

# THE CATALAN UNIVERSITY SYSTEM AND TERRITORY

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During the last decade —a period in which the number of public universities in Catalonia has increased from three to eight— the Catalan university system has experienced a significant process of growth and territorial development. As a consequence of this growth, the territorial map of Catalonia's university centres has been modified, but with an unequal impact upon different areas of population.

This connection between university system and territory will be the central axis of this presentation. Our main objective is that of defending the university programme as an instrument for achieving a model of territorial organisation based upon specialisation and co-operation.

The study is divided into four separate sections. In the first section, we briefly analyse different tendencies for territorial organisation found in Europe, look at their manifestations in the case of Catalonia, and examine the positive spin-offs that have their origins in territory.

In the second section, we make a critical appraisal of the process of expansion of the Catalan university system. The most distinctive features of the model that has been most important until now have been competition and confrontation between local interests and this has generated numerous disadvantages.

The third section compares the previous model with another based upon specialisation and co-operation, in which the different universities define their own specialised profiles within a general dynamic for co-operation within the group as a whole.

In the fourth section, we state the case for the university programme as a basic instrument for transforming the model for organising universities in Catalonia. We indicate the medium-term objectives involved in bringing about this change, stressing the importance of collaboration between the universities, the whole of the public sector, and private sector production.

In conclusion, we present possible models for the territorial implantation of universities, placing special emphasis on proposals that defend an integrated university system. Finally, we make brief reference to the case of Spain, which is characterised by the existence of autonomous communities that may be the main territorial elements governing the context in which the philosophy of an integrated university

system has to be developed. We also present several proposals for co-ordinating the different autonomous systems and indicate what the main objectives could be at different competence levels.

TENDENCIES FOR TERRITORIAL ORGANISATION AND POSITIVE EXTERNAL ECONOMIES  
RELATED WITH TERRITORY

In this first section, we begin by reviewing the main tendencies for territorial organisation that are currently present in Europe and examine the specific case of Catalonia. We then go on to examine a group of external economies relating to territories.

*Main tendencies for territorial organisation in Europe*

Since the mid-1980's, it has been possible to observe how large cities have played an increasingly important role throughout Europe. According to experts like Camagni (1998), the predominant model for territorial organisation in Europe is that of dispersed growth around large cities and metropolitan areas.

Another form of territorial organisation mentioned by Camagni is that of regional networks of small and medium-sized cities:

“It is a non hierarchical model, often based upon the specific “vocations” of the particular centres and upon intense complementary and synergic interactions” (Camagni, 1998: 37).

The two models share certain characteristics and may complement each other within a given territory, as will be seen later, when we examine the case of Catalonia.

*The urban network in Catalonia*

Catalonia is a highly urbanised territory, in which the previously mentioned processes of dispersion have occurred around the city of Barcelona. Even so, in Catalonia, we can still speak of the existence of a network of medium-sized cities and of a very important level of economic activity. Therefore, elements of the two models mentioned in the previous epigraph clearly combine. As Joan Trullén says (1998):<sup>1</sup>

“In the perspective of the 21st Century, Catalonia is formed by a network of very complete cities (not neighbourhoods) which are organised around a great urban region; the Barcelona Metropolitan Region,<sup>2</sup> and in which the municipality of Barcelona plays a fundamental integrating role and is an important link in Europe's city system; a collective in which more than 100 cities play an important role.” (Trullén, 1998: 54).

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1. The complete study can be found in TRULLÉN, J. (1988): “La Catalunya-ciutats”. *Revista Econòmica de Catalunya*, núm. 36, pp. 51-56.

2. *Regió Metropolitana de Barcelona*.

According to both Camagni and Trullén, the key concept to bear in mind is that of the network of cities or urban network:

“The network of cities operates with the idea of co-ordinating facilities and services, and maximising the comparative advantages of each city, in such a way that instead of competing with each other to obtain services and thereby creating a very homogenous supply with little specialisation (as has been the case with the extension of university education in recent years), they should try to co-ordinate their efforts in a search for economies of scale in the provision of services and thereby intensify their economies of localisation in those activities in which they are specialised” (Trullén, 1998: 53).

The logic of co-operation between cities is the key element for taking advantage of all the advantages offered by territorial organisation through city networks.

#### *External economies relating to territory*

These external economies receive the generic name of economies of agglomeration and are normally divided into two types: economies of urbanisation and economies of location, and they have been studied by various authors. We have based our case on the synthesis by Trullén, which collects together contributions from Jacobs, Becattini and Porter.

These economies of urbanisation refer to external economies of scale associated with cities, and influence all of the agents which are active in the territory:

“(…) include all of the advantages deriving from living and operating in cities, such as the existence of large indivisible facilities (airports, ports, universities, large scale health centres, etc.) or large blocks of demand (a concentration of more than 4 million inhabitants makes it possible to increase productive specialisation to levels that are impossible to attain in much smaller environments)” (Trullén, 1998: 52) south.

Economies of location are related to determined productive activities, and partly explain the industrial development of certain areas, affected by “industrial districts”. For example, in the case of Catalonia:

“(…) in cities such as Mataró, Sabadell, or Terrassa, we find advantages in the location of textile activities (there is an industrial tradition, an industrial atmosphere, and a specialised work force, etc)” (idem).

As we advanced in the previous epigraph, Catalonia enjoys two types of external economies of scale:

“(…) Catalonia presents an urban network that, on one hand, contains a large metropolitan region that makes it possible to generate important economies of urbanisation, and, on the other, presents a very rich group of cities that are relatively specialised in a limited number of productive sectors and in which important economies of location are generated” (idem).

In the following sections we will analyse the relationship between the models for territorial organisation present in Catalonia, the external economies of scale that derive from them, and the most appropriate university programme for taking advantage of them.

#### A CRITICAL ANALYSIS OF THE DIFFUSION OF UNIVERSITIES IN CATALONIA

Before presenting the specific objectives that the university programme must develop, bearing in mind the territorial characteristics and external economies mentioned in the previous section, we think that it is important to make a historical analysis of what has been the process of expansion of the Catalan university system until the present moment.

The *Generalitat de Catalunya*<sup>3</sup> assumed responsibilities for university affairs in the year 1985, when there were only three universities in Catalonia: the *Universitat de Barcelona*, *Universitat Autònoma de Barcelona* and *Universitat Politècnica de Barcelona*. The *Universitat Pompeu Fabra* began its operations in the academic year 1990-91. Two years later, the *Universitat de Lleida*, *Universitat de Girona* and *Universitat Rovira i Virgili* (Tarragona) began to operate as independent centres, with the aid of human resources and materials from the three Barcelona-based universities. The *Universitat Oberta de Catalunya*<sup>4</sup> began its operations in the academic year 1995-96. On top of these eight public universities we should also mention the three private universities that were created during the 1990's: the *Universitat Ramon Llull*, *Universitat de Vic*, and the *Universitat Internacional de Catalunya*.

Thus, the growth in the number of Catalan universities has been considerable, with an increase from three to eleven centres in just a single decade. But this process of expansion has also been accompanied by some important failings and has not met all of the objectives that were established at the end of the 1980s.

Some studies (Oroval and Bolero, 1993) have referred to the model chosen by the *Generalitat de Catalunya* as “*competitive and involving a clash of interests*”. To give a precise example, one of the main objectives of the project for the creation of Catalonia's fourth university was supposed to be that of promoting greater territorial equilibrium. However, its eventual manifestation in the form of the *Universitat Pompeu Fabra* gave priority to other interests. The final format owed far more to urbanistic questions, on one hand, and to constituting a university model based upon guaranteeing better quality, on the other, than to helping to overcome the problem of overcrowding.<sup>5</sup>

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3. The Catalan regional autonomy's governing body.

4. A distance learning centre similar to the UK's “Open University”.

5. For a more detailed analysis, consult OROVAL, E.; CALERO, J. (1993): “*Financiación de la Expansión Universitaria Catalana en los últimos años*”. *Revista de Estudios Regionales*, mayo-agosto 1993, núm. 36, pp. 73-121.

The absence of well-defined and transparent financial criteria is one of the main factors that explains the preponderance of this model, as it forces universities to compete for public funding which is in ever-shorter supply.

In the absence of an overall university programme and a series of clear financing criteria, this competitive model has generated a host of negative effects for the university system as a whole. Below we list some of the most significant of these:

- There are notable differences in the basic characteristics of each specific university. The dynamic of conflicting interests has resulted in a situation in which some institutions have set quantity as their main objective, while others have focussed on quality. This has caused important inequalities within the system.
- There has been an excessive proliferation of academic qualifications due to the absence of a co-ordinated programme offering different types of studies. This problem has arisen as a logical consequence of the competitiveness that has led to a varied offer of educational solutions, but has also generated a demand that has not always coincided with students' preferences.
- The social and cultural aspects of the university have deteriorated. When unrestrained by a programme that considers wider social needs, competitiveness and the existence of individual interests may adversely effect one of the basic functions of the university; spreading knowledge, research and culture to the whole of society.

Therefore, although a certain amount of competition between universities may produce some positive results, competition in the absence of a systematic programme tends to result in the problems that we have already mentioned. Furthermore it prevents us from pursuing other objectives such as territorial, social, ecological and financial equilibrium, or achieving the necessary degree of co-ordination between studies offered within the territory.

#### TOWARDS A MODEL FOR SPECIALISATION AND CO-OPERATION BETWEEN UNIVERSITIES

Against the model which we have previously described as being "*competitive and characterised by a clash of interests*", we propose another which we define as a "*model for specialisation and co-operation*". In this section we present the three basic distinctive features of this model, and in the fourth section we will identify the intermediate objectives that the university programme must meet in order to make this possible.

This model emphasises the fact that each university should define its own areas of specialisation. This should be done in a coherent manner and in co-operation with other universities and with both the public and productive sectors, and provide mechanisms to facilitate the co-ordination and combination of interests and benefit the system as a whole.

Specialised universities would be in a better position to exploit the comparative advantages and external economies of scale deriving from their relative locations. Each

university must develop its strong points, in such a way as to increase the efficiency and quality of the system as a whole. This specialisation would be a good way to prevent the proliferation of academic qualifications that characterises the present Catalan university system.

This specialisation must not, however, come into conflict with the more humanistic and generalist features of the university: certain studies which have a more or less homogeneous distribution of demand throughout the territory could therefore be provided, with a series of common features, by all universities. But other types of studies could concentrate demand in specific areas, thereby defining the specialist character of each university. We therefore propose a careful balance between specialisation and generalisation, and believe that university programming has a key role to play in this process.

As regards the question of co-operation, this is a particularly valid principle when speaking of universities, given the public nature of the service that they offer. Co-operation allows a better diffusion of knowledge and research, and is not only positive from the social point of view, but also favours greater efficiency and quality within the Catalan university system.

The need for co-ordination of the different types of studies carried out within Catalonia has become increasingly evident due to the constant growth of the university system. For example, it is necessary to prevent some first cycle studies from becoming too unwieldy, as is the case of *Empresarials*,<sup>6</sup> which generates a demand in the second cycle for *Administració i Direcció d'Emprese*<sup>7</sup> which often cannot be met by the system.

Thus, specialisation and co-operation offer positive aspects from the social point of view, and in terms of economic efficiency and the quality of teaching and research, as opposed to the numerous disadvantages that typify the current model based upon competition and clashing interests.

#### THE MEDIUM-TERM OBJECTIVES OF THE UNIVERSITY PROGRAMME PLANNING

University programme planning defines the organisation of universities within a given territory, and includes a series of different aspects ranging from the way in which they are financed to how they collaborate with the public and productive sectors. University programme planning is the basic instrument required for improving the scope of the present university model and transforming it into a model based upon specialisation and co-operation.

In this section we present what must become the medium-term objectives of a university planning programme that would make it possible to reach our previously mentioned final objective:

6. Business Studies.

7. Business Administration and Management.

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- Taking advantage of the territorial externalities that derive from the territorial organisation of Catalonia.
  - Defining clear criteria for financing.
  - Achieving territorial, social and ecological balance.
  - Favouring co-operation between universities and both the public and productive sectors.

*Taking advantage of territorial externalities*

In the first section we observed that the model for territorial organisation in Catalonia is formed by a network of cities with quite a significant degree of economic activity within which the Barcelona Metropolitan Region is a particularly important area. Catalonia can therefore benefit from both of the types of externalities that we have defined: those connected with urbanisation (especially around Barcelona itself), and those of location (around medium-sized cities with strong industrial development).

The existing university centres within the city of Barcelona form part of the large-scale, indivisible services that characterise the economies of urbanisation. The demand for university studies is mainly concentrated in the vicinity of the city, while improvements in transport and communications have made it possible to save on costs, especially for faculties and schools located in the centre of Barcelona.

Catalan universities can also take advantage of the economies of location offered by certain industrial districts. This is the case of some academic studies offered by the *Universitat Autònoma de Barcelona* in the areas around Sabadell and Terrassa, or the case of Chemical Engineering at the *University Rovira i Virgili* in Tarragona, and Agricultural Engineering at the *Universitat de Lleida*.

The definition of Catalonia as a network of cities makes it possible to think in terms of a university planning programme that stimulates co-operation between them. In this sense, the co-ordinated actions of different cities can generate economies of scale in the provision of more specialised forms of education, by taking advantage of the comparative advantages offered by the area in question. Once again we can find examples of this in areas with an important level of economic activity, as in the case of Vallès or the Tarragona-Reus axis.

But, as we shall see in the next two epigraphs, the university planning programme has other objectives that go beyond simply promoting these externalities. The key therefore lies in establishing a university planning programme that, while taking into account other criteria for university policy, takes maximum advantage of the externalities deriving from the different forms of territorial organisation that are present in Catalonia.

### *Financing criteria*

As has already been mentioned, Catalonia has no law governing the financing of higher education<sup>8</sup> that specifies a distribution of transfers between the public universities following any form of previously known, objective criteria. At present, Catalonia's public universities compete for public funding whose final destination depends, in many cases, upon bilateral negotiations between teams of university chancellors and the *Comissionat d'Universitats i Recerca*.<sup>9</sup>

The creation of the mentioned law would serve a long overdue and evident need of the Catalan university system. From the point of view of budgetary management, the existence of a series of clear norms would allow universities to foresee the resources that they could obtain, with a margin of error that would largely depend upon the workings of the university institution itself.

The financing criteria to be defined would be coherent with the proposed *model for specialisation and co-operation*. It would thereby be possible to promote the efficiency of each university, through the introduction of a series of quality indicators that, to a large extent, would depend upon the quantity of resources to be obtained. This could encourage the definition of a more appropriate profile of specialisation.

University financing has to also encourage co-operation between different institutions. In the field of investigation, for example, it is possible to foster multi-disciplinary and inter-university projects, which take advantage of the knowledge previously accumulated by different teams and diffuse the positive results to the whole university system and to society in general.

Thus specifying a series of clear cut criteria for university financing contributes both to improving the efficiency of each individual university and to the co-operation between, and results of, the whole group. The university planning programme must take into consideration this fundamental question, which influences the assignation of current transfers and also the signing of different programme contracts between the administration and each higher educational institution.

### *Territorial, social and ecological balance*

The university planning programme must take into consideration all aspects related with territory. In this sense, it is not just a case of taking advantage of positive externalities deriving from social and economic activities that take place at specific points in Catalonia. University education must cover the existing demand for studies across the whole territory in a balanced way, including certain areas which have a lower level of economic and social development. The exploitation of the advantages

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8. In other Spanish Autonomous Communities, such as Valencia, there are a series of criteria defined from the public sector.

9. Universities and Research Commission.



offered by certain locations must be combined with the objective of guaranteeing a just and equitable territorial diffusion, which can also contribute to improving Catalonia's territorial equilibrium.

Secondly, the university planning programme must favour a greater social balance within the territory. This objective is related to the previous one, as the degree of social differences varies in function with the area of reference. Thus, from the educational administration, it is necessary to defend the introduction of criteria that favour equity and that facilitate access to higher education in equal conditions and independently of social and territorial origin. The awarding of grants according to levels of income and the subsidising of movement are the main mechanisms that allow us to advance towards a greater degree of social equity.

Finally, it is important to bear in mind environmental criteria when defining the territorial implantation of university centres. The construction and/or expansion of buildings at determined geographical locations must be carried out in accordance with studies of their impact upon the neighbouring land and natural environment. University installations can take advantage of sources of renewable energy and promote the reduction, re-use and recycling of residues.

#### *Co-operation between universities, the public sector and the private sector*

The *model for specialisation and co-operation* does not only imply co-ordination and collaboration between universities that define their profile of specialisation, but also a wider form of co-operation between universities, the public sector and the private productive sector. As well as the educational administration, we could also include the rest of the territorial administrations and public companies within the public sector. Any co-operation with the private sector also implies considering representatives of the business sector and workers as collaborating agents.

The universities and the educational administration, represented by the *Comissionat d'Universitats i Recerca*, must co-operate in order to improve the following aspects of the university planning programme:<sup>10</sup> fostering specialisation by universities; rationalising the distribution of studies that do not originate in the specific specialisation of a single university; co-ordinating investigation and third cycle studies; harmonising university management processes, encouraging the use of new technologies, creating a law for financing the university, etc.

The universities can also establish direct collaborative agreements with private companies. These may, at times, serve a specific and limited purpose, or become more important and lasting links, forming part of the general strategy of the university. Such strategic alliances may even help to improve the financial situation of the university in question.

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10. Originally listed in OROVAL, E. and CALERO, J. (1993), *op. cit.*

But the type of co-operation that we would now like to highlight is that which involves all three of the agents mentioned. Here, the key concept is that of the *network*. This implies a non-hierarchical form of collaboration between a group of universities, the public sector and the productive sector. This therefore goes much further than the relations established by a single university, and also much further than agreements or alliances made with the private sector that do not involve the participation of the public sector.

The nature of the links established between these three institutions can be expressed as a *triangle*, with each of them located at one of the vertexes. Within this model, it is of great importance to establish the most appropriate *division of labour* and to decide the tasks to be undertaken by each vertex of the triangle.

We understand that the role of leadership in the creation of networks must correspond to the universities on account of their strategic interests and in coherence with their chosen profiles of specialisation. Thus, the vertex responsible for generating relations must correspond to the university.

The public sector plays a particularly important organisational role. It must be capable of creating the best conditions for the smooth working of both the productive sector and the university. It has to moderate any conflicts that may arise, to prevent clashes between the respective parts and promote confidence between them, and at the same time defend the public and social nature of education and research. In this way, the public sector can help to set up and develop co-operation networks.

The private productive sector may represent a source of finance and dynamism for some of the university's projects, above all those in the field of research, whose fruits may be spread to the wider economic sector and to society as a whole. Its role will depend upon the main types of activities to be carried out within the territory.

Within the territory of Catalonia, the specialisation of each university must consider questions such as the type of economic externalities that we have already analysed. Through the organising action of the public sector and the leadership of each individual university, the university planning programme can foster a compatible form of specialisation with the specific characteristics required by the productive sector of each geographic area. It can thereby favour relations between universities and the productive sector, and structure processes of co-operation within the whole territory. For example, the *Universitat de Lleida* could establish a specialisation profile in the area of Agricultural Engineering and collaborate with local agrarian and agro-industrial companies. It could then co-ordinate its activity with other universities located in provinces with important agricultural sectors, such as the *Universitat Rovira i Virgili* in Tarragona.

## CONCLUSIONS

In this paper we have presented a critique of the model for university extension that has been applied in Catalonia over recent years and which could be referred to

as *competitive and involving a clash of interests*. Against this reality, we have defended a new *model for specialisation and co-operation*, in which each university can define its own special specialisation profile within a general logic of co-operation and co-ordinated programming covering the whole university scene.

The university planning programme is the main instrument for advancing towards the proposed models by fulfilling four basic objectives: taking advantage of the social and economic externalities deriving from a territorial organisation based on a very dynamic network of cities and with the Barcelona Metropolitan Area as a zone of particular importance; defining a set of objective and transparent financing criteria in order to encourage co-operation and efficiency; achieving territorial social and ecological balance; and promoting co-operation between universities, the public-sector and the productive sector by creating networks of collaboration with strategic objectives.

Within these conclusions we would like to very briefly highlight two other aspects that are closely related to the subject under discussion. Firstly, we refer to some of the ways of achieving an integrated university system within Catalan territory and their possible implications. Secondly, we present some of the basic characteristics associated with the relationship between Catalonia and Spain's other Autonomous Communities.

The different possible ways of implanting universities in a given territory may range from the extreme of isolated centres with hardly any relations between them, to the existence of a single university with several different centres spread across the whole territory.<sup>11</sup> The hegemony of the competitive model favours the first of these extremes, while a co-operative type model makes it possible to reap the potential rewards of the second model.<sup>12</sup> Stopping short of a legal fusion of all Catalonia's universities, it seems that better programming and co-ordination would help to provide a more integrated university system.

We shall now identify a few of the elements that could help to improve university integration: the existence of a series of widely accepted and homogenous management indicators, the rationalisation of available statistical information, joint co-ordination and decision making by the different *Consells Socials*<sup>13</sup> involved etc. However, a more detailed investigation of these aspects takes us beyond the basic objectives of the present work.

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11. This second stance is defended by Reguant, S., "*Per un model d'organització universitària a Catalunya: una sola Acadèmia*", Barcelona, Revista de Catalunya, February 1995. On a practical level, some foreign universities already work in this way, with the University of California being one example.

12. According to Reguant, such aspects include: defining criteria for selecting teaching staff, regulating the supply and demand for university places, relations with universities located in other territories, and interactions with the educational administration.

13. Social advisory bodies

As far as the relationship between the Catalan and Spanish universities is concerned, it is important to bear in mind the special position of Spain's Autonomous Communities, which have assumed—or are in the process of assuming—a transfer of responsibilities in the field of education. The Autonomous Communities are themselves the main territorial units in which the model of specialisation and co-operation, university programme planning, and integrated university systems, are being developed.

Even so, there is a fundamental need for a minimum amount of state co-ordination involving all the different autonomous university systems. It is possible to define a series of basic objectives at the state level and then establish lower level objectives corresponding to each Autonomous Community. Put in a different way, a greater degree of territorial centralisation may offer a series of advantages with regard to: basic research; third cycle courses; criteria for contracting teaching staff; student and teacher mobility; adjusting demand and supply, etc. As can readily be seen, some of these aspects coincide with the advantages that derive from a greater degree of territorial integration.

Thus, the definition of a correct equilibrium between the centralisation of some aspects and specialisation in others must contemplate the possibility of taking advantage of the favourable elements that we have defined.

In what—from the point of view of science and technology—is an increasingly interdependent world, co-operation, specialisation, university programme planning and the centralisation of certain activities within integrated and co-ordinated university systems are fundamental considerations in the quest for a more efficient and social university offering better quality.

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