

# **A New Approach on Higher Education Quality. Analysing the Impact of Universities of Catalonia on Society and Economy**

Josep M. Vilalta, Héctor Pifarré, Alícia Betts  
Association of Public Universities of Catalonia-University of Catalonia  
(ACUP)

## **Abstract**

The Impact of Catalan Universities on Society and Economy study arises in a moment of change in Catalonia and as a bottom-up initiative. The *White Paper of the University of Catalonia* (ACUP, 2008), precedent of this research, stated the desire of the eight public universities to jointly create a cohesive, territorially balanced university system, coordinated and with unique quality profiles.

The objective is to provide an in depth knowledge of universities' impact in Catalonia considering different aspects like: the impact on the region's economy, the importance of human capital, scientific production and its role in innovation and socio-cultural benefits of higher education.

Additionally this study presents an innovative method of university quality evaluation based on the analysis of university impact on society as a complement to the traditional methods and as a way to promote institutional differentiation. The study will be finalised in October 2009. The first public presentation will be at the EUA Quality Assurance Forum.

# **A New Approach on Higher Education Quality. Analysing the Impact of Universities of Catalonia on Society and Economy**

Josep M. Vilalta, Héctor Pifarré, Alícia Betts  
Association of Public Universities of Catalonia-University of Catalonia  
(ACUP)

## **Introduction**

This paper aims to share a specific bottom-up initiative from the Catalan Association of Public Universities<sup>1</sup> (ACUP) on an innovative quality evaluation approach: “The Impact Study of Catalan Universities on Society and Economy”. This study has been conducted during the past 18 months with the help of a team of consultants. This analysis finds its origin in *The White Paper of the University of Catalonia* (ACUP 2008) which stated the desire of the eight public universities to work together to create a more cohesive, territorially balanced university system, coordinated and with unique high quality profiles. The White Paper included a set of 64 strategies and 73 projects for the development of this new model of university. With these guidelines and vision in mind the Catalan public universities set about evaluating the impact of the universities in the Catalan economy and society. The objective is to study and evaluate quality through an ex-post analysis on the actual impact university activities have on both the economy and society. It is meant to be a complementary method of evaluation to the existing ones carried out by the national (ANECA, Spain) and regional (AQU, Catalonia) quality agencies. The traditional and most common quality evaluation schemes in Spain and Catalonia are thorough ex-ante methods.

This paper will present the objective of the “The Impact Study of Catalan Universities on Society and Economy”, what areas it focuses on and some of the current challenges of such an endeavour. It concludes with a reflection on this type of quality evaluation approach and some open questions for further discussion.

## **The Study**

An impact study of this kind not only has to be rigorous on the evidence presented, it also has to focus on clear objectives. Due to the nature of public higher education and the strong reciprocal links among social agents, in this impact study we will talk about a triple objective:

1. to analyse and provide evidence of the impact of universities;

---

<sup>1</sup> The Association of Public Universities of Catalonia (ACUP) is composed by the Universitat de Barcelona (UB), Universitat Autònoma de Barcelona (UAB), Universitat Politècnica de Catalunya (UPC), Universitat Pompeu Fabra (UPF), Universitat de Girona (UdG), Universitat de Lleida (UdL), Universitat Rovira i Virgili (URV) and Universitat Oberta de Catalunya (UOC).

2. to gather the elements needed to make comparisons with other university systems;
3. and, to serve as an instrument of accountability to society and its representatives.

The chosen fields of study are structured around the core functions of universities since it is through these performing functions that university influences society. It can be argued that society also influences the university, but this type of analysis escapes the objectives of an impact study. Either way, it is important to discuss each of the functions separately, to understand the extent in which they are relevant to the two types of impacts: economic and socio-cultural. This distinction that is evident in many cases but can be less clear in others and this differentiation between the two different impacts should be maintained so as to facilitate the interpretation of results. It is noteworthy that most studies that have been done so far have clearly opted for the economic dimension, driven by the difficulties of measuring the socio-cultural impacts. However, we will highlight, where possible, the social aspect, although sometimes this is simply the result of a clear evaluation of the social implications of an economic result. Finally, it is important to note that the translation from function to impact, despite being logical, it nonetheless remains difficult. An example is research. The theoretical literature recognises that the long horizon of the impact of research greatly complicates its measurement.

Functions commonly attributed to the modern university are:

1. Provision of human capital
2. Research
3. Knowledge transfer / Innovation and regional competitiveness

The impacts generated by these missions are the cornerstones of the study. It must be so, precisely because universities are accountable in the performance of tasks that society has entrusted them. The relative importance accorded to each depends on the vocation of the study.

Finally, beyond the three missions of the university, there are other themes included in the study. We would like to highlight two:

1. The economic impact of the university as an institution
2. The social impact, through considerations of social and educational mobility

### **The economic impact of university as an institution**

We can say that in exercising their social tasks, the university acts as a productive branch of the economy. Discussions focused on the role of institutions of higher education and their relationship with society ignored this dimension, but that is because it is not in its productive activity where the differential fact of universities underlies. Nevertheless, when the emphasis is not only in the nature of the connections but also on the impact it generates, this aspect becomes relevant.

That is why it has been considered as necessary to develop a section that provides a complete picture of this aspect of university impact on the economy, which consists of the university's activities and its associated agents' spending. The university has

economic importance as an institution and, furthermore, it can be attributed a generation of additional spending over the agents that make up the university system.

The section consists of a formal analysis of the impact of spending by agents of the university system. First of all, the study will define what these players are and what portion of their spending is attributable to his membership in the system. Once this is done, we focus on studying the effects of this expenditure. To do so, we must identify which sectors are the main recipients of this spending and how through the linkages of the different branches a multiplier effect is created beyond the direct impact. The ultimate goal is to provide a reasonable estimate of the final effects on occupation, wealth and production.

Although multiple methodological issues arise, we have finally decided to include the expenditure of universities (through its budgets), universities' employees, the foundations created by universities and students (both Catalan and international, although different methodologies are applied). By including all these agents, we reduce the amount of expenditure lost by other economic impact studies previously published.

## **Human capital**

One of the major tasks entrusted to university is its educational mission. Graduates acquire in the classroom a set of skills, abilities and knowledge that make up what is called human capital. If we focus on its economic assessment, we can talk about assessments at two levels:

1. employability of graduates in the job market after finishing studies
2. the economic contribution of human capital to economic development

There are several studies that have examined the employment of academics. The Catalan University Quality Agency (AQU, in Catalan) develops a survey every three years. The National Statistics Institute (INE, in Spanish) has made the *Survey Transitional Education Program, and Labour* in 2005 and recently updated with new results (2007). Finally, the most comprehensive source of information at European level is the report *The Flexible Professional in the Knowledge Society: New Demands on Higher Education* (REFLEX). It has been published by the National Agency for Quality Assessment and Accreditation (ANECA, in Spanish) within the framework of a European project.

Combining all these sources in a way in which it is possible to present the results in the triple (regional, Spanish and European) framework calls for a review process of these surveys. Some of the questions posed are somewhat equivalent, so that after applying some conversion of scale and group certain responses may include comparative work on the three levels previously mentioned.

The information extracted for this chapter can be divided into two major areas of study, those related to employability and retribution and those addressing the adequacy of the training received. The first part gathers empirical evidence from labour force surveys (*Encuesta de Población Activa 2008, INE*) and the database on human capital by the Valencian Institute of Economic Studies (IVIE, in Spanish). The second one is based on

the comparison of the results of the Catalan University Quality Agency survey on Catalan graduates' employability and the REFLEX results for Spain.

## **Research**

The second task entrusted to the university is its research mission. Researchers are working to expand the frontier of knowledge in the certainty that contribute to the development of society. It is necessary to devote a chapter to the research effort in itself and the impact this has on the academic and scientific circles. It is equally important to analyse the links of knowledge transfer between universities and society, the so-called third mission of universities. However, we can say that the impact of research is a function of two variables, the research power and the ability to transfer and absorb its results. For clarity in the analysis they should be separated into two chapters.

Turning now to evaluate the research *per se*, we identified three areas of study:

1. quality and quantity of research;
2. inputs to the research system;
3. and the efficiency of research

The outcome of research has been quantified and treated through bibliometric and scientometric techniques. These methodologies, despite the fact that research on how to solve the poor evaluation of some scientific fields (such as humanities) is still ongoing, have been commonly accepted.

An increasing amount of resources, both financial and human, are being devoted to research. We present descriptive evidence on what is the share of public and private sector on the provision of those resources and the final amount invested on research by Catalonia.

Finally, we propose a number of simple indicators to evaluate the efficiency of the research activity. However, we recognize that further elaboration is needed in that direction, since simple measures fail to capture relevant aspects of efficiency evaluation such as returns to scale.

## **Innovation and knowledge transfer**

Recently there has emerged a strong interest in the so-called third mission of the university. This interest is simply the recognition that the impact of research depends on the mechanisms of transmission of the results. Today it is accepted that having a strong research system is not sufficient to ensure that those benefits will effectively reach society. We must devote special attention to the design and implementation of the channels of knowledge transfer, and an impact study should reflect this concern.

There are many mechanisms for technology transfer, some were explicitly recognised as a university *spin-off* or transfer offices of research results (OTRI). Others, however, arise in a natural way, as in the case of industrial clusters (although it is recognised that there is a design component in many of the most successful clusters, the mechanisms by which are beyond the direct control of administrations).

Finally, there is a body of literature devoted to studying the relationship between investments in R&D and economic growth. The literature on the basis that the composition and amount of funds devoted to R&D affects mid and long-term growth patterns of countries.

This section greatly benefits from the survey made by the OTRI network (*Encuesta redOTRI 2008*), the most comprehensive source of information on that area in Spain. Key indicators such as the number of patents generated by universities, the number of *spin-off* companies or the amount of resources obtained by performing consultancy services are gathered in this survey.

## **Social and cultural impact**

The preceding parts of the study have focused on identifying and, where possible, quantify the various impacts of the university in society. It is equally important to analyse how these impacts affect different social groups. There is broad consensus on identifying higher education institutions as institutions that promote social mobility, where students from different social background are equalized through education. However, the spotlight is now focused on the determinants of access to university. Moreover, there is a relationship between the university and what is often called *good society* (environmental concerns, political participation and volunteerism, among other activities).

There are studies that provide estimates of the extent to which the position and education of parents affects the chances of access to college for their children. However indicators of *good society* are harder to obtain. The reason is that it is difficult to separate the effects of higher education on other socioeconomic characteristics of the individual. For example, although there was a positive relationship between the educational level and the number of times per month that a person goes to the theatre, we could not be sure that education really affects the decision to go to the theatre is not in practice another feature (i.e. the level of income). Using a source of information that includes the habits we want to study (participation in cultural or political activities) and other characteristics of the respondent (educational level, income level, age, etc.) allows us to try to separate the two effects. At the state level, the National Institute of Statistics produces regular *survey of adult participation in learning activities* (EADA).

In terms of social mobility and education, the common information system for the Catalan public universities (the network UNEIX) provides data on:

- Relationship of educational attainment of father and mother, and success rate of students
- Relationship of educational attainment of father and mother and access to college.

## **Conclusion**

This paper focuses on a new method of understanding quality management in higher education, based mainly on outputs and outcomes of university activities on society and economy. The study is based on the grouping of the eight public universities of Catalonia (Spain) and the direct and indirect impacts on Spanish and Catalan society and economy, which is also clearly an innovative approach. The study is very much based as a tool for accountability and value for money of universities towards society, and will bring an interesting debate about how to analyse the outputs and outcomes of higher education institutions in European societies.

## **Questions for debate**

- Is it possible to analyse the direct impact of university activities' upon society? What should be the best methodologies and tools to do it?
- How are the public universities of Catalonia undergoing this accountability process to society and to public institutions (mainly Governments and Parliaments)?
- Is it possible to build a common and cohesive system of universities in a specific region or country, promoting differentiation and complementarity between them? What evidences does the study show in the case of the universities in Catalonia?