

## **7. Some Efficiency Indicators**

In recent years, institutional strategies were bound by structured models that oriented planning in accordance with pre-determined functions and missions. This at least partially explains the fact that little effort was made to formulate statistics and comparative indicators. However, today's dynamics call for more and fuller information on the institutions - including the need for institutional awareness - on the evaluation processes under way, and on integration and internationalization processes.

This chapter gives some quantitative indicators which must be handled with caution due to the lack of qualitative data that is crucial for formulating interpretations based on greater elements of analysis. With due consideration of this limitation, trends will be presented on the basis of the information available and the issue will remain open for so that other researchers may make the more in-depth analysis that is necessary.

### *Faculty/Student Ratio*

A comparison of the ratio of faculty to students in public and private universities can only be made for fourteen countries because a further 5 countries were unable to provide the figure for their total faculty. In the case of those 14 countries, the faculty/student ratio is lower in public than in private universities. It is lower still if one takes all 19 countries into account, the ratio in that case being one faculty member to every nine students.<sup>1</sup>

Although a lower faculty-student ratio may in some instances make for better student-teacher relations, in other instances, it may also lead to higher unit costs without necessarily enhancing the quality of education. On the other hand, the

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<sup>1</sup> See Table 23, Appendix II

differences between one country and another are significant; in half the countries the ratio is 10 students or less per faculty member, and in the other half, the ratio is higher. The Dominican Republic has the highest ratio for private universities and Bolivia the highest for public universities.

The average regional ratios for non-university institutions differ little from the ratios for universities, 1:1 for the public sector and 1:2 for the private sector, and a little lower for private sector universities.

Table 7.1  
Faculty-student ratio in public  
and private universities. 1994

Countries	Universities	
	Public	Private
Bolivia	1:25	1:7
Brazil	1:9	1:15
Colombia	1:10	1:10
Ecuador	1:13	1:14
El Salvador	1:16	1:19
Honduras	1:15	1:12
Mexico	1:7	1:5
Nicaragua	1:13	1:31
Panama	1:17	1:9
Paraguay	1:8	1:15
Peru	1:13	1:15
Dominican Rep.	1:10	1:32
Uruguay	1:9	1:4
Venezuela	1:11	1:17
Totals	1:12	1:14

Source: Table 23, Appendix II

### *Proportion of administrative and service personnel to academic personnel*

The ratio of administrative and service personnel to total personnel makes it possible to consider the ratio between this kind of personnel and those dedicated to educational and research activities, who are the main actors of educational institutes. Although facts are only available for 12 countries, the comparison between the private and public sector shows that the number of employees/faculty is higher in the public sector than in the private sector. (See Figure 7.1 of this Chapter).

In Brazil's public sector, there is a higher proportion of administrative and service personnel than faculty members. In three countries (Panama, Venezuela, and Nicaragua) the numbers are about equal.

Table 7.2  
Administrative and service personnel to total personnel ratio.  
Public sector. 1994.

Higher	Same or nearly the same	45 to 40%	Under 40%
Brazil (66.5%)	Panama (50%) Venezuela (49%) Nicaragua (46.9%)	Costa Rica (45.7%) Colombia (44.5%) Ecuador (44%) Uruguay (43.4%)	Peru (36.4%) Cuba (36.3%) Dominican Rep. (33.3%) Guatemala (31.7%)

Source: Table 26, Appendix II.

This ratio does not discriminate between faculty members working part-time or on a flexible basis, which further aggravates the situation of countries with a high proportion of employees. However, in order to evaluate this situation better, more elements are required, for instance the high proportion of employees in the case of Brazil can be explained by *"the significant number of hospital staff in universities with hospitals (at UNICAMP, of the 10,000 staff for 2,000 faculty, over 4,000 are hospital staff who serve the entire macro-region of Campinas)."*<sup>2</sup> This, of course, does not explain everything and hence the need for more exhaustive analyses to grasp this aspect better, as it may well be concealing internal inefficiency that the institutions are attempting to overcome, and which would explain in some instances the high unit costs that are not in keeping with the academic quality.

### Graduate Rate

Knowledge of the percentage of students who graduate could prove useful in establishing comparisons between institutes. However, it is risky to attempt to establish comparisons between countries on the basis of total rates since the statistical data provided by the organizations in

<sup>2</sup> National Reports<sup>2</sup> See Table 23, Appendix II

<sup>2</sup> National Reports

charge of compiling such information are not always reliable. Very little information is available on non-university institutions is very limited, so only data on universities will be given.

Only three countries - Colombia, Cuba and Venezuela - have a university graduate index of more than 40%. There are a further seven countries whose private university graduate rates are higher than the graduate rates for public universities, namely, Brazil, Colombia, Honduras, Panama, Peru, Uruguay, and Venezuela.

Universities with unrestricted enrolment - as is the case in both Argentina and Uruguay- do not necessarily have lower graduate rates, as is generally believed. A striking fact is the low graduate rate of Chile's public universities, 9.1%, considering that its reform aimed precisely to increase the efficiency level of this sector.

Table 7.3  
Rate of graduates from universities, by sector. 1994

Over 40%		10% to 25%		Under 10%	
Public	Private	Public	Private	Public	Private
Cuba (78.3)	Venezuela (47.8)	Nicaragua (20.0)	Uruguay (23.3)	Chile (9.1)	Argentina (8.6)
Venezuela (46.5)	Colombia (47.0)	Uruguay (19.2)	Honduras (20.4)	C.Rica (8.3)	Costa Rica (2.2)
Colombia (42.0)		Argentina (16.2)	Brazil (17.5)	Peru (10.0)	
		Brazil (14.3)	Peru (14.0)	Honduras (5.7)	
		Peru (10.0)	Panama (12.7)		

Source: Table 16, Appendix II

### *Quality and Efficiency Indicators*

The internal indicators of quality that prevail at the regional level are: "average time spent by a student on his/her degree" and "student, faculty, administrative personnel ratios". In addition to these two indicators, Chile also uses: productivity index of faculty members, index of academic levels of faculty members, number of the best students admitted to each institution, quality and relevance of institutional development programmes, socio-economic level of students at State funded universities.

The most common external indicators are "publications" and "degree theses." None of the countries applies "social indices of expense recovery."

An interesting comment was made some countries to the effect that sometimes indicators exist but this does not necessarily mean "that they are taken into account in decision-making."

Table 7.4  
Use of INTERNAL quality and efficiency indicators. 1995

Countries	Student Faculty Administrator Indices	Graduate Rate	Use of Information Technology for transparent processes	Average time spent by students at university or college	Others
Argentina	yes	yes	no	yes	...
Bolivia	yes	yes	...	no	...
Brazil	yes	yes	no	yes	...
Chile	yes	no	no	yes	yes <sup>a</sup>
Colombia	...	...	...	...	...
Costa Rica	no	no	no	no	...
Cuba	yes	yes	yes	yes	yes <sup>b</sup>
Ecuador	no	no	no	no	....
El Salvador	yes	yes	no	yes	....
Guatemala	...	...	...	...	....
Honduras <sup>c</sup>	...	...	...	...	....
Mexico	no	no	yes	yes	....
Nicaragua	yes	yes	no	yes	....
Panama	yes	no	yes	yes	....
Paraguay	...	...	...	...	....
Peru <sup>d</sup>	yes	yes	no	no	....
Dom. Rep. <sup>e</sup>	yes	yes	yes	yes	yes <sup>f</sup>
Uruguay	...	...	yes	yes	yes
Venezuela <sup>g</sup>	yes	yes	yes	yes	...

(a) Faculty productivity index, student/faculty indices, indices of faculty's academic levels, number of best students admitted to each institution, quality and relevance of institutional development projects, socio-economic level of students at State funded universities. All the indicators mentioned are considered when allocating fiscal contributions.

(b) Studies on the quality of graduates. Evaluation of university graduates' impact on scientific research activity.

(c) Standardized statistical data not available. The Bureau of Higher Education is working on this and initial results are expect by the beginning of 1996.

(d) The fact that these indices exists means that formulation and access is possible. However, this does not necessarily mean that the education system or its agents consult them to reach decisions.

(e) Although it cannot be denied that these indices are applied on a regular basis in the country, there is no Accreditation System to back up the validity of these figures.

(f) Library and facilities.

(g) The fact that indices exist does not necessarily they are taken into account in decision-making processes; further, efforts are not made to follow-up these indices as a way of measuring performance.

Table 7.5  
Use of EXTERNAL quality and efficiency indicators (results). 1995

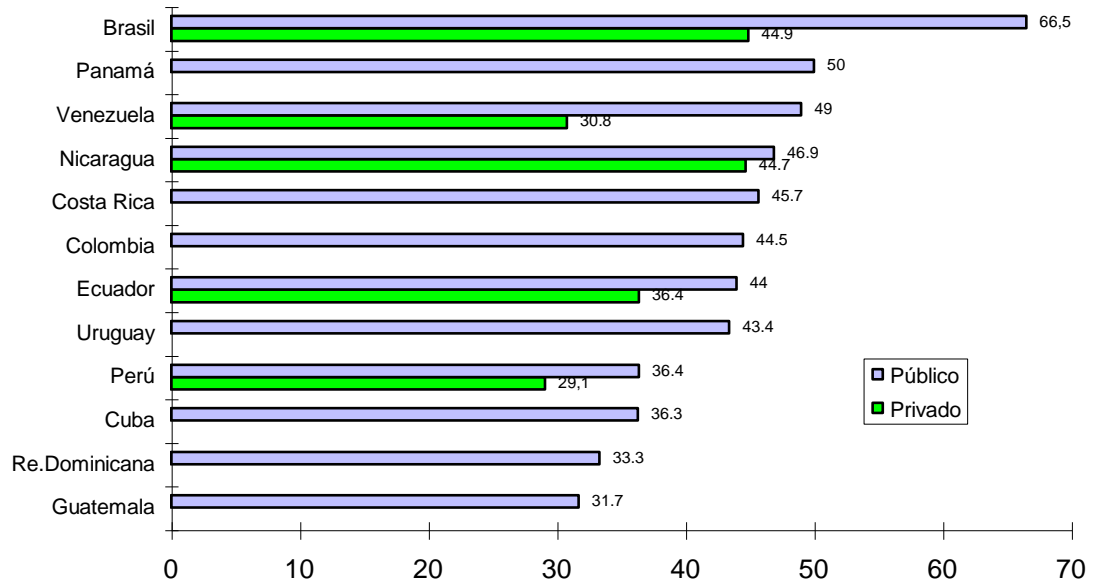
Countries	Rate of employment of graduates	Performance indices graduates	Social indices recovery of expenses	Research projects completed	Publications	Post-degree theses	Efforts to progress towards combined indicators (efficiency + results)	Efforts to progress towards indicators of pertinence relevance added value service community
Argentina	no	no	no	yes	yes	yes	x	x
Bolivia	no	no	no	...	..	...	...	no
Brazil <sup>a</sup>	no	no	no	yes	yes	yes	yes	yes
Chile	no	no	no	yes	yes	no	yes	yes
Colombia	...	...	...	...	...	...	...	...
Costa Rica	no	no	no	no	no	no	no	no
Cuba	yes	yes	no	no	yes	yes	yes	yes
Ecuador	no	no	no	no	no	no	no	no
El Salvador	no	no	no	no	yes	yes	yes	yes
Guatemala	...	...	...	...	...	...	...	...
Honduras	...	...	...	...	...	...	...	...
Mexico	no	no	no	yes	yes	yes	no	no
Nicaragua	no	no	no	no	no	no	no	no
Panama	no	no	no	yes	yes	yes	yes	yes
Paraguay	...	...	...	...	...	...	...	...
Peru	yes	no	no	no	no	no	no	no
Dom. Rep.	yes	yes	no	no	no	no	no	no
Uruguay	...	...	...	yes	yes	yes	yes	yes
Venezuela <sup>b</sup>	no	no	no	no	no	no	no	no

(a) The MEC is setting tests for the first time.

(b) An incipient effort is under way at some universities to create a new matrix of internal quality and efficiency indicators.

Figure 7.1  
Ratio of administrative and service personnel to total personnel. 1994.

OJO: cambiar nombres países y escribir  
public y  
private



Source: Table 26, Appendix II