SCIENTOMETRIC INDICATORS AS A MEANS TO ASSESS THE PERFORMANCE OF STATE SUPPORTED UNIVERSITIES IN DEVELOPING COUNTRIES: THE CHILEAN CASE*

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Chilean universities are responsible for more than 80% of the science produced in the country, which in the last 20 years with some periods of great difficulties, has grown more than 600%.

One of the underlying problems of the governments of developing countries to delineate suitable strategies to allocate efficiently the few funds available, has been the absence of clarity to distinguish the individuals and centers committed with competitive scientific research. As a consequence, the state funds, which in part are scarce because the region invest to little in science, do not always reach to the right people and to the right places, amplifying the already existing problems for the good scientists that resist to emigrate.

To evaluate the corresponding situation in Chile, and to follow the results of substantial actions to support the scientific activity in the country, we have examined the performance of state financed universities.

Introduction

With about 8% of the population of the world, the Latin American and Caribbean region hardly contributes with 1.3% of the world's total output of mainstream publications.¹² As in most developing countries, the region's scientific research is being performed mainly within the framework of universities. Thus, in addition to the intrinsic responsibilities which characterizes higher education and in which original scientific research plays an important role, in general, the universities in Latin America and the Caribbean, provide the main source from which local and not imported knowledge is produced to nourish the society needs and the development of the country.

The higher education scenery of the region is very heterogeneous. The same is true within each country. A peculiar feature in Latin America is that the faculty engaged in active research determine in a high degree the true possibilities of stable and competitive country progress. This is not the case in industrialized countries where universities share this obligation from a primary academic perspective. The reality is not the result of explicit policies. In a way, it has been generated as the result of the absence of adequate policies, matter that deserves further comments. However, the fact that scientific research appears as one of the most valued constituents of contemporary university life in many Latin American countries, responds to important debates and definitions which took place in the sixties.

The search for an identity involving conceptions of social mobility, democratization and capacity to answer to the requirements of the productive apparatus which slowly underwent a trend towards modernization, strengthens the needs for special efforts to train professionals with profound scientific knowledge and capacity to solve the problems of underdevelopment and dependence.3

During the last three decades higher education in Latin America experienced an immeasurable growth regarding student population, number and kind of institutions involved, and faculty.4 While in 1960 the number of students in the region was 630,000, in 1970 it reached 1.5 million and grew to 5 million by 1980.4 Furthermore faculty involved in higher education in Latin America comprised in 1965 about 100,000 persons and 600,000 in 1980.4 The explosive growth of the higher educational system occurred, in general, under a precarious economical and political situation which determined in part, that the universities instead of being a model for society, turned into a mirror of the current turmoils.

Chile was not an exception to this rather peculiar kind of growth. Enrollment in universities rose from 24,000 in 1960 to 139,000 in 1984.4 In the late sixties, graduate programs at Ph.D.'s level began to be offered, but it was not until the eighties that programs towards M.Sc. and Ph.D. degrees covered many areas and reached higher standards with an increasing number of students. From 1981 to 1984 the number of graduate students doubled to 2800.5 These programs expressed the existing research capacity and the will to proceed with a formal fourth cycle the prepare to scientists that the country needs.

As a consequence of new laws regarding higher education in Chile, the number of state supported universities grew from 8 to 20. In fact, the new universities were derived from campuses of mainly two big state universities. In addition, new truly private (without direct financing from the state) universities were founded. The