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Volume I

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ABBREVIATIONS AND ACRONYMS

ABMES	*Associação Brasileira de Mantenedoras do Ensino Superior*
ABRUC	*Associação Brasileira das Universidades Comunitárias*
ANDIFES	*Associação Nacional de Instituições Federais de Ensino Superior*
ANUPES	*Associação das Universidades Particulares*
CAPES	*Coordenadoria de Aperfeiçomento de Pessoal de Ensino Superior*
CAUT	*Committee for the Advancement of Undergraduate Teaching*
CEF	*Caixa Econômica Federal*
CES	*Censo de Ensino Superior*
CFE	*Federal Council of Education*
CIHE	*Council for Industry and Higher Education*
CNE	*Conselho Nacional de Educação*/National Education Council
CPGE	*Cours Préparatoires aux Grandes Ecoles*
CQAEHE	*Centre for Quality Assurance and Evaluation of Higher Education*
CRUB	*Conselho de Reitores das Universidades Brasileiras*
ENC/*Provão*	*Exame Nacional dos Cursos/* National Exam of Courses
GDP	Gross Domestic Product
GRE	Graduate Record Examination
GSP	Graduate Standards Project
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institutions
IALS	International Adult Literacy Survey
IBGE	*Instituto Brasileiro de Geografia e Estatística*
INEP	*Instituto Nacional de Estudos e Pesquisas Educacionais*
IUT	*Instituts Universitaires de Technologies*
LDB	*Lei de Diretrizes e Bases de Educação*/The National Law of Education
MEC	*Ministério da Educação e do Esporto*
MS	Minimum Wage Salaries (Monthly)
OAB	*Ordem dos Advogados do Brasil*
OECD	Organization of Economic Cooperation and Development
PAIUB	Program of Institutional Evaluation of Brazilian Universities
PCE	*Programas de Crédito Educativo*
PNAD	*Pesquisa Nacional de Amostra de Domicílios*
PROEDE	*Programa de Estudos e Documentação Educação e Sociedade*
PUC	*Pontífica Universidade Católica*
QAA	Quality Assurance Agency
RJU	*Regime Jurídico Único*
SBPC	*Sociedade Brasileira para o Progresso da Ciência*
SESU	*Secretaria de Ensino Superior*/National Council for Education
SREB	Southern Regional Education Board
STS	*Sections de Techniciens Supérieurs*
UNB	National University of Brazil
UNESCO	UN Educational, Scientific, and Cultural Organization

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Brazil: Higher Education Sector Study

Volume I

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Until recently, the dominant characteristic of higher education in Brazil has been its stasis. With an average of only 1.6 million enrolled students since the early 1980s - less than 10 percent of the available age cohort - Brazilian institutions of higher learning have failed to keep pace with the country's growing demand for an educated work force. The inability of Brazil's secondary schools to produce a sufficient number of qualified university candidates is the primary reason for this stasis. Today, however, reforms in basic and secondary education are being implemented to ameliorate this dilemma, and the number of students passing through the education system is increasing rapidly. In the next several years, the impact of these changes on higher education will be very substantial and the system needs to be ready to receive and educate the large number of students who will be demanding access to tertiary education.

Contrary to the rest of Latin America, Brazilian public universities remained selective during earlier periods of expansion in the 1960s and 1970s. Last year, Brazil spent about $5.4 billion on its federal universities, approximately $13,500 per student. Although public universities are free for students, quality is very uneven, teaching loads are light, only a small percentage of the faculty have adequate academic credentials, and there are no incentives for improving quality, getting rid of incompetent professors, and increasing enrollments. Private institutions, on the other hand, expanded very quickly in the 1960s and 1970s, filling the gaps left by the public sector. Today, about two-thirds of Brazil's higher education students are in private institutions. Very heterogeneous in type, these private-sector schools include confessional institutions like the Catholic universities; community universities sponsored by local governments, businessmen and voluntary organizations; and diploma mills.

Simon Schwartzman,
"Higher Education in Brazil: First Moves." 1997

Preface

The Government of Brazil is analyzing options for improving and restructuring higher education over the next two to three decades. At the request of the Minister for Education, Mr. Paulo Renato, the Bank undertook an assessment of the state of higher education and made recommendations on how its purpose, structure, scope, funding and governance could evolve to better meet the needs of the country. The assessment consisted of four phases.

In phase one, analytical work between Minister Paulo Renato, members of the National Education Council, rectors, federal higher education officials, and World Bank staff led to the identification of the major issues facing Brazilian higher education. The following issues were identified: i) *increasing coverage,* ii) *enhancing managerial autonomy and providing incentives for efficiency at the institutional level*; iii) t*he changing role of the Federal Government;* iv) *improving quality of instruction, and* v) *identifying and garnering support from stakeholders.*

In phase two, several expert policy analysts were commissioned to produce a series of background papers which served as the basis for discussion at a policy workshop held in December 1998 in Lansdowne, Virginia. Six of the background papers, in their entirety, comprise the contents of Volume II[1] of this study.

A three-day Policy Workshop, from December 10-12, 1998 in Lansdowne, Virginia, was the third phase of the assessment. The workshop brought together a delegation, led by the Minister of Education, of selected high-level Brazilian policy makers, a panel of international policy experts, and Bank staff. The main objective of participants was to launch a dialogue for fundamental and long-term change, based on a balanced and realistic assessment of where Brazilian higher education should be heading.

Phase Four was the production of Volume I of this study, "Brazil: Higher Education Sector Study", which discusses the ways in which Brazil might address the main issues identified and prepare the higher education sector for the 21st century. The first section of Volume I describes *the system.* The second section provides an *economic perspective* by examining the issues of external efficiency, internal efficiency, and equity with reference to possible developments in student aid and other measures to promote wider access to higher education. The third and final section contains *policy recommendations*. It should be noted that these are recommendations and not confirmed government policies.

[1] Portuguese versions are available through the World Bank regional office in Brasilia. The papers may also be accessed, both in English and Portuguese, on the Worldwide Web at www.worldbank.org.

Executive Summary

1. Brazil has put significant resources into developing its higher education system over the past three decades. As a result, a system has evolved in which some institutions have achieved recognizable excellence in teaching and research, while, more generally, the majority of institutions have struggled to provide relevant, quality education at reasonable cost. Looked at in isolation, certain parts of the system are sound and productive. Taken as a whole, the system still has a number of large challenges to overcome.

2. Less than 12% of the age cohort is enrolled in higher education. This is quite low compared to other countries in the region (Argentina 41%; Peru 40%; Uruguay 30%; Venezuela 29%; Chile 27%. [Unesco 1995]) and to the OECD country average of 49% (OECD, 1997). Simply doubling the number of spaces offered, however, will not double the rate of coverage, because a demographic bulge of young Brazilians is reaching university age. Over the past 15 years, growth in private provision of higher education was roughly equal to the moderate growth of the university-age cohort, but now large absolute increases in enrollments would be needed simply to maintain the current rate of coverage. In addition, graduation rates from secondary schools are rising sharply and more older, working Brazilians are seeking tertiary degrees. In short, a larger percentage of a growing number of Brazilians are demanding higher education, and the system cannot keep pace with this demand under existing conditions.

3. Cost per student in public institutions, roughly R$14,000 per year in the federal system[2], is on par with OECD country averages while quality is not. Rigidities in funding and regulation create strong disincentives for cost-efficiency or quality. Public universities have been funded on the basis of input. Federal policy toward higher education, until recently, did not attempt to control costs or correlate funding to productivity. Other legislation and regulations, outside the control or influence of MEC, created built-in cost increases that did not improve the access, quality, or relevance of the education. University rectors have traditionally concerned themselves more with obtaining resources from the federal government than with managing the resources effectively within their institutions.

4. With a few notable exceptions, the quality of instruction and the relevance of the curriculum are below desirable standards. Historically, the Brazilian system - like those of continental Europe - is oriented to provide professional training rather than general or interdisciplinary education. Holders of a first university degree (graduação) are licensed

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[2] Brazilian higher education is largely a non-tradable service, the cost of which is not significantly affected by the price of higher education in other countries. Therefore, stating the costs in terms of other, more stable currencies can be misleading because of fluctuations in Brazil's exchange rate. When the Real was "overvalued", the costs appeared exorbitant. After the recent devaluation, a comparison in dollar terms would falsely show a 40% cost decrease from 1998 to 1999. Costs are best measured by comparison to domestic prices (such as percentage of average starting salary of a graduate, or the cost of a car, a home, or some other basket of goods). Such a comparison shows that the cost of public higher education is at least as great as in OECD countries.

to practice their profession by virtue of their diplomas. Such systems have been successful, productive, and of high quality under a variety of conditions. However, in Brazil, thanks largely to restrictive labor market regulation, the influence of professional associations in setting the curricula and the numbers of courses/places have served to limit the supply of professional labor, rather than to satisfy the demands of the labor market. Furthermore, in the Brazilian public system, a lack of coherence in research, teaching, and career advancement policies in public institutions has often led to a concentration of professors doing specialized research at the expense of undergraduate teaching. By contrast, many private institutions are driven by profit, and therefore do not undertake any research or pay salaries necessary to attract and retain high-quality professors.

5. The public system, which includes many, but not all of the country's finest institutions, provides higher quality education than the private sector, charges no tuition, and limits the number of places. Competition for admittance is fierce, and wealthy students do best because they can afford elite private high schools and special preparation courses for the entrance exams. Estimates on enrollment by income quintile show that two thirds of students are from the highest income quintile, while only about 5% are from the two lowest. It is a generally recognized problem that students from lower and lower middle class backgrounds have greater difficulty gaining entrance to the free, public system. If these individuals study at all, they are more likely to be in the private system, where they must pay tuition. Some financial assistance is available from the government and the institutions themselves, but it does not sufficiently address the needs of the students in the system, and much less the potential students who are excluded due to inability to pay.

6. In 1996, seventy-eight percent of higher education institutions (which represented 74% of total enrollment) were in the South and Southeast regions of the country. The highest quality institutions are also mainly concentrated in these regions. In cities like São Paulo, there are currently more offered places than enrolled students. In most of the rest of the country, the situation is the opposite.

7. The Government of Brazil has a three-pronged strategy for improving higher education: (i) to change the legal framework for the sector; (ii) to change to a performance-based funding system that supports MEC's policy goals of improved access, quality, and efficiency; and (iii) to improve capacity for evaluating quality of instruction and performance of institutions. To date, substantial progress has been made in points (i) and (iii), and planning for (ii) is underway.

(i) The Legal Framework. Prior to 1994, higher education institutions were not allowed to define curricula or personnel policies. They could not hire or fire academic, technical, or administrative staff, set salaries, open new courses of study, decide the number of places they would offer, or transfer budget resources among expenditure categories. The Government's National Education Law (Law 9.394/1996) created a new category of institutions, the "university centers", which enjoy most of the same legal

privileges as universities, have greater autonomy over curricula and enrollments, and have a mandate to concentrate on undergraduate teaching instead of research. The law also allows universities to define their own personnel policies, to hire and fire staff directly, and to manage budgets according to the needs of the institution, rather than centralized bureaucratic mandates. The law also creates the framework for a national evaluation system, through which the federal government can monitor and guarantee the quality of higher education. Other legislative changes have allowed for the creation of new, shorter courses which are similar in some respects to the community college degree programs of the US, and two-year professional Master's degrees for areas of high demand, like business administration and economics. The new legislation also permits much greater autonomy for institutions to determine the type and amounts of education they offer. The previous, restrictive "minimum curriculum" for each course or career is no longer legally mandated. Institutions are now only required to follow broad curriculum guidelines.[3]

8. Implementation of the changes that these laws make possible has been slowed because of existing contravening legislation, and by resistance to autonomy and inertia within universities themselves. Presently, all university employees are civil servants, contracted under the Unified Legal Regime (Regime Juridico Unico: RJU). The RJU employees are virtually impossible to fire - regardless of job performance - and their salaries are collectively negotiated. However, reform of the Brazilian public service will greatly narrow the jobs that can be defined as RJU, so that only positions like ambassadorships, or similar career public service positions, will qualify. New employees of public higher education institutions will no longer qualify for RJU status. Rather, they will be contracted by the institutions themselves under terms that the institutions determine. It should be noted that the two employment regimes will co-exist for a period, until all RJU employees leave through attrition or retirement, or voluntarily transfer to the new system.

(ii) Changes to the Funding System for Higher Education. The Government, in granting institutions greater autonomy, requires that institutions be accountable to their stakeholders. To ensure autonomy with accountability the Government of Brazil is making two fundamental changes to the way it funds higher education. For the federal institutions, it would provide block grants, on the basis of performance contracts. The allocation for each institution would be derived using a simple, transparent formula. The formula would reward the "behavioral changes" and improved productivity that would lead to MEC's policy goals of greater access, quality, and efficiency. For the private system, it would provide loans targeted to students who could not otherwise afford to pay tuition. Students will be able to use their loans only at private institutions, which have demonstrated that they produce students proficient in their subject areas as shown by data collected from recent *Provão* outcomes.

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[3] The new guidelines have been developed through a consultative process with the academic community. They place a much greater emphasis on defining the knowledge and competencies that a graduate should possess, and much less on prescribing a mandatory, detailed curriculum for each discipline.

(iii) Improved Evaluation of Performance. An integral part of MEC's strategy is to transform its role from that of a funder of inputs to that of a guarantor of a minimal standard of quality for output. A main instrument for this is its evaluation and accreditation system. Brazil has a long and successful experience with evaluation and accreditation of graduate courses by CAPES. In this system, courses are graded by several criteria, and those that do not meet minimum quality standards after a probationary period are denied public funding and lose their accreditation. The CAPES system has been recently revised to increase the relevance and quality criteria. MECs undergraduate accreditation system has grown out of the CAPES experience and will further ensure that with autonomy comes accountability.

9. Currently, MEC has four mechanisms for the evaluation of undergraduate education, which together provide increased information to potential students about the quality of the education offered:

- Re-accreditation. Under the national education law, courses are now required to undergo periodic re-accreditation (every three years). SESU provides input to the National Council for Education Committee for Higher Education, which recommends renewal, suspension or accreditation for each course. MEC may impose conditional re-accreditation where warranted.

- The *Provão*. The National Exam of Courses or *Provão* tests the achievement of all graduating students in the 13 most widely followed career courses (administration, law, engineering, medicine, etc.). Students are only required to take the exam, they are not judged on their individual performance. The average score of student's from each institution, however, is published as a proxy indicator of the quality of instruction in that course. The *Provão* has been given annually since 1996, and each year it has added new courses. It has already had an impact in two ways. First, it has help to create a culture of performance evaluation within universities. Student and faculty initially resisted this type of measurement, but that resistance has decreased with time. Second, it has changed public perceptions about the quality of institutions. Some well-funded public universities have seen their prestige diminish because of low scores. Private universities that score well are seeing their applications increase, while low scoring schools are finding it more difficult to attract students.

- Institutional Evaluation. In 1997, MEC/SESU began its Program of Institutional Evaluation of Brazilian Universities (*PAIUB*). Under the program, committees of peers are selected by SESU to make site visits to higher education institutions to evaluate the qualifications of the staff, the organization of instruction and the curricula, and the adequacy of the support infrastructure (libraries, laboratories, etc.) for the courses offered. Courses are given a "grade" for each category, and the results are published. In its first year of operation, 810 courses were evaluated.

- The Higher Education Census. The National Institute for Education Research (INEP) has been conducting a nation-wide survey of higher education institutions for the past several decades. The survey collects data on several aspects of the higher education system.

10. As part of its strategy, MEC has been building political support for this reform among key stakeholders. It continues to hold frequent consultations with legislators, university administration officials, representatives of faculty and students, and other agencies and levels of government with responsibilities related to higher education.

11. The World Bank has been an active partner in this strategy since June 1998. Innovative ESW for the sector was undertaken during the first half of FY99. The culmination of these activities was a policy workshop (December 10-12, 1998 in Lansdowne, Va.,) at which Minister Paulo Renato and a delegation of Brazilian higher education policy makers worked for three days with a team of top international experts and Bank staff to define a vision for Brazilian higher education into the 21st century. The event was in response to a request made in the second quarter of 1998 for technical assistance. In the months prior to the workshop, background assessments were conducted by the Bank team and a series of policy papers were commissioned from relevant experts. This work brought into focus the main issues that Brazil must address to achieve the progress it seeks in the sector. These issues formed the basis for discussion and became the core of the consensus on directions for policy that Minister Renato articulated at the conclusion of the workshop.

12. Clearly, many important changes are underway within the system. The challenge is to focus attention on those that will promote the greatest progress in equitable access, quality, relevance, and efficiency. With this in mind, it is recommended that MEC take the following steps. First, with respect to access: (a) the trend towards diversification through new instruments, such as sequential courses, and new institutional definitions (such as university centers) should continue; (b) the amount of targeted financial assistance for poor students should be increased; and (c) five and ten year enrollment increase targets should be identified, and progress toward improved coverage should be monitored closely. Additionally, the Government of Brazil has several policy options for increasing access to tertiary education that it may consider in the future. These include: i) increasing government and private funding of public institutions; in light of the current economic situation in Brazil, and the government's relatively high spending for higher education, it is unlikely that a large infusion of public funds for higher education is forthcoming. However, the addition of private resources could lead to an increased supply of places to the extent that the additional resources are used to educate and train students rather than to pay for administrative costs or research; ii) reducing costs per student at public institutions could be achieved in any number of ways and is best dealt with at the institutional level; and iii) charging tuition at public universities. This option is being used increasingly around the world as a means to maintain or increase institutional budgets. When combined with well thought out student aid schemes, this could have a

positive impact on equity access. Further discussion of possible strategies to expand access in Brazilian tertiary education can be found in Volume II, Annex Six.

13. With respect to quality, it will be important to ensure that the *Provão*, which has achieved major success in a short time, remains a flexible tool. The *Provão* should change with the changing needs of curriculum development, and ways of measuring the new competencies that are being included in the new curricula should be constructed. Also, institutions should more actively promote internal quality assurance mechanisms, in recognition that ultimately, responsibility for quality lies within, and cannot be mandated from outside. Relevance will improve with the new, more flexible course guidelines that have been developed, but should be further enhanced by new administrative mechanisms (e.g., transfer of credits, broader recognition of work outside the defined discipline). A dialogue on institutional relevance should be underway, in which the role of regional and local connections is considered, as is the institutional vocation regarding questions such as teaching versus research.

14. Last, efficiency should be augmented, mostly through autonomy of administrative decision-making under proper incentives. Reform of the existing civil service legislation is, without a doubt, a key aspect of this issue. But other critical components will include providing more fungible funding (by means of block grants), providing a greater flexibility for institution to generate resources, and strengthening longer-term strategic management within the institutions.

Higher Education in Brazil: Characteristics and Challenges

Section 1. The Current Status of the System

Description

1.01 ***The Institutions***: In 1997, there were 922 institutions, 57 of which were federal, 74 state, 80 municipal, and 711 private (see Table 1). Classified by education mission, there are essentially four types of institutions:

i) universities, which carry out the traditional missions of teaching and research at the graduate and undergraduate levels;

ii) university centers, tertiary institutions, whose main mission is teaching;

iii) multiple faculty facilities, known as *federações e integradas,* non-university institutions, which offer programs in more than one knowledge area, such as social sciences and technology;

iv) single faculty facilities, or *instituições isoladas,* non-universities, which offer programs in only one knowledge area, such as social sciences.

This official count of institutions in reality overstates the number because each isolated institution is counted as a single institution, when in fact it is not uncommon for several isolated facilities to be under the control of a single governing board, and thus indistinguishable from a multiple faculty facility. These different categories of institutions are each regulated differently (see the section below on the Legal Framework).

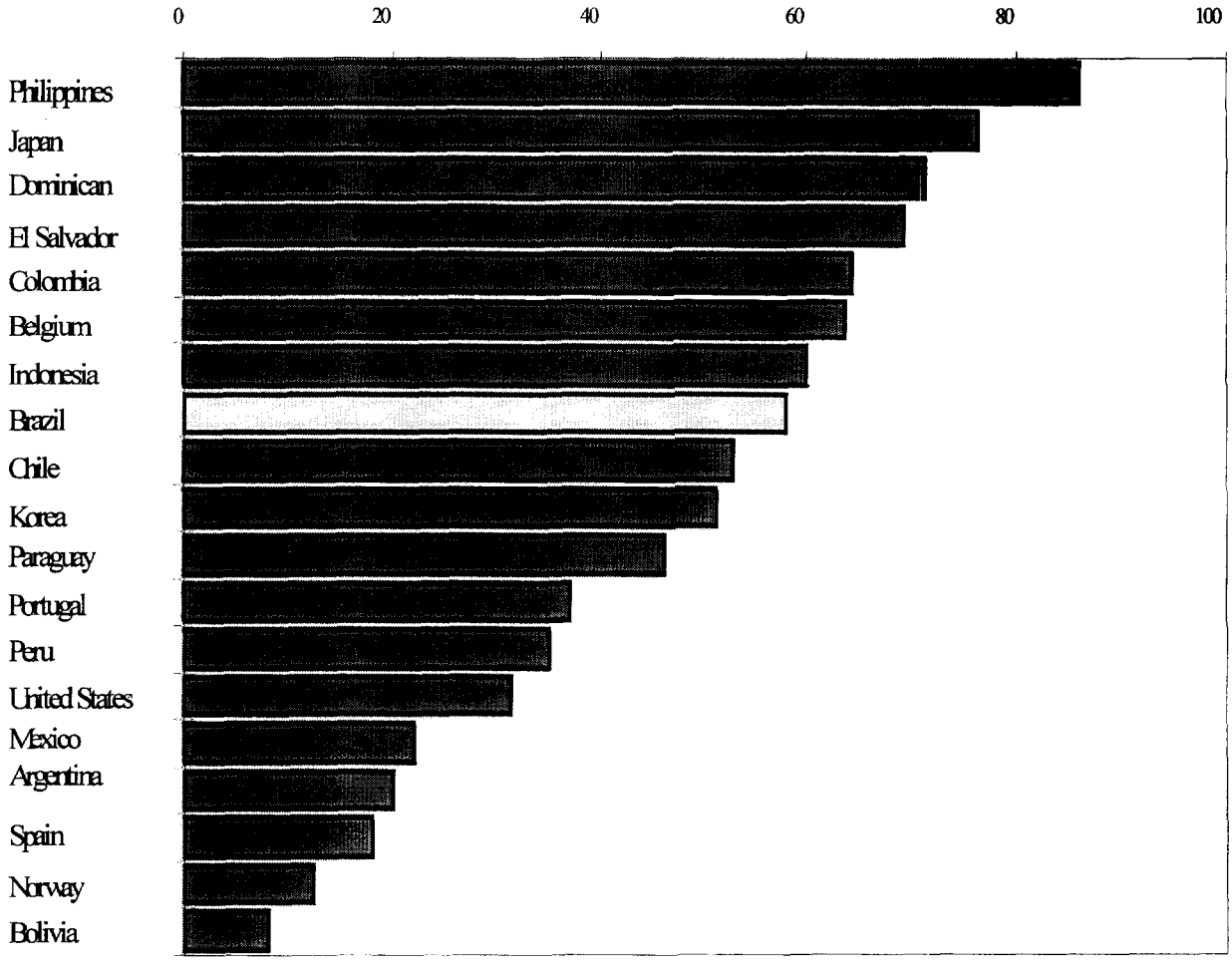
Table 1. Tertiary Education Institutions in Brazil, by Type, 1997 (percent of total tertiary enrollment)

Type of Institution	*Number*	*Enrollment*	*% Total Enrollment*	*Graduates (1995)*
Universities	**136**	**1,326,459**	**68**	**[illegible]**
Federal	39	380,980	20	44,493
State	27	226,149	12	27,772
Municipal	6	59,292	3	5,537
Private	64	660,038	34	68,436
Non-University-Multiple Faculty	**143**	**192,667**	**10**	**[illegible]**
Public	11	1,078	.05	1,276
Private	132	191,589	10	38,178
Non-University Single Faculty	**643**	**426,489**	**22**	**[illegible]**
Public	128	91,683	5	15,873
Private	515	334,806	17	32,836
Total	**922**	**1,945,615**		**[illegible]**

Source: MEC/INEP/SEEC.

1.02 In 1997, the public sector enrolled about 760,000 students (39% of total enrollment). The federal universities account for half of all public enrollment and approximately one-fifth of the total enrollment. The state and municipal systems together account for an additional one-fifth. The private sector, as seen in Graph 1 below, accounts for 61% of total enrollment—nearly 1.2 million students.

Graph 1. Enrollment in Private Higher Education (as a % of total)



1.03 Private enrollment is split more or less evenly between universities (56%) and non-universities (44%). University enrollment has more than doubled from 1980 to 1997 (from 652,000 to 1.3 million), but overall enrollment at the tertiary level is up by only 41% (from roughly 1.4 to 1.9 million) for the same period. Also during this period, the size of the age cohort grew by about 37%, so the rate of coverage remained constant at about ten percent of the 18- to 24-year-old cohort. As Tables 2 and 3 below show, this compares unfavorably with several Latin American countries as well as with a wider range of OECD countries.

Table 2. Growth of Coverage in Tertiary Education: Latin America

Country	% of Age Cohort in Tertiary Education		% Increase in Coverage, 1980-1993
	1980	1993	
Brazil	11	12	9
Argentina	22	41	86
Chile	12	27	125
Colombia	9	10	9
Costa Rica	21	30	43
Mexico	14	14	0
Peru	17	40	135
Uruguay	17	30	77
Venezuela	21	29	38

Source: UNESCO data (1995) as reported in *World Development Indicators*, 1997

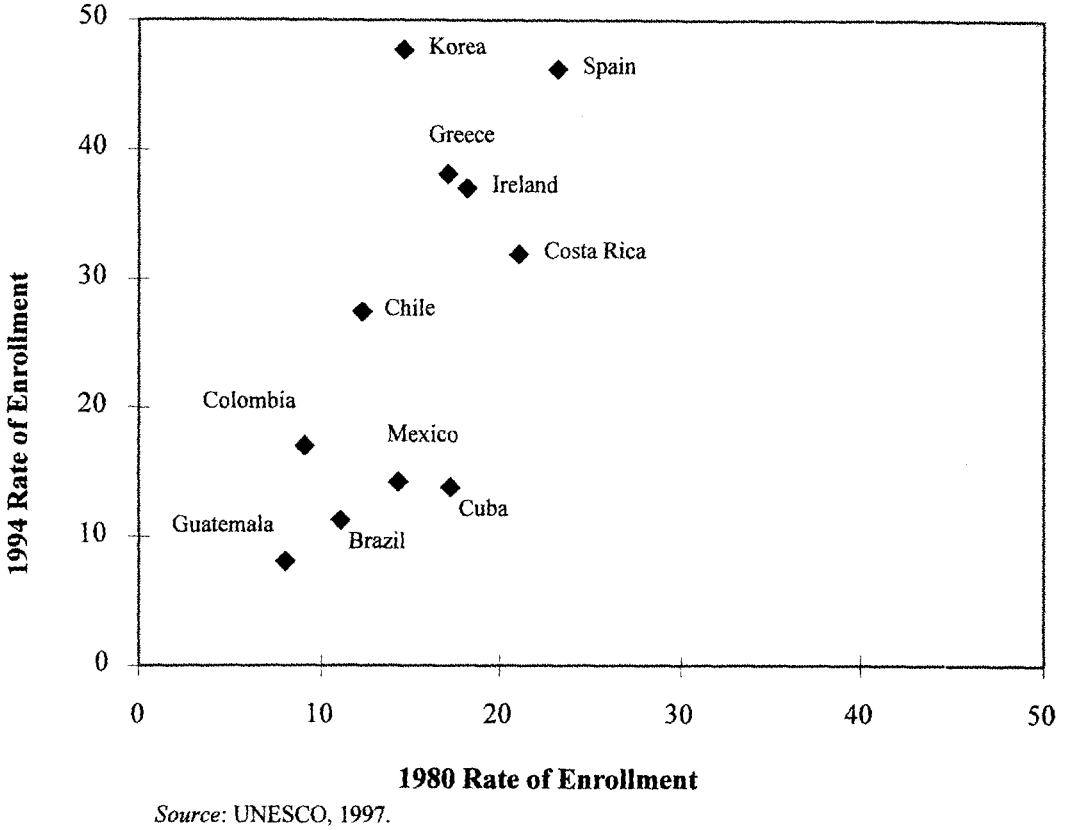
Table 3. Growth of Coverage in Tertiary Education: OECD Countries

Country	% of Age Cohort in Tertiary Education		% Increase in Coverage, 1980-1993
	1980	1993	
Finland	32	63	97
France	25	50	100
Ireland	18	34	88
Italy	27	37	37
Korea	15	48	220
The Netherlands	29	45	55
New Zealand	27	58	115
Norway	26	54	108
Portugal	11	23	109
Spain	21	41	95
Turkey	5	16	220
United Kingdom	19	37	63
United States	56	81	47

Source: UNESCO data (1995) as reported in *World Development Indicators*, 1997

1.04 The stagnant growth of Brazilian higher education is even more dramatic when viewed in Graph 2. Only two other countries, Guatemala and Mexico, show a similar pattern over that same time period. Cuba has shown a decline in enrollments.

Graph 2. Coverage: Gross Enrollment Rate (1980-1994)



Source: UNESCO, 1997.

1.05 Enrollment is split almost evenly between institutions located in state capitals and those located in the interior. The federal universities are spread throughout national territory, but the other tertiary institutions are overwhelmingly located in the South or Southeast (approximately 78% of all institutions, representing 74% of total enrollment). Between 1980 and 1996 the number of universities grew 110 percent, from 65 to 136, while the overall number of higher education institutions grew by only 5 percent (from 882 to 922). While only five new federal universities were added (from 34 to 39), the number of state and municipal universities tripled (9 to 27 and 2 to 6 respectively). Private universities grew in number from 44 to 64. The large increases are probably due to the advantages of having university status, notably, less government regulation. This has moved many multiple and isolated facilities to successfully lobby for conversion to university status.

1.06 Private tertiary institutions range from top-quality universities engaged in research and teaching, such as PUC Rio and PUC São Paulo, to single facility institutions. Of the 711 private institutions, 9 percent (64 institutions) are universities with the vast majority (72%) falling in the category of single or isolated facilities. "Community universities", which include the pontifical institutions, began emerging as an identifiable group among the privates in the mid-1980's. These institutions have a reputation for good quality and

for taking their mission of service, especially to local communities, very seriously. Community universities probably most closely approximate the American concept of a private university. Many private institutions are for-profit organizations, known as entrepreneurial institutions. While the National Education Law now officially recognizes for-profit institutions, inclusion in this category means the loss of tax-exempt status, resulting in very few entrepreneurial institutions categorized in this way.

1.07 Except in the federal universities, consistently high enrollment in night courses has been a feature of Brazilian higher education (see Table 4 below). On average, night students make up 55 percent of total enrollments. If the federal system (where night students account for only 17% of enrollment) is eliminated, however roughly four-fifths of the remaining enrollment is in night courses.

Table 4. Total Enrollment, Enrollment in Night Classes and the Percent of Students Enrolled in Night Courses, by Type of Institution

Type of Institution	1991	1997		
Type of Institution	**%**	**Total**	**Night**	**%**
University	**37.8**	**1,326,459**	**590,048**	**44.5**
Federal	15.0	380,980	63,487	16.7
State	37.6	226,149	96,659	42.7
Municipal	71.1	59,292	42,770	72.1
Private	54.5	660,038	387,132	58.7
Non-University Multiple Faculty	**77.3**	**192,667**	**148,309**	**77.0**
Municipal	94.0	1,078	151	14
Private	76.6	191,589	148,158	77.3
Non-University Single Faculty	**75.1**	**426,489**	**325,490**	**76.3**
Federal	29.9	14,853	6,443	43.4
State	74.6	27,529	20,952	76.1
Municipal	82.1	49,301	40,505	82.2
Private	76.0	334,806	257,590	76.9
Total	**55.1**	**1,945,615**	**1,063,847**	**54.7**

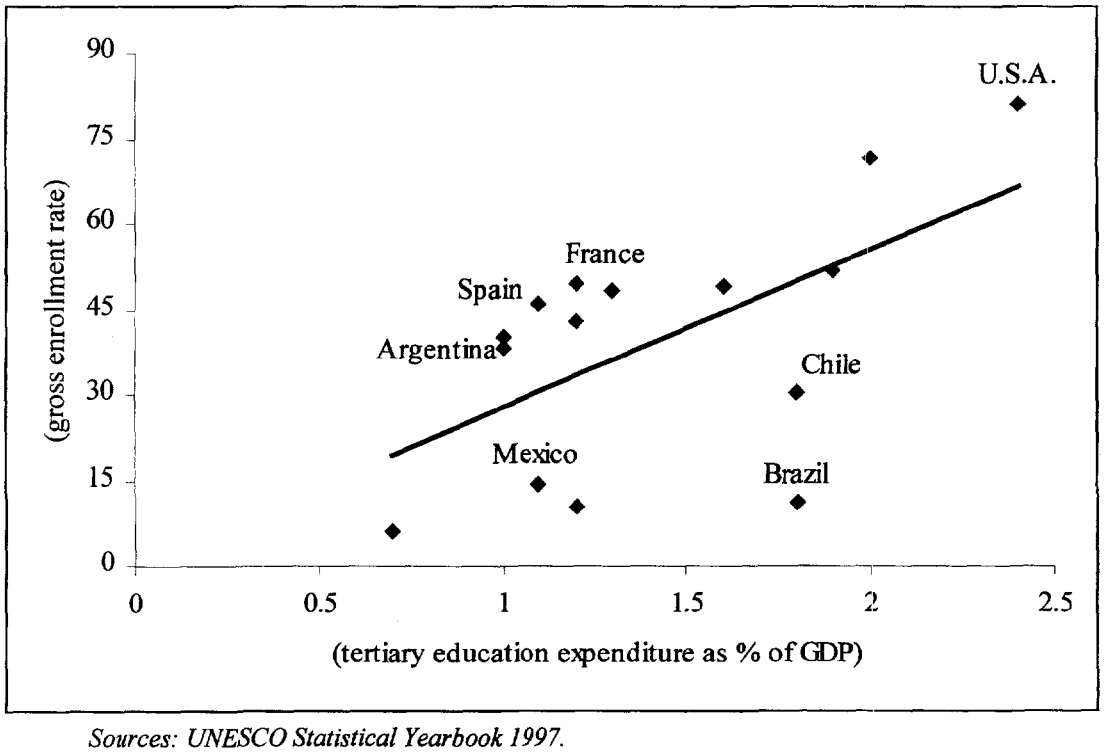
Source: MEC/INEP/SEEC.

1.08 In institutions where night courses predominate, course offerings tend to concentrate on "softer" disciplines or professionally orientated degree programs such as computer science, teacher training and other emerging technological fields. Most courses in these institutions do not require expensive laboratory equipment, so hard sciences are under represented. Sixty-eight percent of the private institutions are in the Southeast region, with an especially heavy concentration in São Paulo and Rio de Janeiro. The entire budget of these institutions usually comes from tuition, with a small percentage of tuition (10%) arriving in the form of student loans (see Section Two, "Economic Issues and Perspectives" for more in-depth discussion of this topic). A slightly higher percentage of students in the private system drop out or fail to earn degrees, probably due to the fact that many are older and already working. Full-time faculty is the exception; most instructors are paid an hourly wage according to the number of classes taught.

However, in an attempt to improve quality at these institutions, recent legislation was passed issuing guidelines, which require institutions seeking legal status as universities to have at least one-third of their faculty hired as full time employees. Rough estimates of annual cost per student (R$3,500) is only about one-fourth the cost at the federal universities. Laws designed to prevent private institutions from operating for profit are easily evaded.

1.09 With the exception of a small student loan program that subsidizes private education, all federal spending for higher education goes to the federal university system. The system's budget is about R$ 6.5 billion per year, with the latest 1997 MEC estimated per-student cost at R$ 14,500. In 1997/98, about 23 percent of all public spending on education (1.3 percent of GDP) were allocated to higher education, although higher education constituted only 2 percent of total enrollment in education. Graph 3, which compares a country's expenditure as a percent of GDP with its gross enrollment rate, demonstrates how much Brazil deviates from international norms.

Graph 3. Efficiency: Percent GDP and Gross Enrollment Rate



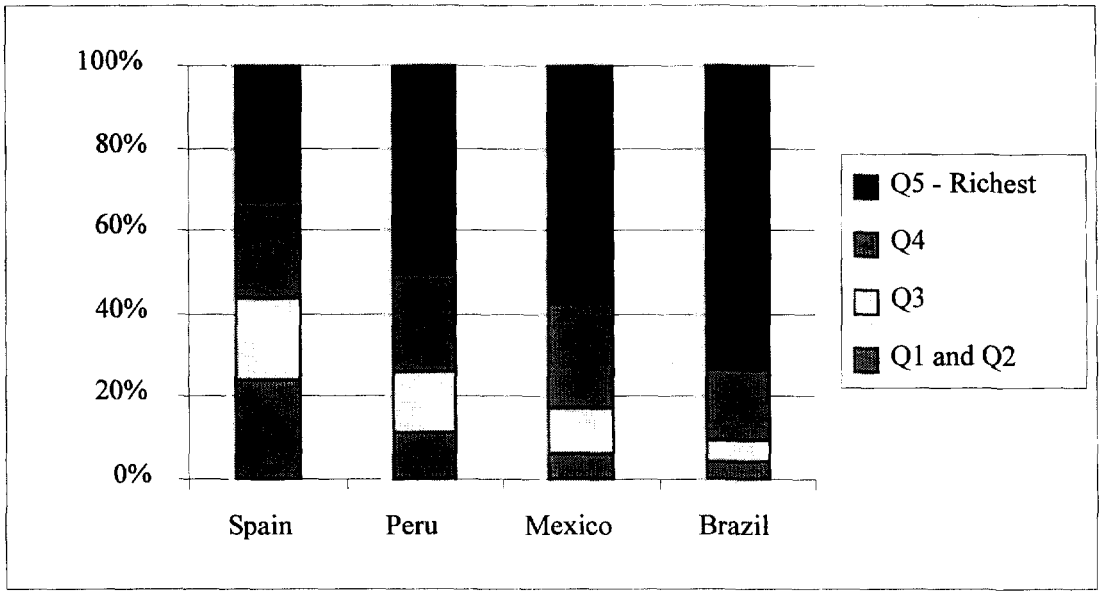
Sources: UNESCO Statistical Yearbook 1997.
Education at a Glance: OECD Indicators 1998.

Individuals and the private sector spent an additional 0.4 percent of GDP on higher education. In 1997, all education absorbed 15.3 percent of all public spending, with 3.9 percent of all spending for higher education. Public universities (federal, state, and municipal) do not charge tuition. The vast majority of cost for the federal universities is

salaries. These account for an estimated 95 percent of all expenditure and are either paid directly by the federal government through the civil service system or are tied to employee benefits.

1.10 ***The Students***: The socio-economic profile of 1997 graduates shows that about 80% were between the ages of 20-29, 58% were men. Most worked at least part time, and the majority lived with their parents or families while studying. There are large differences in terms of access to education by lower income groups. In Brazil, 66 percent of all students come from the top income quintile, and, about 33 percent of all students come from the top income quintile. This is very different from Spain where about 35 percent of all students come from the top income quintile. In Brazil, only about 100,000 students, or about five percent of the net enrollment, come from the bottom two quintiles. The situation is similar in Mexico, but different from Spain and Peru (Graph 4).

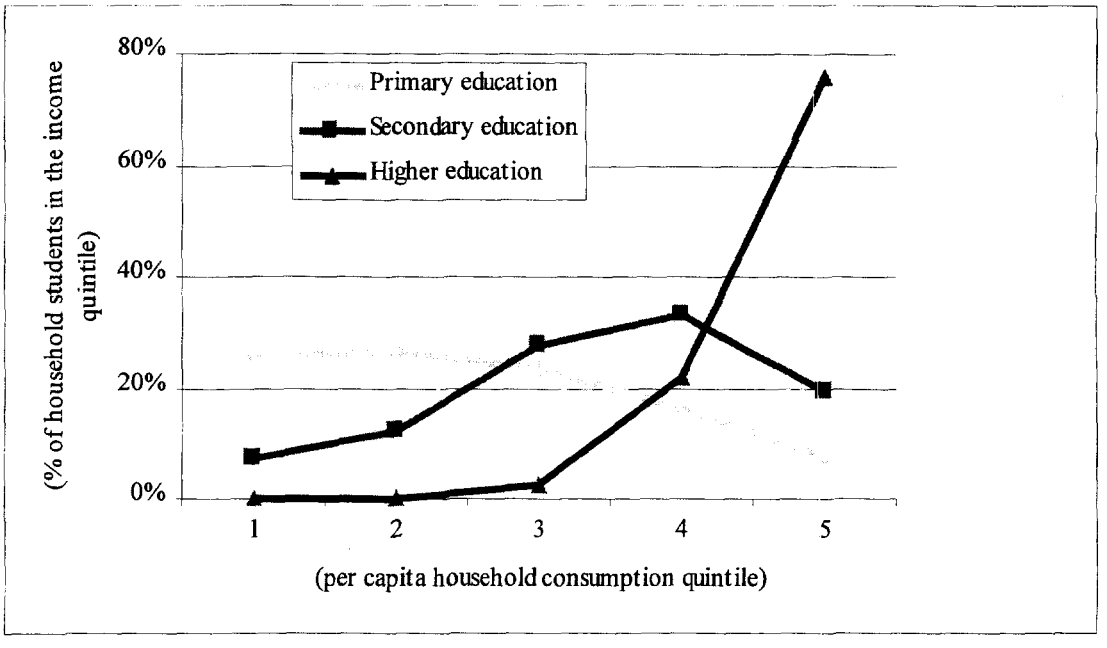
Graph 4. Equity: Enrollment of 18 to 24 Year-Olds in Higher Education by Income Quintile



Source: Education at a Glance: OECD Indicators 1998.

Graph 5 shows the distribution of students enrolled in each level of education across income quintiles:

Graph 5. Equity: Distribution of Enrollments by Income Quintile



In Brazil, slightly higher proportions of primary education enrollments are found in the lower quintiles. The opposite is true for secondary education enrollments, and at the higher education level, almost all the enrollments are concentrated in the top two quintiles. This general picture is true across most countries; higher income groups are more likely to send their children to good private schools that will qualify them for university entrance and they also have the ability to pay for expensive higher education. However, in very few countries is the distribution as skewed as in Brazil.

1.11 Terminal efficiency for the system as a whole, between 1990 and 1997, was 54 percent. Approximately 3.7 million new students entered tertiary institutions and 1.99 million graduated. This is low by most standards, but there is reason to suspect the figures overstate the actual rate of drop out. A study of university dropouts in Paraná found that 75% had actually transferred to other programs and would eventually complete their degrees. Anecdotal evidence claims that many students enroll in multiple programs initially, and, during their course of study, decide to drop one, thus falsely elevating the drop out rate. Survival rates are roughly the same as in Portugal and Turkey, but are significantly lower than those in the Czech Republic, Hungary, and Mexico.

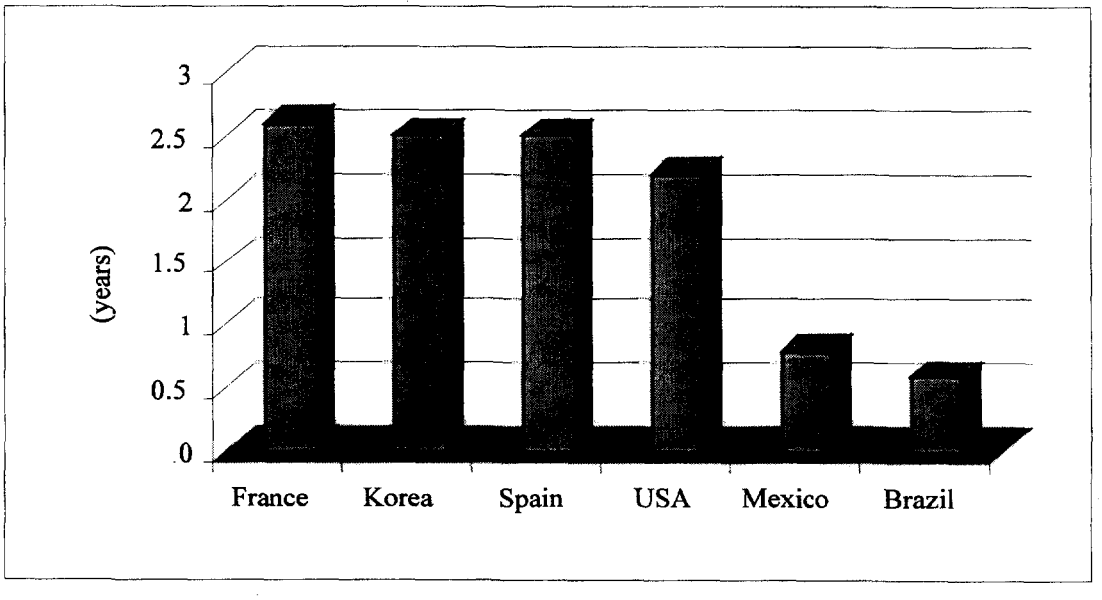
Table 5. Rates of Survival and Dropout in University-Based Education

Country	Reference Year	Survival Rate	Drop-Out Rate
Czech Republic	1995	79	21
Hungary	1996	81	9
Mexico	1996	68	32
Portugal	1993	49	51
Turkey	1995	55	45
Brazil	1997	54	NA

Source: Wagner, 1998.

1.12 Extrapolations from demographic data show that absolute increases in tertiary enrollment are scarcely keeping pace with the growth of the age cohort. Coverage in 1997 was almost identical to what it was in 1980: less than 10 percent of the 18- to 24-year-old cohort. IBGE data indicate that one-third of enrolled undergraduates are 25 years old or older, and only 12 percent of graduate students are under the age of 25. Assuming these figures to be accurate, this means that only 5.9 percent of the population in the 18 - 24 year-old-age group are enrolled in tertiary education. Differences in higher education enrollment rates translate into differences in the educational attainment of the labor force. Based on OECD calculations, it is estimated that Brazilian 17 year olds are expected to receive, on average, about one-half year of higher education, while in Spain, Korea, and France, they will receive five times that much (Graph 4). This puts Brazil at a great disadvantage in the global marketplace.

Graph 6. Global Context: Expected Years of Tertiary Education for all 17 Year-Olds (1996)



Source: Education at a Glance: OECD Indicators 1998.

1.13 The Vestibular System and Competition for Admission: University candidates compete for places through competitive entrance exams known as the *vestibular.* Universities or consortia of universities design and administer their own exams for various fields of study, under very general guidance from the National Education Council (*Conselho Nacional de Educacão:CNE*). Requirements for different departments and programs of study vary, but students generally take exams in 3-5 subjects. High school graduates may take the *vestibular* immediately after graduation, but many take up to a year to prepare, often in expensive, private preparation courses. The number of places offered through the *vestibular* system has been growing at about a 10 percent per annum, but the number of entrance exams taken is growing faster.

Table 6. Total Number of *Vestibulars* Taken, Total Places Available and the Ratio of Admissions Offered to New Enrollments, Selected Years 1980 – 1997

Year	# *Vestibulars* Taken	# Places	*Vestibular*/ Admissions	Students Enrolled	Admissions/ Enrollees
1980	1,803,567	404,814	4.5	356,667	1.16
1985	1,514,341	430,482	3.5	346,380	1.24
1990	1,905,498	502,784	3.8	407,148	1.17
1995	2,653,853	610,355	4.3	510,377	1.21
1996	2,548,077	634,236	4.0	513,842	1.23

Source: MEC/INEP/SEEC.

1.14 In 1996, roughly 1.2 million students completed high school, and 2.5 million *vestibular* exams were taken. About 600,000 students gained admission to universities, less than one for every four exams taken. Table 7 seems to indicate again that while the absolute number of places available and the number of students enrolled both continue to increase, there has been no relative expansion of the system over the last nine years. No data were available on the average number of exams each candidate takes, so it is not clear whether these figures represent a large pool of candidates seeking admission, more applications per candidate, or a mixture of the two. What is obvious is that over 1.9 million *vestibular* exams taken each year do not lead to enrollment. The most likely explanation—supported by interviews with current students—is that there is a significant queuing phenomenon. Many students, especially outside of the state of São Paulo, take the exam several years in a row before being admitted.[1] Competition for admission to the elite federal universities is especially intense (some accept as few as 10 percent of the applicants). While most regions have many more aspirants than places for higher education, observers report that recently in São Paulo there has been a lack of qualified candidates and that university places go unfilled. MEC is conducting a study of the reason for this reported regional oversupply. Data from the Educational Census of the Instituto Nacional de Estudios e Pesquisas Educacionais (INEP CES) confirm that the ratio of admission offers to new enrollments is growing only slightly.

[1] It is worth noting that the time required to sit for the *vestibular* is between two to three days. In addition to the fee for the exam, students also incur other costs, such as travel to the exam site and food and lodging for the three-day exam period.

Table 7. Ratio of the Number of Students Taking the *Vestibular* to the Number of Available Places, by Institutional Ownership

Year	Total	Federal	State	Municipal	Private
1980	4.6	7.8	8.1	2.5	3.4
1985	3.5	6.8	6.3	1.9	2.5
1990	3.8	6.2	6.8	2.3	2.9
1995	4.3	8.7	9.2	3.0	2.9
1997	4.0	8.5	9.0	2.3	2.6

Source: MEC/INEP/SEEC.

1.15 The National Education Law (the LDB) removed the requirement of the *vestibular* for university entrance, in hopes of leveling the playing field for admission, since poor students usually cannot afford the expensive *vestibular* preparation courses that lead to success on the exam. The National University of Brasilia (UNB) has recently experimented with admitting students who have not taken the *vestibular*. Instead of taking the *vestibular*, a group of candidates were identified early in high school and took "final exams" at the end of each year of high school. UNB reserved 25% of its places for the top scoring students in this group. This experiment drew complaints from the *vestibular* candidates who were now competing for a smaller number of places, and the practice was even (unsuccessfully) challenged in the courts. Because the experiment took place only recently, no data is yet available on the relative performance of the students admitted with the *vestibular* versus those without. Nonetheless, UNB plans to continue this mode of admission, and other institutions are now beginning similar pilot programs.

The *Vestibular:* Is It a constraint to the Poor?

The *vestibular* system has been criticized for contributing to the difficulty that poor students in Brazil have in gaining admission to tertiary institutions. Presently, there is no standard nation-wide academic assessment or entrance examination for high school leavers. Individual institutions (or associations of institutions) design and administer their own exams to screen students for admission. These are generally quite rigorous, and tend to assess mastery of a set curriculum rather than academic potential. The term "*vestibular*" refers both to the individual exams and to the collective process of selecting students for admission. Critics point to three main sources of bias that limit the ability of the poor to succeed under the *vestibular* system.

First and most importantly, many students enroll in expensive private preparation courses that are designed specifically to increase scores on the *vestibular* exams. Fees for these courses vary according to quality, and can easily top two or three minimum wage income equivalents. The students who can afford these quality preparation courses are usually the ones who have already had the advantage of high-quality, private secondary education.

Second, the exam does not measure general academic ability or potential, but instead focuses more on mastery of a set curriculum and/or memorization of facts. Not only is this biased against those with poorer secondary instruction, but it also allows for more students to succeed through short-term preparation rather than on the basis of their innate skills or academic accomplishments. When judgement is based on academic performance all throughout secondary school, it gives a better indication of overall preparedness to succeed in university. As one indicator of how seriously this short-term preparation is taken, in São Paulo the best instructors for preparation courses are reported to earn six-figure salaries. Many of these are former teachers, who have left teaching for the more lucrative exam-preparation business.

Third, the tests tend to be located in metropolitan centers, which may be hard to the rural poor to reach. The simple logistics and the expense involved in traveling to the exam site and paying lodging and subsistence for the multi-day exams can be beyond the means of poor families.

Attempts to change the *vestibular* system have been fiercely resisted by those who might lose out. Court challenges to innovations that favor the poor have been brought, although to date they have not succeeded. Fear of this resistance may be one reason institutions have been slow to use the new legal freedom they have to accept students outside the *vestibular* system. Anecdotes confirm that the distortion of the system is such that a market for fraud has developed, with families paying up to R$50,000 to those who can provide a score guaranteed to win the desired admission place.

The government is taking two steps to eliminate this bias against the poor. First, the *vestibular* is no longer a mandatory requirement for admission. Students may be accepted on the basis of their academic records over the course of secondary school, on the results of annual final exams, or according to other criteria a school might set. Second, the government is instituting a national exam for secondary school leavers (similar to the Provão for undergraduates). This exam will provide a single, uniform measure of achievement nation-wide, and it will also place greater emphasis on general academic abilities and cognitive skills. Many institutions will be interested in students' scores because they wish to demonstrate the "value added" through their results on the Provão. It is hoped that these incentives will break down the inertia to admissions reform in Brazilian higher education institutions.

1.16 ***Teaching, Administrative and Technical Personnel:*** In 1996, the overall system employed approximately 148,000 teaching faculty, or roughly one faculty member for every twelve students. Sixteen percent of all faculty had doctorates, 25 percent had Master's degrees, 36 percent had completed specialization (short) courses, and 23 percent did not hold graduate degrees. The percent of faculty without a graduate degree is declining, with Ph.D. holders up 42 percent in 1996 over 1990 levels, holders of Master's degrees up 33 percent; and the number of faculty, without advanced degrees is down by

26 percent. There is over 222,000 technical and administrative personnel, or 1.5 per faculty member, but three-fourths of these are employed by the public system. The number of technical and administrative personnel has increased 20 percent between 1990 and 1996.

1.17 In the federal system the terms and conditions or employment for professors, technical, and administrative staff are regulated by the *Regime Juridico Unico* (RJU) and are classified within the civil service. All permanent staff, while contracted by the institution, is paid directly by the government. Prior to 1996, institutions were not permitted to develop their own staffing plans, set salaries, or establish promotion criteria. Professors are hired through open, public competition for positions, but the number and type of positions are controlled from the federal government. Universities had, in practice, no power to fire staff. Under the RJU, staff is entitled by law to a generous array of benefits, including retirement at 100 percent of their last salary, plus subsequent pay raises. Other rigidities have been firmly established through legislation. For example:

- over 354 different job categories exist, from senior professor to cafeteria worker, and the federal government defines how many of each position each university will have. University administrators have no power to switch resources to different job categories as their needs change.
- Under the Law of Isonomy (1987), all faculty and staff throughout national territory are paid on the same salary scale, despite huge regional variations in cost-of-living.
- Promotion is based on length of service, not performance or qualifications.

1.18 The LDB changed these regulations and gave the universities the freedom, on paper, to set their own personnel policies. But pre-existing, contravening legislation is still in effect, and institutions will not have these powers in practice until broad civil service reform is passed.[2] Once passed, many, but not all, universities are expected to exercise the new rules for new hires. The conditions of those contracted under the present RJU will not be changed, and will therefore continue to be a large strain on resources for some time. As with many higher education reforms, the legal basis was established long before the institutions had (or were willing to exercise) the power to implement changes.

1.19 ***Legal Framework***: The principle pieces of legislation which have governed higher education in the recent era are the 1968 Higher Education Legislation Law (Federal Law 5540/68), the 1988 Constitution, and the 1996 National Education Law (*Lei de Diretrizes e Bases* [LDB]). The LDB was, in effect, a culmination of a series of laws from 1994-96 significantly changed the legal framework, increasing the autonomy of institutions. Also at this time, the National Council of Education (CNE) was created. The CNE replaced the older Federal Council of Education, which had been captured by the

[2] Legislation that fundamentally changes the civil service and the RJU is expected to pass within the next 4-6 months.

entrepreneurial interests within the private education system (Schwartzman, 1998).[3] The current regulatory framework is a blend of the old school of thought, in which the role of the government was to control tertiary institutions, and the new school, which supports autonomy with accountability in universities and government regulation and oversight of non-university institutions. It is worth noting, at this point, that, as in any country, there is always a lag time between changes in the legal framework and implementation. Some of this is due to the existence of contravening legislation, to the resistance to autonomy and to the inertia within universities themselves, and to the lack of available funds to fully implement the changes. However, the changes in the legal framework do serve to signal the policy shifts in tertiary education. The example of Chile serves to highlight how the appropriate legal framework does lead to meaningful reform.

[3] The Brazilian Constitution does not specifically state that the federal government is responsible for higher education; only that it is responsible for the federal education system. With this objective in mind, the role of the federal government has been to oversee the federal system of tertiary education and to supervise private sector institutions (Schwartzman, 1998).

A New Wave of Higher Education Reform in Chile

Chile has recently committed US$241 million to launch its second wave of higher education reforms. The new policy package, supported by the World Bank, builds upon the reforms of the early 1980s, furthering transformations that proved successful, fixing what failed to achieve its intended results and adding new dimensions to the reform effort. This case of second-wave reforms, unique in Latin America, can provide some guidance to countries in the region now embarking on first-generation reforms. First-generation reforms in Chile included: cost recovery in public universities through tuition fees and diversification of funding sources; government funding tied to institutional performance; rewards for good faculty performance and disincentives against mediocre work, evaluation systems aimed at fostering accountability and improving quality; strengthening of vocational training; institutional diversification; and privatization, both in the sense of allowing for private provision of post-secondary education, and of increasing private-sector contributions to higher education funding.

Starting in 1981, Chile opened for diversification of its higher education system: by 1996 there were 242 private and 25 public institutions, with private enrollments at 63 percent of the total, and only one-third of the budgets of public institutions coming from government appropriations. New legislation allowed post-secondary education to diversify into three tiers (universities, professional institutes, and technical training centers) and stimulated the growth of the vocational training sector, so that by 1996 one-third of all post-secondary students were attending non-university technical or professional programs. The government has experimented with performance- and contract-based funding, and it lets universities regulate personnel issues. While public university tuition levels match those of private institutions, financial aid is available in the form of scholarships and loans. Finally, an accreditation system was established in 1990.

After almost two decades of reform, Chilean higher education scores high relative to Latin America in efficiency, coverage, overall quality of teaching, research productivity, institutional diversification, and evaluation. However, despite successes in many areas, some difficulties remain. The second generation of reform initiatives endeavor to correct problems raised by the previous reform. Proposed remedial measures include: strengthening public funding for the improvement of teaching, research, and training of researchers, via competitive mechanisms and contracts; complementing the current institutional accreditation system with a national program evaluation scheme; and improving the capacity of public agencies to coordinate the higher education system. The unifying motive behind the reforms appears to be reclaiming a role for the state in the regulation of the higher education system in which the government will assume a much more active role in ensuring the production of public goods, setting standards for quality and monitoring their application, disseminating information, defining priorities for the allocation of funds, and ensuring that institutional commitments are honored. In a word, the state will do more to assure the accountability of the system and its component institutions to their various constituencies.

Source: Andrés Bernasconi, Second Generation Reform in Chile. *International Higher Education*, Boston College; Spring 1999

1.20 The subcommittee on higher education within the CNE is the primary tertiary education regulatory body. The subcommittee is made up of independent citizens appointed for long, fixed terms by the President of the Republic. The CNE has broad powers to regulate higher education. Among these are responsibilities to: i) evaluate higher education and accredit institutions; ii) create curricular guidelines for undergraduate courses; iii) authorize the creation of new courses and the elimination of existing ones; iv) propose and/or authorize statutes and rules pertaining to the federal

system of higher education; and v) analyze and/or authorize the re-accreditation of undergraduate courses through the existing evaluation system.

1.21 In practice, the CNE has worked primarily as a regulatory body for the private sector, and along with the MEC/SESU, has full regulatory control over private institutions. The CNE, in cooperation with MEC/SESU, reviews petitions for the creation of new institutions (which, if approved, then must be approved as a law or decree by the Congress) and issues permission for institutions to offer specific study programs. Private institutions, which are not universities, must seek CNE approval to offer a course, to approve the number of proposed places, and to approve the fees charged. In order to circumvent CNE control, it is not uncommon for private institutions to seek university status to be free to open courses of study and set the number of places.

1.22 The federal government and the CNE have no jurisdiction over state and municipal universities, except in the area of curriculum: Because all diplomas must be recognized by the federal government, state and municipal universities must follow the curricula guidelines issued by the CNE. All other aspects of institutional management, such as budgets, personnel and salary policies, the number of institutions, the types of institutions, and the number of places offered in study programs, are determined by state higher education councils. State councils also decide the status of the institution, that is, whether it is a university, a university center, or an integrated or isolated institution.

1.23 An important part of the National Education Law (*Lei de Diretrizes e Bases da Educação*: Law 9.394) was passed in December of 1996. This part of the law is instrumental in that it defines a university as an institution dedicated to the production and advancement of knowledge, *having at least one-third of its faculty holding advanced degrees (Ph.D. or Master's), and at least one-third of its faculty being full-time.*[4] The law confers autonomy, within the confines of existing legislation, on universities to: (i) establish courses and set curricula; (ii) increase or diminish enrollment according to capacity; (iii) establish research programs; (iv) enter into contracts as legal entities; (v) administer public and private revenues; (vi) receive gifts and inheritances; and (vii) accept students who have not taken the *vestibular*. Faculties at public universities are given autonomy over hiring, firing, and career path decision of teaching faculty. Additional proposed legislation—part of the government's administrative reform—is being debated in Congress, which would firmly establish the autonomy of higher education institutions to hire, fire, and set promotion standards.

1.24 Another important piece of legislation, passed in 1997, clearly distinguishes between proprietary, profit-oriented private institutions, and non-profit private institutions. According to Schwartzman (Higher Education in Brazil: First Moves. International Higher Education, Fall 1997), under this legislation, for-profit schools

[4] It is anticipated that this section of the law will prevent non-university institutions from joining forces to form a university because they will be unable to meet the requirements of the university definition regarding the quality of faculty and the number of full time faculty.

would pay taxes just as any other business, but in return, they would be allowed more freedom to run their institutions as they see fit. Non-profit schools, on the other hand, would be held to a stricter set of educational controls within the communities that they are supposed to serve. To date, no institutions have declared themselves profit making and the control mechanisms for the non-profit sector are still not fully implemented.

1.25 The introduction of "sequential courses" is also part of the new legal framework introduced in 1996. Sequential courses allow institutions to offer two-year study programs which lead to a degree, similar to an Associate's Degree in the U.S. system. Students who cannot take, or who do not want to take, the time to earn a Baccalaureate, will find sequential courses much more flexible. Upon completing their studies, students will have credentials, which will help them in the labor market, and should they want to return to tertiary education sometime in the future, their two year degree will be recognized in all tertiary institutions and they may begin their studies in the third year. The idea of sequential courses is quite new to Brazilian tertiary education, and while legally recognized, no institutions are currently offering such degrees.

1.26 The LDB also opened the door for changes in the curricula and permits much greater autonomy for institutions to determine the types and amounts of education they offer. Previously, there was a legally mandated, proscribed "minimum curriculum" for each recognized degree category. The minimum curriculum mandated almost entirely how each of the 3,600 actual hours of course work required for each course or study program were to be spent. New curricula guidelines require only that institutions follow broad curriculum guidelines and focus more on providing competency-based curricula. The academic and relevant professional communities took part in designing the new guidelines, submitting and refining proposals to their colleagues on the curriculum reform committees. While some disciplines have maintained a standard number of hours (usually about 3,600), the new guidelines are much more concerned with identifying what a graduate should know and be able to do, rather than mandating the exact content of the curriculum.

1.27 ***Accreditation and Evaluation***: The accreditation of institutions and assurance of the quality of courses and curricula is the responsibility of the National System of Higher Education Evaluation, coordinated by the *Secretaria de Ensino Superior* (SESU) of the Ministry of Education. The CNE receives an accreditation report prepared by SESU and makes its recommendation on accreditation to the Minister. Three main instruments that serve the purposes of accreditation and evaluation: (a) the *Exame Nacional de Cursos* (ENC or "*Provão*"), part of which requires self-reported evaluations from the institutions; (b) the expert evaluation committees; and (c) the continuous collection of data by INEP under the national census of higher education.

1.28 Most prominent among these is the *Provão*, or the *O Exame Nacional do Cursos* (National Evaluation of Undergraduate Programs), an institutional self-evaluation, which was introduced in 1995. The National Education Law requires the *Provão* as a means for continuous evaluation for quality improvement in higher education. The exam is designed

to gauge the performance of the institutions more than the performance of the students, but students must take the exam to have their degrees recognized by the government. Data about the institution is self-reported. Institutional results are made public on an annual basis through both the local newspapers and via a government publication. The publication of *Provão* scores has attracted considerable media attention and there is recent evidence that students and their families are using the information when selecting a tertiary institution. Individual student scores are not publicized, although employers are said to be interested in a potential employee's score. The *Provão* is currently offered in 13 subject areas but the intention of MEC is to have it available in all subject areas in the future. It is the first instance in Brazil of higher education institutions having been subjected to a nation-wide, systematic evaluation. The *Provão* also provides a means for collecting in-depth data on the profile of graduating students, and their evaluation of the quality of the education they received. CAPES, the graduate education council, maintains an evaluation system for individual graduate programs. The system is well known and credible, but it does not rely on large-scale examination of graduating students.

The Influence of the "Provão"

The Exame Nacional dos Cursos, or Provão, has dramatically raised public awareness about quality in tertiary education. This standard, nation-wide exam measures the performance of graduates in over a dozen disciplines. The results are disaggregated by institution, and published. As such they serve as a *de facto* comparative indicator of the quality of graduates, and, by inference, the quality of instruction and education.

Since its inception in 1996, the Provão has grown both in coverage and influence. The first exam covered only three disciplines (Administration, Engineering, and Law). The very existence of the Provão provoked strong opposition from segments of both the students and the professoriate, including boycotts and threaten disruptions at exam sites. Such opposition has not continued, especially given the interest of the press, and the general public in the results. In its fourth year, the Provão is now widely accepted, and several hundred articles have documented the effects it is having on the Brazilian university system.

The most notable effect has been to provide much greater information on quality of individual degree programs to potential students, thereby creating more savvy educational consumers. Private institutions, many of which felt wrongly deprived of prestige by the wealthier, research-oriented public universities, now have an objective means of demonstrating the quality of their course programs. Several well known public universities have degree programs whose Provão scores were disappointing; these are now struggling to save their reputations as the leaders in the field.

Students are voting with their feet thanks to the Provão. Applicants now routinely inquire about Provão performance, and schools that do well highlight this information in their informational literature. Those private institutions whose scores have been consistently high have almost universally reported increasing applications. Also, private universities, which have now proven their quality are attracting talented professors away from public institutions.

In addition, the Provão also provides a reliable annual survey of graduates, from which important information is gathered on students backgrounds, attitudes toward their education, and further goals. This information, along with additional evaluation activities undertaken by MEC/SESU, is creating feedback loops into higher education policy.

The Provão is not a cure all for quality in the Brazilian system. It has been pointed out that the system tends to favor the winners, rather than help those that are struggling. In addition, the Provão tends to reinforce the disciplinary structure of Brazil's higher education system, at a time when multi-disciplinary studies and general skills are increasingly valuable. Lastly, the Provão does not at present show the "value added" of the education, since there is not yet a standard exam for high school leavers. (This last point would change with the inauguration of the *Exame Nacional de Ensino Medio*, due to begin shortly). Still, even considering these critiques, observers are nearly unanimously agreed on the revolutionary impact the Provão has brought about in concern for quality in higher education.

1.29 A second main instrument in the accreditation process is Institutional Evaluation or the Program of Institutional Evaluation of Brazilian Universities (PAIUB). In this phase of the accreditation process, a committee of specialists, made up of peers from academia, perform site visits in which they tour/inspect institutions and sit in on classes. During their visits they examine the qualifications of the faculty and staff, evaluate the pedagogical skills of the faculty, and assess the condition of the institutions infrastructure. Institutional evaluation is a new addition to the accreditation process in Brazil, but already approximately 800 courses have undergone this type of evaluation.

1.30 The third instrument in accreditation and evaluation is the continuous data collection by INEP. This provides both the institutions and the government with time series data and allows institutions to gauge their progress over time as well as provide information for international comparisons.

1.31 Under the LDB, institutions and courses must be re-accredited periodically. The different instruments are used to determine which programs are most in need of this. For example, those programs with consistently low marks on the *Provão* for three consecutive years are scheduled for review by the *PIAUB*.

1.32 ***Institutional Governance and Management***: The governance and management of Brazilian public universities is best described as a mix of the old and the new paradigms –the old bureaucratic method of government control has been couched in a democratic philosophy, backed by the new legal framework described earlier. Rectors are elected by the university community as a whole, with students and technical and administrative personnel having voting rights. As a result, the main responsibility of many rectors has been to advocate for rights and privileges from the federal government, thereby protecting and expanding their "constituency". Recent changes have somewhat lessened the democratic nature of this process. Currently, candidates for rector must be from the two highest academic levels, Ph.D. and Master's, or from the top rank of administrative seniority. The President of the Republic chooses rectors from triplicate lists compiled based on votes from the community of a given university, but now the votes from the faculty are weighted to account for at least 70 percent of the voting outcome. Some universities have resisted these changes to the selection process, and a well-publicized conflict with MEC resulted from failure of at least one institution to follow the new procedure. Rectors serve a four-year term, which may be renewed once.

1.33 Brazil's large private higher education sector, ranging from a few institutions at the research university end of the continuum to the majority near the non-university end, are subject to considerable governmental control. In the private sector, the CNE controls initial approval to operate as a university or college, the courses of study or programs that can be offered, and the maximum tuition that can be charged. Through the 1960s and into the early 1980s, most of Brazil's private universities also received substantial public operating subsidies, further reducing the significance of their private status. By the 1990s, however, this operating support had been mainly eliminated, making the private institutions quite tuition dependent—no longer depending on public revenue, but still subject to various public controls (Johnstone, 1998).

1.34 ***Student Loans:*** At this time, there is no national program of grant assistance, and loans are available to a small number of students attending private institutions. This financing pattern is at least in part a function of the fact that public institutions in Brazil do not charge tuition, thereby reducing the perceived need for student aid (Hauptman, 1998). New, and as-of-yet unconfirmed data regarding student assistance has recently become available (see Table 8, below). It shows that Brazil has a relatively modest

commitment to student aid, with approximately 19 percent of enrolled students receiving aid. Within these modalities are "research assistantship" for undergraduates, a large percentage of which remains with the university department as "bench fees". Also included in these figures are tuition discounts granted by private universities. However, recently legislation re-defined the tax status of these discounts; universities may no longer receive any tax benefit from aiding students, and the number of these discount "grants" may drop sharply once this new legislation takes effect.

Table 8. Enrollments and Aided Students by Type of Institution, 1999

Institution Type	Enrollments	Aided Students	% with Student Aid
Federal Universities	39,2176	40,198	10.25
State System: São Paulo	65,014	8,808	13.55
Other State Universities	150,022	10,969	7.31
Private, Municipal Universities	777,665	226,621	29.14
Other Federal	15,309	1,387	9.06
Other Sao Paulo	4,326	321	7.42
Other State	21,662	0	0.00
Other Private	582,172	101,860	17.50
TOTAL	200,8346	386,260	19.43

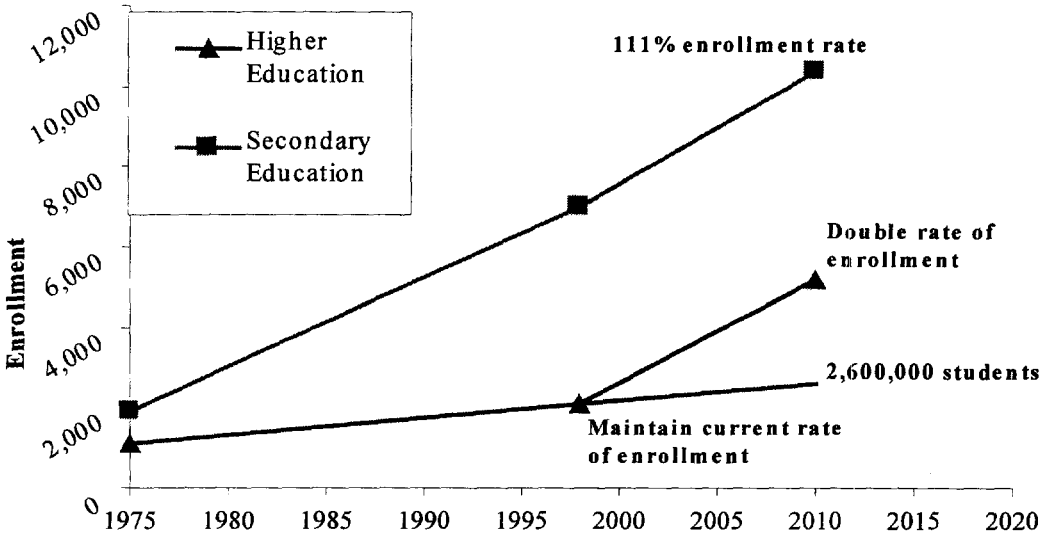
Source: Private Communication (S. Schwartzman). These data are new and their accuracy is as-of-yet not confirmed.

1.35 Brazil has had a national student loan programs since 1976, although it has gone through three different structures. All three have involved the Federal Savings Bank (*Caixa Economica Federal* - CEF), and all three have encountered two main difficulties: The first has been the failure to allow sufficiently for inflation. The second was the relatively high default rates, coupled with low efficiency in pursuing defaulters. From 1995-98, the program lent an average total of R$ 72 million to 26,000 students annually. The government is currently investigating plans to launch a new student loan scheme, this time with more private sector participation (Further discussion of issues pertaining to student loans and fees can be found in Section Two on the Economic Issues and Perspectives).

1.36 ***The Need for Expansion***: One of the main challenges facing Brazilian higher education is expansion. Below are plotted the actual and projected enrollments at the secondary level, the actual growth in higher education from 1975 to 1998 and two *possible projections* of higher education enrollments to 2010. The bottom projection assumes a continuation of the growth rate of the past 25 years and would lead to a growth, in absolute numbers, of about 600,000 students. The top projection assumes

doubling the gross enrollment rate (from 11 percent to 22 percent) which would double existing capacity by increasing enrollment from two-million students to 5.2 million.

Graph 7. Growth in Secondary and Higher Education Enrollment, 1975-2010



Source: Avaliacao do Sistema Educacional Brasileiro.
UNESCO Statistical Yearbook 1997.

This is not an overly ambitious goal (Graph 7 shows that several countries have experienced this type of growth) and fits in well with the goals of the 1997 National education Plan (*Plano Nacional de Educacao*) which seeks to increase the provision of post-basic education to 30 percent of the 19-24 year old age cohort. Indeed, estimates by both Hauptman (1998) and Sheehan (section 2 of this paper) indicate that 400,00 to 500,000 places will be required by 2005 to 2010 to prevent participation rates from falling and that about 900,000 places will be required to allow for the increased demand expected by larger numbers of students completing secondary education and wanting to continue in some form of tertiary education.

Table 9. Secondary School Graduates, by Type of Institution 1980-1997

Year	Graduates	Type of Institution			
		Federal	State	Private	Municipal
1980	541,350	16,370	203,986	18,720	302,274
1984	585,193	17,835	273,127	23,360	270,871
1990	658,725	19,797	356,813	29,070	253,045
1995	959,545	15,941	640,168	50,918	252,518
1996	1,163,788	21,019	769,489	64,566	308,714
1997	1,330,150	24,985	892,901	73,919	338,345

Source: MEC/INEP/SEEC.

1.37 Growth in secondary school graduates between 1980 and 1997 was 146 percent and between 1996 and 1997, the number of graduates rose by 14 percent. These two trends, the government's desire to increase participation of the 18–24 year-old cohort, and the increased number of secondary school graduates will serve to drive up the demand for tertiary education. Whether there will be adequate places available to accommodate the additional demand is a chief question facing Brazil.

Section 2. Economic Issues and Perspectives.

This section will look at three main aspects of Higher Education: (a) external efficiency, which refers to the links between higher education and the wider economy; (b) internal efficiency, which refers mainly the cost structures; and (c) equity, with reference to possible developments in student aid and other measures to promote wider access to higher education.

2.01 ***External Efficiency***: In this section, we will outline the likely effects on economic growth and development in Brazil, of the present state of higher education, and highlight some of the resulting implications for higher education policy. In general terms, Brazil has maintained a gross participation rate in higher education of approximately 12% of the relevant age-cohort during the 1990s. This is low by OECD standards, where participation rates of significantly more than 30% are now the norm, and it is also low by Latin American standards.

2.02 *Human Capital and Economic Growth*: The importance of human capital for economic growth has long been accepted, both within the conventional neo-classical (Solow) framework, as well as within the newer "endogenous" growth theories.[5] The "new" view of growth stresses the importance of human capital in two ways: first as a means of enhancing the stock of knowledge and its dissemination, and second as a way of increasing the effective labor supply such that increased amounts of physical investment do not, in the longer term, run into diminishing returns. Generally the newer growth models provide a more coherent explanation of the "unexplained" residual (i.e. that proportion of output growth which cannot be accounted for by conventionally-measured increases in labor and capital inputs), and stress the importance of education and training, not as sufficient, but as necessary conditions for sustained growth. At a more micro level, conventional "social" rate of return estimates typically confine themselves to the direct resource costs and earnings related to education, and do not take many of the wider, indirect effects of education into account, especially the effects on knowledge production and dissemination. Some of these indirect effects are likely to be important for higher education.

2.03 *Long-run Changes in Labor Force*: Globalization implies that economic growth in Brazil is not simply a matter of *absolute* accumulation of human and physical capital: the quality of the labor force *relative* to competitor countries also matters. At this point in time, Brazil does not fare too badly - about 11 percent of its labor force have some higher education. This compares well to Argentina (see Graph 8).

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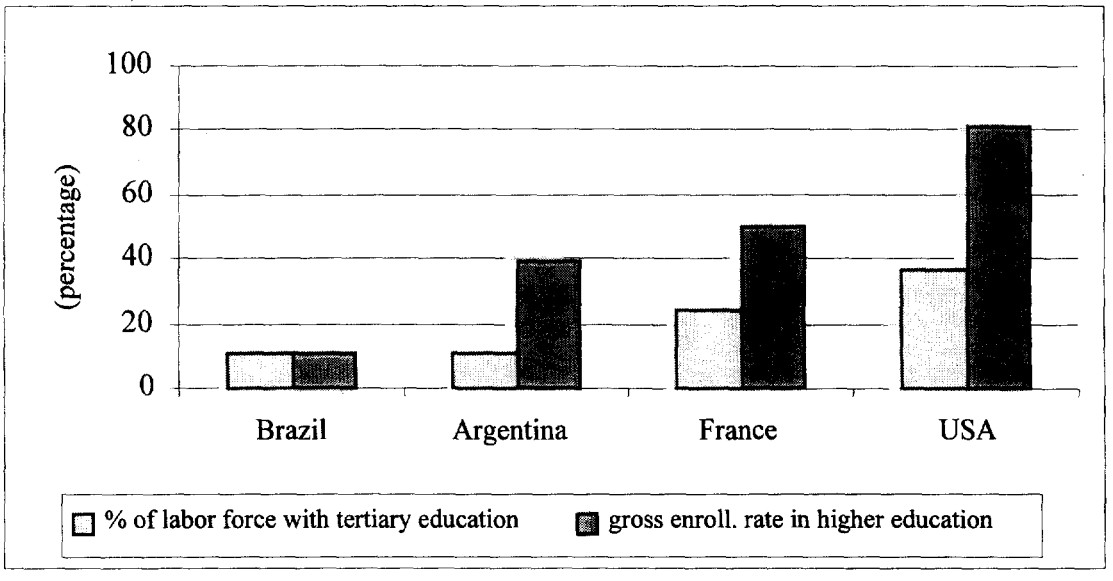
[5] Lau, Jamison, Liu and Rivkin have estimated that education contributed 2.1% per annum to Brazil's growth rate in the 1970s. The overall growth rate of output was 10.7% per annum, and inputs of physical capital and labor grew at 20.1% and 4.7% respectively. In recent years, growth of output and conventional (labor and capital) inputs has been much lower. See "Education and Economic Growth: Some Cross-Sectional Evidence@ in *Opportunity Foregone: Education in Brazil*, Nancy Birdsall and Richard H. Sabot (eds.) Inter-American Development Bank, 1996.

Graph 8. Global Context: Educational Attainment of the Labor Force, Stocks and Flows (1996)



Source: Education at a Glance: OECD Indicators 1998.
UNESCO Statistical Yearbook.

However, these numbers refer to the existing labor force. The picture is less favorable when we examine the flow of new labor into the stock. Precise comparisons are difficult, but there is some information, which enables us to look at likely long-run implications of present policies. We can measure average existing quality by the ratio of the total stock of higher-educated personnel to the total labor force. We can use the enrollment rate of the 18 to 24 year-old age group in higher education as a measure the quality of (marginal) additions to the labor force, and we can then make projection of likely changes in labor force quality. Maintaining the inflow at a steady quality level will ensure that the stock eventually converges on that level; where the additions to the stock are of higher quality (i.e more educated) than average long-run quality, then the average will increase over time. Some information on this has been highlighted in a paper by Donald R Winkler[6] and is shown in Table 10:

6 "Economic Issues in Brazilian Higher Education: presented December 10, 1998.

Table 10: Labor Force Quality: Existing and Prospective Labor Force with Higher Education

	Stock (% Total Lab Force with HE 1995-97)	Stock: Relative to Brazil =100	Inflow (HE% Enrollment Rate)	Inflow: Relative to Brazil =100
Brazil	12	100	12	100
Argentina	12	100	29	240
France	24	200	49	410
USA	37	310	79	650

2.04 As the flow enrollment rates are gross (and thus do not adjust for failure to complete courses), they overstate the position with respect to long term trends, but this holds for Brazil as well as the other countries. In practically every country for which data is available the inflow has significantly more higher education than the existing stock, and the implication is that labor force quality will continue to increase in the medium to long term. Brazil seems to be an exception: the implication of the *status quo* is therefore that in terms of labor force quality (as measured by the proportion of the labor force with higher education), Brazil will experience a steadily worsening position relative to its competitors, whether remote or its Mercosur neighbours.

2.05 As well as implying a worsening of Brazil's relative position, the *status quo* implies a worsening of chances for leavers from secondary schools (*Ensino Médio*). Between 1990 and 1995 enrollments at this level have increased from 3.78 million to 5.74 million, and the rate of increase has accelerated so that by 1997, the number of 6.97 million were enrolled. Graduates from *Ensino Médio* have been increasing at a rate of over 100,000 per year up to 1995, and by about 200,000 per year since then. The fact that the rate of intake into *Ensino Médio* has accelerated since about 1995 implies that graduate output from that level will accelerate further during the next few years. In addition, underlying this is a demographic bulge: in 1996 the numbers aged 10-14 were 22% higher than the numbers aged 20-24, which means increased population pressures up to about the year 2005. Given an increase of about 600,000 in the size of a higher education entry age population cohort between 1996 and 2005, even maintaining existing higher education enrollment to population rates would necessitate an annual increase in intake of over 70,000, and an increased stock of at least 400,000. The increased enrollment levels in *Ensino Médio* would practically double the purely demographic effect, so to maintain the chances of an *Ensino Médio* graduate getting into College would require an extra annual intake of at least 140,000 by 2005 and an increased stock of 800,000 in higher education by about 2009 compared with 1996-97. Broadly similar estimates have been made by Hauptman,[7] whose low estimate (slowing of secondary enrollment growth, no increase in transition

[7] Arthur Hauptman: *Accommodating the Growing Demand for Higher Education in Brazil: A Role for the Federal Universities?* Discussion Paper, World Bank Lain America and the Caribbean Regional Office, December 1998.

rates to higher education and no increase in college participation rates) was and extra 500,000 places, and whose high estimate (allowing for increased rates of secondary school graduation and a doubling of college participation rates) was an extra 2.4 million. The different scenarios are summarised in Table 11.

Table 11. Some Alternative Demand Scenarios for Higher Education in Brazil: 2005-2010

Base Enrollment in 1998		1.9 million
ESTIMATE	ASSUMPTIONS	NUMBERS
Hauptman Low Estimate	Slowing growth in Secondary, unchanged transition to Higher, unchanged Higher Participation rate	2.4 million total 0.5 million extra
Hauptman High Estimate	Continued increase in Secondary Graduation Rate, Doubling of Higher Participation Rate (to circa 24%)	4.4 million total 2.5 million extra
Sheehan Low Estimate	Maintaining Secondary and Higher participation rates: accommodating developments only	2.3 million total 0.4 million extra
Sheehan High Estimate	Allowing for acceleration in Secondary enrollments, maintaining transition rates from Secondary to Higher: Higher participation rate rises to about 15%	2.7 million total 0.8 million extra

2.06 Among the goals of the 1997 *Plano Nacional de Educacão* is the provision of post-basic education to 30% of the population aged 19-24. While this target might include some education which is not higher (more like further education), it is nonetheless ambitious and the higher demand scenario outlined by Hauptman is broadly in line with it.

2.07 Generally the message is that by 2005 to 2010 a minimum of 400,000 to 500,000 places are required to prevent participation rates from falling, that about 900,000 places would be required to allow for likely increased demand arising form developments at the Secondary level, and that much greater amounts (and extra 2.5 million or more) would be required if Brazil is to keep in touch with other countries increasing investments in highly qualified manpower.

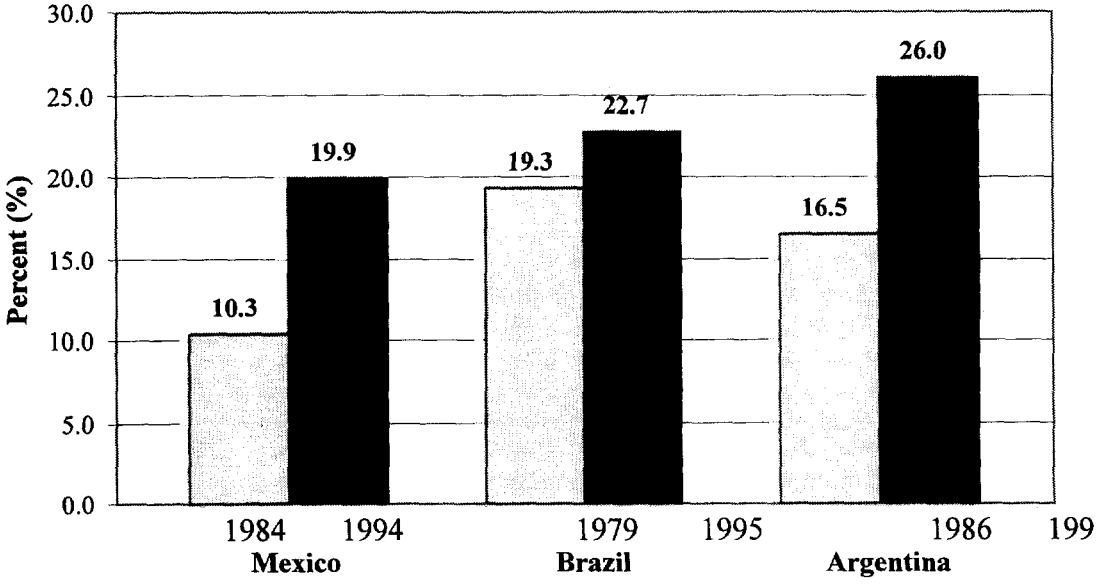
2.08 Overall therefore, there are compelling reasons related to external factors why a significant expansion in higher education enrollment is warranted: long-term economic growth, long-term competitiveness in terms of quality of labor force and the increased pressures coming from demographic and secondary school sources. The next section, which deals with internal efficiency, shows that there are problems in accommodating this expansion, especially in the public sector, and that these relate to high unit costs.

2.09 The estimates of extra enrollments by Sheehan and Hauptman shown in Table 11 are mainly derived from quasi-social objectives such as maintaining transition rates from secondary, or accommodating demographic pressures (with the exception of the "high" Hauptman estimate which incorporates specific targets for increased age-participation rates). The question therefore arises about the economic underpinning of these quasi-social targets, and one obvious indication is to look at rates of return. Here the recent evidence is fragmentary.

2.10 On the rate of return to higher education in Brazil, the information provided by Paul and Wolff, Pessino (1995) and Barros and Ramos (1996) clearly imply high private rates of return to higher education.[8]

8 Jean-Jacques Paul and Laurence Wolff: *The Economics of Higher Education in Brazil, Human Resources Division,* Technical Department, Latin America and the Caribbean Region, the World Bank, mimeo, 1992. The (mean) earnings premium of higher over secondary graduates appears to be as much as 40%.

Graph 9. Global Context: Private Returns to Higher Education



Source: World Bank, 1998; Pessino, 1995; Barros and Ramos, 1996.

In addition, Tannen[9] estimated returns to education in 1980, and found private (real) rates of 12 to 13%, and these included high private rates of return to university (especially federal university) education. Also in the federal sector social returns were low relative to private, because of the high levels of subsidy.

2.11 Since 1980, there are indications that income inequality in Brazil increased, at least in the 1980 to 1985 period. There is also a well-documented increase in earnings inequality and a concomitant increase in rates of return to education in many OECD countries since the mid-1970s, and the general consensus is that technology is the dominant causative factor, which means that one might expect such a global force to be at work in the Brazilian labor market, too. In general terms therefore there are *a priori* reasons for expecting high private and social rates of return to most types of higher education in Brazil.

2.12 Almeida dos Reis and Paes de Barros[10] have shown that regional differences in wage inequality are not due to differing distributions of education between regions but are principally due to differences in the steepness of wage-education profiles between regions, i.e. to different rates of return to education.

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9 Michael B Tannen, "New Estimates of the Returns to Schooling in Brazil:" *Economics of Education Review*, Vol. 10, No. 2, 1991, pp. 123-135.

10 Jose Guilherme Almeida dos Reis and Ricardo Paes de Barros: "Wage Inequality and the Distribution of Education: A Study of the Evolution of Regional Differences in Inequality in Metropolitan Brazil": *Journal of Development Economics*, Vol. 36, 1991, pp.117-143.

2.13 Rates of return estimates need to be adjusted for ability and selection bias, including the effects of family background. Lam and Schoeni[11] have used data from the 1982 PNAD to make family-background adjustments: Typically, the return to a marginal year of schooling was higher for year 15 (completed university) than for year 11 (completed secondary): 27.43% compared with 22.9%. Controlling for parental education reduced the returns by about one-quarter: to 17.28% and 20.47% respectively. While these are not rates-of-return-over-cost, they are indicative of potentially high private rates of return. Social rates of return are likely to be lower, especially for heavily subsidised, high-cost courses.

2.14 The provisional judgement would have to be therefore that taking account of: i) earlier rate of return estimates; ii) subsequent trends in income inequality; iii) global economic factors such as the impact of technology on labor markets; and iv) adjustments which take account of family-background bias. There are good reasons for being optimistic about real rates of return, both private and social, to higher education. However, some new analysis using more recent data is desirable.

2.15 ***Internal Efficiency***: A major characteristic of the Brazilian system of higher education is the high level of per-student costs, especially in the federal university system. Before looking at some of the factors, which explain these high costs, it is useful to put them in context. Education is a highly labor-intensive process, and generally one might expect education unit costs to be related to GDP per head. There are, however, many additional factors which might influence this relation, notably staff-student ratios and the relative pay of academic and other staff compared with economy-wide incomes.[12] A useful summary measure of the real economic cost of education is expenditure per student as a proportion or percentage of GDP per head. The available information for 1995/6 is summarized in Table 12, which ranks countries according to their ratios of university Unit Cost/GDP per head.

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11 David Lam and Robert F Schoeni: "Effects of Family Background on Earnings and Returns to Schooling: Evidence from Brazil"; *Journal of Political Economy*, Vol 101, 1993, pp110-740.

12 A regression of cost per Student on GDP per head shows a significant result, with a coefficient of 0.33 on the independent variable and $R^2 = 0.33$. Adding the student staff ratio (SSR) increases the R^2 to 0.4, but the coefficient on SSR is statistically insignificant, suggesting that a high staff costs are offset by in high SSRs, in line with what one might expect from cost-minimizing behavior. Brazil however has high staff costs (relative to GDP per head) and in addition a generous staffing level (i.e. low SSR). When one looks at the relation between the unit cost/GDP per head ratio and the level of GDP itself, there is no evidence that higher education gets relatively more or less expensive as societies become richer.

Table 12 Higher Education Costs and Inputs

COUNTRY	(a) Exp Per Student/GDP per Head	(b) Salaries as % Current Costs	(c) Ratio Students to Academic Staff
Brazil (federal universities)	3.47	87.1	9.2
Brazil (All higher education)	0.86	NA	12.6
Malaysia	1.61	52.1	20.4
Chile	1.09	NA	NA
Mexico	0.79	84.1	9.4
Czech Republic	0.78	44.7	11.2
Hungary	0.75	68.0	9.9
USA	0.74	60.2	14.1
Switzerland	0.71	78.3	21.2
Israel	0.66	75.4	NA
Australia	0.61	68.6	15.4
Canada	0.58	71.6	16.4
New Zealand	0.51	NA	16.1
Portugal	0.48	71.9	18.5
Ireland	0.46	83.6	21.6
Netherlands	0.45	77.2	18.7
Germany	0.45	75.7	12.5
Norway	0.44	NA	NA
Japan	0.42	67.4	13.5
Finland	0.42	61.7	17.2
Denmark	0.38	80.0	NA
United Kingdom	0.38	44.8	16.7
Austria	0.36	NA	14.5
Uruguay	0.35	79.3	15.7
Spain	0.34	79.5	17.6
France	0.31	68.8	17.2
Greece	0.27	69.8	23.9
Italy	0.25	72.3	29.0

Source: OECD *Education at a Glance*, 1998; For other countries data generally refers to universities only. In some cases data refers to all higher education: this is usually where universities are the predominant type of institution. The estimate for all Brazilian higher education is by the authors of this study.

2.16 The unweighted mean cost per student/GDP per head of the 26 countries (excluding Brazil) for which information has been collected by the OECD is 0.56, so Brazil's federal university ratio of 3.47 is quite exceptional, five times the average and more than twice as high as the second-ranking country (Malaysia). It should be clear that personnel costs are the main reason behind this: Brazilian federal universities have the most generous staffing ratio of all the countries for which data is available (see Column (c) of Table 12). The high staff costs are also associated with a very high share of staff costs in the total recurrent costs of the universities: again Brazils ratio (87.1%)[13] is the highest in the

13 The 87% ratio is an underestimate according to some Brazilian sources, which estimate the staff costs (*Pessoal e beneficios*) at 95% of expenditures and all other costs including investment (*Manutencao e Investimento*) at just 5%. See Odilon do Canto et al., "Financiamento da Educacao Superior Brasileira: O Sistema Publico Federal @, Instituto

OECD sample. Of course, these comparisons are heuristic only, since they contrast one part of the Brazilian system with the entirety of other national systems. Making an estimate for the entire tertiary education system changes the picture significantly: the private sector institutions operate at much lower unit costs, and this pushes the aggregate ratio for Brazil down to 0.86, which is still relatively, though not exceptionally, high.

2.17 There are other factors behind the high costs levels found in Brazil: these have already been remarked on in previous studies. First, on top of generous academic staff ratios, Brazilian federal universities have a high level of non-academic staff: 2.2 per academic staff member. More information is needed on exactly what this staff does[14] in order to judge whether or not the ratio is generous. It should be noted that for OECD countries for which data is available, about one third of staff costs are for non-academic personnel, so if the cost ratio of each academic to non academic staff member were on average at least 5:1, the same result might apply in Brazil.

2.18 In addition, Brazilian federal universities' costs reflect the country's very generous pension provisions: retirement after 20 to 25 years at 100% salary, and pensions which are adjusted in line with pay rates for serving staff. In many other countries, pension payments do not appear as an explicit cost of institutions such as universities: they may appear indirectly in the form of Social Security payments (whether by employers or employees) and pensions are often paid directly by the government or Social Security Administration. However if pensions are actuarially "underfunded" by government-run, pay-as-you-go scheme, then the true personnel costs (inclusive of pensions) will be underestimated by counting social security payments. Where pensions are properly (i.e. actuarially) funded, then pension costs will ultimately be included in institutional budgets, whether as part of gross salaries or as an employer's contribution (in such cases the pensions' payments are a cost to the pension fund, and not to the employing institution). A problem with unfunded pensions paid directly through the employing institution is that changes in the pension bill may react back on the institution's current operations, sometimes by restrictions on the filling of vacant staff posts as a short-term savings measure. Actuarially-funded pensions (and to a limited extent pensions which though not fully funded but are paid via a central Social Security Administration) remove this source of instability and give the institution more direct control over its payroll costs.

2.19 There is therefore no basis in principle for arguing that Brazilian higher education costs are exaggerated in comparison with other countries because of the inclusion of pensions. A possible exception in the future, if Brazil implements a scheme to make federal pensions at least in part funded by social security contributions, might arise through double-counting: if pension contributions are counted as a cost, and if in addition pension payments made by the employing institution (and financed by the federal

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Andifes, 1999. These estimates are based on a more comprehensive definition of staff costs, including non-salary benefits.

14 For example, is restaurant/canteen staff included? What are the relative costs of employing non-academic and academic staff? If Brazilian skill differentials are high, then high non-academic staffing levels might not carry such serious cost implications.

government) are also counted as a cost, then the correct procedure would be to deduct the pension element of social security contributions, and measure only the *net* pensions cost.

2.20 *Unit Costs by Fields of Study*: The per-student costs reported in Table 3 are calculated on the basis of dividing total institutional costs by the number of students. This measure is obviously a crude one in that all costs are implicitly assigned to teaching and research and not to research or other "outputs". International measures of unit costs are almost invariably simplified because there is no internationally agreed uniform methodology of assigning costs to activities. Individual national studies are however useful for comparing teaching and research costs and costs by field of study within national systems of education. For Brazil, N. Cardoso Amaral has estimated the structure of costs within the federal university system in 1997.[15] His estimates of global and per student costs are summarized in Table 13:

15 Nelson Cardoso Amaral, *Gestão Financeira de Unversidades Públicas*, Instituto Andifes, 1998.

Table 13. Cost Structure of Federal Universities: Estimates for 1997

Global Costs.		
	R$m	US$m
Personnel	5026.6	4675.9
Other Current	1070.4	995.7
Capital, etc	109.9	102.2
TOTAL	6206.9	5773.9
Minus Pensions	-1478.3	-1375.2
Minus *Precatórios*	-371.9	-346.0
Minus Hospitals (Net)	-424.3	-394.7
Net Educational Costs	3932.4	3658.0
% Teaching	71.1	66.1
% Research and Other	28.9	26.9
Net Teaching Costs	2794.1	2599.2
Unit (per Student Costs)		
Equiv. Students (FTE)	509689	
Teaching Cost per FTE (Amaral Estimate)	R$ 5482	US$ 5099
Cost per FTE Net of Hospitals	R$ 11345	US$ 10553
(FT)Undergraduate + Graduate Students	423514	
Global Cost per FT Student	R$ 14656	US$ 13633
Net of Hospital Cost per (FT) Student	R$ 13654	US$ 12701

Source: Nelson Cardoso Amaral, *op. cit.*

Notes: FTE students are "fulltime equivalents" as calculated by Amaral, p15. Most (full-time) undergraduates are counted as 1 FTE; post graduate students have a weighting of >1; part-time students a weighting of <1. FT means actual full-time students.

Based on February 1999 exchange rates.

2.21 Overall, the deductions from costs for hospitals is warranted (provided that associated medical students are not counted either), but deduction of the cost of pensions and *precatórios*[16] is not appropriate, for reasons mentioned in the preceding sub-section. For purposes of international comparison, the global cost figure, while not conceptually the best, is the only one for which data is widely available. In addition there are post-graduate research costs incurred by CAPES, which may not be fully accounted for in Table 13, and which would increase the global unit-cost numbers.

2.22 Amaral has also provided some cost-per-student estimates by broad fields of study. These are shown in Table 14. Science and Engineering (i.e. Laboratory and Workshop) fields are 20% to 25% more costly than Social Sciences, Humanities and Law. Agriculture and Health are the most expensive. This is in line with international experience in terms of ranking, but the percentage differences between fields appear to be low.

Table 14. Teaching Cost per Student by Field of Study: Federal Universities (1997)

FIELD OF STUDY	R$	US$
Exact Sciences	3567	3319
Biological Sciences	3541	3294
Engineering	3507	3259
Health Sciences	6137	5709
Agricultural Sciences	5522	5137
Applied Social Sciences	2942	2737
Human Sciences	2970	2763
Languages, Arts, Letters	2790	2595

Source: Amaral, op cit., p.26.
Note: These costs exclude pensions, *precatórios*, research costs, and these are on an FTE basis. Including these items and calculating on an actual per student basis would (approximately) double the estimated costs.

Governance and Management of Federal Universities: Our main focus will be on management, budgeting and planning within institutions. While the focus of attention is mainly on federal universities, several of the comments about strengthening management structures may also apply to state and private institutions. Academic management and academic autonomy, while of paramount importance, are mentioned only briefly.

16 *Precatórios* are awards made by the courts to university staff who has sued the authorities on constitutional or other legal grounds. They are in reality delayed salary payments.

2.23 Brazilian federal universities enjoy very limited financial and managerial autonomy for three main reasons: i) the constitutional protection given to staff, who formally speaking, are federal civil servants, and who account for about 90% of all costs; ii) detailed line-item controls on non-personnel expenditures by the ministry; and iii) very limited power to generate revenue from tuition fees (the "specialization" courses being the main exception), and limited opportunities to generate revenues from other sources.

2.24 Even if staff privileges continue to be protected, there should still in principle be discretion in filling vacancies: the availability of retirement on 100% pensions after 25 years of service should ensure a rate of staff turnover of at least 4% per year. If there are reforms which enable new hires to be given significantly less protected lifetime conditions of employment, the scope for institutional decisions on allocation of staff resources should increase significantly over time. The problem is that administrative and managerial structures, which suit the existing state of the world may not be in a position to take advantages of opportunities opened up by future civil service reforms.

2.25 *Financing and Budgeting*: It is now generally recognised that complex organisations such as universities cannot be micro-managed from outside. Reforms elsewhere, and recognized good practice indicate that the following features are to be expected[17]: a) government aid should take the form of block grants with a high degree of discretion left to the institution as to their detailed allocation; b) revenues generated by institutions from whatever source should constitute a net addition to total resources: i.e. they should net be offset by reductions in government block grants; c) within institutions similar principles apply: budgetary devolution down to the school or faculty level, and in turn down to departmental level; and d) a recognition that budgetary discretion brings a very high degree of responsibility, accountability and transparency.

17 For a more comprehensive analysis of these issues see Quentin Thompson: "Trends in the Governance and Management of Higher Education", LCSHD Paper series No. 33, World Bank, November 1998.

Funding Higher Education in England: How the HEFCE (Higher Education Funding Council for England) Allocates its Funds

In 1996-97 the Government of England, with extensive consultation with the higher education sector, undertook a review of funding methods for teaching and research. This resulted in the design of new funding methods for both research and teaching, which were used for the first time in 1996-97 and 1998-99 respectively. Now each year, the HEFCE advises the Secretary of State for Education and Employment on the funding needs for higher education in England and is responsible for distributing the money, within broad policy guidelines provided by the Secretary of State. During the 1998-99 academic year, 135 higher education institutions (HEIs), and 72 further education colleges (FECs) that provided higher education courses were receiving funding. The HEFCE is open about their allocation methods and policies, ensures that they are easy to understand, and publishes the data on which calculations are based, so that institutions can check the outcomes each year. The formulae used to determine how most of the money is allocated between institutions take into account certain factors, such as the number and type of students, the subjects taught, and the amount and quality of research undertaken. Funding is provided in the form of a block grant which institutions are free to allocate according to their priorities within the broad guidelines of the HEFCE. Institutions are accountable to the Council, and ultimately to Parliament, for the way they use Council funds. In addition to HEFCE funds, institutions are free to raise money from other resources which allows them to pursue activities alongside those for which they receive Council funds.

The HEFCE is the largest single source of income for the higher education sector. After Council grants, tuition fees are usually the only other major source of funding. The fee level has been set at £1,000 per student per year, which represents about a quarter of the average cost of tuition. Fees are means tested so that students from poorer families are exempt, or pay only a proportion.

The old funding method provided stability for institutions, but in some cases maintained differing levels of funding for different institutions for historical rather than educational reasons. The new method funds similar activities at similar rates for all HEIs, and ensures that any variations are for explicit and justifiable reasons. In addition, the new method supports the government policy to increase opportunities for a wide range of people to enter higher education. It is hoped that the new funding method will: i) increase opportunities; ii) maintain and enhance quality; iii) support diversity; iv) encourage efficiency in the use of public funding; and v) provide stability in funding from year to year.

Source: http://www.niss.ac.uk/education/hefce/pub98/98_67.html

2.26 The method by which government block grants are determined is an important issue, and is connected with other aspects of institutional and student financing, particularly the question of tuition fees. In addition, any funding formula should also take into account aspects of cost structures, which are specific to individual institutions. A necessary first step would be to establish some system-wide unit cost norms for students in different broad fields of study: (social sciences, laboratory-based sciences, engineering, languages, etc), and to determine block grants to institutions accordingly. These grants could cover 100% of costs (zero tuition) or a lesser percentage depending on tuition fee policy. Clearly tuition fee levels in public sector institutions are seen as a federal government policy decision, to be integrated with decisions on the level of block grants.

2.27 Institutional financing systems ought to (a) be seen as equitable as between institutions, and (b) give appropriate incentives for internal efficiency. One way of ensuring this is through a simple funding formula. Initially this might be input-based (on

say numbers of students) and refinements could be added later to bring output indicators into the formula.[18] A related feature of a funding formula is that it be based on *system-wide* criteria: therefore, institutions, which have higher costs than the norm, are penalized, and those who are efficient have more resources to re-deploy.[19]

2.28 Academic autonomy should be enhanced under a more decentralized system of resource management. At present, the lack of financial powers means that while institutions may propose new courses or other developments, the ministry through its financial powers can have an effective veto. Institutions do not have the opportunity to assess alternative developments and to trade-off between them. In such a situation, academic autonomy is diminished.

2.29 There is therefore a strong case for some general changes in management within the federal university system. International experience shows that these changes will demand a very high level of management expertise within institutions, and new arrangements to ensure that, while professional managerial expertise is able to exercise its function, academic considerations, decided on by the academic community, continue to set the basic aims and objectives of universities. An investment program in university management and management information systems is an essential pre-requisite of any effective reform.

2.30 *Dropout Time Taken to Graduate:* A previous study (Paul and Wolff) has estimated that the time taken to produce a graduate varies significantly between types of universities. The results are summarized in Table 15:

18 Formulas which are input-based are clearly second best to output based formulas, but they are generally more complex and difficult to implement. However they can offer very clear advantages over ad hoc incremental allocations based on no discernible criteria.

19 This would go a long way towards meeting one of the objections which have been raised to cost-recovery financing, which sets tuition fees at some predetermined fraction of costs. Institutions might then have an incentive to raise funds privately and use them to increase their cost base, thus enabling them to increase tuition fees further. See A. Hauptman, "Accommodating the Growing Demand for Higher Education in Brazil: "A Role for the Federal Universities? " LSCHD Paper No 30, The World Bank, November 1998, pp. 6 and 7. If the cost base is determined by the behavior of the system as a whole, then institutions which get out of line will be penalized, especially if the ministry in setting fees at x% of estimated tuition costs, also sets the fees in *Real* terms, and setting out in detail the basis for its calculation of unit costs in the system.

Table 15. Brazilian Universities: Time to Produce a Graduate (Years)

TYPE OF INSTITUTION	TIME (years)
Federal Universities	6.1
State Universities	5.0
Municipal Universities	4.1
Secular Private Universities	4.4
Religious Universities	4.8
Mean (Also includes isolated Faculties)	4.5

Source: J J. Paul and L Wolff: "The Economics of Higher Education in Brazil": HRD, World Bank, August 1992.

2.31 Mean length to graduation throughout the higher education system is 4.5 years, but is significantly higher in federal universities (6.1 years) and is lowest in municipal universities (4.1 years). Assuming that the calculations in Table 4 take account of both repetition and dropout, this would indicate a relatively high rate of throughput, given that the minimum nominal length of a degree program is 4 years. Federal universities may appear to be the least efficient, but they have more 5 and 6 year programs (in fields such as Medicine) than the others. Paul and Wolff note that charging tuition fees provides an incentive for students in the private sector to minimize time to graduation, but they also note that if private institutions were to lower program quality in order to avoid discouraging fee-paying students, then the reported time-to-completion differences may understate true efficiency differentials. In addition, if the *quality* of student intake is higher in the federal universities, the understatement of efficiency in that sector may also be significant.

2.32 ***Equity:*** Equity can mean different things, for example: i) a reasonable degree of equality of opportunity to participate in higher education, and ii) a reasonable and fair balance between paying the costs and obtaining the benefits from higher education.

2.33 There are some dimensions of (ii) which are beyond the scope of this paper, such as the spatial or regional dimension, which is important in Brazil. The main focus will be on the balance between benefits and costs, and on the relation between (family) income and access to higher education. A further limitation on the scope of the analysis is that access to higher education depends very much on policies at the lower levels of the system, and even on early childhood education. Important as these topics are, they are not pursued here.

2.34 *The Distribution of Higher Education*: The *Exame Nacional de Cursos*, more commonly known as the *Provão* examination, taken by the majority of graduates from all types of universities, includes a questionnaire covering social and economic background. The 1998 *Provão* has information on family income of graduates, which enables a comparison with the structure of incomes in general. This is summarized in Table 16.

Table 16. Distribution of Graduates by Family Income Level

Income MS (Minimum Salaries per Month)	Percentage of Graduates	Percentage of Population
< 3 M S.	5.1	39.5
>3 and < 10 M S.	29.2	39.1
>10 and < 20 M S.	29.2	12.8
> 20 M S.	36.2	8.6
(of which between 20 and 50 M. S).	*(26.7)*	*(7.0)**
(greater than 50 M. S).	*(9.9)*	*(1.6)**

Sources: Graduate percentages: *Exame Nacional de Cursos 1998: Questionario Pesquisa, Sintese Brasil*, Brasilia 1999, Table 5. Population percentages, IBGE statistics from the National Household Survey: *Pesquisa Nacional por Amostra de Domicílios.*

Notes: The original income data includes 3.7% of households with no income, which includes families depending on welfare: these were all assigned to the <3 minimum salaries group. The 2.3% giving no information were proportionately re-allocated to the other income groups. The population income data has no category >50MS, and the numbers marked * are the author's estimates. The graduate data refers to 1998, and the income data to 1996, but as both are denominated in minimum salary terms (R$120 in 1996 and R$130 in 1998) they should be closely comparable.

2.35 Overall, 5% of graduates come from the lowest two quintiles (39.5%) of the population with 3 minimum salaries or less. The next two quintiles (39.1%; 3 to 10 MS.) supply 29.2% of graduates and those with 10 or more minimum salaries (just over a quintile) account for 65.4% of graduates. Information on the highest income group (>50 MS) has been estimated separately: the top one and a half percent of households account for about 10% of graduates.[20]

2.36 *Student Aid: Grants, Scholarships and Loans*: The highly uneven distribution of higher education enrollments by income group means that targeted student aid could have a potentially very large effect on life chances. Traditionally Brazil has relied on student

[20] In an earlier study, Paul and Wolff: ("The Economics of Higher Education in Brazil@: HRD, World Bank, August 1992) reported a preliminary study in which there was an apparently much more equal distribution for 1989 among federal university students, with 18% coming from the <3 M.S. category and 24% from the >20. However there are differences in coverage, underlying income distribution, and the real value of the minimum salary which cloud the picture. For example in 1989 10% of households had incomes >10 MS. whereas the corresponding number in 1996 was 21.4% of households.

loans, rather than stipends or grants, although the high degree of subsidy in many past loan schemes transformed them into *de facto* grants to a considerable extent. As a matter of principle, grants are more appropriately assigned to a strong redistribution role and should be targeted to poorer students who could not otherwise attend college. Loans are less critical in terms of income targeting, especially if the subsidy element is low, in which case they may be targeted on the basis of student ability. Given that Brazil does not have the basis for a reliable and consistent national means test, the scope for grants or stipends at the federal level is extremely limited.

2.37 Some recently available data relates to all forms of student support, and a summary is given in the following table (Table 17):

Table 17. Numbers of Students With Aid, by Type and Source, 1999

Type of Support\Origin of Funds	Educational Institutions	Other	TOTAL
Mainly Work Related *	48,229	38,237	86,466
Credit (Loans)	27,891	95,907	123,798
Mainly Discounts**	171,296	20,519	191,815
TOTAL	247,416	154,663	402,079

Source: Correspondences form Schwartzman. Note that thee figures are preliminary and under
Notes: * Includes *Estagio, Extensão, Trabalho, Iniciacão* (study grants, some of which go to university Departments for lab equipment), Monotoria. ** These refer to discounts on standard tuition fees granted mainly by private institutions.

2.38 It is clear that institutions themselves are the source of a significant amount of student aid.[21] Loans come predominantly (77% of recipients) from the banking system; the work-related category is evenly divided between inside and outside sources; and the mainly discount category is in the case of 89% of recipients from educational, mainly fee-paying private and municipal, institutions. The result of this high incidence of institution-based aid, principally in the form of discounts is that private sector students are more likely to receive aid than those in the federal and state systems. The details are in Table 18.

21 Exactly how much is not clear because the date refers to numbers of students and not to the amount of aid per student.

Table 18. Enrollments and Aided Students by Type of Institution, 1999

Institution Type	Enrollments	Aided Students	% with Student Aid
Federal Universities	392,176	40,198	10.25
State System: São Paulo	65,014	8,808	13.55
Other State Universities	150,022	10,969	7.31
Private, Municipal Universities	777,665	226,621	29.14
Other Federal	15,309	1,387	9.06
Other Sao Paulo	4,326	321	7.42
Other State	21,662	0	0.00
Other Private	582,172	101,860	17.50
TOTAL	2,008,346	386,260	19.43

Source: as for Table 17
Note: the totals are slightly smaller than in Table 17, because details for some institutions were missing.

2.40 At the federal and state universities (largely tuition-free), between 10% and 13.5% of students get some form of aid (usually non-credit). In the private sector, about 29% of students in universities receive aid, and about 17.5% of students in private non-university institutions receive aid. It would seem that most of them receive discounts rather than loans. Discounts are essentially a local, institutional form of aid, which though selective, does not usually rely on formal means testing based on income tax returns. As such it has a potentially important role in the Brazilian system, especially if a policy of tuition fees in the public sector is developed.

2.41 *Student Loan Schemes in Brazil*: Since 1976 there have been three successive federal student loan schemes (*Programas de Crédito Educativo* - PCE). All of them have involved the Federal Savings Bank (*Caixa Economica Federal* - CEF), and all have encountered problems due the failure to allow sufficiently for inflation. Generally the programs gave loans to students at either fixed nominal rates of interest which were lower than subsequent inflation, or at interest rates which were only partly indexed to inflation, and the principal sum was fixed in nominal terms.[22] During the first phase PCE (1976-83) the effective rate of subsidy was 89.7%; during the second (1983-89) it was 55.4%, and during the third between 1989 and 1992 it had declined to 8%. A second problem has been relatively high default rates, partly because the efficiency of pursuing defaulters has not been high. It is now planned to re-launch a new PCE scheme, this time with more private sector participation.

2.42 The general practice has been to grant loans to cover tuition rather than subsistence expenses. This has meant that students in the private sector institutions are the main beneficiaries (as well as the institutions themselves). Means testing has not been very effective, and there are doubts as to whether loans have reached the income groups for which they were intended. If future loan schemes can be made to operate without subsidy,

[22] A description of the PCE experience can be found in "Brazil: Higher Education Reform", Report No 12366-BR, Population and Human Resource Division, World Bank, October 1993, pp. 27-30.

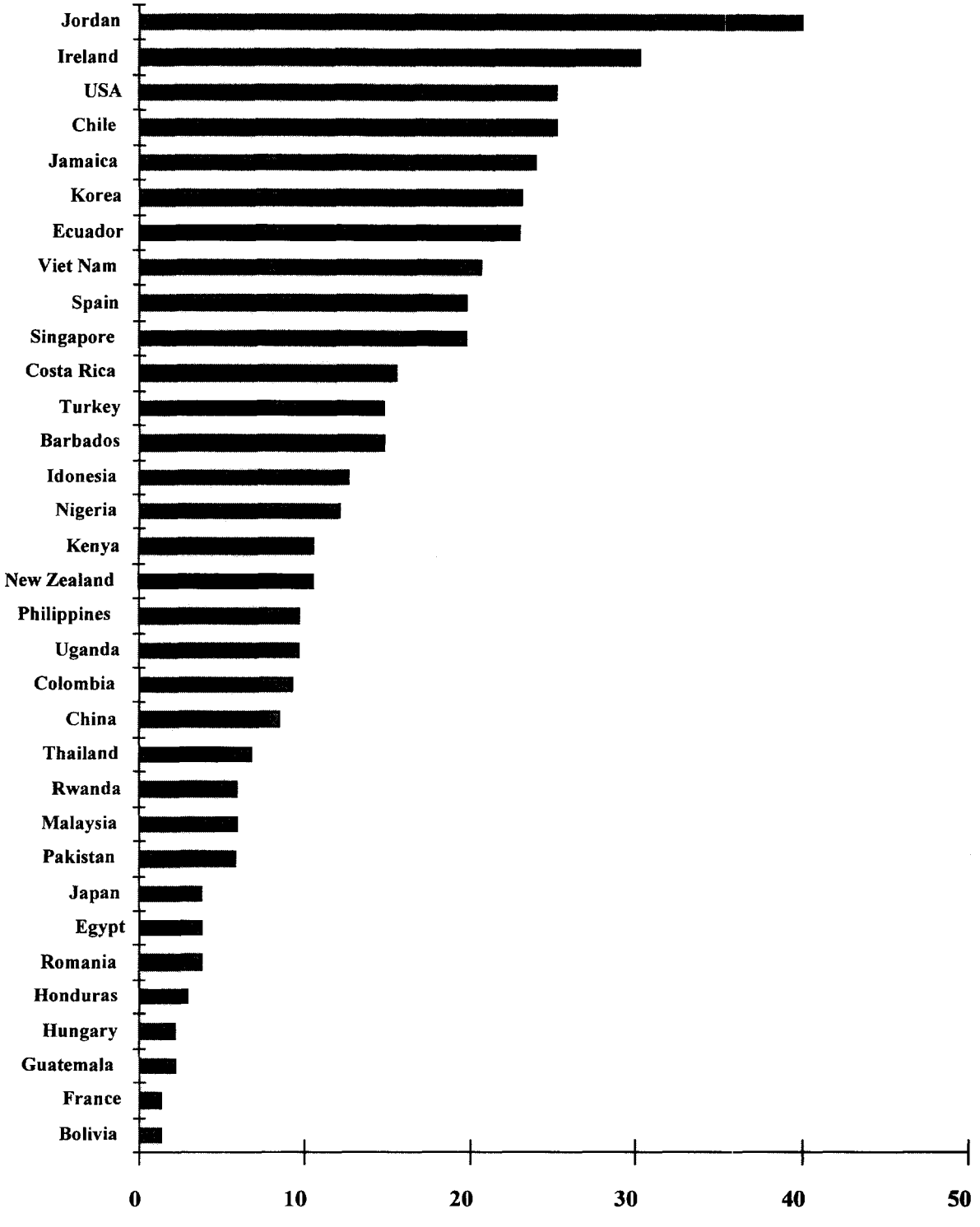
then the lack of efficient means-testing is not as great a problem, at least to the extent that one is not giving subsidized credit to the well-off. However loans at commercial rates may be a deterrent to poor students, as there are well-known risks which bear more heavily on those without significant family wealth. There are two possible solutions to this (i) an income-contingent loan scheme, whereby payments are linked to future earnings, and where high earners cross-subsidize low earners, and (ii) combining loans with highly selective grants or scholarships for poor students, which might mitigate the risks as well as provide much-needed support for subsistence.

2.43 An income-contingent loan scheme is generally operated through the income tax system (or at least relies on comprehensive information from the tax system), and countries where it has been implemented or seriously contemplated (such as Australia, New Zealand, the UK) have highly developed income tax systems, with high compliance rates. This makes grants and scholarships a more important and immediate type of supplement to ordinary loans.

2.44 At present students who become eligible for PCE loans are eligible for a fixed amount. There is no graduated scale of loan eligibility. This "all or nothing" situation is not desirable, but it is probably a consequence of not having the reliable and objective indicators of income of means generally.

2.45 *Tuition Fees:* Unlike many other countries, Brazil's public sector institutions, and in particular the federal universities, do not charge tuition fees, other than for a relatively small number of "specialization" courses.

Graph 10. Fees in Budget of Public Universities



Education Council (*Conselho Nacional de Educacão* - CNE). The case for extensive regulation of private (or indeed all) institutions is primarily a *qualitative* one: individual consumers do not have sufficient information to make optimal choices in the case of education. The case for *quantitative* regulation (in this case of tuition fee rates) is much weaker. In the short term there is a legitimate fear that de-regulated rates might increase significantly.[23] However in the longer term, maximum expansion of the system requires a Private sector institutions charge tuition fees, and these are subject to regulation by National relatively liberal approach. In addition there is the argument that developments in the area of tuition fees needs to be integrated with student aid policy[24].

2.46 If one (i) recognizes that the tuition fee and student aid issues should be linked, and (ii) that Brazil has a high degree of institutionally-based aid in the form of discounting, this suggests that liberalization of the controls over tuition fees might be linked with increased institutional provision for discounts and scholarships for living expenses. What is required is an approach which is simple, transparent, consistent as between sectors, and which preserves appropriate incentives. One possibility, which in addition would have the advantage of building on existing practices would be to require all institutions to earmark a certain proportion of their tuition fee revenue for student aid. The basis for the calculation might be potential tuition fee income assuming all students were charged the full rate: a certain percentage would have to be set aside for student aid, whether in the form of discounts, cash stipends or scholarships, and these would have to be distributed according to prior criteria, with oversight by a committee which included student representation. It would be possible to make the system progressive in respect of fees: the proportion to be earmarked might be for example 25% of fees which were less than 2,000 Reais per student, 35% of fees between R$2,000 and 3,000, and 45% on any fees in excess of R$3,000, etc.

2.47 Policies on student aid are important in equity terms. However, there is also an efficiency aspect: this stems mainly from the need to enable enrollment to expand while holding down costs, and in particular costs which fall on the federal or state budgets. Developing loan schemes, which have zero or minimal subsidies, as well as a variety of institution-based discounts and scholarships, could allow enrollments to expand, equality of opportunity to be enhanced, and at the same time make minimal demands on government budgets.

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23 The high private rate of return of 22% to Brazilian higher education reported for 1995 by Winkler (*op cit.*), would indicate that there is scope from transferring some economic rents from students to providers.

24 see Hauptman, *op cit.*, p. 9.

Section 3. Strategies and Recommendations for Higher Education in Brazil[25]

3.01 Brazil has given considerable thought to the development and reform of its tertiary education system and has made significant progress in many important areas. This section of the report suggests further developments to progress already made by Brazil focusing on the strategic goals of access, quality, relevance and efficiency.

3.02 ***Improving Access:*** In the area of improved access, it is suggested that the government consider the following:

- Brazil has taken major steps to diversify the types of tertiary institutions and the delivery methods used as a means of improving access and enrollment. These include the promotion of university centers, the development of sequential courses, the offering of night classes, and the more recent development of remote teaching. *In order to continue to promote these means of tertiary education the government may find it useful to set timed targets as a way of monitoring and measuring the progress of each of these interventions in increasing access and* enrollments.

- *Providing further financial assistance to poorer students to enable them to afford the fees at private institutions as well as to offset some of the costs associated with attending public institutions might also serve to improve access and* enrollment. The uneven distribution of tertiary enrollments by income group means that highly targeted aid could have a major impact on who attends. In developing a student aid program/policy, it will be important to identify which segment(s) of the student population would be eligible for assistance and, based on enrollment targets, estimate the total amount of assistance which might be needed. An important aspect of any loan scheme would be that it was designed to have zero or minimal subsidies, coupled with a mix of institutionally based discounts and scholarships. This would expansion in enrollments, targeting of those most in need, and make minimal demands on the government coffers.

- Currently, coverage is about ten percent, significantly lower than other countries comparable to Brazil in size and dynamism. While the government wishes to improve this, at present, there is no specific target or time frame for the increase. *The government may want to set a broad* enrollment *target for 2005 and 2010.* According to the estimates made earlier in the report (see Table 11), if the government sets a gross enrollment rate of 15 percent for the year 2005, that would mean providing places for an additional 800,000 students. This does not seem unreasonable if one considers the large increase in the number of secondary school graduates anticipated. Nor would such an increase require a major increase

[25] This section is the contribution of Quentin Thompson in a 1999 report commissioned by the World Bank, entitled "Higher Education in Brazil".

in public expenditure, if efficiency gains are made in the public sector and the private sector continues to grow in response to demand.

3.03 ***Improving Quality:*** The government has taken major steps to improve the quality of tertiary education consisting of an exit exam, the *Provão*, site visits, and data collection by the INEP. To further develop a culture of quality in tertiary education:

- It will be important to *ensure that the Provão remains a flexible tool that changes with curricula developments rather than serve as a rigid guide to set curricula.* It is also important to maintain the expansion of PAIUB activities and the data collection by INEP in order to assure quality controls are in place to ensure institutions remain responsible while gaining various degrees of autonomy.

- *Institutions will need to be actively encouraged to develop more rigorous internal quality assurance mechanisms for themselves.* One way to accomplish this would be for the government to develop a type of audit of quality to review the effectiveness if the internal quality processes of an institution which, if satisfactory, would mean more relaxed quality assessment by government, a signal to institutions that they were performing the task of assessment well.

3.04 ***Improving Relevance:*** It has always been a concern of countries that its tertiary system serves the needs of society and the economy.

- Brazil has taken a step in this direction by modifying its legal framework to allow greater *flexibility in curriculum content.* It is also important to seek information from employers on the skills and knowledge mix they need and to encourage them to participate in curriculum design.

- *Flexibility is needed in course structure* as well, for example, the major/minor concept used in the US in which students exercise some guided choice over the modules they study. This approach may have to be actively developed with the institutions since it does not fit with the academic tradition of Brazilian universities.

- *Institutions should try to identify both national and regional/local needs which they think they are able to meet or have a comparative advantage in over other institutions, and offer appropriate study programs.* Each institution has any number of stakeholders - the local labor market which it serves, the students who apply and attend, and the local or regional development needs which can be identified through outreach to community and regional organizations. Once the needs of the various groups have been identified, institutions should respond to them by prioritizing them and providing courses and programs that meet the demand. When institutions become more "consumer-oriented", there is the bonus of greater diversification in the system.

3.05 ***Improving Efficiency:*** Given Brazil's need to expand the system coupled with ever diminishing public resources, improvements in efficiency in the public sector is imperative.

- *The clearest inefficiency in the public tertiary system is the current civil service structure as it pertains to the hiring, firing, promotion, and reward structure of faculty, technical and administrative personnel.* Brazil will need to think carefully about reform measures if it wants to make operational, in a meaningful way, the principles set forth in the new legal framework.

- The new legal framework, developed and adopted by the government, indicates that Brazil is moving away from direct control of public tertiary education and is moving toward providing an enabling policy environment for institutions. *For institutional autonomy of this type to be meaningful, the government may want to consider implementing the following guidelines, which are considered international good practice*:

  a) provide public funds in the form of Block Grants allowing institutions to determine exact allocations;

  b) permit institutions to keep any revenue they generate without a reduction on the total amount of government funding;

  c) require accountability of institutions receiving public funds through: requiring institutions to produce a five year strategic plan and a one year operational plan (based on the government's overall national goals); require monitoring of the institutional plan; require participation in accreditation/re-accreditation processes, providing annual budgets that are transparent, and producing detailed annual reports of what has been achieved with the funds.

- There is a scope in the system to *increase efficiency in the use of the academic staff in public institutions, to increase the use of physical infrastructure through more intensive use, not only over the course of a day, but throughout the year, and to reduce drop out and failure rates* through improved teaching and increased relevance.

Annotated Selected Bibliography

Official Publications of Brazilian Government and Other Institutions

ABMES (Associação Brasileria de Mantenedoras de Ensino Superior), Ensino Superior: Legislação Atualizada** ABMES, Brasília, 1997.

Provides the full text of all federal legislative and ministerial acts involving higher education since 1995. These include laws, decrees, resolutions, findings, and "portarias"). The full text of the National Education Law (Lei de Diretrizes e Bases de Educação). For reference only; the book provides no interpretation or analysis of the documents included. Because the texts are in the highly specialized language of legislation and decrees, the uninitiated may have difficulty interpreting their meaning and/or significance.

INEP, Evolução do Ensino Superior, 1980-1996. Ministério de Educação e do Desporto (MEC), Brasília, 1988.

Provides longitudinal statistical information on higher education institutions, students, faculty, technical and administrative personnel, area or program of study, applicants, and graduates. They data are disagregated in according to region, type of institution, program of study, etc.

INEP, Exame Nacional de Cursos: Relatório Sintese 1997. MEC, Brasília, 1997.

Provides a synopsis of results and related information from the National Higher Education Exam ("Exame Nacional de Cursos", or "Provão"). Contains information on purpose and history of the exam, the results according to discipline, and characteristic of the graduating students who took it.

INEP, Avaliação de Concluintes do Ensino Médio: Relatório Preliminar. MEC, Brasília, 1998.

A preliminary report from a large survey of secondary school graduates from nine states. Over 400,000 students took tests in a variety of subjects, and responded to questionnaires. The report contains information on age, family and personal income, characteristics of parents, reasons for attending/finishing school, and plans for further study. Some limited analysis of student performance in relation to these variables is included. This is a preliminary report.

INEP, Diretrizes Curriculares: Propostas das Comissões do Exame Nacional de Cursos. MEC, Brasília, 1998.

This publication presents the suggested curriculum guidelines for 10 programs of study ("cursos"): Administration; Chemical, Civil, and Electrical Engineering;

Humanities; Dentistry; Journalism; Law; Mathematics; and Veterinary Medicine. The proposals, which do not follow a standard format, generally treat the types of skills and competencies that graduates should have and the basics organization of instruction.

INEP, Plano Nacional de Educação, 1998. MEC, Brasília, 1998.

The government's official statement of its goals for the entire education sector. Contains a chapter devoted to higher education. (The government is required to publish such plans for a number of politically important areas, such as education, health, etc.). The document is useful as an indicator of the government's view of the most urgent problems within the sector, and potential strategies for addressing the same. Policy prescriptions are quite general and lacking in detail.

OECD Indicators, Education at a Glance, 1998

UNESCO, Statistical Yearbook, 1997

Descriptive, Analytical, and Policy-focused Sources and Documents

Baeta Neves, C.E., "Ensino Superior Privado no Rio Grande do Sul: A Experiência das Universidades Comunitárias", NUPES, Universidade de São Paulo, 1995.

Looks at the "community universities" as a distinctive element in the development of private higher education in Rio Grande do Sul. Examines the socio-cultural conditions, which gave rise to a significant number of community universities in the state, the uniqueness of the educational mission, and other defining characteristics of these institutions. Summarizes the discussion of public support to these private institutions, including the debate prior to the 1988 constitution. Highlights some of the ways in which inflexibility on the part of policy may endanger their consolidation. The lessons and experience of community universities are quite relevant to general reform of the system and bear close analysis; this report is a very good starting point.

Birdsall, N., and Sabot, R., Eds. Opportunity Foregone: Education in Brazil. IDB, 1996.

This book is a series of studies, which provide information, data, and quantitative results on secondary education in Brazil. The idea for the book grew out of the symposium *Education, Economic Growth and Inequality in Brazil*, held in Rio de Janeiro from March 24-27, 1991. The book's three sections are divided into background and setting, education and earnings, and education and inequality. The studies document the ways in which the development of the basic education system in has lagged behind that of comparable countries. The book emphasized the importance of increasing efficiency of the system of basic education. This is an important collection of essays in view of the important link between basic and higher education.

Durham, E., "Uma Política Para O Ensino Superior Brasileiro: Diagnóstico e Proposta" Núcleo de Pesquisas sobre Ensino Superior (NUPES), Universidade de São Paulo, São Paulo, 1998.

Most up-to-date analysis is available of the current situation of Brazilian higher education. The paper begins with an analysis of the 1968 reforms and chronicles the exhaustion of the adopted model with respect equity, stagnation in enrollment, public sector financing, expansion and diversification of the system, and the role of research. The second half deal with the principle issues for consideration in policy reform: institutional autonomy, evaluation and accreditation, graduate education, new educational technologies, graduate education, finance, diversification and expansion of the system.

Gaetani, F., and Schwartzman, J., "Indicadores de Produtividade nas Universidades Federais", NUPES, Universidade de São Paulo, 1991

The paper analyzes and explores the reasons why the most commonly used indicators of academic productivity are inadequate assessment tools in the Brazilian context. Explains the heterogeneity among the federal institutions of higher education and their implications for comparability. The paper presents calculations, which control for additional costs borne by federal universities. According to these calculations, per-student instruction costs at federal universities are equal to or less than comparable costs at USP and at high-quality North American institutions.

Paredes, A., "A Evasão do Tereiro Grau em Curitiba", NUPES, Universidade de São Paulo, 1994.

A study of drop out in two universities in Curitiba (the Federal University of Paraná and PUC Paraná) finds several reasons for the phenomenon: financial difficulties; simultaneous enrollment in more than one degree program; wrong choice of degree program due to inadequate prior information; poor quality of instruction; marriage or acquisition of adult responsibilities; poor secondary school preparation; abandonment of a second choice program once an opportunity in the first choice area becomes available; perceived lack of job opportunities for graduates; immediate employment opportunities, especially civil service or other stable employment. The studies had three unexpected findings: a) actual rate of drop out is higher than the perceived rate; b) lack of a clear estimate of demand distorts course offerings and planning; c) while the instances of drop out are high, close to two-thirds of "drop-outs" will actually eventually receive a degree from a higher education institution.

Plank., D., The Means of Our Salvation: Public Education in Brazil, 1930-95. Westview Press, 1996.

The book elaborates upon why Brazil is lagging behind in educational development, the role of the political economy of development, background information on Brazilian education, the differences between public and private interests, policy, inequality, and the reforms required. The book analyzes the extent to which the serious problems in basic education are attributable to a political system that favors private over public interests. The book examines the historical impotence of policy debates with respect to changing a status quo, which has focused on the control of resources rather than on accomplishing public purposes. The author asserts that lasting improvement in Brazil's public schools will require broader participation in educational governance and policy making.

Schwartzman, J., "A Folha de Pagamento das Universidades Federais" NUPES, Universidade de São Paulo, 1995.

Examines the distorted incentives created by a series of laws governing salaries and retirement policy for university employees. Focuses on the way corporate interests have created a compensation policy that either permits or rewards practically everything but dedicating oneself to full time teaching and/or research. This will be of interest to those unfamiliar with the extremely complex and distorted working of salaries and retirement systems in Brazil.

Schwartzman, S. and Balbachevsky, E. "The Academic Profession in Brazil", in Altabach, P., The International Academic Profession: Portraits of Fourteen Countries, The Carnegie Foundation for the Advancement of Teaching, Princeton, NJ, 1996.

Provides a comprehensive overview of the profession within the context of the development of higher education in Brazil. Covers issues such as academic preparation of faculty, benefits and retirement practices, working conditions, habits, responsibilities, and outputs, socio-economic background, gender considerations, as well as perceptions of the academic community from outside. Governance and attitudes of professors toward their work are given special attention.

Schwartzman, S., "Brazil," Entry in the International Encyclopedia of Higher Education.

Summarizes the historical development of institutions of higher education from colonial times to the present. Traces historical influences on the organization of institutions. Includes basic information on governance, administration, finance, teaching, learning, research, and the career paths of academics. Provides helpful (albeit condensed) information on the thinking that guided policy since the 1960's, but does not include the recent changes/reforms instituted under the new National Education Law. A good overview piece for those unfamiliar with the Brazilian system.

Velloso, J., "Higher Education In Brazil: Trends And Recent Developments In Resource Allocation Policies," IIEP, 1994

Many policy issues concerning higher education have come forth over the years in Brazil. This paper presents and analyses the trends and the recent development in resource allocation policies for higher education in Brazil. It briefly explains the situation in the public and private colleges with regard to resource allocation, autonomy, efficiency, and trends pertaining to tuition, privatization, and market funding.

World Bank, "Brazil: Higher Education Reform," World Bank, Washington, D.C., 1993.

Official ESW (Economic and Sector Work) for the sub-section. Contains a thorough analysis of, and policy prescriptions for the situation at the beginning of the 1990's. Consolidates much of the existing research up to 1992, and includes original analysis of costs. In addition to a full description of the system, the report includes chapters on the issues in HE, principles of reform, proposed reforms, and the financial and other implications of reform.

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