which confers its specific originality. The various variables selected for the Study and by the Treaty clearly show a clear difference of intensity in the handicap (unemployment, income, dependence, remoteness, GDP...);
- ultra-peripherality is also marked by a different situation on the institutional level with particular status in internal and community law.

¹¹ If this is a function attributed to the UPRs then it should be made clear since it has important implications on the functioning of these regions.

¹² Even though French Guiana is not an insular region it has isolation characteristics similar to them.

to Europe or to nearby geographical areas and is invariably done mostly by air travel. This fact alone is a strong factor of isolation and, in many cases, a strong limitation. The potential that can be harnessed from this isolation requires measures that are generally more difficult to implement and more uncertain in their results.

The access of merchandise is also limited to transport by air or by sea. These regions cannot benefit, for example, from the trans-European network of roads and railways.

Access to information does not have the same technical limitations as in the case of goods and people but the necessary initial investments can be a constraint, be it during their construction or during their operation, because of higher average costs for the users.¹³

These limitations have consequences not only in terms of the costs of providing the service but also and most important in terms of the distortions in the markets for these services. In fact, it is common to find monopolies (State or private) in the transport and communications systems in the ultra-peripheral regions.

An Interpretation of the Concept of Ultra-peripherality

There are many and diverse studies that seek to understand and explain the development and integration processes of the ultra-peripheral regions. This section addresses some relevant issues trying to lay out a model capable of evaluating the impact of development policies for ultra-peripheral regions.

Ultra-peripherality is an economic and social phenomenon associated to a geographical structure characterized by two attributes: size and distance¹⁴. The small size means that valuable but scarce resources in these regions can only be fully utilized by outside markets¹⁵. The consequence of this is the shortage of space and of usable soil, the reduced size of the local market, the difficulty in mobilizing venture capital, the shortage of specialized labour and diseconomies of scale in the provision of standardized public services.

From an economic point of view, ultra-peripherality is a technological peculiarity considering that resources are available but limited.

¹³ The Von Tunen model is also applicable to the cost of access to information - Brian Ilbery (1985). Agriculture Decision Making. Chapter 2 of Agriculture Geography, A Social and Economic Analysis. Oxford University Press, UK.

¹⁴ Dirk Godenau (1992) - The Interaction of Population and the Economy under Conditions of Insularity. IV World Congress of RSAI, Palma de Mallorca, 26-29, May.

¹⁵ Without outside connections the islands become fragmented between themselves and within themselves, in François Doumenge (1985) - The Viability of Small Intratropical Islands. pp. 70-118 of States, Microstates and Islands. Editors: Dommen, Edward & Hein, Philippe. Croom Helm, London.

What we find in the ultra-peripheral regions are not production functions with declining economies of scale, but rather technological processes, unexpectedly truncated, of resource mobilisation, production and distribution of consumption. But technology, interfacing between Man and the world, results from the social environment through the processes of demand, supply, adoption, understanding, adaptation, use and innovation¹⁶. Thus, the ultra-peripherality, characterised by remote demand and limited resources, changes not only the technological processes but also the organisational structures and cultural identities of the ultra-peripheral territories. Related to the size and access factors is not only a problem of limited resources but also another facet of ultra-peripherality: a compulsory spatial identity¹⁷. Truly the importance of the islands is also cultural - culture influenced by the social characteristics and ambience of each island. What would become of the Canaries without tourism and sun? of the Azores without milk and green fields? of Guadeloupe without sugar cane and white sand beaches?¹⁸

But if the compulsory spatial identity is a characteristic that results from size and isolation of the ultra-peripheral regions, what would then be the dividing line from other geographical realities with different patterns of size and access?

Figure I defines four types of regions through crossing two determinant factors of ultra-peripherality, *size* and *access*, and identifying other types of situations determined by geography: centrality, peripherality and marginality.

A central region is one that has accessibility and dimension. A peripheral region is one that has dimension but not accessibility. A marginal region is accessible but does not have size. Finally, the ultra-peripheral region has neither size nor accessibility.

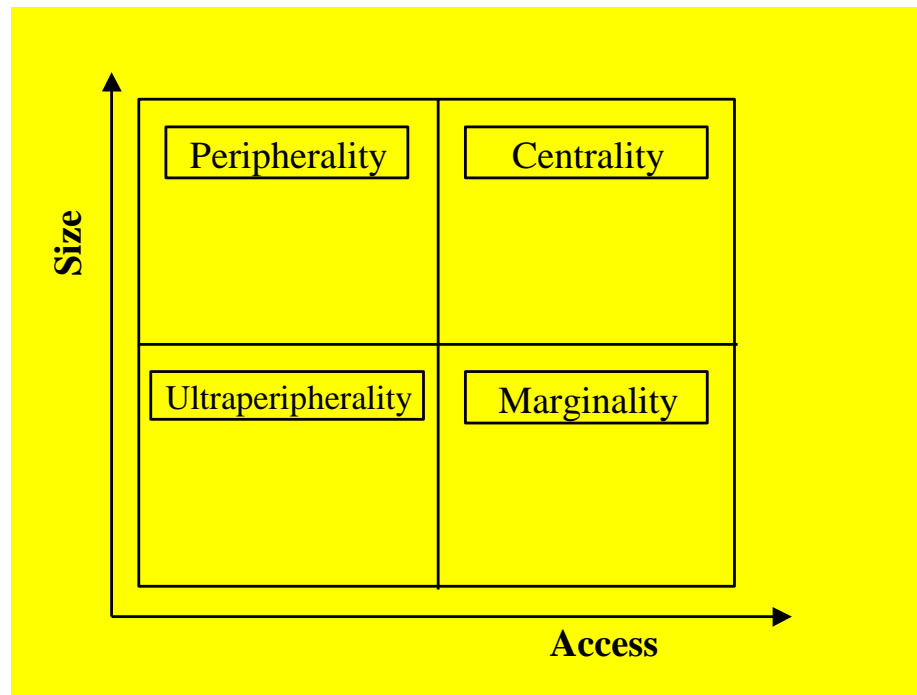
Note that, in economic terms, the size normally associated with productive capacity and accessibility can be defined in terms of consumption possibilities. Since we are dealing with regions it is not clear that production capacity will result in consumption not only because we might have capacities that are not totally explored but also because there are special distribution mechanisms through which, for example, some richer regions finance less productive ones by paying for public services and investment.

¹⁶ UNCTAD (1985) - Examination of the Particular Needs and Problems of Island Developing Countries pp. 118-151 of States, Microstates and Islands. Editors: Dommen, Edward & Hein, Philippe. Croom Helm, London.

¹⁷ Coddacioni-Meistersheim, Anne (1990) - L'Ile Comme Système: Quelques Réflexions Methodologiques - Meeting SIDAM, Açores 1990, Universidade dos Açores.

¹⁸ Jean Didier Hache (2000) - Quel statut pour les îles d'Europe? CRPE. L'Harmatan, 2000.

Figure 1: Typology of Regions



Four corollaries can be derived from this typology:

- First, significant differences exist between ultra-peripherality, peripherality, marginality and centrality ¹⁹.
- Second, alterations of accessibility and dimension induce processes of regional transformation through which an ultra-peripheral region can, from an economic viewpoint, become peripheral, marginal or even central ²⁰.
- Third, ultra-peripherality has, at the same time, advantages and disadvantages: the isolation represents inaccessibility but can also offer protection and an environment of innovation; the limited resources represent a technological

¹⁹ These differences are confirmed in works that explain that the ultra-peripheral and insular economies are markedly different from peripheral economies. Estas diferenças são comprovadas em trabalhos que explicitam que as economias ultraperiféricas e insulares são marcadamente diferentes das economias periféricas, in Roberto Camagni & al. (1991) - Interregional Disparities in the European Community: Structure and Performance of Objective 1 Regions in the 1980's. Paper presented to the North American Regional Science Conference, New Orleans, November 6-9.

²⁰ It occurs that, the same region divides itself into marginal sectors and peripheral sectors generating a phenomenon of duality and structural conflict in the definition of policies. In the Azores the dairies are peripheral but the public services are marginal. Pode até ocorrer que, a mesma região se divida em sectores marginais e sectores periféricos gerando fenómenos de dualidade e conflitos estruturais na definição de políticas. Nos Açores os laticínios são periféricos mas os serviços públicos são marginais. In the Canaries and in Madeira tourism demand attains centrality but the public services are considerably dependent on outside support. Nas Canárias e na Madeira o turismo procura alcançar centralidade mas os serviços públicos ainda dependem consideravelmente do apoio exterior.

restriction but also a possibility to generate revenues ²¹ when good regulation exists; the small size enhances synergies but fosters the creation of monopolies; the specialisation is a risk ²² but also a potential to create competitive advantages ²³; the diseconomies of scale of public services ²⁴ can also imply better quality and innovation ²⁵ in their provision .

It is evident that European policies to aid the development of the ultra-periphery have not significantly decreased the relative underdevelopment of these regions. It is also clear that it is not enough to improve accessibility since it fosters processes of marginalisation, erodes production capacity, diverts investment towards rigid importing activities in a process called “Dutch disease”, increases dependence on the outside and stimulates either unemployment or population decreases. It is because of these facts that it is important to analyse and revise aid policies to the ultra-periphery, assuming that, even though the geographic characteristics of ultra-peripherality are permanent, this does not imply that the gap of economic and social development is insurmountable.

The Management of Ultra-peripherality

There are three types of measures of the management of ultra-peripherality that, by influencing the dimension and accessibility of the socio-economic systems, permit the processes of sustainable development in ultra-peripheral regions to better converge with the regions of the European community.

First, to intervene on the communication and transportation systems that influence the accessibility of the regions to consumption and supply markets²⁶. Second, to improve the competitiveness of export value chains that use endogenous resources. Third, to modulate, through knowledge and technology, the information and decision systems that influence the mechanisms that control and distribute value.

In what concerns the first type of measures of management of ultra-peripherality, the regulation of the transportation and communications systems ought to be oriented not so much towards the supply at monopolistic prices (as happens in many cases in defence of a supposed public service), as to guarantee the commercialisation, internal and external, of products and services with competitive transport and communication prices. This

²¹ Nicolas Vernicos (1987) - The Study of Mediterranean Small Islands, Emerging Theoretical Issues. *Ekistics* 323/324 March/April - May/June, Athens.

²² Alison Hess (1990) - Overview. Sustainable Development and Environmental Management of Small Islands. Ed. Beller, W., d'Ayala, P. & Hein, P. UNESCO, Paris.

²³ Michael Porter (1990) - The Competitive Advantage of Nations. Macmillan Press Ltd. London.

²⁴ F. Casabianca & M. Biggi (1987) - Iles et Dependence. Colloque Espace et Peripherie, Lisbonne. Association de Science Régionale de Langue Française.

²⁵ David Murray (1985) - Public Administration in the Microstates of the Pacific. Pp. 185-203. States, Microstates and Islands. Ed. Dommen, E. & Hein, P. Croom Helm, London.

²⁶ Robin Cohen (1983a) Introduction. In African Islands and Enclaves. Sage Publications, Beverly Hills.

implies the stimulation of competition in transport and communication between ultra-peripheral regions and adjacent regions and between these regions and the developed world where the more significant markets are located. It implies also that the research and development of transport systems, in sync with the systems dictated by the market, would be appropriate to the internal and external commercialisation of products from the ultra-peripheral regions. Finally, this implies the monitoring of price behaviour and service quality with the intention of adopting regulatory measures that promote competition, and control price and quality of services provided.

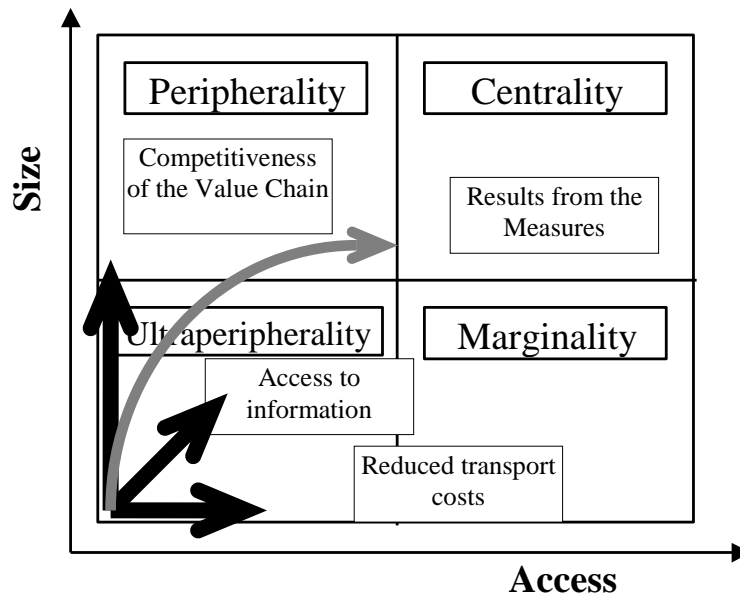
The second vector of the management of ultra-peripherality is associated with the dynamics of competitiveness in export value chains ²⁷, which implies the existence of competitive supply markets and buyers and the production, transformation and distribution of products with increasing value. For this it is important to encourage research and development of high value products, to reduce the stake in the commercialisation of non-differentiated products and to promote the factors that facilitate the entry of new businesses into the regional transformation and commercialisation sectors.

Finally, in reference to the third vector of the management of ultra-peripherality, in order to model information and decision systems, it is fundamental: i) to modernise information systems in exporters' value chains in a way that integrates ultra-peripheral regions into the dynamics of the Information Society; ii) to reorient information gathering systems to aid in the decision making of regional entities and to increase their participation in decisions that are made in the exterior that affect them; iii) to promote technological and methodological innovation in the supply of local public services.

With a combination of these measures, ultra-peripheral regions could begin a sustained process of development. It is fundamental to guarantee the sustainability of the measures implemented and to monitor their effects in terms of the appropriate development indicators. The model is sketched in the figure that follows.

²⁷ François Vellas (1988) - Les Strategiesd'Ouverture Internationale des Petots Pays Insulaires, pp.33-77. L'Enjeu des Petites Economies Insulaires. Ed. Crusol, J., Hein, P. & Vellas, F. Economica, Paris.

Figure 2: Combined Effect of Measures



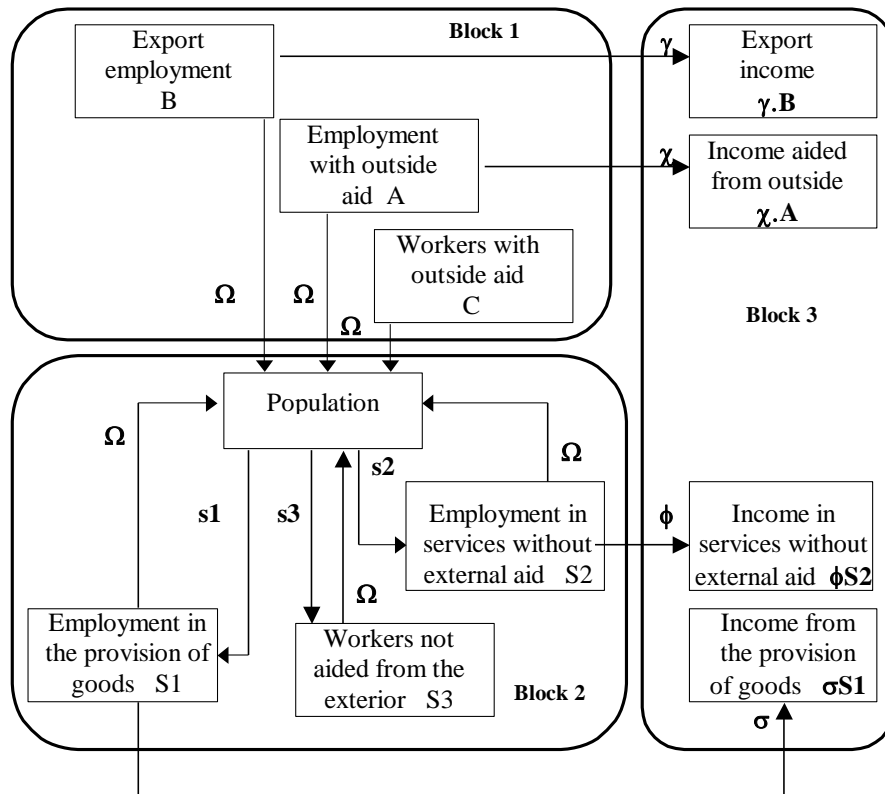
5. Refinement of the Methodology for Estimating the Costs of Peripherality

The Model

Size

The structure of the model to analyse *size* (Figure 2), or supply performance, can be represented in three interrelated blocks (Figure 3): i) the first block explains the effect on the population of driving activities in island economies: exports, external aid for employment and external subsidies; ii) the second block establishes the relationships between population and activities associated to the provision of goods and services not receiving external aid; iii) the third block estimates the product and the income of the region by multiplying the quantity of each type of activity, measured in terms of the number of jobs involved, by the productivity of respective employment or by per capita subsidies to workers benefited.

Figure 3: Model of Analysis of the Size of Ultra-peripheral Economies



The model assumes that exports and external aid constitute the motors of the ultra-peripheral economies establishing not only their dimension but also the structure of the

economy. It also assumes that the active population immigrates to other regions of the country when it does not have a satisfactory form of sustenance. Finally, the model does not desegregate the demand for goods and services on the part of the population by levels of income and allows that the dependent population per worker is equal in all sectors.

The first two blocks of the model use persons as a unit. The population (P) is given by the following expression

$$P = 1/\Omega (A+B+C)$$

where Ω is the rate of activity (participation rate),
A is the employment that receives external aid,
B is the employment in the export sector and
C is the number of workers on social programs paid by external sources.

Employment in the supply of goods (S1), which includes employment in import activities, employment in service not receiving external aid (S2) and the workers receiving aid financed by internal sources (S3), is obtained by multiplying the population (P) by coefficients (s1), (s2) and (s3) that indicate the number of workers in the provision of services or associated with each resident that are not receiving external aid.

In this model, S₂ (employment in service not receiving external aid) is given by

$$S_2 = S^* - A$$

where S* is equal to employment in service activities to the resident population that the economy would have without external aid.

As such,

$$s_2 = s^* - A/P$$

where s* is the coefficient of service to the population [$s^* = S^*/P$] when there is no external aid to employment in services (A).

Also,

$$S_3 = S^{**} - C$$

where S** is equal to the active beneficiaries associated to the population who do not have external aid.

This implies that

$$s_3 = s^{**} - C/P$$

where s^{**} is the coefficient of active beneficiaries in relation to the population [$s^{**} = S^{**}/P$] when there is no external aid for these workers (C).

Export employment (B), employment aided through the exterior (A), and the activities subsidised through the exterior (C) are exogenous variables in the model. The population (P), the active population (E), employment in the provision of goods (S1), employment in services not aided through the exterior (S2) and the active internal financial beneficiaries (S3) are calculated by the formulas:

$$(1) \quad P = (B+A+C) \cdot \left\{ \frac{\Omega}{[1-\Omega \cdot (s_1+s_2+s_3)]} \right\}$$

$$(2) \quad E = (B+A+C) \cdot \left\{ \frac{1}{[1-\Omega \cdot (s_1+s_2+s_3)]} \right\}$$

$$(3) \quad S1 = s_1 \cdot (B+A+C) \cdot \left\{ \frac{\Omega}{[1-\Omega \cdot (s_1+s_2+s_3)]} \right\}$$

$$(4) \quad S2 = s_2 \cdot (B+A+C) \cdot \left\{ \frac{\Omega}{[1-\Omega \cdot (s_1+s_2+s_3)]} \right\}$$

$$(5) \quad S3 = s_3 \cdot (B+A+C) \cdot \left\{ \frac{\Omega}{[1-\Omega \cdot (s_1+s_2+s_3)]} \right\}$$

Equation (6) represents the equilibrium in which total active population (E) results from the sum of export employment (B), plus employment aided externally (A), plus the unemployed supported with outside financial resources (C), plus employment in the provision of goods (S1), plus employment in services not aided through the exterior (S2), plus the unemployed supported with internal financial resources (S3):

$$(6) \quad E = B + A + C + S1 + S2 + S3$$

The third block of the model explains per capita income (v) as a function of the productivity of the various sectors. Through formula (6), the regional product (Y) is equal to the multiplication of the product per capita (v) by number of existing jobs (E) and by the inverse of the rate of activity (Ω).

$$(7) \quad v = Y / P \quad \Leftrightarrow \quad v = Y / (E \cdot \Omega) \quad \Leftrightarrow \quad Y = v \cdot (E \cdot \Omega)$$

On the other hand, the product is equal to employment of the various sectors multiplied by the GVA (Gross Value Added) per worker. GVA per worker is represented by γ in the case of export employment; χ for activities aided through the exterior; σ for employment in services not aided through the exterior and; ϕ for employment in the provision of goods. Work aided through the exterior is included in disposable income but not in the product (GDP). They, however, have an indirect influence on the product through (S1), (S2) and (S3), which depend on workers on social programs paid by external sources (C), through equations (3) and (4).

$$(8) \quad Y = v (E \cdot \Omega) = \gamma \cdot B + \chi \cdot A + \sigma \cdot S1 + \phi \cdot S2$$

Substituting (E), (S1) and (S2) with their formulas in (2), (3) and (4), it is possible to represent the per capita income v as a function of the productivity of each sector and of the structure of the economy.

$$(9) \quad v = \gamma.\beta.(1/\Omega -s1-s2-s3) + \chi.\alpha.(1/\Omega -s1-s2-s3) + \sigma.s1 + \phi.s2$$

where β represents the weight of export employment in the driving sectors of the economy [$\beta = B/(B+A+C)$];
 α represents the weight of services aided through the exterior in the driving sectors of the economy [$\alpha = A/(B+A+C)$], and;
 $(1/\Omega -s1-s2-s3)$ represents the relationship between driving activities and the population $[(B+A+C)/P]$.

Access

The structure of the model for access (Figure 2), or demand performance, is in a way implicit in the model of size through the population indicator. However, the population indicator does not clearly translate variations of accessibility to the region being analysed.

One way of including accessibility is by estimating the cost of *access* as is done in the *Euriles* study. This reference to accessibility is, however, at the discretion of the analyst: Will it be the capital city of each country? Will it be Maastricht? Will it be the nearest continent?

The present study uses the demographic potential to arrive at an accessibility indicator that uses easily accessible statistical data: the population and the traffic of passengers.

To make the accessibility indicator clear and viable we assume that the dynamics of the behaviour of merchandise and information traffic, both internal and external, for each region is reflected in the indicator of accessibility based on the population and on the traffic of passengers²⁸.

This demographic potential assumes that the demographic strength of each territory depends not only on the resident population but also on residents headquartered in more easily accessible zones. In other words, the development potential of a region is not limited by its geographic territory but is a function of the relationships established with other territories. The mathematical expression of demographic potential is the following:

$$(10) \quad POT_i = \sum_j P_i P_j \cdot k \exp(-\beta.C_{ij}).$$

²⁸ This hypothesis is supported in the literature about transport and communications that refers that the complementary factors between passenger, goods and information transport are stronger than the

Where POT_i is the demographic potential of zone i;
 P_j is the population of each of the j zones in the area of influence of i;
 exp(-β.C_{ij}) is a function that translates the friction β associated to the cost of transport (C_{ij}), and;
 k is a scale factor.

Since the traffic between i and j can be explained by the following function²⁹:

$$(11) \quad T_{ij} = k P_i P_j \cdot \exp(-\beta \cdot C_{ij})$$

we can deduce that the demographic potential POT_i, as a measure of accessibility, can be estimated by the internal and external passenger traffic given by the expressions (k P_i P_i exp(-β.C_{ii})) and (Σ_{j≠i} T_{ij}), respectively.

$$(12) \quad POT_i = \sum_j T_{ij} \Leftrightarrow POT_i = k P_i P_i \exp(-\beta \cdot C_{ii}) + \sum_{j \neq i} T_{ij}$$

For zones in which the cost of internal transport is low relative to the cost of external transport we can assume that the cost of transport inside each zone is close to zero (C_{ii}=0). Then the indicator of accessibility is equal to the sum of the square population, weighted by k, plus external traffic.

$$(13) \quad POT_i = k P_i^2 + \sum_{j \neq i} T_{ij}$$

Dividing equation (13) by (k P^{*_i}) we obtain the weighted formula for demographic potential where P^{*_i} is the base population. With this reference population the indicator reflects not only the population dynamics but also the evolution of external accessibility 1/kP^{*_i}Σ_{j≠i} T_{ij}.

$$(14) \quad PDP_i = P_i^* + (1/(k \cdot P_i^*)) \sum_{j \neq i} T_{ij}^{30}$$

Explanation of Development

The proposed model explains product and accessibility in terms of production competitiveness and of the costs of transport.

Competitiveness can be gauged by the volume and profitability of production and explained by the autonomous functioning of the economy and through the effect of public policies.

substitution factor between these types of traffic (Peter Nijkamp, Gerard Pepping e David Banister - Telematics and Transport Behaviour, Springer, 1996).

²⁹ Ashih Sen, Tony E. Smith - Gravity Models of Spatial Interaction Behaviour, Springer, 1995.

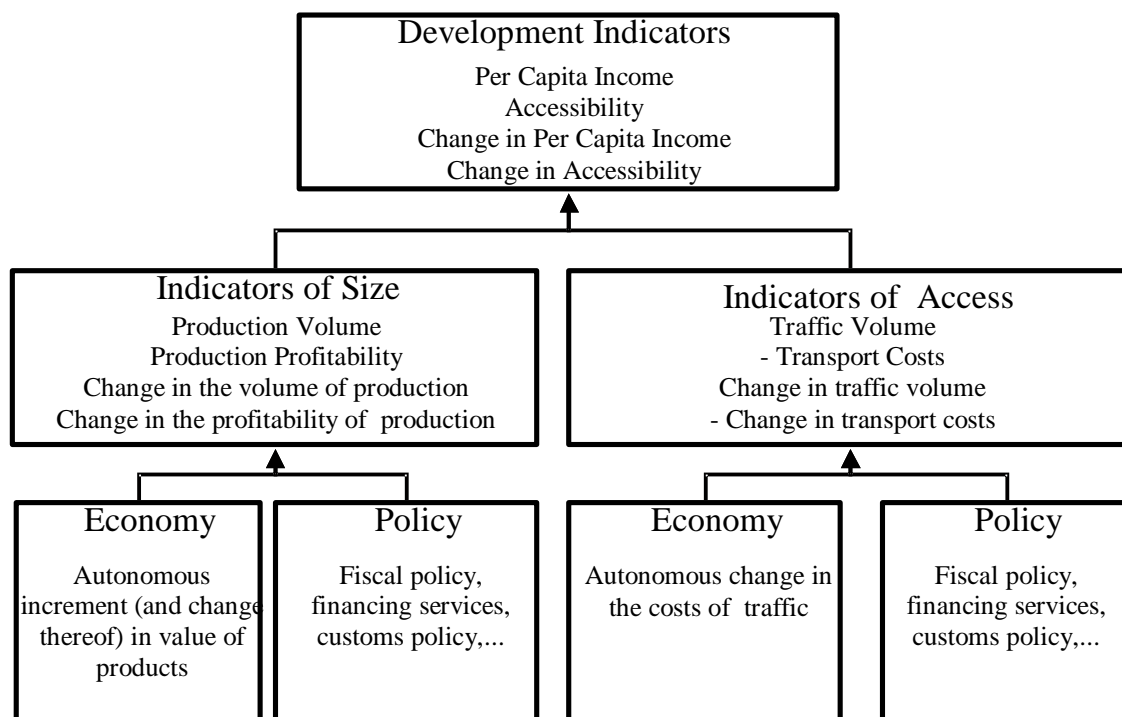
³⁰ For the present work it is considered that P^{*_i} is the population of each region for the year 1990

Accessibility can be tested by traffic and costs of transport and explained by the autonomous functioning of the economy and through the effect of transport policies.

Development of ultra-peripheral regions can be explained by an organised and hierarchical series of indicators that not only reveal conflicts between development and dependence but that also explain the costs of production, transformation and distribution normally associated with the conditions of ultra-peripherality.

Figure 6 synthesises the set of indicators of ultra-peripherality explained above.

Figure 6: System of Indicators of Ultra-peripherality



6. Calculating the Costs of Peripherality

Formula (9), in point 5, explains the performance of the economy in terms of product per capita. Formula (14) characterises the economic situation in terms of accessibility. These indicators can be used in absolute terms or in terms of their change.

In absolute terms (Figure 4) it is possible to characterise the situation of each region as ultra-peripheral, marginal, peripheral or central, as proposed and justified previously. The reference potential we will be using is the potential of the Canary Islands.³¹

Figure 4: Absolute Peripherality

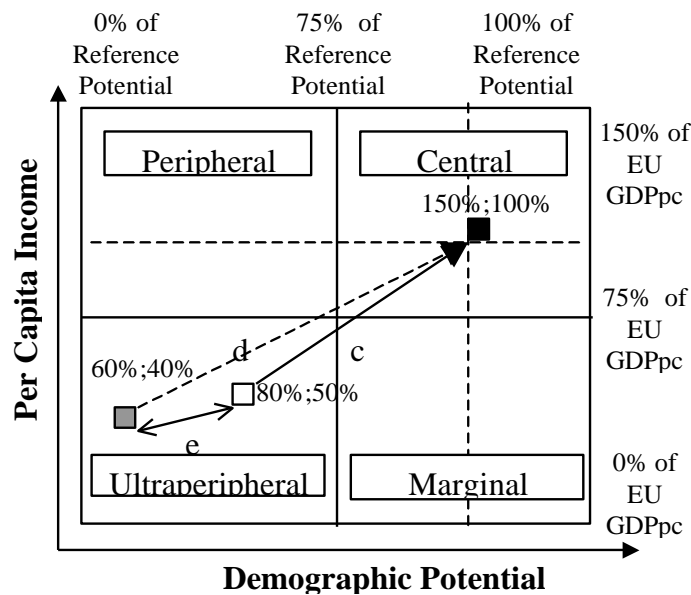


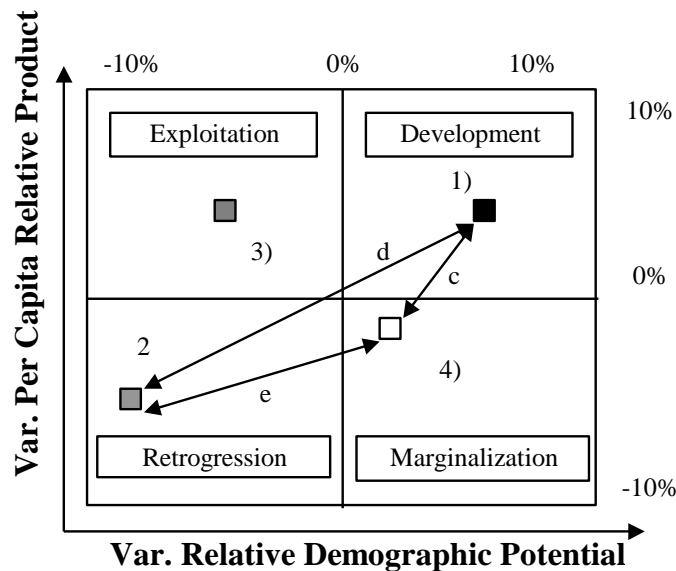
Figure 4 explains various indicators of the costs of peripherality: (c) is the distance between the situation of each region (Potential=80%, GDPpc=50%) and the objective (Potential=100%, GDPpc=100%); (d) is the distance between the situation of the region without aid policies (Potential=60%, GDPpc=40%) and the objective (Potential=100%, GDPpc=100%); (e) is the effect of the policies measured as the difference between the situation of the regions without aid policies (Potential=60%, GDPpc=40%) and the situation of the regions with aid policies (Potential=80%, GDPpc=50%).

³¹ The adoption of this Potential that is related to the capacity of resource use in each region translates the idea that the Canaries already achieved this capacity in terms of quality. Another reference point could have been adopted to indicate the optimum capacity.

In relative terms (Figure 5), the dynamics of the regions, explained by the variation of per capita income and accessibility, reveal several phenomena: 1) of the Virtuous Cycle of Development, when productivity and accessibility increase; 2) of the Vicious Cycle of Retrogression, when productivity and accessibility decline; 3) of Exploitation, when productivity increases but accessibility declines, and; 4) of Marginalization, when productivity declines but access increases.

Figure 5 also illustrates the evolution of the cost of peripherality: (c) is the distance between the evolution of each region (Variation of Potential=5%, Variation of PIBpc=-2%) and the evolution sought (Variation of Potential=3%, PIBpc=3%, for example); (d) is the distance between the evolution of the region with aid (Variation of Potential=-8%, Variation of PIBpc=-8%) and the objective evolution sought (Variation of Potential=3%, Variation of PIBpc=3%, for example); (e) is the effect of aid policies, measured as the difference between the situation of the regions without aid (Potential=-8%, PIBpc=-8%) and the situation of regions with aid (Potential=5%, PIBpc=-2%).

Figure 5: Regional Development Indicators



The change in per capita income is the indicator that is available to translate the change in *size* in Figure 1. The variation of accessibility is the indicator that reflects the variation of *access* in Figure 1.

7. A Statistical Revision of the Ultra-peripheral Regions

This section includes a statistical summary concerning a set of economic and demographic variables for the ultra-peripheral regions, such as employment, unemployment, GDP, the evolution of labor productivity and other indicators of development. The data are presented for each region separately.

7.1. The Azores

The archipelago of the Azores comprises nine volcanic islands located in the North Atlantic Ocean 2,000Km from Lisbon and 4,000Km from New York. Total land area is 2,335Km². Of this area, 51% is used for agriculture. The temperature varies between 15°C in the winter and 25°C in the summer. The weather in these islands is suitable to grow grass and therefore for the production of milk and for raising cattle.

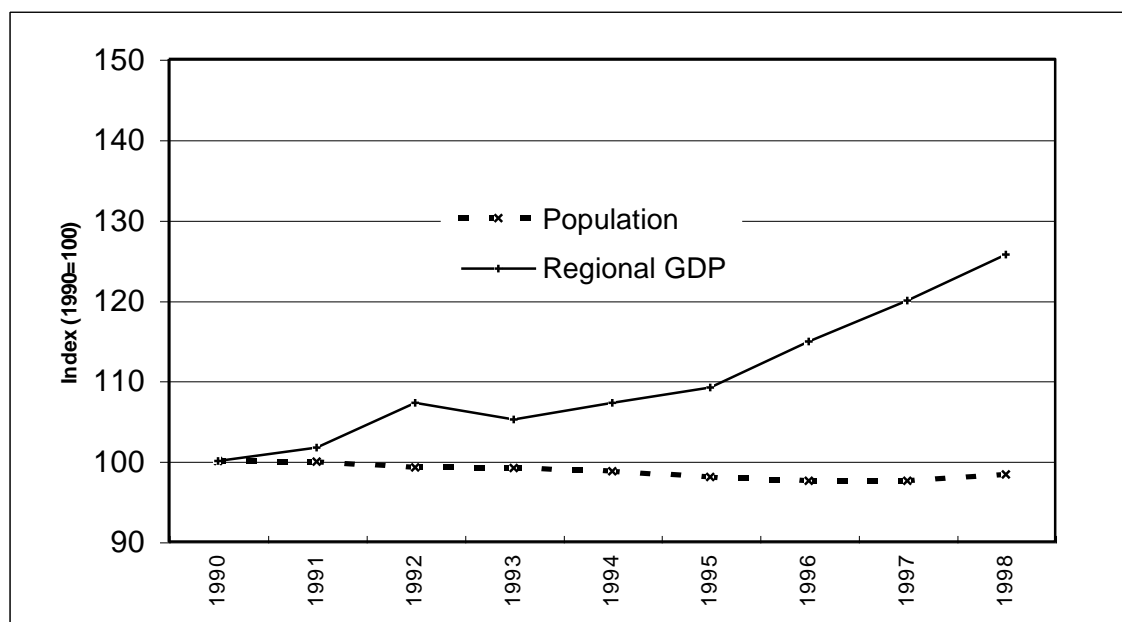
The archipelago was discovered and populated in the XV century by the Portuguese. Population growth and decline has varied with export cycles during more or less prosperous periods. The production of milk, initiated in the 1960s, marks the most recent cycle.

The population has decreased since the end of the 1950s. Had there been no aid from the mainland after political autonomy was implemented in 1976, and no aid from the European Union after 1986, the decrease would have continued and been more pronounced.

The regional GDP, in 1995 prices, grew at an average rate of 2.6% between 1990 and 1997. The GDP per capita reached 51% of the European Union average in 1997.

The data included in Table 7.1 suggest that, according to our model, exports (dairy products, cattle, tourism and transportation services) represent approximately 50% of the basic sector of this economy, with dairy products and cattle responsible for 85% of the exports. The remaining basic sector is comprised of external financing to the administration and public works (41%) and of social security (9%). Productivity has increased in both sectors (basic and non-basic). However, the development was faster in the non-basic activities in the 1990-95 period. To some extent this is due to the fact that the productivity of exports decreased during that time. However, a recovery may have occurred after the mid-1990s.

Figure 7.1. Evolution of the GDP* and of the Population



* Evolution of the GDP at constant prices. The GDP was estimated for 1998.

Table 7.1. Active Population and Income* by Occupation

	1990			1995			1998		
	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)
	Persons	M PTE		Persons	M PTE		Persons	M PTE	
Basic Sector	29918	71800	2.400	31711	77608	2.447	31817	89393	2.810
Exports	15119	34757	2.299	15894	31401	1.976	15958	36217	2.270
Activities supported by the exterior	12945	35130	2.714	12983	44886	3.457	13018	51657	3.968
Inactivity supported by the exterior **	1854	1913	1.032	2834	1320	0.466	2842	1519	0.535
Non-basic Sector	64361	177012	2.750	62647	194591	3.106	62838	224023	3.565
Imports	34271	82694	2.413	32942	80314	2.438	33043	92463	2.798
Activities not supported by the exterior	27065	91203	3.370	25081	112124	4.470	25157	129081	5.131
Inactivity not supported by the exterior ***	3025	3115	1.030	4624	2153	0.466	4638	2479	0.535
Active/Product/ Productivity	94279	243784	2.586	94358	268726	2.848	94655	309418	3.269
Population/ Product/GDPpc	237938	243784	1.025	233262	268726	1.152	233942	309418	1.323

* The Product is evaluated at constant prices of 1995 (the values for 1998 are estimated). For this purpose, we have used the inflation rate.

** We assume that the subvention of a non-productive activity is the same as the provision of a service (e.g. security) to the population and tourists.

7.2 – Madeira

The archipelago of Madeira comprises two inhabited islands: Madeira and Porto Santo. Nearly 98% of the population lives on the island of Madeira. The city of Funchal is the main economic center of the archipelago.

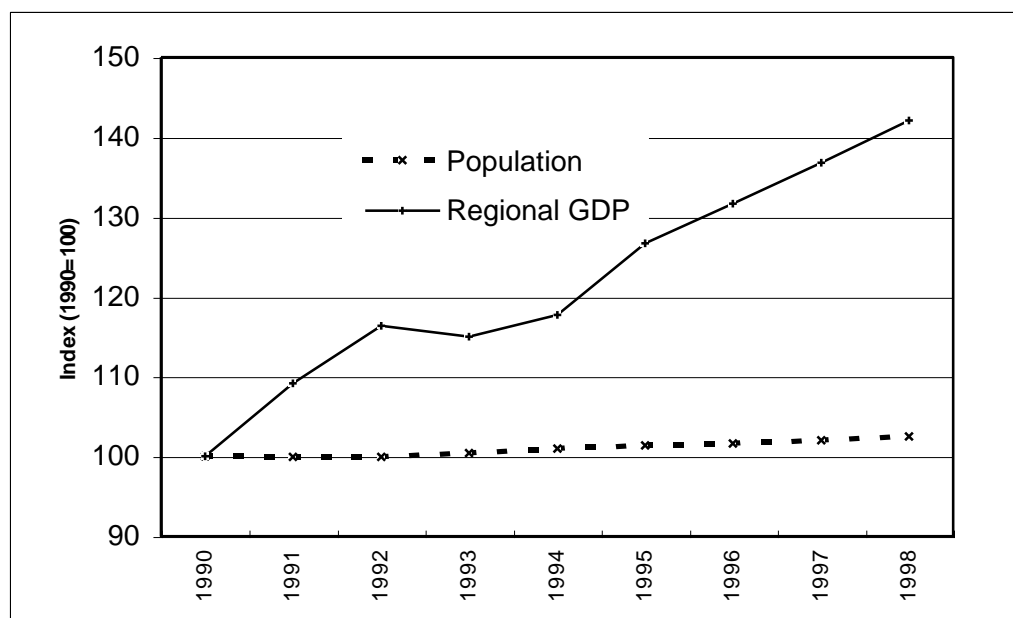
The archipelago was discovered and populated in the XV century by the Portuguese. Because of the geomorphologic features of the islands, the agricultural surface represents only 9% of the total area. In Madeira, the area above 1,000m of altitude comprises one fourth of the total surface of which only 11% has a slope below 16%.

This constrains the development of the agricultural sector. This sector, however, has an important role in preserving the landscape and the ecological equilibrium. The banana is one of the main agricultural products. Tourism is an important and expanding activity in the archipelago.

The regional GDP, in 1995 prices, grew at an average rate of 4.2% between 1990 and 1995. Per capita GDP reached 56% of the European Union average in 1997.

The data included in Table 7.2 suggest that exports (tourism and transportation services) represent approximately 42% to 50% of the basic sector of this economy. External financing to the administration, public works and social security forms the remaining basic sector. Productivity has increased in both sectors (basic and non-basic). However, the development was faster in the non-basic activities in the 1990-95 period.

Figure 7.2. Evolution of the GDP* and of the Population



* Evolution of the GDP at constant prices. The GDP was estimated for 1996-1998.

Table 7.2. Active Population and Income* by Occupation

	1990			1995			1998		
	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)
	Persons	M PTE		Persons	M PTE		Persons	M PTE	
Basic Sector	33523	62546	1.866	30358	76291	2.513	30620	85274	2.785
Exports	17268	26036	1.508	14159	30160	2.130	14219	33476	2.354
Activities supported by the exterior	13415	33159	2.472	13527	44268	3.273	13694	49706	3.630
Inactivity supported by the exterior **	2839	3350	1.180	2673	1863	0.697	2706	2092	0.773
Non-basic Sector	88581	188088	2.123	79400	242728	3.057	80268	272174	3.391
Imports	62742	92030	1.467	52432	111116	2.119	53009	124605	2.351
Activities not supported by the exterior	22763	92460	4.062	24073	129593	5.383	24334	145307	5.971
Inactivity not supported by the exterior ***	3076	3598	1.170	2896	2018	0.697	2925	2261	0.773
Active/Product/Productivity	122103	243686	1.996	109759	315138	2.871	110888	353095	3.184
Population/Product/GDPpc	253500	243686	0.961	254399	315138	1.239	259850	353095	1.359

* The Product is evaluated at constant prices of 1995 (the values for 1998 are estimated). For this purpose, we have used the inflation rate.

** We assume that the subvention of a non-productive activity is the same as the provision of a service (e.g. security) to the population and tourists.

7.3 – The Canary Islands

This archipelago comprises seven volcanic islands and is one of the Spanish Autonomous Communities.

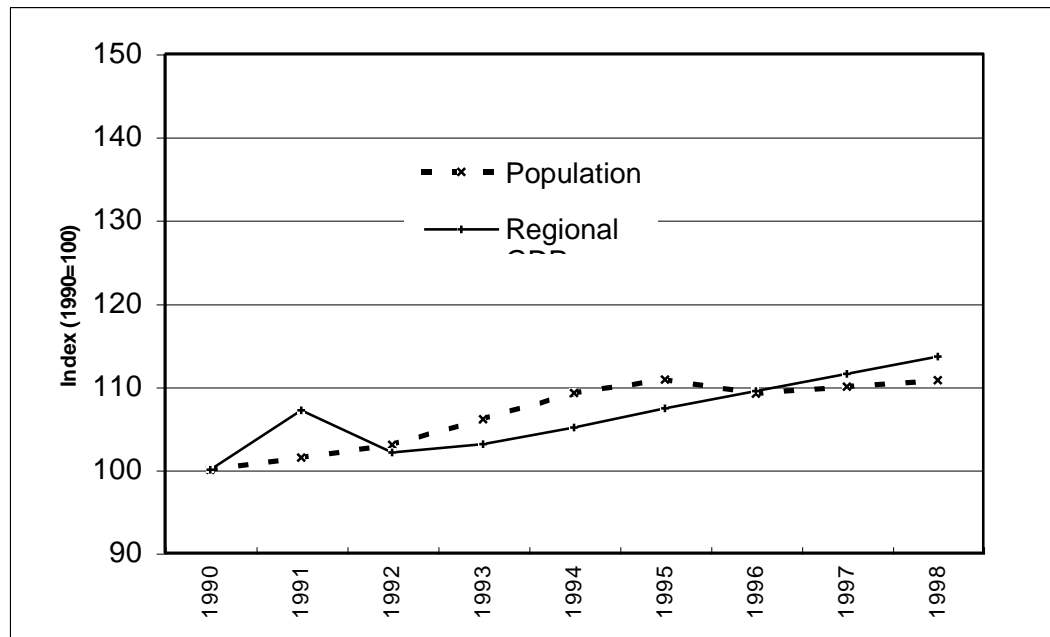
The geological features of the islands constrain the development of the agricultural sector. Production of banana and tomato, raising cattle and fishing are the main activities in the primary sector. These productions have an important role in maintaining the populations in rural areas and therefore preserving the landscape and the environmental equilibrium.

The service sector is well developed. Tourism plays a crucial role in the economy of the archipelago.

Regional GDP, in 1995 prices, grew at an average rate of 1.5% between 1990 and 1996. The GDP per capita reached 76% of the European Union average in 1997.

The data included in Table 7.3 suggest that exports (tourism, banana and transportation services) represent approximately 47% to 58% of the basic sector of this economy. External financing to the administration, public works and social security forms the remaining basic sector. The productivity has increased in both sectors (basic and non-basic). However, the development was faster in the non-basic activities in the 1990-95 period.

Figure 7.3. Evolution of the GDP* and of the Population



* Evolution of the GDP at constant prices. The GDP was estimated for 1996-1998.

Table 7.3. Active Population and Income* by Occupation

	1990			1995			1998		
	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)
	Persons	M ESP		Persons	M ESP		Persons	M ESP	
Basic Sector	173955	733524	4.217	188257	803805	4.270	189511	862204	4.550
Exports	77063	419978	5.450	87221	480153	5.505	89065	521903	5.860
Activities supported by the exterior	53195	222509	4.183	51822	225222	4.346	51519	238192	4.623
Inactivity supported by the exterior **	43697	91036	2.083	49215	98429	2.000	48927	102109	2.087
Non-basic Sector	382489	1855603	4.851	409334	2020438	4.936	409583	2146466	5.241
Imports	242640	1349771	5.563	256541	1451567	5.658	256462	1543430	6.018
Activities not supported by the exterior	71502	367966	5.146	75816	414918	5.473	75964	442013	5.819
Inactivity not supported by the exterior ***	68347	137865	2.017	76977	153953	2.000	77157	161023	2.087
Active/Product/ Productivity	556445	2360225	4.242	597591	2571861	4.304	599094	2745539	4.583
Population/ Product/GDPpc	1557533	2360225	1.515	1631498	2571861	1.576	1630105	2745539	1.684

* The Product is evaluated at constant prices of 1995 (the values for 1998 are estimated). For this purpose, we have used the inflation rate.

** We assume that the subvention of a non-productive activity is the same as the provision of a service (e.g. security) to the population and tourists.

7.4 – Martinique

Martinique is a volcanic island with a surface of approximately 1,100Km² located in the Caribbean, 7,000Km from France, 3,000Km from New York and 120Km from Guadeloupe.

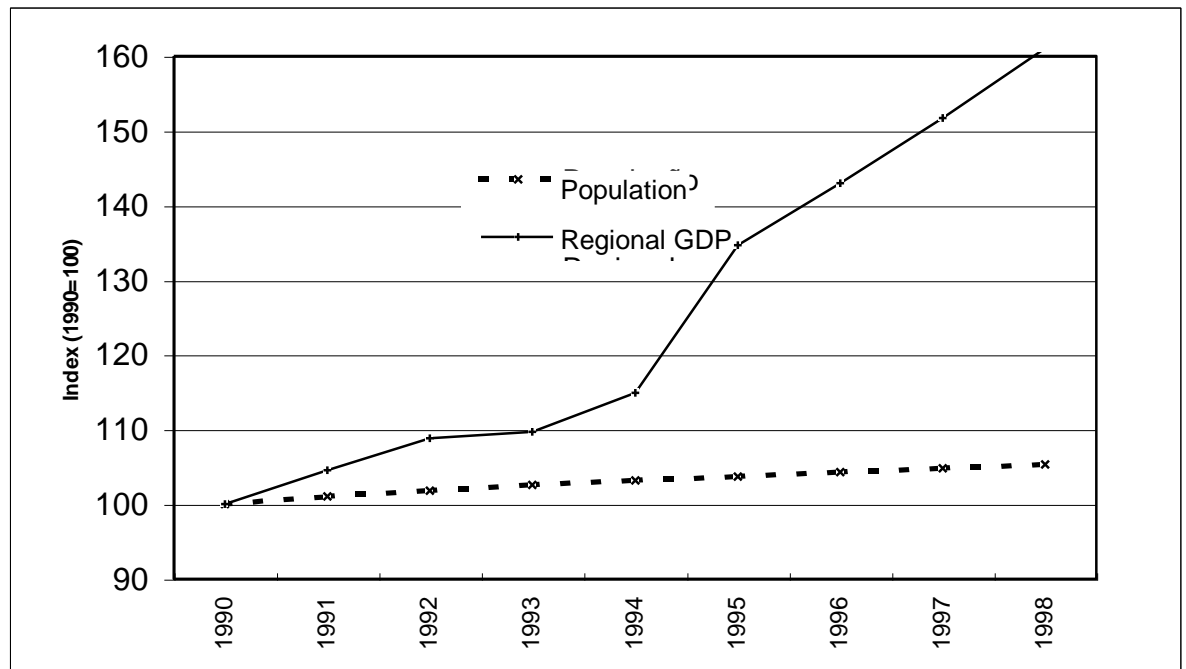
The island has a tropical climate and the temperature varies between 21°C and 31°C. It is affected by tropical storms. The island is divided through the Lamentain-Trinité axis in two climates. While the South is relatively dry it rains frequently in the north side of the island. The annual average rainfall varies between 1,500mm (in Sainte-Anne) and 4,000mm or more (in Morne-Rouge). The production of banana for export is very important to the island.

The population grew rapidly just after the World War II. However, this tendency has been counteracted by immigration, mainly of young people, to the mainland. Between 1990 and 1998 the population increased at an average rate of 0.6% per year.

Regional GDP, at 1995 prices, grew at an average rate of 5.8% between 1990 and 1995. The GDP per capita reached 54% of the European Union average in 1994.

The data included in Table 7.4 indicate that external financing to the administration, public works and social security correspond to 84% to 87% of the basic sector of the economy. Productivity has increased in both sectors (basic and non-basic). However, development was faster in the basic activities in the 1990-95 period.

Figure 7.4. Evolution of the GDP* and of the Population



* Evolution of the GDP at constant prices. The GDP was estimated for 1996-1998.

Table 7.4. Active Population and Income* by Occupation

	1990			1995			1998		
	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)
	Persons	M. FF		Persons	M. FF		Persons	M. FF	
Basic Sector	54712	6670	0.122	51157	7609	0.149	53590	9242	0.172
Exports	6712	1140	0.170	7347	1120	0.152	6207	1437	0.232
Activities supported by the exterior	22721	4167	0.183	23431	4778	0.204	25635	6013	0.235
Inactivity supported by the exterior **	25279	1363	0.054	20378	1711	0.084	21748	1792	0.082
Non-basic Sector	107909	17374	0.161	111342	19761	0.177	110463	24697	0.224
Imports	33377	6331	0.190	41842	7458	0.178	33480	9407	0.281
Activities not supported by the exterior	47307	9583	0.203	47553	10460	0.220	50733	13127	0.259
Inactivity not supported by the exterior ***	27225	1460	0.054	21947	1843	0.084	26250	2163	0.082
Active/Product/Productivity	162621	21220	0.130	162499	23816	0.147	164053	29983	0.183
Population/Product/GDPpc	359600	21220	0.059	373400	23816	0.064	379000	29983	0.079

* The Product is evaluated at constant prices of 1995 (the values for 1998 are estimated). For this purpose, we have used the inflation rate.

** We assume that the subvention of a non-productive activity is the same as the provision of a service (e.g. security) to the population and tourists.

7.5 – Guadeloupe

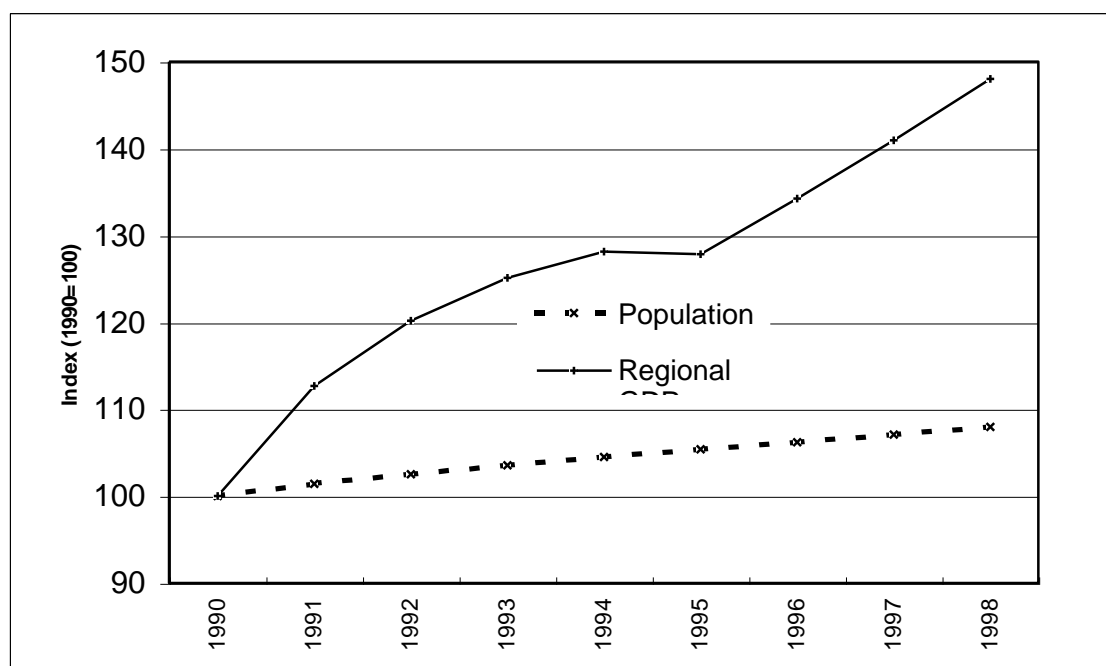
Guadeloupe is an archipelago that comprises eight inhabited islands. It is located in the Caribbean and has a surface of 1.705Km². The two main islands are Basse-Terre (848Km²) and Grande-Terre (590Km²). The former is mountainous and has a large production of banana. The latter is more flat and its soil is suitable for the production of sugar cane. The archipelago has a tropical humid climate with an average temperature of 26°C. It is affected by tropical storms. The annual average rainfall varies between 1,500mm (in Pointe-à-Pitre) and 4,000mm or more (in Saint-Claude).

After a long period of stagnation, the population grew during the 1980s. It increased at an average rate of 0.96% per year between 1990 and 1998.

The regional GDP, at 1995 prices, grew at an average rate of 5% between 1990 and 1995. Per capita GDP reached 40% of the European Union average in 1994.

The data included in Table 7.5 indicate that the external financing to the administration, public works and social security correspond to 83% to 87% of the basic sector of the economy. The productivity has increased at approximately the same pace in the basic and in the non-basic sectors.

Figure 7.5. Evolution of the GDP* and of the Population



* Evolution of the GDP at constant prices. The GDP was estimated for 1996-1998.

Table 7.5. Active Population and Income* by Occupation

	1990			1995			1998		
	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)
	Persons	M FF		Persons	M FF		Persons	M FF	
Basic Sector	64768	6460	0.100	62449	8618	0.138	68502	10635	0.155
Exports	8376	1359	0.162	8483	1121	0.132	7045	1303	0.185
Activities supported by the exterior	24624	3512	0.143	26741	5291	0.198	27534	6278	0.228
Inactivity supported by the exterior **	31767	1588	0.050	27225	2205	0.081	33923	3053	0.090
Non-basic Sector	105368	14720	0.140	111314	21281	0.191	112410	24731	0.220
Imports	35764	5347	0.149	41280	7962	0.193	39500	9217	0.233
Activities not supported by the exterior	48540	8304	0.171	51884	11849	0.228	51221	13562	0.265
Inactivity not supported by the exterior ***	21064	1070	0.051	18150	1470	0.081	21689	1952	0.090
Active/Product/Productivity	170135	18522	0.109	173762	26223	0.151	180912	30361	0.168
Population/Product/GDPpc	384916	18522	0.048	407000	26223	0.064	417900	30361	0.073

* The Product is evaluated at constant prices of 1995 (the values for 1998 are estimated). For this purpose, we have used the inflation rate.

** We assume that the subvention of a non-productive activity is the same as the provision of a service (e.g. security) to the population and tourists.

7.6 – Guiana

French Guiana is located in South America between Suriname and Brazil with an area of 83,534Km². It has an equatorial climate and a dense forest covers most of its territory. The temperature varies around 27°C, but the humidity is very high (70-90%). The annual average rainfall varies between 2,400mm (in Rochambeau) and 2,800mm (in Saint-Laurent-du-Maroni).

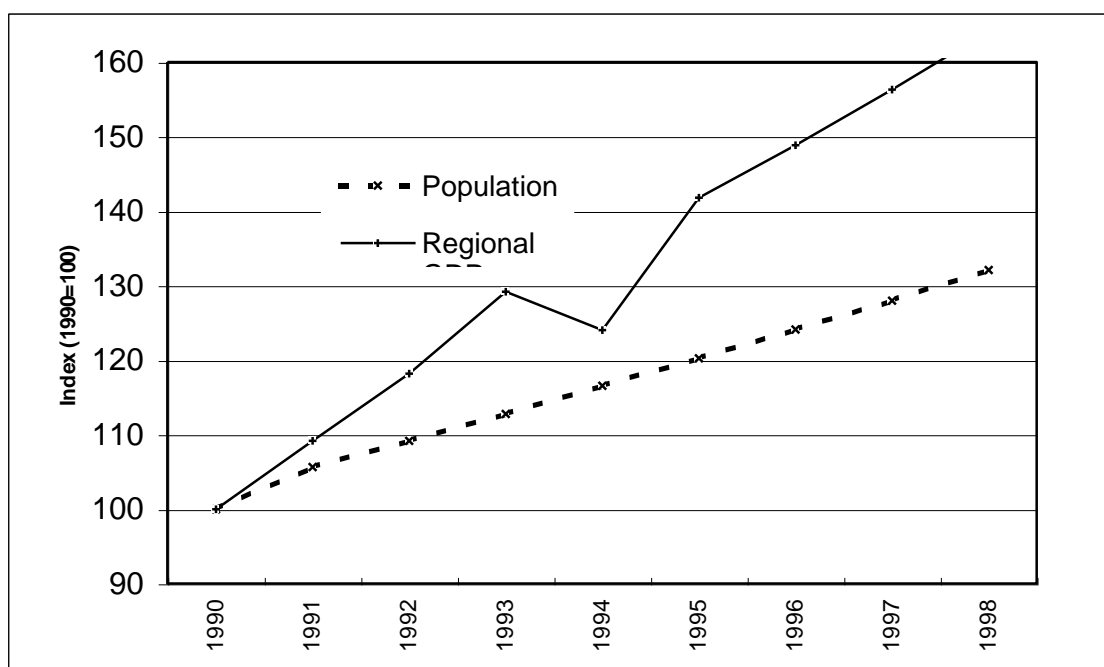
A traditional economy is based on fishing and lumbering, which coexist with the Space Center. The Space Center is located on the coastal side of the territory near the cities of Cayenne, Kourou and Saint-Laurent-du-Maroni.

The population increased at a very fast pace since the early 1990s at an annual rate of 3.5% between 1990 and 1998.

The regional GDP, in 1995 prices, grew at an average rate of 6.7% between 1990 and 1995. The GDP per capita reached 49% of the European Union average in 1994.

The data included in Table 7.6 indicate that the external financing to the administration, public works and social security correspond to 86% to 91% of the basic sector of the economy. The productivity has increased in both sectors (basic and non-basic). However, the development was faster in the basic activities in the 1990-95 period.

Figure 7.6. Active Population and Income* by Occupation



* Evolution of the GDP at constant prices. The GDP was estimated for 1996-1998.

Table 7.6. Active Population and Income* by Occupation

	1990			1995			1998		
	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)
	Persons	M FF		Persons	M FF		Persons	M FF	
Basic Sector	26467	3077	0.116	29153	4174	0.143	26121	4907	0.188
Exports	2485	405	0.163	2269	496	0.218	2477	752	0.303
Activities supported by the exterior	17699	2263	0.128	20231	3146	0.156	14896	3533	0.237
Inactivity supported by the exterior **	6283	409	0.065	6653	532	0.080	8747	622	0.071
Non-basic Sector	28943	4413	0.152	31993	7106	0.222	44439	8310	0.187
Imports	12873	2282	0.177	14073	3892	0.277	12892	4481	0.348
Activities not supported by the exterior	9015	1669	0.185	10418	2613	0.251	21845	3140	0.144
Inactivity not supported by the exterior ***	7056	462	0.065	7502	600	0.080	9702	689	0.071
Active/Product/Productivity	55410	6619	0.119	61146	10148	0.166	70560	11906	0.169
Population/Product/GDPpc	132250	6619	0.050	159045	10148	0.064	174685	11906	0.068

* The Product is evaluated at constant prices of 1995 (the values for 1998 are estimated). For this purpose, we have used the inflation rate.

** We assume that the subvention of a non-productive activity is the same as the provision of a service (e.g. security) to the population and tourists.

7.7 – Reunion

Reunion is a volcanic island located in the Indian Ocean, 700Km East of Madagascar and 200Km West of Mauricia. It has a surface of 2,512Km², of which 25% is arable. The average annual rainfall varies between 6,000mm (in Píton des Neiges) and less than 1,000mm in the West and South. The temperature varies around 24°C. The island is affected by tropical storms during the Austral Winter.

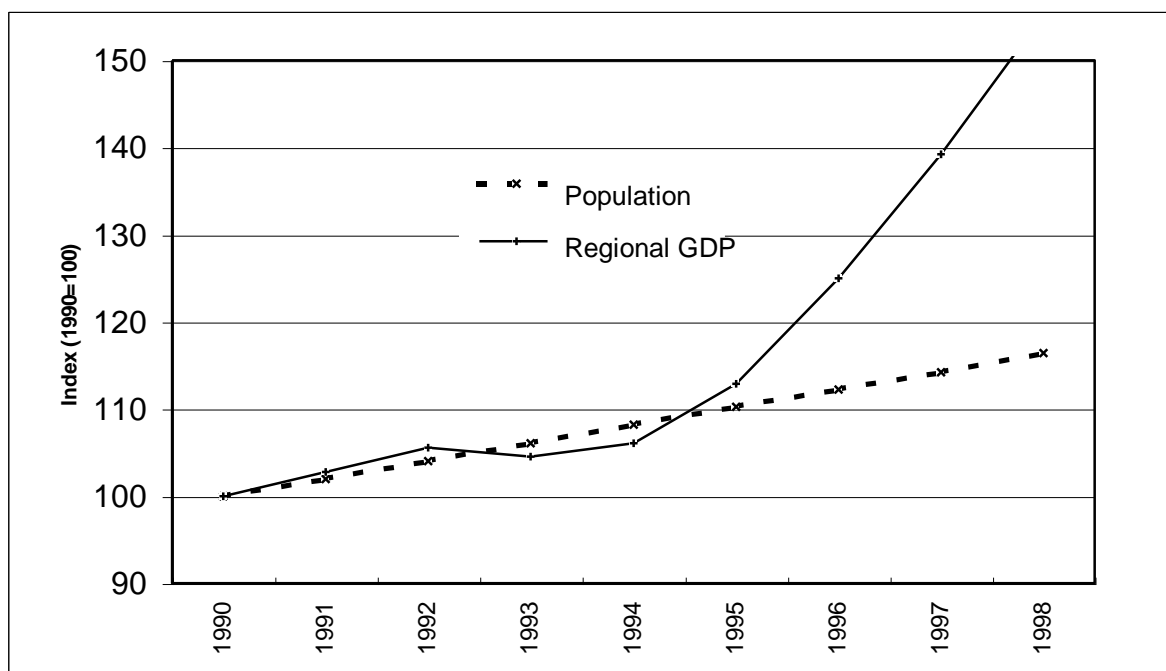
The island was uninhabited when Pedro de Mascarenhas first discovered it in 1505. It was populated during the second half of the XVII century but the population remained quite small until the end of the XVIII century. It had little more than 200,000 inhabitants in 1960 but has nearly 700,000 today. The origin of the population is very diversified - Europeans, Indians, Africans and Chinese.

Regional GDP, at 1995 prices, grew at an average rate of 2.5% between 1990 and 1995. Per capita GDP reached 46% of the European Union average in 1996.

The data included in Table 7.7 indicate that external financing of the administration, public works and social security are the driving forces of the economy. They represent nearly 87% of the basic sector. The sugar cane sector, with 7%, together with tourism and a portion of transportation and communications comprise the remaining 13% of the basic sector.

The sectors not directly supported by the government have the best performance in terms of productivity. In the basic sector, exports (sugar cane, tourism and transportation services) recorded a productivity growth of 3.4% per year between 1990 and 1995, and 12.3% between 1995 and 1998.

Figure 7.7. Evolution of the GDP* and of the Population



* Evolution of the GDP at constant prices. The GDP was estimated for 1996-1998.

Table 7.7. Active Population and Income* by Occupation

	1990			1995			1998		
	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)	Active Pop. (1)	Value (2)	(2)/(1)
	Persons	M. FF		Persons	M. FF		Persons	M. FF	
Basic Sector	82309	13907	0.169	108008	17577	0.163	113321	23996	0.212
Exports	10946	1469	0.134	13061	2071	0.159	14603	3281	0.225
Activities supported by the exterior	44618	9075	0.203	41387	8437	0.204	46360	12733	0.275
Inactivity supported by the exterior **	26745	3362	0.126	53560	7069	0.132	52358	7982	0.152
Non-basic Sector	150368	30858	0.205	163794	34218	0.209	177836	49687	0.279
Imports	53165	9846	0.185	50618	10125	0.200	53816	14681	0.273
Activities not supported by the exterior	55370	15817	0.286	69835	18372	0.263	81635	28545	0.350
Inactivity not supported by the exterior ***	41832	5196	0.124	43342	5720	0.132	42384	6461	0.152
Active/Product/Productivity	232677	36207	0.192	271802	39006	0.191	291156	59240	0.253
Population/Product/GDPpc	596500	36207	0.075	668100	39006	0.078	703900	59240	0.105

* The Product is evaluated at constant prices of 1995 (the values for 1998 are estimated). For this purpose, we have used the inflation rate.

** We assume that the subvention of a non-productive activity is the same as the provision of a service (e.g. security) to the population and tourists.

8. Review of the Policies for the Periphery

According to the report COM (2000) 147 final, of the Commission, “Its first part (the balance) describes the actions undertaken by the Community, to date, and their effects on the development of these regions: an efficient action that should be continued due to the subsistence of the disadvantages of ultra-periphery. Its second part (the future) outlines the measures destined, thanks to number 2 of article 299, to continuing and reinforcing the past action”³².

Since we are dealing with a report on the specific measures for the ultra-periphery, it would be expected that this document would isolate only those measures and their impact as a function of the objectives that were sought. This is not, however, what is done. The first part of the report reviews all community policies to which the UPRs had access.

To analyse the impact of a certain policy it is necessary to isolate it from others that could contribute to the same objective. If the concept of ultra-peripherality were not adopted and if specific measures were not undertaken as a function of the understanding that the ultra-periphery justifies additional measures, the regions involved would still have access to the programs destined for Objective 1 regions and would also be eligible to receive aid from horizontal programs of the EU. In the evaluation of impacts one cannot ignore that the national effort directed to each of these regions is in the form of direct aid from the Member States.

In this perspective, the analysis of the evolution of per capita GDP cannot ignore the cumulative complement of the various policies. As such, the positive change in per capita income, referred to in the report of the Commission³³ is the result of the sum of impacts of all national and community policies as well as the result of private initiative that exists independently of public intervention.

8.1. The Balance

Even though, in all cases, the evolution of per capita income during the decade analysed was positive, we should, nevertheless, question if the results are in fact satisfactory given that, on average, in the most successful case, that of Madeira³⁴, per capita income grew 1.4 percentage points over the EU average. But, for four of the seven regions the

³² COM (2000) 147, pp. 6-7

³³ COM (2000) 147, p. 28

³⁴ It should be noted, in this case, that the methodology for calculation of the GDP was changed, in the period considered, both for Madeira and the Azores. In passing from the previous methodology, of the responsibility for regional statistical services, to the current system, of the responsibility of national service, we can find positive discrepancies in excess of 20%.

convergence occurred at a pace of less than one percentage point per year. Given the magnitude of the initial gap, we are facing very slow processes.

If the objective of policies in favour of these regions is only that there be some real convergence in the medium or long term, then one can conclude that it has been reached. It appears, however, that this objective should be set at a target level that is considered adequate. Only then can one determine the policy effort that is necessary to reach the objective. Without setting this parameter it is not possible to gauge the degree of accomplishment of the objectives and one can frustrate the expectations of the populations that are faced with a systematic delay of a significant convergence.

In the evaluation of the use of EIB loans, the report refers that the levels of utilisation are very low. This fact can be associated with the administrative regimes of each region and with the options of central governments of each country. The administrative autonomy of the Azores and of Madeira can justify, in part, the higher level of use of credit on the part of these regions. The debt limits set for these same regions³⁵ can also explain why they didn't use this source of financing even more.

The lower utilisation EIB credit is also due to the fact that this bank only finances projects of a certain dimension excluding, therefore, most of the businesses in the private sector that, in the UPRs, are, invariably, of small and medium size.

In any of these cases, public and private, one should bear in mind that bank credit is in competition with non-refundable funds, with preference on the part of the beneficiaries leaning towards this last source of funding.

If incrementing the use of the financial instruments of the EIB is an objective, then the manner in which it intervenes in the market should be reviewed in order to make its loans more accessible, maintaining the commercial nature of this institution.

The high unemployment rates pointed out for the UPRs should not be looked at in an isolated manner. These rates should be compared with national rates since social programs might have a significant impact. They should also be seen in light of migratory movements.

In the case of the Azores and Madeira, the rates of unemployment have been low in the last decades with values slightly below the national rates. These regions, for an extended period of time, exported (and still do even if to lesser degree) their excess labour to various parts of the world.

In the case of the Canaries, the unemployment rates are similar to the national. As such, the problem has, in this archipelago, the dimension that it has at the national level.

³⁵ These limits are set in a law that regulates the financing of the autonomous regions and is fixed annually by the national parliament when the budget is approved.

It is in the case of the DOM that the rate of unemployment differs significantly from national rates. This is the result of more than one factor. On the one hand it is the scarcity of opportunities for employment for a growing population, on the other, it is the application in poor regions of the social security programs of a country with high average incomes and a high standard of living. This fact affects the decisions of residents with regard to participation in the labour market and in regard to the number of children they have.

A general evaluation of the first part of the report leads us to conclude that the Commission does not have a precise mechanism of evaluation of the impact of each of the implemented measures, resorting, instead, to general indicators that incorporate the effect of diverse policies, some of the responsibility of Member States, others imputable to community programs, but a clear minority credited to the POSEI programs, if we take into account the financial volumes involved.

We can also conclude that the Commission does not have or does not present information necessary to evaluate the impact of the POSEI programs. Information is available on the budgetary impacts of measures that involved budget entries. Information on the impact of measures without budget entries does not exist or is not presented. It is indispensable to calculate the equivalent impact of this type of measure. Only with this information can an objective statement be made relative to the effectiveness of each measure and, also very important, to the relative efficiency of each measure.

Finally, the positive interpretation of the growth of GDP in these regions is questionable if we take into account the gap that persists relative to the community averages and the time that, at the pace of the past ten years, would be necessary for these measures to be approximated.

8.2. The Future

8.2.1. The Strategy

The second part of the report of the Commission “outlines the measures, thanks to number 2 of article 299, to continuing and reinforcing the actions undertaken.”³⁶ Still according to the report, number 2 of article 299, “Confirms and reinforces the approach developed by the European Union, since 1989, through the POSEI programs”³⁷.

Implicit in this statement is an interpretation of article 299 of the Treaty. This interpretation is not only that the European Union should act in the UPRs in order to compensate their handicaps, which warrants no doubts, but also that the strategy to be adopted should follow the pattern of the POSEI programs, which is an implicit option of the Commission but not an imposition or even an orientation derived from the Treaty.

³⁶ COM (2000) 147, pp. 7

³⁷ COM (2000) 147, pp. 31

The Commission proposes, thus, “A strategy of sustainable development for the ultra-peripheral regions”. This strategy is based, according to the report, in the appreciation of the various measures of the POSEI programs, in the interpretation that the new article implies that “global strategy for the ultra-periphery”³⁸ should be adopted that seeks the sustained development of these regions.

According to the Commission the strategy should include three main objectives:

- 1 - a continuation of aid to the **traditional economic activities**
- 2 - a **re-launching through diversification of economic activity** and;
- 3 - **regional co-operation.**

It is under this framework that the Commission proceeds in the presentation of its perspectives as to the claims of Member States, presented in various memoranda. It should be said that, in this report, the Commission closely follows the suggestions of the UPRs in what concerns the policies to be implemented.

It does not appear, however, that this framework configures the true strategy for the UPRs. It is just one way of classifying the various measures according to the sectors affected.

It is necessary, in the first place, to choose an operational objective. Only after choosing this objective can the strategy be chosen to reach the goals that approach this objective and only then can the choice of instruments be made.

The operational objective is not explicit.

We can, from various points of the report, conclude that sustainable development³⁹ is an objective. There are not, though, references to the criteria of measurement for this development. However, no criteria of measurement of development is referred. Will it be the growth of GDP at an annual positive rate? Will it be the reduction of unemployment? At what level? Will it be the average level of disposable income per household? Will it be the growth of GDP at an annual rate above the average of the European Union? How many percentage points above?

It appears natural that the operational objective to follow be the real convergence of the economies of the UPRs to the EU levels, since it rests on the real economic base for each of the economies.

This objective requires direct action on these economies and can be attained through a strategy of promotion of their competitiveness, obtained in a competitive environment that varies between being totally open and totally controlled.

³⁸ COM (2000) 147, p. 31

³⁹ COM (2000) 147, p. 37

In the past, the adopted strategy allowed market solutions, resorting, however, to exceptions, when necessary. This approach seems to be correct but market solutions should not be relegated to a secondary position since they are better capable of assuring an efficient use of resources.

In this perspective, we should stress the “orientations” referred to in the report of the Commission⁴⁰ when it refers to the instrument Structural Foundations, in the section about “The economic re-launching of the ultra-peripheral regions”⁴¹. These orientations, which configure more adequately a development strategy, would be better placed in the beginning of the section about “The Future”, since they apply equally to all economic sectors, including agriculture and fisheries, are the following:

- to seek a high level of competitiveness, as a necessary condition for growth and development;
- to seek sustainable agriculture and rural development;
- to seek a balance between environment conservation and the degree of resource utilisation in each region;
- the adoption of a policy of employment and human resources adjusted to the needs of each region;
- support of SMEs as fundamental cells of development of these areas;
- the insertion of UPRs in respective geographic zones.

To act on the competitiveness of an economy it is necessary to know who are its trade partners and which factors can be the object of policies in order to maintain or increase the competitiveness in the short, medium and long term.

Stated in this way, the problem can be characterised in two dimensions: the geographical and the temporal. The geographical since it takes into account the economic area with which each economy is related. The temporal because it considers not only the short term but also the medium and long term.

The geographic dimension permits identification of the regional positioning of the competition and of its relative competitiveness at a certain moment. The temporal dimension permits a dynamic of the path of evolution of the economy.

It is in this perspective that one ought to look at the structure of the economy at a determined point in time and at what will happen to it in the future. The traditional sectors represent the economy in the present. The economy should be projected into the future as a function of the predictable tendencies which might continue to include these sectors with a significant weight.

⁴⁰ COM(2000) 147 final, pp.37-38

⁴¹To be precise, we are not dealing with a re-launching of economies of the UPRs because, in the recent past, these regions did not register better development. It is rather a launching of these economies to new and better levels of development.

As a horizontal preoccupation we have the sustainability of development options considering their environmental impacts.

Because we are in a European context, the qualification of human resources and the incorporation of technology (“new” and “old”) in all productive processes, assumes great importance not only in the short term but also in the medium and long term. It will not be possible that the economies of the UPRs come close to the development averages of Europe if they are not at their level of competence and incorporation of advanced technologies. It is important, in this sense, to bear in mind that the task of improving human resources and of incorporating technological processes, has to be executed in a context of continuous progress in the reference areas, which is why the task becomes even more difficult.

8.2.2. The Instruments

For the implementation of its strategy, the Commission proposes to use the structural funds, EIB loans, state aid, fiscal policy and customs.

8.2.2.1. Structural Funds

In regards to **structural funds**, the Commission points out the fact that all of the UPRs are included in Objective 1 regions and, as such, have seen a reinforcement of the funding destined for them⁴². In addition, the Commission “proposes to analyse the best way to reflect the peculiar situation of these regions ...in the eligibility for structural funds”⁴³. The Commission also proposes to **think** about the increase, from 35% to 50%, of participation of the funds in investment of SMEs and about extension to the DOMs of the maximum rates of aid to 85%, from the current value of 75%.

No indication is given that there are plans to reinforce the funds attributed to the UPRs, beyond what was already negotiated for Objective 1 regions for the period 2000-2006.

In fact, the budget for 2000 represents, globally, for agriculture, a decrease relative to 1999. There is a projected decrease of four million euros.

Contrary to what happened in past years, no reference is made to the creation of a new budget entry similar to REGIS.

All of the demands made by Member States, classified under this category, are being analysed by the Commission.

⁴² Recall that the set of Objective 1 regions includes continental regions with characteristics that are different from those of the UPRs. Besides this difference and because of it, it is justified that the specific measures be seen as an increment to the programs already approved. If that is not done then there is no differentiation.

⁴³ COM(2000) 147 final, p. 37.

8.2.2.2. EBI Loans

In what concerns the **EBI loans**, the Commission only recognises that they had a very low utilisation, that two thirds of them were contracted by less favoured regions, that they are attributed by request and that, in 1998, the loans to ACP countries of the Caribbean region totalled 34 million euros as opposed to zero for the DOMs.

No effort is made to explain this situation. Only with an adequate explanation could adequate measures be taken to produce the desired results.

8.2.2.3. State Aid

The Commission distinguished between **state aid** for agriculture, fisheries, and transport and that destined for other activities.

In what concerns state aid, with a regional purpose, to sectors other than agriculture, fisheries or transport, the Commission showed some willingness to authorise aid for current expenses that is non regressive and without a time limit.

In what concerns agriculture and fisheries, the Commission remits the requests to regulations already approved.

Concerning the transport sector, the Commission alerts to the fact that the construction of some infrastructures might pose some problems due to the presence of private operators in the sector. It is, nevertheless, open to consider the necessary solutions given the impact that investments in this sector might have in reducing supplementary costs of transport for residents of the UPRs. It is recognised that “The permanent structural deficiencies of the UPRs require a coherent and global approach to the aids for transport to, in and within these regions... The Commission is examining the possibility of a specific approach for transport policy for the ultra-peripheral regions.”⁴⁴

8.2.2.4. Taxation

In regard to **indirect taxes**, the Commission recognises the possibility of utilisation of this instrument but requires a case by case analysis.

The Commission also shows some flexibility in allowing for longer periods for derogations but requires periodical reports and that the Member States justify their

⁴⁴ COM(2000) 147 final, p. 41.

requests. It shows an open attitude towards the consideration of all proposals submitted by the Member States but advances no policy guidelines.

8.2.2.5. Customs

In regards to customs, the Commission is open to the solicitations of Member States except in reference to permanent tariff exemptions since such measures “would violate the coherence of community law and the internal market...”⁴⁵. As in other cases the Commission requires that Member States justify their requests.

In response to the difficulties of the DOM in competing with neighbour countries, the Commission is open to consider the authorisation of certain measures, for application in the DOM, suggesting that these regions create Free Zones.

8.2.3. Strategic Domains

The Commission considers strategic domains for its intervention *aiding SME, handicrafts and tourism, transport, energy, the environment, the information society and research and development*.

The actions of the Commission in these domains, however, are limited, in all cases, to the adaptation of horizontal programs to consider the needs of the UPRs, and to the structural funds already distributed for the period 2000-2006. No other more significant action in favour of the UPRs is, therefore, foreseen.

8.2.4. Regional Co-operation

The strategy proposed by the Commission includes a policy of co-operation with ACP and PTU countries. It is recognised that the preferred country status given these countries is detrimental for the UPRs since it makes them more vulnerable to outside competition aided by the EU. Consequently, the Commission defends not only that the UPRs be active agents in the execution of co-operation programs but also that they be compensated for the losses incurred due to the privileges given to neighbouring countries.

8.3. The Calendar

The response of the Commission to the requests of policies in favour of the UPRs, included in the report COM(2000) 147 final, did not totally satisfy the member countries. On request from Portugal the Commission elaborated an indicative timetable to

⁴⁵ COM(2000) 147 final, p. 45.

implement a “Sustainable Development Strategy for the Ultra-peripheral Regions (UPRs)” – SEC(2000)1027/2.

In this document, the Commission enumerated each of the policies contained in the report COM(2000) 147 final and gave an indication of the predicted term for making a decision or, in some cases, gave indication that it awaited additional information from the member countries.

This document did not add much to the report except to include an indicative schedule and information about the entity, which should take the next step towards approval of each measure.

8.4. An Evaluation of the Proposals of the Commission

The report of the Commission, COM(2000) 147 final, is a response to the insistence of the Member States that have UPRs, based on individual memorandums of each country and on the memorandum of the UPRs, presented in March of 1999 and titled “Our Differences are Similarities...They Unite Us”.

The memoranda of the Member States enumerate the measures intended for each region.

The joint memorandum of the UPRs emphasises the specificities of these regions, makes a positive balance of the POSEI programs and suggests a coherent global policy⁴⁶.

The report COM(2000) 147 final seems to be inspired in the memorandum of the UPRs and responds to each individual request of the Member States. It, however, does not seem to respond to the need for a new push of community policy, suggested in the memorandum, in comparison with the initial POSEI initiative, designed in the last part of the 80’s and the first part of the 90’s. The report, in what pertains to the future, omits explicit reference to the objectives to follow and goals to pursue, outlines, in an unclear way, the strategy for action and enumerates the instruments it proposes to use when addressing the requests of the Member States. In referring to each request, the Commission limits itself to state the phase of analysis of each request, not advancing an explicit global strategy with pre-announced objectives and goals.

Implicit in the report is the strategy, especially policies other than agriculture or fisheries, of leading the UPRs to seek financing in the horizontal programs that exist for each sector.

Comparing the POSEI programs before the Treaty of Amsterdam and what is contained in COM(2000) 147 final, we can conclude that the Commission is prepared only to continue programs conforming to past configurations. There is no indication that new

⁴⁶ “As Nossas Diferenças...” p. 31.

budget sources will be mobilised or that there will be a reinforcement of existing ones (agriculture and fisheries) or reinforcement of the services responsible for the implementation of these policies (Interservices Group), as suggested in the memorandum of the UPRs.

The new lines of action (information society, research and development, SME's, etc.) are, according to the report, conducted through horizontal programs that the Commission proposes to adapt to encourage the involvement of the UPRs. This approach will have uncertain results since these programs are designed for a Europe that is a lot more developed and presupposes competitive access at the European level. It should be noted that the UPRs are also characterised by the scarcity of qualified human resources and have, because of this, significant handicaps when entering into competitive processes. Only after an effective process of elevation to the level of competence will it be possible to believe that the UPRs might take full advantage of policies open to the entire EU.

9. Analysis of Policy Impacts on the Costs of Periphery

This section presents the results from the application of the methodology proposed in section 6, which was designed to appraise the effect of the policies in favour of the UPRs. The chosen indicators cover the impact of past policies, the analysis of future measures proposed by the European Commission, and the evaluation of alternative actions advanced by the team responsible for this report.

Five different types of ultra-peripheral policies produce effects on four main vectors of each regional economy.

The four impact vectors are:

- 1) the Public Vector, which includes all the public services;
- 2) the Autonomous Basic Vector, which involves all the activities oriented toward external markets;
- 3) the Non Basic Vector, which comprehends the activities connected to the internal market;
- 4) and the Vector of Accessibility, assessed by the dynamics of population and external traffic.

The types of ultra-peripheral policies are:

- 1) Structural Funds and Loans from the European Investment Bank, which produce effects essentially in the evolution of external public transferences to each region;
- 2) Policies for Value Chains of Agriculture, Fisheries and Tourism which result in changes in the dimension, productivity and profitability of export activities;
- 3) Fiscal and Customs Policies, and also support to PME's and to energy supply, which affect the dimension, productivity and profitability of the non basic sector;
- 4) Transport and Communication Policies, which have impact on the access and productivity of export activities, namely on tourism;
- 5) Finally, Policies related to Environmental, Research, Information and Co-operation issues, which produce effects upon all the vectors although the impact on productivity could be more uncertain and long term.

Table 9 relates each impact vector to the various types of ultra-peripheral support measures. The evaluation of the impact is made, according to the methodology proposed in points 6 and 7, for each one of the UPRs. It is then possible to present the evaluation of past policies, for the period 1990-1998, the analysis of future measures proposed by the European Commission, and the evaluation of alternative actions advanced by the team responsible for this report. The impact indicators are the Costs of Periphery and its components: the Product Per Capita and the Accessibility.

Table 9. Relation Between Policies and Impact Vectors of the Economies

Vector Policies	Vector of the Public Sector	Vector of the Basic Sector	Vector of the Non Basic Sector	Vector of the Accessibility
Structural Funds and Loans from the EIB	Effects on the dimension and "profitability" of the public services			
Support measures for the Agriculture, Fisheries and Tourism Value Chains		Effects on the dimension and competitiveness of the Basic Sector		
Fiscal and Customs Policies, and also support to SMEs and to energy supply		Effects on the dimension and competitiveness of the Basic Sector	Effects on the dimension and profitability of the Non Basic Sector	
Transport and Communication Policies		Effects on the dimension and competitiveness of the Basic Sector		Restructuring of the Accessibilities
Policies related to Environment, Research, Information and Co-operation	Qualification of some public servants	Exploitation of new markets	Modernisation of the Non Basic Sector	Restructuring of the Accessibilities

The following sections present comments on the results of model simulations for each type of policy and for past, proposed and alternative scenarios.

Results are measured in terms of percentage points. Therefore a policy impact of 1.0 indicates that such policy induced a process that reduces the gap of the region related to the centre by 1.0 percentage points, either in terms of Product per Capita or in terms of Potential (measure of accessibility).

9.1. Structural Funds and Loans from the European Investment Bank

9.1.1. Evaluation of Past Policies

Past Policies related to Structural Funds and Loans from the European Investment Bank had different effects in the UPRs' economies depending on the importance of the external public support for the various regions.

For the Azores, Madeira and the Canary Islands, for which external public support represents about 50% of the basic sector, Structural Funds and Loans from the EIB had an impact of 2 to 4 percentage points in terms of Product per Capita.

For Reunion, Martinique and Guadeloupe, for which external public support represents about 90% of the basic sector, Structural Funds and Loans from the EIB had an impact of 1.0 percentage points in terms of Product per Capita.

For French Guiana, although external public support represents about 90% of the basic sector, the impact of Structural Funds and EIB loans is bigger than in the other DOMs. This is due not only to a higher support per capita but also because it has a greater multiplier effect from external support.

9.1.2. Evaluation of Proposed Policies

The European Commission Proposals for 2000-2006 Structural Funds and EIB Loans involve the duplication of the support and a major orientation towards productive sectors. The financing of routine operation costs, beyond the investment support previously contemplated, is also admitted as a possibility.

Because the support is targeted to the productive sector one can expect that, contrary to what was assumed in 9.1.1, the support will not generate major changes in the relation between non-basic employment and population. Thus the marginal effect from the duplication of the structural funds will not be much different from one region to the other.

9.1.3. Evaluation of Alternative Policies

The expected effects from the European Commission Proposals for 2000-2006 Structural Funds and EIB Loans are modest taking into account the convergence objective. Alternatively it is advocated the creation of a new program REGIS specifically targeted to the UPRs.

An important question is the application framework of this new support. Actually, the multiplier effect of the exports and even of the external public support will be reduced if that extra support is channelled to the provision of public services. On the other hand, non-basic activities tend to become overgrown if the new support directly supports them. In fact the use of those new support tools should be applied in the promotion of export competitiveness, in technological adaptation and innovation, and in regional co-operation.

The next table synthesises the impacts of the Past, Proposed and Alternative Policies on Structural Funds and EIB Loans.

Table 9.1.4. Synthesis for Structural Funds and EIB Loans

	Past Policies			Proposed Policies			Alternative Policies		
	Product	Potential	Cost	Product	Potential	Cost	Product	Potential	Cost
AZORES	4.1%	0.7%	4.1%	0.7%	1.3%	1.5%	0.8%	1.6%	1.8%
MADEIRA	2.2%	0.1%	2.2%	0.5%	1.6%	1.7%	0.6%	1.9%	2.0%
CANARY IS.	2.4%	0.1%	2.4%	0.3%	1.0%	1.1%	0.3%	1.2%	1.2%
GUADELOUPE	1.0%	0.1%	1.0%	1.0%	0.0%	1.0%	0.5%	0.4%	0.7%
MARTINIQUE	1.1%	0.1%	1.1%	1.1%	0.0%	1.1%	0.4%	0.5%	0.7%
FR. GUIANA	2.1%	1.1%	2.4%	1.2%	2.7%	2.9%	1.4%	3.2%	3.5%
REUNION	0.6%	0.6%	0.9%	0.4%	0.4%	0.6%	0.5%	0.5%	0.7%

9.2. Policies for the Value Chains of Agriculture, Fisheries and Tourism

9.2.1. Evaluation of Past Policies

Past Policies on Basic Sector Support had different effects in the UPRs' economies depending on the export sector of each region and on the importance of the external public support.

In Madeira, the Canary Islands and the Azores, where the non-public basic sector has some importance, the Special Supply Regime, the investment support schemes and the improvements of port and airport infrastructures had a positive impact on the size and productivity of tourism (in Madeira and the Canary Islands) and of the dairy industry (in the Azores).

For Guadeloupe, Martinique, French Guiana and Reunion, the State supports allowed by the Banana and Sugar CMOs improved the profitability and dimension of those value chains. Nevertheless the impact of those supports in each economy was minimal due to the reduced importance of those value chains in a basic sector overwhelmingly dominated by external public support.

9.2.2. Evaluation of Proposed Policies

Proposed Policies for the Value Chains of Agriculture, Fisheries and Tourism are connected to the expected changes in the Common Agriculture Policy (namely concerning the CMOs for sugar, bananas and milk), to the Special Stock Regime, and to the support to internal and external marketing of regional products. The Commission's report clarifies that it will be necessary to create new measures to regulate the competition between the UPRs and third countries.

For tourist regions such as Madeira and the Canary Islands the Special Supply Regime will have less effects because the difference between European prices and international prices is diminishing. On the other hand the capacity of those regions seems to be almost achieved and the imposition of environmental rules could reduce the profitability of the existing structures.

In the other regions, where the nonpublic basic sector is occupied by Milk, Sugar or Banana Value Chains the expectation is that the old and new rules of the CMOs will lead to negative effects in those value chains and in the economies where they are rooted.

9.2.3. Evaluation of Alternative Policies

Regional development depends on the competitiveness of export value chains. Therefore it is crucial to advance an alternative strategy for the export value chains that is different from the one proposed by the European Commission for the regions where the basic sector is more dependent on agricultural products. The alternative strategy advocates the adaptation of the CMO rules to the specificities of the UPRs. If this is not undertaken the main objectives of the Common Agricultural Policies are not fulfilled because the reduced dimension of the regions distorts the application of CMO rules. The proposal is to eliminate quotas and production limits for milk, sugar and bananas. It is also advocated that CMO market interventions should be done at the producer level in order to avoid monosponistic behaviour on the part of industry. Finally, support is suggested for the export of technology (namely related to agro-food production), since it could be an important way to promote regional co-operation.

On the other hand, because most of these economies depend on external public support, a crucial factor for development could be the modernisation of public service. Actually, its creative adaptation to the specificities of the UPRs and the promotion of its productivity, eventually through the reduction of the public sector, seems to be of overwhelming importance not only to make good use of external resources but also to diminish the restrictions induced in the productive sectors.

A concerted policy along these lines would tend to reduce the population in most of the French DOMs (for instance, through the migration of public servants if there were a relative or absolute reduction in their wages) but also could lead to self-sustained development processes in all ultra-peripheral regions. Above all it would be possible to avoid the negative effect of the policies proposed by the Commission towards most of the basic sectors in those economies.

The next table synthesises the impacts of the Past, Proposed and Alternative Policies for Value Chains of Agriculture, Fisheries and Tourism.

Table 9.2.4. Synthesis for Policies for Value Chains of Agriculture, Fisheries and Tourism

	Past Policies			Proposed Policies			Alternative Policies		
	Product	Potential	Cost	Product	Potential	Cost	Product	Potential	Cost
AZORES	1.1%	0.6%	1.3%	-0.8%	-0.6%	-1.0%	1.7%	0.0%	1.7%
MADEIRA	1.1%	0.0%	1.1%	-0.6%	0.0%	-0.6%	0.1%	0.1%	0.2%
CANARY IS.	3.2%	0.0%	3.2%	-1.6%	0.0%	-1.6%	0.0%	0.0%	0.1%
GUADELOUPE	0.6%	0.0%	0.6%	-0.5%	-0.1%	-0.5%	0.3%	0.4%	0.5%
MARTINIQUE	0.8%	0.0%	0.8%	-0.6%	-0.1%	-0.6%	0.4%	0.4%	0.6%
FR. GUIANA	0.7%	0.0%	0.7%	-0.3%	0.0%	-0.3%	0.4%	0.1%	0.4%
REUNION	0.8%	0.0%	0.8%	-0.6%	-0.2%	-0.6%	0.3%	0.6%	0.7%

9.3. Fiscal and Customs Policies, and also Support to SMEs and to Energy Supply**9.3.1. Evaluation of Past Policies**

The French DOMs and the Canary Islands have important reductions on direct and indirect taxation and do have the secular right to tax imports that arm the existent productive activities in those regions. The Azores and Madeira have the possibility to reduce direct taxation and benefit from a reduced Value Added Tax.

The effects of those measures in the regional economies are important but contradictory. The so called "sea rights" applied to the Canary Islands and in the French DOMs, tend to enlarge the non-basic sector, increasing the multiplier effect of the basic sector but reducing the overall productivity of the regional economies. Notwithstanding this, the reduction of taxes increases the multiplier effect and improves the exports' competitiveness. These effects seem to be more important in less developed economies.

9.3.2. Evaluation of Proposed Policies

The Commission accepts the "sea rights" concept. Nevertheless, regarding taxation, the document produced by the Commission is cautious. In the end there are not major changes in these domains and, therefore, the marginal effect of the measures proposed can be assumed as negligible.

9.3.3. Evaluation of Alternative Policies

Fiscal and customs policies are important but their effect is different from one region to another. The alternative policy proposed here is based on the idea that fiscal and customs policies for the UPRs should be the same as in continental Europe but moulded and adapted for each region.

Assuming this it seems important to study the elimination of the "sea rights" in the Canary Islands, Martinique, Guadeloupe and French Guiana, where its continuation arms the development of those economies and imposes serious restrictions on regional co-operation.

It is also fundamental to change the "sea rights" in Reunion. The aim is to allow some protection to local activities, but without restricting the security of old and new investors, through the clarification of the rules and with a greater stability on the effects of the "sea rights".

The next table synthesises the impacts of the Past, Proposed and Alternative Policies for Fiscal and Customs Policies, and support to SMEs and Energy.

Table 9.3.4. Synthesis for Fiscal and Customs Policies, and Support to SMEs and Energy

	Past Policies			Proposed Policies			Alternative Policies		
	Product	Potential	Cost	Product	Potential	Cost	Product	Potential	Cost
AZORES	1.8%	1.9%	2.6%	0.0%	0.0%	0.0%	0.9%	1.2%	1.5%
MADEIRA	1.6%	2.5%	3.0%	0.0%	0.0%	0.0%	0.7%	1.8%	1.9%
CANARY IS	0.0%	1.6%	1.6%	0.0%	0.0%	0.0%	2.6%	-0.8%	2.8%
GUADELOUPE	2.2%	1.6%	2.7%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%
MARTINIQUE	2.0%	1.7%	2.6%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%
FR. GUIANA	1.3%	2.0%	2.4%	0.0%	0.0%	0.0%	0.6%	1.2%	1.4%
REUNION	2.0%	1.5%	2.5%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%

9.4. Transport and Communication Policies

9.4.1. Evaluation of Past Policies

Transport liberalisation contributed largely to an improvement in accessibility in most of the UPRs. For those regions where that liberalisation was not achieved the effect was more modest.

Furthermore the existing transport policies promote more the accessibility of the inhabitants of the UPRs vis-à-vis their country capitals, rather than stimulating the accessibility for visitors from neighbour countries and tourists from source markets.

The result is an improvement in accessibility but without correspondence in regards to the dynamics of the Product per Capita.

9.4.2. Evaluation of Proposed Policies

The Commission's proposal concerning transport and communications policies leads to small modifications in the status quo. Only the elimination of the derogation on free traffic in the Azores and the construction of a highway connecting Brazil with French Guiana and Surinam could significantly change the accessibilities in those two regions.

9.4.3. Evaluation of Alternative Policies

It is important to promote the accessibility for everybody (inhabitants, visitors and tourists) and to everywhere (neighbour countries, European countries) and not only for inhabitants of the UPRs vis-à-vis their country capitals.

With such policies the accessibility of the Azores, Guadeloupe, Martinique and even Reunion could easily reach the same level as registered in Guiana, the Canary Islands and Madeira. Notice that accessibility is measured in per capita terms.

The next table synthesises the impacts of the Past, Proposed and Alternative Policies for Transport and Communication Policies.

Table 9.4.4. Synthesis for Transport and Communication Policies

	Past Policies			Proposed Policies			Alternative Policies		
	Product	Potential	Cost	Product	Potential	Cost	Product	Potential	Cost
AZORES	0.1%	2.7%	2.7%	0.0%	3.2%	3.2%	0.1%	12.1%	12.1%
MADEIRA	0.1%	7.8%	7.8%	0.0%	1.9%	1.9%	0.1%	1.9%	1.9%
CANARY IS.	0.3%	6.1%	6.1%	0.3%	1.6%	1.6%	0.3%	1.6%	1.6%
GUADELOUPE	0.1%	3.5%	3.5%	0.0%	0.0%	0.0%	0.1%	3.6%	3.6%
MARTINIQUE	0.1%	3.7%	3.7%	0.0%	0.0%	0.0%	0.1%	3.8%	3.8%
FR.GUIANA	0.1%	5.4%	5.4%	0.2%	11.4%	11.4%	0.2%	1.2%	1.2%
REUNION	0.1%	0.9%	0.9%	0.1%	1.2%	1.2%	0.2%	4.7%	4.7%

9.5. Policies Related to Environmental, Research, Information and Co-operation

9.5.1. Evaluation of Past Policies

Environmental, Research, Information and Co-operation Policies are justifiably important for the economic development but it is difficult to foresee any effect of those policies.

Environmental policies could improve the quality of life but, for reasonable environmental conditions, the short-term economic effect of those policies could be negative.

Research policies seem to have reduced effects in the UPRs. On the one hand Regional Universities, with some exceptions, are oriented towards teaching and far away from research problems that are related to the development of the respective region. On the other hand the research agenda for the UPRs tends to be more related to questions of interest of the European centres (the space program in French Guiana, meteorology in the Azores, astrology in the Canary Islands and Reunion) rather than with problems that constrain the development of the regions (food technology in the Azores, management and conservation of Natural Resources in French Guiana, etc.).

The development of the Information Society is a process that could have positive and/or negative effects for UPRs. Until now it stimulated the modification of information and the set up of new activities, the structuring and restructuring of institutions, the flexibility of production and the relocation of control. In the Azores, new information and communication technologies allowed the transference of control in dairy value chains from the Azores to Lisbon and Paris. In Martinique and Guadeloupe those pervasive technologies strengthened the control of major sectors of the economy by alien entities. In the Canary Islands and in Madeira the big tour operators control the tourist circuits. The conclusion is that the policies towards UPRs didn't know how to anticipate the phenomenon.

Finally, related to regional co-operation, there are more good intentions than facts. To cross from French Guiana to Brazil a special authorisation from the Regional Government and a term of responsibility by the company that owns the boat are required. It is not easy to discover flights through in the Internet from Reunion to Madagascar or to

Johannesburg. The connections between the Canary Islands and North of Africa are quite difficult. There are no regular flights connecting the Azores with the United States and the same happens in the link between Madeira and South Africa. There are mixed feelings as to the possibility of development of a Caribbean market.

9.5.2. Evaluation of Proposed Policies

The proposals from the Commission are interesting. Nevertheless, without political will from the various countries (France, Spain and Portugal), namely concerning co-operation policies, it will not be possible to make them work.

There are also important regional restrictions. Actually, both co-operation and environmental policies involve changes in the distribution of income and wealth and it is not foreseeable that the various regions will assume the risks underneath the Commission proposals on environment and co-operation.

Similar things happen with research. Major results could not be expected when there is an embedded distrust in some regions between society and the University. Moreover, the support for the brain drain and the import of visiting lecturers seems to create serious difficulties for the establishment of productive and effective research groups in most of the regions.

9.5.3 Evaluation of Alternative Policies

It is not impossible to reduce the influence of the difficulties presented above. Furthermore, most of the hope to develop UPRs rests on the Environmental, Research, Information and Co-operation Policies. The next table synthesises the impacts of these policies in the UPRs.

Table 9.5.4.Synthesis for Environmental, Research, Information and Co-operation Policies

	Past Policies			Proposed Policies			Alternative Policies		
	Product	Potential	Cost	Product	Potential	Cost	Product	Potential	Cost
AZORES	0.1%	0.6%	0.6%	2.0%	2.5%	3.2%	2.4%	5.4%	5.9%
MADEIRA	0.0%	0.0%	0.0%	1.7%	7.9%	8.1%	2.9%	7.1%	7.7%
CANARY IS	0.0%	0.0%	0.0%	1.7%	5.5%	5.7%	4.8%	5.5%	7.3%
GUADELOUPE	0.0%	0.0%	0.0%	3.2%	-0.7%	3.2%	2.2%	5.7%	6.1%
MARTINIQUE	0.0%	0.0%	0.0%	3.4%	-0.6%	3.4%	2.8%	6.0%	6.7%
FR. GUIANA	0.0%	0.0%	0.0%	2.5%	5.2%	5.8%	2.7%	4.0%	4.8%
REUNION	0.0%	0.0%	0.0%	3.2%	0.3%	3.2%	2.5%	0.2%	2.5%

9.6. Synthesis

9.6.1. Structural Funds and Loans from the European Investment Bank

The sensible effect of the structural funds is the multiplier income effect. Development effects are registered in the medium and long term. Hence, public investments allow development but do not stimulate it. From this perspective the expected effects of the Structural Funds are modest related to the convergence objective.

Actually, there is still lack of public investments adapted to the UPRs: urban qualifications and environmental modernization, city structures and connections with neighbour countries (for French Guiana), waste treatment and water supply. It appears necessary that a new REGIS type programme be specifically oriented towards the UPRs.

9.6.2. Policies for Value Chains of Agriculture, Fisheries and Tourism

The proposals of the Commission towards the Value Chains of Agriculture, Fisheries and Tourism rooted in the UPRs are, in round numbers, unfavourable for the development of those regions. For the regions or islands specialised in banana and sugar production there are clear signals that proposed solutions to revise the CMOs would hinder regional competitiveness. For tourist regions there are no new solutions to improve the accessibility towards the source markets and new restrictions have been announced that are related to the environment. Finally, when horticulture or dairy constitute the main exports, there are strong impositions blocking the development of these competitive value chains.

9.6.3. Fiscal and Customs Policies, and also Support to SMEs and to Energy Supply

The Fiscal and Customs' Policies towards the UPRs must be similar to the one applied in Continental Europe but moulded and adapted for each region. The restructuring of the "sea rights"⁴⁷ is proposed. The aim is to allow some protection to the local activities, but without restricting the security of old and new investors, through the clarification of the rules and with a greater stability on the effects of the "sea rights".

9.6.4. Transport and Communication Policies

It is important to promote accessibility for everybody (inhabitants, visitors and tourists) and to everywhere (neighbour and European countries) and not only for inhabitants of the UPRs vis-à-vis their country capitals.

⁴⁷ Octroi de mer for the DOMs and APIM for the Canary Islands

9.6.5. Policies Related to Environmental, Research, Information and Co-operation

The proposals from the Commission are superb. Nevertheless, without political will from the various countries (France, Spain and Portugal), namely concerning co-operation policies, it will not be possible to grant effectiveness to those proposals. To secure the success of those policies their projects should respond more to the regional agendas and not to the detached agendas coming from continental Europe.

9.6.6. General Synthesis

The results from the simulations are presented synthetically in Table 9.6.6 and Figures 9.1 and 9.2 . Notice that the period of analysis is 1990-1998.

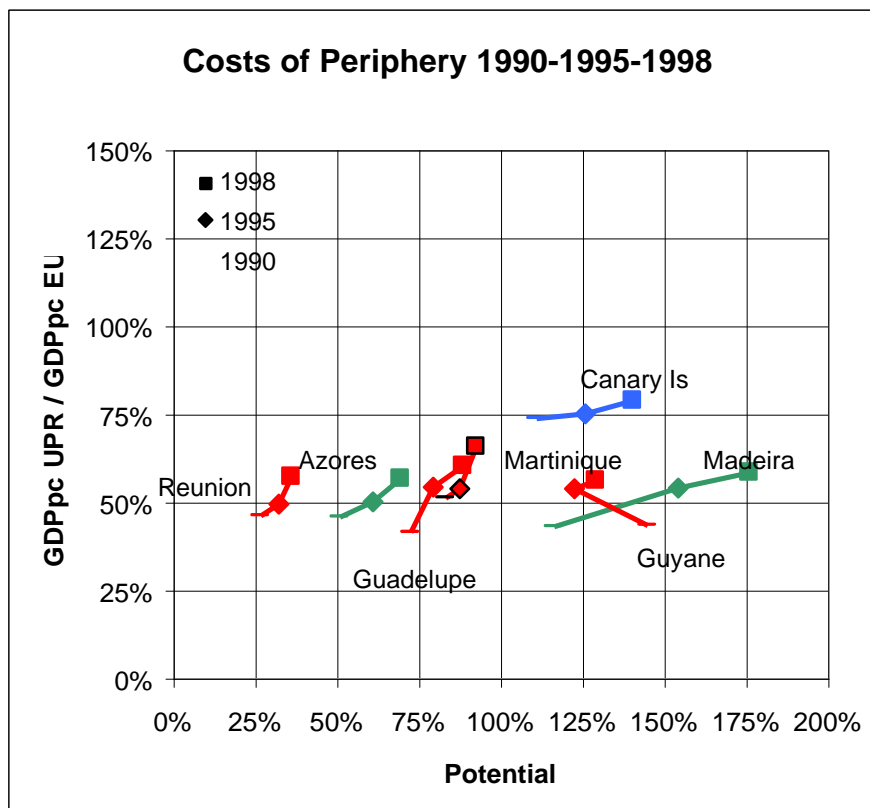
Table 9.6.6. Synthesis (Indicator of per capita Product)

	% points																	
	STRUCTURAL FUNDS AND LOANS FROM EIB			POLICIES FOR THE VALUE CHAINS OF AGRICULTURE, FISHERIES AND TOURISM			FISCAL AND CUSTOMS POLICIES, PMES AND ENERGY SUPPORT SCHEMES			TRANSPORT AND COMMUNICATION POLICIES			ENVIRONMENT, RESEARCH, INFORMATION AND CO-OPERATION			COMBINATION OF POLICIES		
	PA SS	PROP	ALT	PASS	PROP	ALT	PASS	PROP	ALT	PASS	PROP	ALT	PASS	PROP	ALT	PASS	PROP	ALT
AZORES	4.1	0.7	0.8	1.1	-0.8	1.7	1.8	0.0	0.9	0.1	0.0	0.1	0.1	2.0	2.4	8.2	1.5	5.7
MADEIRA	2.2	0.5	0.6	1.1	-0.6	0.1	1.6	0.0	0.7	0.1	0.0	0.1	0.0	1.7	2.9	5.3	1.8	4.6
CANARY IS.	2.4	0.3	0.3	3.2	-1.6	0.0	0.0	0.0	2.6	0.3	0.3	0.3	0.0	1.7	4.8	6.7	0.8	8.8
GUADELOUPE	1.0	1.0	0.5	0.6	-0.5	0.3	2.2	0.0	0.2	0.1	0.0	0.1	0.0	3.2	2.2	4.0	3.8	3.7
MARTINIQUE	1.1	1.1	0.4	0.8	-0.6	0.4	2.0	0.0	0.2	0.1	0.0	0.1	0.0	3.4	2.8	4.0	4.0	4.4
FR. GUIANA	2.1	1.2	1.4	0.7	-0.3	0.4	1.3	0.0	0.6	0.1	0.2	0.2	0.0	2.5	2.7	4.0	3.6	4.7
REUNION	0.6	0.4	0.5	0.8	-0.6	0.3	2.0	0.0	0.2	0.1	0.1	0.2	0.0	3.2	2.5	3.6	3.2	4.3

The first five columns reproduce the partial impacts presented above, but only concerning the Product per Capita indicator. The last column presents the estimated impact from the combination of policies - past, proposed and alternative.

Reunion and the Azores are the regions with the highest Costs of Periphery. The Canary Islands is the more central region. The evolution of French Guiana traffic explains why the Potential of that region decreased from 1990 to 1995. Nevertheless, comparatively, this indicator remains at a reasonable level for Guiana. Martinique and Guadeloupe progress in a similar way. Finally, tourist regions such as Madeira and the Canary Islands registered strong increases in Potential from 1990 to 1998.

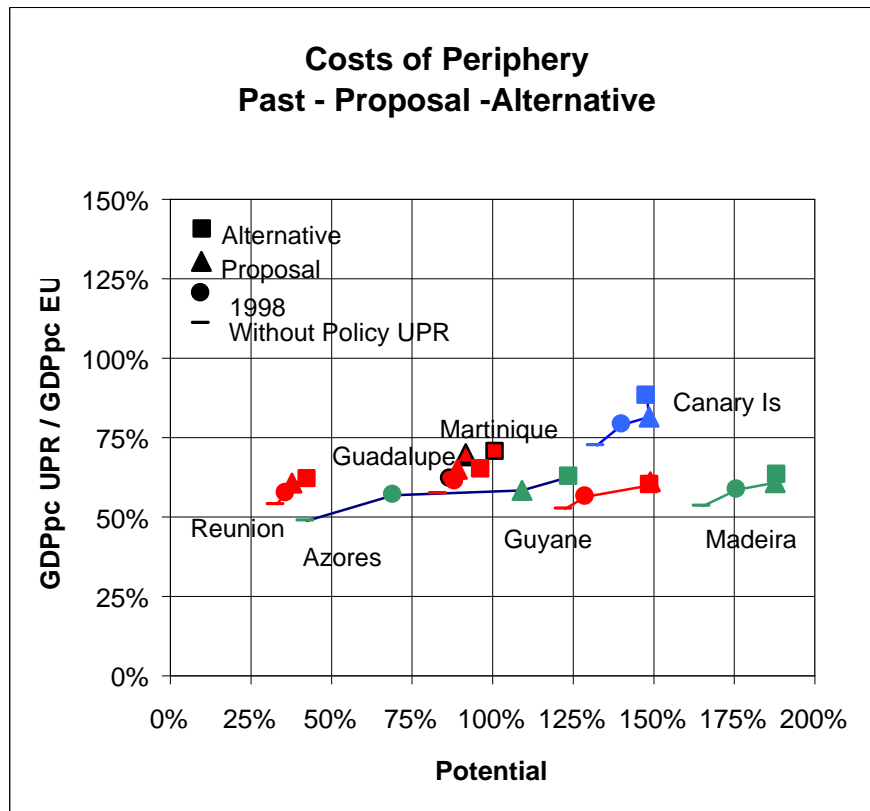
Figure 9.1. Evolution of the Costs of Periphery from 1990 to 1998



The impact on the Costs of Periphery that result from the combination of the various policies is shown in Table 9.2 from which it is possible to conclude that:

- the impact of those policies are weaker in the regions more dependent on external public transferences since public transferences are subject to decreasing marginal effects;
- for French Guiana the connection with neighbour countries can produce important effects in the economy mainly because it enlarges the market for products and resources at more competitive prices;
- the elimination of the "sea rights" in the Canary Islands, Martinique and Guadelupe could generate important impacts in the respective development process because it enables more co-operation with neighbour countries and increases the security for foreign investment;

Figure 9.2. Future Scenarios for the Costs of Periphery



- the effective liberalisation of air transportation in the Azores will lead to a strong increase in the accessibility measured by the Potential and the elimination of the milk quota will accelerate the reduction of the Costs of Periphery in terms of Product per Capita;
- the support of the development process in Madeira, namely targeted to the tourist sector, can continue to generate positive effects in the reduction of the Costs of Periphery;
- for Reunion the development process based on import substitution and external public transferences led to a big increase in the population and created a great dependence on the "sea rights". European policies will not have a great effect if the national and regional development policy does not change to a more export oriented development strategy.

10. Some Options for Dealing with the Problems of Ultra-periphery

The disadvantages resulting from the ultra-peripherality of some regions of the EU were the object of specific actions undertaken in addition to those intended for Objective 1 regions. They assumed the form of exceptions to various community laws and of differentiated budgets in the case of agriculture and fisheries and, at times, for other measures such as aid for the transport of fuels and the REGIS program for which there were two editions.

The measures, whatever the form they have assumed, have been implemented, following requests on the part of each UPR, with the Commission assuming a reactive rather than a proactive posture. The isolated responses have also led to the absence of an explicit and previously announced logic for the intervention in these regions – a global and common policy for the UPRs.

In most cases measures have been adopted on an individual basis without a general policy respecting principles and objectives to be applied in all cases.

In what pertains to the principles, the need to adapt policies to the specificities of these regions has always been accepted. It however is constantly in conflict with the principle of free competition and has in many instances limited the set of acceptable solutions.

In what refers to the objectives, specification has been vague and has, in most cases, settled in qualitative goals without any quantification attempt.

In order to obtain better results from future policies in favour of the UPRs it is important, in the first place, to establish which objective the EU intends to pursue. It seems safe to say that the objective is that these regions converge to the per capita average income of the EU. This indicator reflects, in a condensed form, the evolution of the economy.

Given the general objective it is important to establish goals. It is not enough that economies of the UPRs converge as they did in the past. It is necessary that they converge at an adequate pace. The adequate pace is a matter to be dealt with by the community authorities and should have implications in the intensity with which the objective is pursued.

Having established the objectives and the goals it is necessary to identify the strategy and the instruments to use.

Concerning the strategy, one can simply apply in the UPRs the policies that apply to the rest of the EU. It is consensual that such a strategy will only result in a divergence from the main objective of convergence since it would be ignoring the handicaps of these regions and placing them at the mercy of the market forces which, naturally, favour the continental areas with greater economic dimensions. One can, on the other extreme, undertake a posture that is highly protective of these regions. This approach can also be highly criticised since it creates exceptions that tend to become permanent and prevent

the working of positive innovation forces. It would also lead to a structural dependence of these economies on external aid. Between these extremes there will be an adequate equilibrium that admits some protection but evolves to a more self-sustained outcome.

In the first versions of the POSEI programs the EU adopted a set of measures, on request from the Member States, without an apparent global logic.

In the future, the strategy should be based on two main ideas:

- 1- Acting on the key factors for the competitiveness of the economies of the UPRs in order to eliminate shortfalls;
- 2- Improvement of the current productive sectors and promotion of new emerging sectors.

Viewed this way the strategy would demand an audit of the state of competitiveness of each region and, for each measure proposed, a justification of its expected impact on the competitiveness (necessarily global) of the sectors affected.

This approach is applicable both to the current economic base and to new activities that one might want to encourage.

The competitiveness approach requires that for each sector, including the traditional, one looks for the synergies that result from complementary activities (clusters). As such it is natural that one look at the complements of sugar cane/sugar/rum/energy in the case of La Reunion and grass/corn/milk/dairy in the case of the Azores or the tourism cluster in the case of Madeira and the Canary Islands. For some or all UPRs one should also look at the cluster composed of higher education/research/services.

In regions where economic diversification is very low one cannot stop supporting the activities that through the years have guaranteed the maintenance of the landscape and provided the necessary income for many families that would otherwise only thicken the unemployment lists. It is not logical that in the Azores milk production be limited by a quota that constitutes an effective restriction and cancels a production potential that has naturally developed with the introduction of better technology in the farms. The maintenance of this restriction in the case of the Azores will constitute a very important setback in a growth process where the alternatives are scarce and have impacts that can only be expected in a more distant future. It is not equally logical that the sugar beet/sugar/alcohol/liquor cluster not be supported given the multiple positive impacts it might have on the economy of this region.

The pursuit of competitiveness should be done not only taking into consideration the complements of various activities but also the promotion of factors such as education/training and research. The UPRs are not very attractive for some professional categories, which makes it more difficult to settle some levels of human resources. Improving regional human resources through a regional system of advanced education has many advantages. On the one hand it attracts educators who, because of their

academic careers are also researchers. On the other hand, it takes total advantage of local human resources that otherwise would not go to the mainland to continue their education or that would have stayed in the mainland after their education was completed. The presence in these regions of highly qualified human resources facilitates not only research but also the transfer of technology in all areas, as is the case with information technologies. Given their involvement or their contacts with more developed economic areas, the presence of highly qualified human resources can lead to the development of export services both in the form of higher education and in the form of consulting in various areas. The DOMs are particularly well positioned in this respect given that they are located in areas where there is some potential for the attraction of university students and for the export of high value added services.

Sustainability of development processes requires that resources be used in a way that does not compromise future use. The respect for the environment therefore becomes a horizontal concern that is present not only when it comes to agriculture or industrial activities but also when it comes to the provision of services of all sorts, including tourism. Environmental conservation should be a permanent constraint in all policies implemented.

The instruments to use in the conduct of policies for the ultra-periphery can be grouped in two categories: exceptions and expenditures.

The exceptions include the alterations to rules and regulations, including those applicable to horizontal community initiatives. Expenditures involve the funds specifically allocated for spending in the UPRs.

The application of these instruments should, in order for them to make sense, be always considered in addition to other policies not included in the ultra-periphery envelope. That is, they should add to those that already exist for Objective 1 regions. They should also be conceived to have an impact that is significant and not merely cosmetic. It is important to see not only if the policy is adequate to solve a certain problem but also if it is being applied with the right intensity.

11. Conclusions and Recommendations

From the analyses described in the above sections we can arrive at a set of conclusions and advance with a set of recommendations.

We will start with the conclusions from the analysis of the Commission's report.

In what concerns the balance of the impact of past policies in favour of the UPRs, advanced by the Commission, we can arrive at the following conclusions:

1. between 1986 and 1996, per capita income grew in all UPRs at a higher rate than the average of the EU, even though in some cases the difference was less than a percentage point;
2. credit for the registered convergence cannot be attributed only to measures undertaken in favour of the UPRs or to EU policy in general, since there is a major component that should be credited to national and regional policies;
3. the Commission's report does not present the data necessary for a detailed analysis of the impact of the measures in favour of the UPRs, given that it omits information on the impact of exceptions that do not have direct budget implications;
4. the report points to the low utilisation of loans from the EBI but makes no attempt to explain this fact;
5. in referring to the high unemployment rates in the UPRs, the report omits the corresponding rates of the Member States and attempts no explanation of the phenomenon;
6. the rate of convergence in the period under analysis can be considered inadequate given the gap that still persists between the development levels of the UPRs and the EU;
7. even though the impact of the POSEI measures in favour of the UPRs had a positive impact, the final results can only lead to the conclusion that they were, nevertheless, insufficient.

With respect to the part of the report dealing with the future, we can conclude the following:

1. the Commission's report followed closely the joint memorandum of the UPRs and responded, one by one, to all requests on the part of the Member States;
2. the report does not seem, however, to respond to the need to re-launch Community action, pointed out in the joint memorandum of the UPRs, by comparison with the first POSEI initiative;
3. the report makes no explicit reference to the objectives and goals it will seek to attain, and sketches the strategy for action in a somewhat confusing way when it

- lists the instruments it proposes to use as it reviews the requests of the Member States;
4. when it addresses each of the requests of the Member States, the Commission only refers to the status of the analysis of each case without advancing an explicit global approach with objectives and targets;
 5. comparing the POSEI program before the approval of the Treaty of Amsterdam and what is foreseen in report COM(2000) 147 final, one can conclude that the Commission only intends to continue the program as it was designed in the past without any perspective for new funds specifically for the UPRs or the reinforcement of the existing funds (agriculture and fisheries);
 6. no plan is mentioned for the reinforcement of the capacity of the services responsible for the policies in favour of the UPRs (Inter-Services Group), as suggested in their joint memorandum;
 7. action on the new policy areas (information society, research and development, SMEs, etc.) will be, in accordance with the report, undertaken through the horizontal programs, which the Commission proposes to adapt to encourage involvement of the UPRs.

From the conclusions that can be drawn from the application of the model proposed, we highlight the following:

1. the impact of structural funds on development tend to occur in the medium and long term and as such public investments tend to create the conditions for development but do not stimulate it;
2. the expected impact of Structural Funds for the period 2000-2006 are modest given the convergence objective;
3. the policies admitted by the Commission for the basic sectors of the economies of the UPRs will tend, in general, to be detrimental to the longer term development of these regions given that: in those that export sugar and bananas suggested policies (revision of COM's) will erode the competitiveness of these regions; in those that export tourism services there are no solutions to improve the accessibility of non-residents and these are hints that environmental constraints might be imposed; in those that produce vegetables and dairy products (as in the case of milk production in the Azores) quotas are imposed that strongly restrict development of these activities.

From the conclusions highlighted above and from the analyses described in this report we feel it is recommendable that:

1. real per capita income convergence to the EU average be adopted as the operational objective of the policies in favour of the UPRs;
2. a medium term goal for convergence be established (for example two percentage points above the EU average, per year, evaluated in four year periods);

3. the strategy adopted imply: a) acting on the key factors for the competitiveness of the economies of the UPRs' in order to eliminate shortfalls and; b) improvement of the current productive sectors and promotion of new emerging sectors;
4. all policies in favour of the ultra-periphery be evaluated as a function of their contribution to the competitiveness of each region;
5. the principle of significant additional contribution be adopted for all policies to be undertaken (they should all have a positive and significant contribution beyond what already exists for Objective 1 regions);
6. a new program be created, with its own financial resources (like REGIS), to finance initiatives besides agriculture and fishing;
7. more financial resources be allocated for the agriculture and fisheries programs;
8. the criteria for the concession of loans on the part of the EBI be reviewed or mechanisms be created to facilitate access on the part of SMEs;
9. aid be provided to encourage the complementary activities involving higher education/ research/ services;
10. an observatory be created (it might function in one or more universities or in similar institutions) to follow the development progress of the UPRs to promote cooperation among these regions and the elaboration of studies of their realities;
11. a forum be created to debate and analyse the issues pertinent to the ultra-periphery, to meet regularly, at least once a year.

ANNEXES

FINAL REPORT

OF

**THE STUDY OF THE COSTS OF
PERIPHERALITY**

**PRESENTED TO THE DIRECTORATE GENERAL FOR
RESEARCH OF THE EUROPEAN PARLIAMENT
Project n°:IV/2000/12/01**

October 2000

Annex 1

Calculation of the Parameters k e β and of the Indicator of Accessibility

Calculation of the Parameters k e β and of the Indicator of Accessibility

1) The Indicator of Accessibility

The concept of demographic potential is used to determine the indicator of accessibility, through statistical information easily available such as the population and the traffic of passengers.

The demographic potential assumes that the demographic force of each region does not depend only on the resident population but also on the inhabitants of other regions with easy access to the territory. That is, the capacity of development of a region is not only determined by its territory but is also a function of the relations established with other regions. The expression of the demographic potential is given by:

$$(a) \quad POT_i = \sum_j P_i P_j . k . \exp (\beta . C_{ij})$$

POT_i – demographic potential in region i

P_i – population of the region i

P_j – population of the region j, which has relations with region i

exp(- β .C_{ij}) – a function which captures the attrition (β) and the cost of transportation (C_{ij})

k – a scaling factor

The traffic between i and j (T_{ij}) can be expressed as:

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$$(b) \quad T_{ij} = k P_i P_j \cdot \exp(\beta \cdot C_{ij})$$

Taking logarithms of this equation, we can estimate the values of k e β by Ordinary Least Squares.

2) *Statistical data*

In order to estimate equation (b) we collected the following statistical information:

T_{ij} – arithmetic mean of the number of passengers transported by plane in the arrivals and departures em 1998

P_i – population of region i

P_j – population of the metropolitan area with easier accessibility

C_{ij} – value of the cheapest fare between i and j (in euro)

Percursos	T_{ij}	P_i	P_j	C_{ij}
Guiana - Surinam (Paramaribo)	9 950	151 900	240 000	192,85
Guiana - Brasil (Belém)	10 950	151 900	760 000	285,53
Guadalupe - Caraibas Sul (Caracas)	12 390	422 496	3 000 000	524,21
Guiana - Martinica	25 600	151 900	381 427	294,22
Reunião - Mayotte	31 965	695 200	142 000	401,70
Reunião - Madagascar (Tananarive)	39 506	695 200	800 000	671,21
Açores - Boston	50 188	240 000	4 000 000	438,94
Guadalupe - Caraibas Norte (Miami)	70 108	422 496	2 000 000	432,74
Guiana - Paris	101 550	151 900	10 500 000	458,72
Madeira - Londres	147 874	250 000	7 000 000	349,16
Martinica - Guadalupe	156 153	381 427	422 496	129,43
Guadalupe - Guiana	163 874	422 496	151 900	320,91
Reunião - Maurice	197 571	695 200	1 160 000	214,76
Açores - Lisboa	209 030	240 000	2 500 000	193,56
Reunião - Paris	393 774	695 200	10 500 000	788,08
Madeira - Lisboa	397 774	250 000	2 500 000	171,35
Martinica - Paris	511 059	381 427	10 500 000	411,16
Guadalupe - Paris	577 431	422 496	10 500 000	375,03
Canárias - Madrid	1 971 539	500 000	4 000 000	173,66
Canárias - Alemanha (Frankfurt)	2 892 707	500 000	3 000 000	349,16
Canárias - Londres	3 265 960	500 000	7 000 000	399,04

Sources: Regional Bureaux of Statistics (for traffic and population. Data Base Galileo (for travel costs).

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3) *Determination of the parameters k e β*

Dividing both members of equation (b) by the product $P_i P_j$ and taking logarithms yields:

$$(c) \quad \text{Ln} (T_{ij}/(P_i P_j)) = \text{Ln} (k) + \beta.C_{ij}$$

We can use this equation to estimate k e β by OLS. In order to correct for the role of sea transportation to Guadalupe, we have use two dummy variables. In such a case, we have:

$$(d) \quad \text{Ln} (T_{ij}/(P_i P_j)) = \text{Ln} (k) + \beta C_{ij} + \lambda D_1 + \mu D_2 C_{ij}$$

The regression yielded the following results.

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0,787077363
R Square	0,619490776
Adjusted R Square	0,552342089
Standard Error	0,934171494
Observations	21

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	24,15303986	8,051013	9,225657	0,0007554
Residual	17	14,83549847	0,872676		
Total	20	38,98853833			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
Intercept	-13,8009072	0,50894194	-27,11686	1,97E-15	-14,8746824	-12,72713	-14,8746824	-12,72713
X Variable 1	-0,00405524	0,00130812	-3,10005	0,006504	-0,00681513	-0,001295	-0,00681513	-0,001295
X Variable 2	8,332473596	2,654722345	3,138736	0,005986	2,73149121	13,933456	2,73149121	13,933456
X Variable 3	-0,02111707	0,006339555	-3,331003	0,003956	-0,03449238	-0,007742	-0,03449238	-0,0077418

The parameters k and β are:

$$k = 0,000001015$$

$$\beta = -0,00405524$$

Annex 2

Basic model's spreadsheet

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Basic model's spreadsheet

1) Rearrangement of Data

	A	B	C	D	E
1	199-				
2		Population	Product		
3	OFICIAL DATA				
4	Agriculture	16300	34741		
5	Industry	12400	34702		
6	Construction	9600	20851		OFICIAL DATA
7	Commerce	14100	31998		
8	Transports and Communications	4700	19370	Tourists	127220
9	Banks and Insurance	2400	13973	Average Stay	3
10	Services	29900	88422	Pop.Tur.Equiv.	1046
11	Unemployment and Min.Income	4900	5057	244056	
12	Total	94300	249113		
13				Weights	
14	Employment Basic	29918	71800	Adjusted	Exogenous
15	Tourism	391	1090	0.4%	
16	Agriculture	12983	27671	79.6%	80%
17	Industry	902	2525	7.3%	7%
18	Construction	4014	8719	41.8%	42%
19	Commerce	0	0	0.0%	0%
20	Transports and Communications	842	3471	17.9%	18%
21	Banks and Insurance	0	0	0.0%	0%
22	Services	8931	26411	29.9%	30%
23	Unemployment and Min.Income	1854	1913	37.8%	38%
24	Employment Non Basic	64361	177012		
25	Agriculture	3246	6876		
26	Industry	11443	31983		
27	Construction	5544	12016		
28	Commerce	14038	31819		
29	Transports and Communications	3837	15790		
30	Banks and Insurance	2389	13895		
31	Services	20838	61518		
32	Unemployment and Min.Income	3025	3115		
33	OFICIAL DATA				
34	Population	237938			
35	s1	0.144	s1	0.144	
36	s*	0.125	s2	0.114	
37	s**	0.021	s3	0.013	
38	Service Rate without Support	0.290			
39	Service Rate	0.270			
40	Activity Rate	0.396			
41		Real			
42	Employment Multiplier	3.150			
43	Population Multiplier	7.947			
44					
45	Synthesis 199-				
46		Employment	Product	Productivity	
47	Basic	29918	71800	2.400	
48	A	15119	34757	2.299	
49	B	12945	35130	2.714	
50	C	1854	1913	1.032	
51	Non Basic	64361	177012	2.750	
52	S1	34271	82694	2.413	
53	S2	27065	91203	3.370	
54	S3	3025	3115	1.030	
55	PopAct/Product/Prod.	94279	243784	2.586	
56	Population/Income/Rpc	237938	248812	1.046	
57	Population/Product/GDPpc	237938	243784	1.025	

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The Number and Average Stay of Tourists (E8:E9) sustains the calculation of the Touristic Equivalent of Population (E10) which importance on the total population is used to evaluate the percentage of active population devoted to Tourism (D15).

The active population of the various sectors is divided into basic (B14: C23) and non-basic (B24: C32) according to the weights (E16: E23), which values reveal the proportion of exports on the production of each sector; or, for public services and interventions, the percentage of external support directly addressed to the sector. This weights are adjusted (D16: D23) to correct for changes in all sectors, due to the estimation procedure for the touristic sector.

The numbers on basic (B14: C23) and non-basic (B24: C32) sectors can then be synthesised (B46:D54) into the six categories of the Model [A - exports, B - external transferences to productive sectors, C - external transferences to non-productive actives, S1 - private provision of goods and services for the local market, S2 - public provision of goods and services for the local market, S3 - local transferences to non-productive actives]. Finally it is possible to estimate a few indicators associated to the model: the active population (B55), the population (B56), the product (C55), the productivity per active (D55), the disponsible income per capita (D56) and the product per capita (D57).

2) Model Simulations

58	Simulation 199-			
59		Employment	Product	Productivity
60	Basic	29918	71800	2.400
61	A	15119	34757	2.299
62	B	12945	35130	2.714
63	C	1854	1913	1.032
64	Non Basic	64315	176886	2.750
65	S1	34247	82634	2.413
66	S2	27046	91138	3.370
67	S3	3023	3113	1.030
68	PopAct/Product/Prod.	94232	243659	2.586
69	Population/Income/Rpc	237768	248686	1.046
70	Population/Product/GDPpc	237768	243659	1.025
71	Potential			4.09
72	K = 0.000001015	Employment	Access	Productivity
73	Simulation A	1.00	1.00	1.00
74	Simulation B	1.00		1.00
75	Simulation C	1.00		1.00
76	Simulation s1	1.00		1.00
77	Simulation s2	1.00		1.00
78	Simulation s3	1.00		1.00
79	Simulation s1	0.144	Traffic/Pop	
80	Simulation s2	0.114	0.75	
81	Simulation s3	0.013		

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Model simulations are undertaken to analyse the effect of different policies on the more important indicators (B68: D71). Each policy is translated into the cells (B73:D78) which adjusts the value of the basic employment (B73:B75), the basic and non-basic productivity (D73:D78), and the values of the parameters (s_1, s_2, s_3 and traffic/population ratio) (B76:B78).

Annex 3

Data and data sources

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Data and data sources

Azores	Active Population			Income (MPTE 1995 prices)		
	1990	1995	1998	1990	1995	1998
Agriculture	16300	17700	17752	34741	30607	35233
Industry	12400	9400	9427	34702	28649	32979
Construction	9600	10300	10330	20851	22982	26455
Commerce	14100	14900	14943	31998	34759	40012
Transport and Communications	4700	3600	3610	19370	19278	22191
Banks and Insurance	2400	1900	1906	13973	14144	16282
Services	29900	29100	29185	88422	118287	136164
Unemployment and M. Income	4900	7500	7522	5057	3492.8	4021
Total	94300	94400	94675	249113	272199	313338

Sources: SREA, Contas Regionais. SREA, Inquérito ao Emprego, Universidade dos Açores DEG.

Notes: The value added attributed to banking services was distributed through the different sectors. The income for 1998 was estimated.

Madeira	Active Population			Income (MPTE 1995 prices)		
	1990	1995	1998	1990	1995	1998
Agriculture	16732	12600	12742	15869	12554	14081
Industry	24399	17677	17877	24964	29318	32884
Construction	14613	12711	12854	22396	25904	29055
Commerce	27929	26300	26597	54487	70332	78886
Transport and Communications	4880	4452	4502	24446	29724	33339
Banks and Insurance	1403	950	961	18239	28601	32080
Services	26232	29500	29833	84053	118514	132928
Unemployment and M. Income	6176	5841	5907	7288	4071	4566
Total	122364	110031	111273	251742	319019	357819

Sources: DREM, Contas Regionais. DREM, Inquérito ao Emprego, Universidade dos Açores DEG.

Notes: The value added attributed to banking services was distributed through the different sectors. The income for 1998 was estimated.

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Canary Islands	Active Population			Income (MPES 1995 prices)		
	1990	1995	1998	1990	1995	1998
Agriculture	36600	32900	32872	88010	55663	58034
Industry	36400	35900	35869	236358	246951	257469
Construction	53300	42400	42364	209705	179667	187319
Commerce	190700	221700	221512	903838	1152531	1201617
Transport and Communications	31100	33700	33671	137060	181831	189575
Banks and Insurance	8000	7700	7693	90633	85292	88925
Services	88300	97100	97017	280452	365555	381124
Unemployment and M. Income	128600	147700	147574	267917	295400	307981
Total	573000	619100	618574	2213972	2562891	2672045

Sources: ISTAC e Castells et al. (2000).

Notes: The value added attributed to banking services was distributed through the different sectors. The income for 1998 was estimated.

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Reunion	Active Population			Income (MFF 1995 prices)		
	1990	1995	1998	1990	1995	1998
Agriculture	18280	15879	15879	1257	1331	1782
Industry	12771	14978	15851	2857	2966	4201
Construction	17415	12403	11592	1835	1684	2107
Commerce	21188	22233	25127	5611	5873	8882
Transport and Communications	4412	5266	5714	1755	1677	2435
Banks and Insurance	5515	6026	6848	4257	4395	6683
Services	84520	98116	114351	18778	20807	32449
Unemployment and M. Income	69522	98962	96757	8740	13061	14750
Total	233622	273862	292119	45090	51795	73288

Sources: INSEE – Tableaux Econ. Regionaux, Institut D’Émission des Dep. D’Outre-Mer – La Reunion – Rapport Annuel (several issues), Universidade dos Açores DEG.

Notes: The value added attributed to banking services was distributed through the different sectors. The income for 1998 was estimated.

Guadalupe	Active Population			Income (MFF 1995 prices)		
	1990	1995	1998	1990	1995	1998
Agriculture	8391	9975	8200	1232	1043	1207
Industry	9630	10184	7900	1173	1683	1949
Construction	13967	15129	13000	1363	2276	2635
Commerce	15020	18325	20700	2963	4524	5237
Transport and Communications	6950	5161	4200	1074	2071	2397
Banks and Insurance	2802	4124	3500	1283	1007	1166
Services	60756	65490	67800	9229	13601	15745
Unemployment and M. Income	53540	45600	55889	2677	3694	5030
Total	171056	173988	181189	20993	29899	35366

Sources: INSEE : Tableaux Econ. Regionaux, Institut D’Émission des Dep. D’Outre-Mer : La Guadeloupe – Rapport Annuel (several issues), Universidade dos Açores DEG.

Notes: The value added attributed to banking services was distributed through the different sectors. The income for 1998 was estimated.

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Martinica	Active Population			Income (MFF 1995 prices)		
	1990	1995	1998	1990	1995	1998
Agriculture	16732	12600	12742	15869	12554	13044
Industry	24399	17677	17877	24964	29318	30461
Construction	14613	12711	12854	22396	25904	26915
Commerce	27929	26300	26597	54487	70332	73075
Transport and Communications	4880	4452	4502	24446	29724	30884
Banks and Insurance	1403	950	961	18239	28601	29717
Services	26232	29500	29833	84053	118514	123136
Unemployment and M. Income	6176	5841	5907	7288	4071	4230
Total	122364.271	110031	111273	251742	319019	331461

Sources: INSEE : Tableaux Econ. Regionaux, Institut D'Émission des Dep. D'Outre-Mer : La Martinique – Rapport Annuel (several issues), Universidade dos Açores DEG.

Notes: The value added attributed to banking services was distributed through the different sectors. The income for 1998 was estimated.

Guyana	Active Population			Income (MFF 1995 prices)		
	1990	1995	1998	1990	1995	1998
Agriculture	4804	4514	2884	707	602	697
Industry	3600	3784	3935	583	1187	1374
Construction	5106	4958	4553	898	1248	1445
Commerce	3625	4755	4884	787	1715	1985
Transport and Communications	2136	2092	2056	540	1306	1512
Banks and Insurance	469	905	13832	374	322	373
Services	22333	25984	19340	2701	3759	4352
Unemployment and M. Income	13480	14260	18586	877	1141	1321
Total	55552	61251	70071	7466	11280	13058

Sources: INSEE : Tableaux Econ. Regionaux, Institut D'Émission des Dep. D'Outre-Mer : La Guyane – Rapport Annuel (several issues), Universidade dos Açores DEG.

Notes: The value added attributed to banking services was distributed through the different sectors. The income for 1998 was estimated.

Annex 4

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