

FINANCING
HIGHER EDUCATION
IN A GLOBAL MARKET

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Steve O. Michael
and Mark A. Kretovics,
Editors

Algora Publishing
New York

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ISBN: 0-87586-343-4 (softcover)

ISBN: 0-87586-344-2 (hardcover)

ISBN: 0-87586-345-0 (ebook)

Library of Congress Cataloging-in-Publication Data —

Financing higher education in a global market / Steve O. Michael and Mark A. Kretovics, editors.

p. cm.

Includes bibliographical references and index.

ISBN 0-87586-316-7 (soft cover : alk. paper) — ISBN 0-87586-317-5 (hard cover : alk. paper) — ISBN 0-87586-318-3 (ebook)

1. Universities and colleges—Finance—Cross-cultural studies. 2. Higher education and state—Cross-cultural studies. I. Michael, Steve O. II. Kretovics, Mark. III. Title.

LB2342.F516 2004

379.1'18—dc22

2004016675

Printed in the United States

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PREFACE

If there was ever a time when higher education needed sustained scholarly reflection on finance, it is now. The reality of globalization for higher education suggests an increase in competition—competition for students, faculty, and resources. Member states of the European Union are currently making a speedy and concerted effort to harmonize their curricula and educational processes. This exercise fosters greater mobility among students and faculty. Where mobility is enhanced, competition among service providers intensifies.

Technology has brought tremendous progress to distance education. Spiru Haret University in Romania boasts of its educational broadcast that covers most of Europe. University of Phoenix in the United States currently boasts of over 200,000 students spread across the world. Certainly, it is no longer business as usual in higher education.

Yet there are very few books on higher education finance; and even fewer are those that attempt to treat this important subject within an international context. There is a reason for this. A colleague from Great Britain described it this way:

One thing we all know is that without money we cannot do what we are doing. However, I doubt if any of us can articulate with absolute certainty how money produces effects on education outcome. The actors are constantly changing, the issues are complex, the constraints are many — not to talk about the ubiquitous politics that one needs to contend with. Almost every time we try to write, events overtake our reasoning before the ink dries on the prints.

With a statement like this from an invited contributor, the temptation to lay down the tools and quit was high.

Still, the changes and challenges are exciting. Government's ability to control and confine education to its borders is fast eroding. With Internet and

satellite systems, it will become harder to police foreign educational outreach. Yet, higher education has never been so important in the hand of government as an instrument by which to effect socio-political and economic policies. Governments must worry about brain drain, about research outcomes getting into the hands of “rogue nations” and terrorists (not to mention commercial competitors), about the cost of higher education, and about access for its citizenry. Finance has a significant role to play in every higher education decision, yet we know and talk little about it. Admittedly, we all complain about insufficient budgets, but serious academic analysis that is expressed to decision makers in an understandable language is rare.

The primary goal of this book is to discuss how higher education is financed in participating countries. Contributors were encouraged to eliminate the jargons of economics of education and to present information that is comprehensible to higher education decision makers. Experience has shown that most higher education decision makers have little or no background in economics or finance and, frankly speaking, may not be interested in economics. Many people have thin patience for complex equations, and those equations are hardly called to mind when one is confronted with real life challenges. While some contributors may have succeeded better than others in simplifying complex concepts, it is my hope that the majority of this book’s readers will find it useful, informative, and readable.

Many people helped to bring this project to a success. I thank my graduate students who have always prompted me to put my teaching in a book form, especially those who always insist on elucidation and simplification, and who then depart saying, “Now, I got it!” My gratitude goes to Frances Anne Freitas, assistant professor; Dr. Ludmila Cravcenco, my former graduate assistants; and Dr. Stephen Thomas, professor of educational administration, who relentlessly urged me to bring the work to a conclusion. Without my co-editor, **Dr. Mark Kretoivics**, assistant professor of higher education, who came in at a very crucial time and took charge of the project to bring it to a successful conclusion, I must confess the manuscripts would still be languishing in my drawer. Finally, I thank the writers, whose goal is to help the public to understand, appreciate, and adopt effective financial strategies to lead higher education to a higher level of excellence.

Steve O. Michael, Ph.D.
Professor of Higher Education Management

CHAPTER I. FINANCING HIGHER EDUCATION IN A GLOBAL MARKET: A CONTEXTUAL BACKGROUND

Steve O. Michael

INTRODUCTION

If politics is the force that gives birth to higher education institutions, economics is the force that keeps them alive. This idea has been expressed variously by writers on higher education finance. No one doubts that the quality of higher education available in any country is, in essence, dictated by the amount of resources devoted to the sector, coupled with the cleverness of resource deployment to achieve given ends. Hence, analysis of the economics of higher education with a specific focus on financing higher education becomes particularly important and urgent in an environment where higher education itself is becoming critical to personal, professional, socio-political, economic mobility. Higher education is part of the leveling force, an instrument *par excellence* for the redistribution of societal wealth. Public leaders are and ought to be interested in how higher education is empowering youths of different socio-economic backgrounds to participate in the opportunity structure of their nation. And it is becoming more important for political leaders to know how financing higher education in their countries contributes toward the strategic positioning of these countries in an increasingly global market.

The study of higher education finance reveals policy preferences among systems. Paraphrasing Bowen, the pictures of our lives are portrayed by our cancelled checks. "A family's life-style as well as its day-to-day events and problems are evidenced by its check stubs: Every birth, marriage, change of residence, change of career, educational decision, illness, and death is recorded there" (Bowen, 1993a, p. 113). Likewise, a nation's budget reveals its priorities and the mechanism distributing funds among institutions also conveys important messages about the higher education systems of the country.

Books on higher education finance are largely analyses of higher education priorities within a given system. An analysis of funding priorities is the focus of this book. The intention is to examine trends in higher education finance, to analyze the current financial conditions, and to discuss future possibilities in the represented countries. The worth of the exercise lies, partly, in the extent to which one is able to identify unintended consequences of funding strategies, and the purpose of such an exercise is to present recommendations that public policy-makers may find important in ameliorating future problems.

This chapter starts with a discussion of the importance of higher education, because whatever is said about higher education funding presumes that higher education has some importance and to the extent that the level of importance varies from country to country, one would expect differences in resources devoted to the sector. In addition, this chapter discusses the general trends observable in higher education worldwide. These trends, to a lesser or greater degree, are noticeable in many countries, especially those represented in this book. A bold step is then taken to posit five characteristics that the author believes are common to progressive higher education systems, with the hope that policy-makers and higher education scholars may use these as basis for evaluating funding policy outcomes.

IMPORTANCE OF HIGHER EDUCATION

Economists have always been interested in the rate of return on investment. It is logical that investments in projects or sectors will be determined largely by the rate of return anticipated by the investors. Consequently, rates of return on education have been of interest to educational economists and educational administrators in general. The importance of these rates becomes

heightened in an environment characterized by increasing competition for limited government resources and by a growing threat of economic austerity.

In the 1950s, efforts to calculate rates were concentrated on the K-12, or what others called primary and secondary education, level. It has been estimated that education was perhaps the most profitable investment for any country, having a rate of return as high as 15% in some instances. However, more sophisticated calculations were more realistic and less dramatic, and some were as low as 3%. Differences in rates of return reflected differences in how researchers define education, in the activities associated with education, in the sophistication of the methodologies employed, and in the differences in geographical and sectoral context and time-period of interest to the researchers.

While calculations of rates of return on K-12 education were once a popular discussion topic among educational economists, such was not the case with higher education. However, a few studies that focused on this exercise concluded that while there are positive rates of return on higher education investments, these rates are somewhat lower than the rates of return on primary and secondary education. The validity of this conclusion is readily manifested in developing countries. The general thinking in economics of education is that the K-12 education, or primary and secondary education, yields greater returns to the public than does higher education. Returns on higher education are deemed to benefit the recipients much more than the general public. In some countries, this line of reasoning underlies the public policy that demands that all pre-college age children be enrolled in school. Where compulsory education is adopted as a public policy, the onus rests on the government to ensure that provisions are made for pupils to attend schools. For the policy to hold, K-12 education is provided for free or at a minimal cost to the parents of school-age children.

While one may not dispute the contribution of K-12 education to the general public, the proportion of the benefits of higher education that is public must not be assumed to be static or unchanging. The extent to which higher education is a public good, that is, the extent to which higher education benefits society, changes with the maturity of the economy and the level of the general education of the citizenry. The importance of education and training today differs from what it was perhaps a century ago. The Dearing Report (1997) observed that

Powerful forces—technological and political—are driving the economies of the world towards greater integration. Competition is increasing from developing economies that have a strong commitment to education and training. The new economic order will place an increasing premium on knowledge which, in turn, makes national economies more dependent on higher education's development of people with high level skills, knowledge and understanding, and on its contribution to research. The UK will need to invest more in education and training to meet the international challenge. (p. 12)

The rate of return on higher education at the beginning of the twentieth century differs from what it was at the end of the century in the United States and one can only assume that the rate is increasing under what others have called a knowledge-economy or knowledge-society. The hypothesis of this author is that the importance of higher education to society becomes even more critical in an increasingly global market. In a conceptual or knowledge economy, the debate regarding the extent to which higher education is a public or private good, therefore, becomes an overplayed intellectual exercise.

Johnstone (1993) remarked that

Higher education is considered throughout the world to be the key to [fulfilling] both individual and societal aspirations. For individuals, education beyond the secondary level is assumed to be the way to social esteem, better paying jobs, expanded life options, intellectual stimulation—and frequently a good time in the pursuit of any or all of the above. For societies, higher education is assumed to be the key to technology, productivity, and the other ingredients of international competitiveness and economic growth. Higher education also shapes and preserves the values that define a culture. And it is believed to be a major engine of social justice, equal opportunity, and democracy. (p. 3).

The importance of higher education can be demonstrated in many ways. Two such examples are provided here. First, as revealed in Table 1:1 below, the rate of employment increases with the level of education in all the countries presented in the Table. In Italy, for example, only 50% of the 25- to 64-year-old female cohort was in the labor force, whereas 80% of this cohort that has university education was gainfully employed in 2001. Similarly in Turkey, 27% of the 25- to 64-year-old female cohort was in the labor force, but 71% of this university educated group was in the labor force in 2001.

One can reasonably conclude that whichever the country of interest, the higher the educational level, the less likely one might be unemployed. Stated differently, the higher one's educational level, the greater the possibility of gaining employment. This conclusion holds true irrespective of racial, gender, and socio-economic status.

Table 1.1. Labor force participation rates (2001)
By level of educational attainment and gender for 25- to 64-year-olds

		Below upper secondary education	Upper secondary and post-secondary non-tertiary education	Tertiary-type B education	Tertiary-type A and advanced research programs	All levels of education
OECD Countries						
Australia	Males	79	89	89	92	86
	Females	55	68	77	83	66
Austria	Males	70	84	88	94	83
	Females	49	69	83	85	65
Belgium	Males	69	87	91	92	81
	Females	39	69	81	84	60
Canada	Males	73	88	91	90	86
	Females	48	73	81	83	72
Denmark	Males	75	87	91	96	86
	Females	57	79	88	90	77
Finland	Males	70	86	90	93	83
	Females	61	79	86	88	77
France	Males	76	88	92	92	85
	Females	57	76	85	84	70
Germany	Males	77	84	88	92	84
	Females	50	70	81	83	67
Italy	Males	74	86	x(4)	91	80
	Females	34	67	x(4)	81	50
Japan	Males	87	95	98	97	95
	Females	56	63	66	68	63
Korea	Males	84	89	94	91	88
	Females	61	53	58	56	57
Mexico	Males	94	96	97	94	94
	Females	37	56	61	70	43
Netherlands	Males	77	89	89	91	86
	Females	47	73	82	83	65
New Zealand	Males	80	91	89	93	89
	Females	56	74	77	83	71
Norway	Males	74	89	92	94	88
	Females	58	81	90	88	80
Portugal	Males	87	87	94	94	87
	Females	66	84	88	95	71
Spain	Males	83	90	93	91	86
	Females	41	66	77	83	54
Sweden	Males	79	88	89	91	87
	Females	66	83	86	90	82
Switzerland	Males	87	93	96	96	94
	Females	62	74	85	86	74
Turkey	Males	82	87	x(4)	87	84
	Females	22	32	x(4)	71	27

United Kingdom	Males	67	88	93	93	86
	Females	51	77	85	87	74
United States	Males	75	86	90	92	87
	Females	52	73	80	81	73

Note: "X" indicates that data are included in another column. The column reference is shown in brackets after "x," e.g., x(2) means that data are included in column 2.

Source: OECD. See Annex 3 for notes (www.oecd.org/edu/eag2003).

Second, as revealed in Table 1:2, the higher the education attained, the higher the income received. This observation is consistent across all the countries reported in the Table. In Spain, for example, the female 25- to 64-year-old cohort with lower secondary education received, on the average, only 71% of the income level of the female cohort with upper secondary education or a high school diploma in 1992. The male counterpart received 78% of the income level of the male with upper secondary education or high school diploma in the same year. However, in the same country, the female 25- to 64-year-old cohort with higher education (university) received, on average, 149% above the income level of the female 25- to 64-year-old cohort with upper secondary education or a high school diploma, while the male counterpart received 138% of the income of their peers with upper secondary education or a high school diploma in 1992.

Table 1:2 also indicates that in many countries, the increase in income from lower-secondary education to university education of females 25–64 years old is greater than their male counterparts' increase in income. However, it can also be argued that the female 25- to 64-year old cohort fared less well than their male counterparts in terms of income generated at the lower secondary level. In the United Kingdom, for example, the female 25- to 64-year-old cohort received 70% of the income of those of the same age group with high school diplomas, whereas females of the same age group with university education received 183% above females with high school diplomas. On the other hand, the male 25- to 64-year-old cohort in the United States received 69% of the income of males of the same age group with high school diplomas, while males in the same age bracket with a university education received 147% of the income of males with high school diplomas in 1999.

The Inter-University Council of Ohio (2001) noted,

In the past 30 years, inflation-adjusted earnings for people with a high school education or less have actually fallen. Some college attainment was generally necessary to preserve one's standard of living. The real increases in income that everyone took for granted in the generation after World War II have in more recent years been reserved for those who have earned baccalaureate and, especially, graduate degrees (p. 6).

Table 1:2 Ratio of mean annual earnings of 25- to 64-year-olds by highest level of education attainment to mean annual earnings at the upper secondary level, by sex and country: 1999

Countries	Lower Secondary Education		Post-secondary Non-Tertiary Education		All Tertiary Education (University)	
	Female	Male	Female	Male	Female	Male
G7 ¹						
Canada	70	80	98	102	139	138
France	80	88	133	130	145	159
Germany ¹	74	81	128	114	141	143
Italy ²	61	54	nr	nr	115	138
United Kingdom ⁴	70	72	142	124	183	147
United States ⁴	67	69	120	123	176	193
Other						
Australia ²	91	87	116	111	150	141
Austria	81	85	nr	nr	134	146
Belgium	83	93	112	99	133	128
Denmark ¹	90	86	92	91	123	131
Finland	99	93	124	129	145	167
Korea ²	69	88	118	105	141	132
Netherlands ³	73	84	nr	nr	147	132
New Zealand ⁴	72	76	nr	nr	136	130
Norway	84	85	121	118	137	136
Portugal	63	60	133	150	170	180
Spain	71	78	nr	nr	149	138
Sweden	88	87	nr	nr	126	138
Switzerland ⁴	75	82	122	113	154	141

1/ 2000 data

2/ 1998 data

3/ 1997 data

4/ 2001

nr/ Data not reported for this category

Note: Table values represent the ratio multiplied by 100 (the value for the upper secondary education or high school education).

SOURCE: Organization for Economic Co-operation and Development, Center for Educational Research and Innovation, International Indicators Project, 2003. <http://www.oecd.org/edu/eag2003>

Given these statistics, it is no surprise that Gross National Products (GNPs) and employment statistics of countries with greater proportions of higher education graduates are impressively different from those with a lower proportion of higher education participation. Economists have warned that the quantifiable returns on education are only a small part of the picture. More important are what are known as the externalities and the spillover effects, as shown below.

As observed by the Inter-University Council of Ohio:

There is, of course, much more to a college education than significantly increased income. Typically, more education leads to:

- more highly-regarded employment;
- greater economic security and stability;
- less dependency on government assistance;
- better access to health care;
- better dietary and health practices;
- longer life spans;
- healthier children;
- better academic performance of children;
- less criminal activity and incarceration;
- higher voting rates;
- more volunteer work and charitable donations;
- greater community service and leadership.

The bottom line is that individual benefits of a college education accrue to the families in which educated people live, their communities and cities, their states, and the entire nation (p. 6).

Bowen (1993) summarizes this discussion succinctly:

The truth is that even higher education's instructional activities, narrowly defined, yield substantial social benefits which are not necessarily harvested by alumni as additional income. The mere presence of large numbers of educated men and women improves society by providing social, political, civic, and intellectual leadership that is enlightened and humane. The home, the church, the government, the community are all enhanced by the efforts and influence of the college educated. The presence of educated men and women increases the productivity of all labor and capital and has a favorable effect on national economic growth in ways that are not reflected fully in the personal incomes of the educated. For example, the presence of educated men and women results in the discovery and diffusion of new ideas, new technology, and new ways of doing things. Moreover, college graduates man many professions in which the returns are below earnings in comparable occupations. These include teaching, the ministry, social work, and public service. The point is that the instructional activities of higher education contribute toward a better society in many ways that do not necessarily add to the incomes of their alumni. (p. 29)

Few studies are being conducted on the benefits of higher education today, perhaps because it is assumed that these benefits are readily obvious even to the partially blind. But disturbing trends are noticeable across many nations. Higher education funding tends to be more vulnerable than the funding of other social programs in many countries, especially during hard times. Given the vulnerability of higher education budgets in many of these countries, the temptation is high for politicians who often seek quick fixes to economic predicaments.

However, funding policies do have consequences on institutional and individual behaviors and it is our responsibility to continue to analyze these consequences with a particular attention to the unintended impact of public policies.

A book of this nature becomes important for educational leaders, higher educational administrators, government officials and students who are interested in the affairs of higher education beyond their own geo-political boundaries. In a shrinking world characterized by a global market, keeping an eye across the borders is a wise leadership strategy. This point was driven home by the Dearing Report (1997) with respect to the United Kingdom:

With increasing competition from developed and developing nations, and given the possibility of locating business operations anywhere in the world as a result of the development of communications and information technology, nations will need, through investment in people, to equip themselves to compete at the leading edge of economic activity. In the future, competitive advantage for advanced economies will lie in the quality, effectiveness and relevance of their provision for education and training, and the extent of their shared commitment to learning for life. (p. 13)

Building upon a foundation laid by Albatch and Johnstone (1995), this work explores the nature of higher education finance in seven countries. Specific references are made by the contributing authors to the structure of higher education, major milestones, revenue sources, cost structures, access (with focus on minority participation where applicable), and financing for the 21st-century environment.

GENERAL TRENDS

General trends, discernable to those interested in international higher education funding policies, have implications for institutional management—especially if leaders of higher education understand them. It is necessary to explore and analyze the socio-economic-political context of each country and to examine how these forces interact to shape the higher education system and operation. Equally important is the need to carefully observe the unintended consequences public policies have on the respective institutions of higher education. Lastly, a call is made for attention to how institutional behaviors impact on society. Indeed, the field of higher education finance, hitherto relegated to the concern of very few, can be and should be an exciting field for higher education students and scholars. It is hoped that the simplicity and clarity of this text will instigate new interest and motivate further the existing ones.

Greater Participation

The first obvious sign in higher education in the 21st century is the growing number of people crossing through the gates of higher education institutions. In virtually every country, the numbers of those who interact with one higher education institution or another has risen dramatically in less than 50 years. In absolute terms, the number of students entering colleges and universities has risen steadily, leading to a dramatic expansion of the higher education sector. The number of institutions established and the number of delivery modes or outlets has risen, too, in response to the increase in demand. Even in the developing countries, it is safe to conclude that the 21st century will continue to witness a steady increase in the participation rates of both the traditional college-age students and nontraditional students in higher education.

Some have described this phenomenon as the broadening or the widening of access to higher education. Others have described it as the “massification” of higher education. Yet others have described it as “liberalization” or “democratization” of access to higher education. Irrespective of the terminology used, the era of elitist higher education is over. The wisdom of today compels public policy-makers to search for ways to encourage and accommodate the increasing demand for higher education. Those countries that shun this wisdom will likely find it harder to compete in a borderless economy.

Higher education finance lies at the root of participation rates. The extent to which the sector is funded and the mechanism used for funding can greatly influence the demand for higher education. Where funding is enrollment-driven, incentives are created for institutions to attract more students. Where tuitions are capped and made affordable, demand from students from the lower socioeconomic backgrounds is encouraged. Therefore, the onus is upon public policy-makers to continue to examine from time to time how their funding schemes restrict or expand higher education participation.

Greater Institutional Diversification

As demand for higher education grows in each country, the need for institutional diversification has also risen. Two primary factors are responsible for this. First, as the number of institutions increases, there is a move toward institutional specialization. For example, there are technical colleges or colleges of technology, comprehensive universities, specialized universities such as medical

colleges, research universities, liberal arts colleges, and in some places junior colleges or community colleges.

Second, to retain the quality of academic programs and curricula, some nations have found it possible (and necessary) to establish community colleges or junior colleges where those who do not possess the requisite qualifications to access the top programs can upgrade their knowledge and skills. In the United States, for example, a growing number of students in major universities have had some preparation at a community college.

Also growing is the number of students accessing private nonprofit and for-profit higher education institutions. Higher education is not a high profit venture; hence, any institution that is established must bridge some gaps and attend to unmet needs of a segment of the population. The current trend worldwide is greater tendency toward institutional diversification, an approach that becomes necessary to meet the diversity of demands and to achieve a more effective management.

Institutional diversity can be encouraged or discouraged by public funding strategies. Ultimately, the government shapes what kind of higher education it provides, by first giving the institution a political reality and second, by providing resources to sustain institutional activities. Where governments direct substantial funds to research, research universities will flourish. Where community colleges are disproportionately funded, the operation of this sector will be enhanced. The responsibility of the policy-makers is to ensure that, through the funding schemes, the right kind of institutional diversification is achieved.

Greater Student Diversity

As noted above, institutional diversification is a response, in part, to the growing diversity of demand for higher education services. No matter the country of interest, the college student population is becoming more heterogeneous. The landscape of our higher education worldwide is changing with the greater participation of women. In the United States, a concern is being raised for the first time that the male student population in higher education may be shrinking, leading some to express the fear that male students may become an at-risk group in American higher education. While others have noted that this agitation may be premature, there is no denying that at the beginning of the 21st century the number of female participants is remarkably different from the beginning of the 20th century.

Similarly, there is a growing participation of students with different racial backgrounds. In the United States, the most visible of the country's minorities, the African Americans, were long kept out of the higher education systems, and even after the desegregation laws were passed, many higher education institutions were reluctant to actively recruit and retain this group of students. In South Africa under the apartheid policy, blacks were kept out of the white and well-endowed higher education institutions. However, the tides are turning and many historical barriers are coming. The trend worldwide is toward an increasingly racially and ethnically heterogeneous university campus; campuses throughout the world are beginning to reflect the true picture of their society.

In addition, there is a growing participation of students from different socio-economic backgrounds. At the beginning of the 20th century, higher education was an exclusive club of the wealthy. However, the trend today is toward wider opportunities for those at the middle and lower rungs of the economic ladder.

Student diversity as a policy goal is highly sensitive to funding policy. Democratization of access in the United States occurred because state governments attached dollars to enrollment and series of categorical funding were targeted toward groups of students of particular interest. Some governments have ensured that tuition fees remain affordable to a large segment of the population by aggressively supporting institutional diversity. In the United States, a student may attend a community college for less than \$1,500/year in tuition, while a private university may charge over \$25,000/year in tuition. Subsidies here ensure that students are able to access some kind of higher education, irrespective of their socio-economic status. In addition to institutional funding, because of the historical injustices against members of specific minority groups, especially African Americans and Native Americans, special funds are often made available in the United States to address the pipeline issues for members of these groups. Additionally, in some disciplines, special funds are targeted toward the recruitment of female students. Thus it can be seen that government funding mechanisms can support (or not support) higher education institutions' student diversity goals.

Higher education scholars need to continue to measure the efficacy of such policies by monitoring the level of diversity among students as funding policies change within each country over time and from one country to another.

Greater Diversification of Sources of Funding

Governments remain the single most significant source of funding of higher education in any country. In Argentina, Cuba, or Finland, higher education is more or less free to students. Where tuition is free, governments shoulder all the responsibility of higher education funding. In the United States, at the other end of the policy spectrum, governments fund only a part of the higher education cost and institutions work hard to obtain funds from other sources and to implement cost reduction strategies (see Chapter 2).

Starting with the Reagan Administration and Thatcher's Administration, an aggressive policy to force higher education to explore alternative sources of funding was developed in the United States and the United Kingdom. In the United States, sources of funding include, in addition to student tuitions, revenue from teaching hospitals, sales of intellectual properties, fundraising and development activities, revenue from auxiliary services, and athletics. Psacharopoulos (1993) observed that "the demand for higher education and enrollments have grown by such proportions that governments can no longer foot the university bill, admit to the university all those who want to enroll, or provide education of the same quality as they did before" (p. 61). To maintain quality, institutions have sought funds to supplement government appropriations.

The policy goal with respect to diversification of funding sources is clear—that higher education institutions should reduce dependence on the government by raising their own funds. However, reductions in funding lead to deteriorating conditions of service, flight of highly-trained professors, neglected building maintenance, and declining academic quality. Therefore, governments contemplating forcing the diversification of funding sources for higher education by reducing public support over a prolonged period of time must take into consideration the general damage that will be done to the nation's higher education system. At the same time, governments everywhere realize the limitations of this agenda since higher education constitutes an important policy instrument in the hands of the government and the effective utilization of this instrument depends very much on the extent to which government contributes to the budget. Consequently, governments also have an interest in limiting aggressive profit-making activities on the part of institutions and restricting the extent to which they can charge tuitions to their students.

However, irrespective of the country, there seems to be a worldwide trend toward diversification of funding sources for higher education. Three conditions

encourage funding diversification. First, higher education institutions will search for alternative sources of funding as governments continue to reduce their contributions to the sector. A prolonged and progressive decline in government funding has the effect of forcing institutions to scramble for resources anywhere they can get them.

Second, diversification of funding sources may be achieved by creating conditions that are conducive and that naturally promote the search for alternative sources of funding in higher education. Perhaps the most effective way to achieve this policy goal is for governments to relax their regulations and controls on higher education. In many countries, higher education leaders struggle daily to keep up with changing regulations and thus have little or no time to become more creative in searching for alternative funding. Hence, deregulation is an option for governments attempting to induce higher education institutions to search for alternative sources of funding. Where market forces are encouraged, institutions will have no choice but to respond to the market conditions. The only caveat here, as mentioned earlier, is that the market produces unintended consequences and the market does not always have the same policy goals as the government.

Thus, the first policy option to induce higher education institutions to diversify funding is to reduce government assistance, and the second is to deregulate and encourage market forces. The third is to initiate incentives that promote the search for alternative sources of funding. In the Province of Alberta in the early 1990s, the government introduced matching grants for dollars that institutions raised. Of course, this approach encouraged institutions to find new ways to raise funds. This is an attractive policy option that creates a strong incentive for higher education leaders to learn how to obtain funds from alternative sources and at the same time fulfill government agendas. Governments may decide to match funds raised for minority scholarships or building maintenance or for new building projects, thus ensuring that institutions respond to government priorities. The downside of this policy, however, is that institutions may discontinue the use of this alternative source of funding once the government has withdrawn its matching grants.

While alternative sources of funding are important in higher education because they reduce over-reliance on one source, care must be taken to ensure that institutions are not preoccupied with a search for funds to the detriment of their goals and mission. Many of these alternative sources require long-term investment and continuous marketing strategies.

Greater Accountability and Control

As part of the conservative agenda under President Reagan in the United States and Prime Minister Thatcher in the United Kingdom, institutions of higher education were required to undertake accountability measures. The general impression was that higher education was a bloated sector where professors engage in minimal teaching and pointless research, where administrations engage in an unbridled waste of resources, and students exit ill-prepared for the world of work. Prime Minister Thatcher attempted to end faculty tenure; now the United Kingdom operates what is called a probationary period similar to the pre-tenure period in existence before her Administration. In the United States, President Reagan would have attempted this but the tenure system was not directly under the prerogative of the federal government; and indirect attacks on the tenure system have largely succeeded.

At any rate, there is a worldwide trend toward greater accountability and control of higher education. In some countries, higher education institutions need clearance from the government before instituting new degree programs. In other places, higher education institutions are experimenting with post-tenure review. Yet, still in other places, quality assurance measures have been established.

In the State of Ohio, the government mandated a review of selected doctoral programs with the aim of discontinuing funding for those considered weak. Similar measures have been taken in other states. Higher education budgets are falling under greater government and public scrutiny and from all indications, this trend will continue in the 21st century.

The implications of greater accountability and control are many. In some cases, measures instituted by governments to increase accountability entail more costs to these institutions. It is not uncommon for institutions to require additional staff to collect and collate data to satisfy government demand for information. Yet, institutions have no choice, especially where funding is contingent upon a satisfactory fulfillment of accountability requirements. In addition, government control almost always results in greater stifling of creativity on the part of higher education institutions. Nevertheless, the writing on the wall clearly spells more control and accountability in virtually every country, both in the developed and developing countries.

Greater Privatization

Traditionally, privatization implies the shift of public industry to the private sector. This shift is accompanied by a change in ownership and a change in management. A privatized industry is, therefore, subject to the full forces of the market. Historically, public corporations exist to ensure that the general public, including those who are less endowed materially, have the benefit of accessing the products or services produced by the sector. Products or services considered vitally essential are often provided by these corporations. However, what is considered essential differs from country to country, depending on the trust reposed in the market system, the general standard of living, and the government preferences. Road, sea, and air transportation are under the public corporation in some countries, while in others all transportation services are provided by the private sector.

Privatization of higher education has been on the increase; however, what is described as privatization of higher education has a different meaning from what is described above. Privatization of higher education simply implies greater participation of private higher education institutions and the tendency for a government to inject market forces into the public higher education sector.

The private higher education sectors are not new to the Western countries. What is new in these countries is their expansion. Never before have so many students enrolled in the private higher education sector of these countries. When discussing the private higher education sector, it is important to differentiate between the nonprofit private higher education sector and the for-profit private higher education. While the number of students enrolling in the nonprofit private higher education has continued to rise, the growing demand for for-profit higher education is a rather new phenomenon. Recently, in the United States, new businesses such as the University of Phoenix, DeVry, and the Corinthian Colleges have opened their doors to tens of thousands of higher education students. These institutions do not hide the fact that they are, in fact, business ventures in the game for the money. Without profit, they will fold up since their shares are sold on the public market.

Of interest is the growing sympathy for profit-based higher education among politicians and the general public, who are of the opinion that these institutions are leaner and more responsive to customer demands. However, there is something to be said for the kind of business that universities are expected to deliver. Universities are in a knowledge industry and their cardinal mission is

achieving excellence. Unfortunately, excellence is not generally served by quick fixes, convenience, drive-through dispensation, commercialization, and unguided customer satisfaction.

The second aspect of higher education privatization is the continuing injection of market forces into the public higher education systems. Under what some have called the neo-conservative movement, nations such as the United Kingdom and Canada have witnessed greater devolution of authority, a shift toward user-pay (a point discussed below), a call for greater commercialization of intellectual property, and public policies aimed at enhancing competition among public higher education institutions.

Higher education privatization is undertaken under the premise that the private sector is a better manager of scarce resources and the premise that this move would lessen the financial burden for the government. Where profit is the only motive of business operation, it is conceivable that management will run a tighter ship, ensuring that wastes and redundancies are eliminated or reduced to the minimum. However, higher education is not a business institution with only one bottom-line. Typically, universities have multiple objectives that may sometimes be conflicting and therefore require diverse operational approaches to achieve. Under this condition, some level of waste is always present, even in the best operational method. The search for new knowledge entails continuous experimentation, a situation that may not lend itself to the most rational, efficient mode of operation at all times.

Nevertheless, governments of many nations are moving toward greater privatization of higher education. The 21st century will witness growth in the number of students attending the private higher education sectors. The number of for-profit private higher education institutions will continue to rise and governments will continue to inject market forces into their public higher education systems.

Greater User-Pay

One of the trends observable in higher education systems across the globe is the extent to which college students are being asked to assume the financial burden of their education. This trend is reflected in three factors: (a) an increasing proportion of students' contribution to institutional budgets, (b) an increasing level of loans assumed by students to offset the cost of their higher education, and (c) the growing tendency to ensure that the money follows the

students or the tendency for governments to give money to students directly, with the hope that institutions will become more responsive to students' needs.

The era whereby governments rubber stamp higher education budgets is long gone, in some countries. Few higher education systems can boast of adequate financial support from their government. As the proportion of government contribution to institutional budgets diminishes (or increases at a less than satisfactory rate), institutions are forced to set higher tuition and fees. This means that students must cover a greater portion of the institutional budget. In parts of the United States, many have observed that public higher education institutions used to be called "state institutions," then were described as "state supported institutions," and are now referred to as "state located institutions."

As the cost of higher education rises, many students are forced to seek out loans to cover their expenses. Both the number of students relying on loans and the loan burdens of new graduates have continued to rise. It is no longer uncommon for young graduates in the United States to have accumulated over \$50,000 of debt at the time of their commencement. Where the government acts as a guarantor for student loans, commercial lending agencies have become overzealous in marketing their packages to vulnerable students. Many of these students could have benefited from good financial counseling that might have reduced their heavy reliance on loans. That being said, the tendency to encourage loans as opposed to grants and scholarships seems to be on the increase in many countries.

Those who believe strongly in the market as an efficient regulator of the higher education system are quick to support user-pay, especially when funds are provided directly to the students. The rationale is that students will vote with their feet where services are less than satisfactory to them. To make it easier to vote with their feet, some governments have encouraged removal of barriers among institutions so that students can transfer credits accumulated in one institution to another. Some governments have called for course and curriculum harmonization to encourage easy transferability.

Underlying the user-pay approach as a funding public policy for higher education is a strong belief in the market; a belief in what some have called "individual responsibility"; a belief in institutional responsiveness to student demands and comfort; and a belief that higher education benefits the recipients more than it does the state; hence, the need for the burden to be disproportionately shouldered by them. Right or wrong, there is a growing movement toward user-pay policy in many countries.

The unintended consequence of this policy is that prospective students from lower socio-economic status are discouraged from higher education participation. Therefore, the onus rests upon the government and higher education to finance scholars and continue to monitor the impact of user-pay on various segments of the population.

A Growing Popularity of Performance Funding

As part of government accountability measures, there is a growing tendency toward performance funding. In the minds of public policy-makers who are favor this measure, associating funds with performance provides a guarantee for better performance. After all, “you get what you pay for.”

Simple as this logic may be, the practical implementation of performance funding demands that performance indicators be established. The effect has been an oversimplification of higher education production in many places. Attempts are made to quantify outcomes but in some instances, what is deemed an outcome is, indeed, an input and that which is counted is only a partial representation of the real outcome. Has it not been said that, “not all that counts that can be counted and not all that is counted counts?”

Irrespective of the arguments against performance funding and the hazards of establishing performance indicators, a growing number of governments are favorably disposed to adopting this approach to quality control. Given this tendency, the role of higher education scholars is to continue to monitor how funding responds to performance indicators and how indicators alter institutional behaviors.

Greater Cost Consciousness

The unit cost of higher education, that is, the cost of producing one graduate in any discipline, has risen steadily. More perplexing to many is the fact that the rate of increase is well above the general inflation rate. So troubling is the cost of higher education that the US House of Representative established a commission to study cost of higher education in America.

The Commission put forward some recommendations to help ameliorate the rising costs, and made the important revelation that the general public was confused as to the true cost of higher education. Few, including the students themselves, understood that what is advertised as the tuition rate did not cover the true cost of higher education and, in many cases, what is advertised is not

necessarily the true cost that a student ends up paying. Many fail to realize the astronomical increase in the volume of higher education operation today, and many more fail to understand the growing sophistication of higher education processes. Employers now seek technologically savvy graduates, individuals with solid depth and desirable breadth of knowledge, but society fails to realize that technology is not cheap, and depth and breadth of knowledge translate into additional expenses.

However, faced with increasing competition for limited public funds, responsible governments are now more cost conscious than ever before. These governments are also putting pressure on higher education institutions to become more cost conscious and to demonstrate that cost cutting strategies are being used. Admittedly, higher education institutions have, hitherto, done poorly in understanding their true costs let alone implementing mechanisms to curtail and control them. In the United States, organizations such as the National Association of College and University Business Officers (NACUBO) have taken it upon themselves to encourage institutions toward innovative practices that result in cost savings. Such practices are then recognized with annual awards. Higher education scholars can surely make contributions in this regard. Analyses of cost reduction strategies are a much needed exercise in higher education literature, and equally needed is the analysis of attitudes that promote or hinder cost consciousness and reduction in colleges and universities. For example, governments that penalize institutions that fail to expend their budgetary allocations at the end of the year cannot be successful in demanding these institutions to exercise cost restraint.

Commercial Ranking of Institutions

In a perfect market, consumers have access to the information necessary to make informed decision about the offerings of the many firms within an industry. Higher education has operated under a protected market because its primary clients, the students, prior to their enrollment, often lack important information about the institution or the education it offers. It is not that information was intentionally withheld from this group, but the available information was not necessarily packaged for their easy understanding. Secondly, there are too many variables involved — enough to overwhelm most minds. Third, most students have little patience or time to sort out in a rational way all the important variables about all the institutions of interest to them before

deciding on which one to attend. Students often have relied on intuition, referral by friends, neighbors, family members, or peripheral, inconsequential data such as an institution's athletic prowess or team mascot in deciding on which institution to attend. Publishers in the ranking business have considered this a protected market that tends to shield mediocre academic programs from the wrath of the market.

The solution to the problem of market protection is a growing trend of institutional rankings. In the United States, commercial ranking of institutions is now an acceptable practice even though institutions rant and rage against the criteria used, the weights associated with these criteria, and the potentially damaging use to which such an exercise can be put. Commercial ranking of higher education institutions is now on the rise in the United Kingdom. In the United States, the *US News & World Report*, a commercial publisher of one of the more well-known rankings, identifies criteria deemed important and proceeds to solicit data from institutions and upon that basis establishes ranks for participating institutions. Responding to the many criticisms levied against it, the *US News & World Report* has not denied that whatever ranking is done would be less than perfect, but says that institutions can suggest better criteria. On the part of institutions, some feel this is a case of "damned if you do and damned if you don't." An institution that participates has no control over the weights the *US News & World Report* assigns to criteria, no control over the accuracy of other institutions' data, and no control over the outcome of the exercise as a whole. Yet, not to participate at all entails the greater risk of not being included in the nation's list of top institutions. Not to be listed at all is seen as worse than being listed with information that seems unsatisfactory.

No matter what the feelings of institutional leaders (who, by the way, seem eager to call attention to these rankings when they are favorable, and criticize them when they are not), consumers seem to appreciate the rankings, as indicated by the volume of sales enjoyed by the publishers. There is a market for information about institutions prior to enrollment. Many consumers look for simplified information that compares one institution against another and thus facilitates decision making. As higher education operates more and more under a market system, the tendency toward institutional rankings will continue to grow.

An important consequence of rankings is the effect of the exercise on institutional behaviors. Institutions keep an eye on their ranks and manipulate variables that may improve their future ranks. Obviously, this has implications for

resource allocation within each institution. However, little information exists to date on how rankings are changing institutional behaviors.

What exactly is ranking doing to colleges and universities? In the absence of empirical data, a cursory glance at the ranking exercise in higher education suggests that it has the potential of driving up institutional costs. For example, institutions that are rated topmost in the *US News & World Report* spend more per student (if one considers their annual budgets and the number of enrollment), are more likely to be highly selective, more likely to be high tuition institutions, more likely to have smaller classes, more likely to have institutional resources to aid faculty research, and so on. The message is clear: to rank high on the established criteria, institutions have to spend more and to spend more, more money has to be brought in.

CONCLUDING PRINCIPLES OF HIGHER EDUCATION

Since higher education institutions have existed for hundreds of years and some of these institutions have risen to become world leaders, scholars are generally interested in the relationship between management and institutional outcomes. Notwithstanding our inability to agree on criteria, few will deny that world-class institutions exist and some of us may be bold enough to point to a few: in the English-speaking world, Harvard, MIT, Princeton, Carnegie Mellon, Cambridge, Oxford, Stanford, Yale, to mention but a few. The jury is still out as to whether these institutions arrived at their greatness via good management or in spite of their management, or because of “poor” management (see Birnbaum, 2000; Michael, 1997). However, this author believes that great institutions are a product of great minds, minds possessed by individuals whose passion for knowledge, devotion to intellectual activities, and love for the contemplative lifestyle coupled with organizational and leadership insights have enabled them to create an academic environment conducive to a never-ending quest for excellence. But, in addition to the workings of great minds, world class institutions are only possible within a higher education environment amenable to such. Therefore, if one looks carefully, it is possible to identify a few principles of progressive higher education systems that have aided and sustained the creation of great institutions. A few principles, especially those with implication for higher education finance are presented below.

The Principle of Diversified Higher Education System

Countries with progressive higher education systems have one thing in common: their higher education systems are diversified. The principle of the diversified higher education system suggests a move away from a monolithic system whereby institutions are forced (consciously or unconsciously) to be all things to all people. Four factors form the basis of the principle of the diversified higher education system.

First, progressive higher education systems must respond to multiple missions and conflicting missions. For example, the system must respond to the need for new knowledge through research, the need for quality teaching and training, the needs of the intellectually gifted, the needs of the hardworking but intellectually modest, the needs of those blessed with personal wealth, and the needs of those without the financial wherewithal to purchase educational services. An optimal system provides a diversity of institutions of higher learning that cater to these needs and, more importantly, funding strategies that recognize these differences and reward institutions for their specializations. Where care is not taken, a tendency toward institutional isomorphism (whereby institutions at the low end of the totem pole emulate the characteristics of top institutions with the aim of trying to become one of them, so as to benefit from the rewards) puts unnecessary strain on the system.

Second, institutional diversity is necessary to achieve the goal of life-long learning. The ability to absorb knowledge content and to profit from the knowledge is not uniformly distributed among people in spite of our current efforts to “chronologize” academic progress in primary and secondary school level. For those unable to or not wanting to proceed at the pace of their age cohorts, the higher education system can offer a provision for them to come back at any point in their lives to access its services. In many countries, the rapid changes within the economy necessitate changes in career paths several times before retirement. An excellent higher education system responds to this need. Indeed, the door of higher education must be open at all times to those who “wake up” to knowledge at different stages and for different reasons in their lives.

Third, the principle of the diversified higher education system responds to the need for high cost/low cost provisions. Those who can afford pricey higher education institutions must not be deterred, while those less endowed materially should have access to low-cost higher education. In ranking institutions,

greater weight should be given to valued added rather than student entry data as criteria of superiority.

Fourth, a comprehensive higher education system embodies different types of institutions such as universities, colleges, and specialized colleges. Even within the university sector, there is a range of institutional types: pure research university, research-teaching university, and teaching universities. Research institutions are expensive to operate and all degree-granting institutions within a system may not necessarily devote equal priority to the research agenda.

Of course, a monolithic higher education system is cheaper for society; hence, the temptation on the part of policy-makers and government officials to adopt uniform standards in dealing with their higher education institutions. Therefore, funding strategies that have a tendency to erode institutional diversity are often implemented. A healthy higher education system enjoys funding strategies that enable institutions to strive for excellence within their areas of specialization. As observed by Bowen (1993), “academic freedom [a subject discussed further below] is also advanced when the patterns of support and control vary among institutions, so that not all are subject to the same kind of authority or influence” (p. 27).

The Principle of Autonomy

Starting from the premise that “the best universities in the world are also the freest,” the principle of autonomy ensures that the higher education system guarantees a platform and an environment that promote the fulfillment of their mission. One should note the use of the word “universities” instead of “higher education institutions,” which are the main focus of this book. A research university is at one end of the spectrum of autonomy, while a community college may be located at the other end. The principle of autonomy implies that research universities are independent from the government and from public pressure within their locations. This is important if they are to fulfill their role as custodians and critics of societal civilization. Such an institution should be self-sufficient: its services are critical enough for society to support institutional operations without making the institution captive to one source of funding. Complete autonomy also requires that a university be self-governing rather than being an extension of the government or the civil service unit of the Ministry of Education, as found in some countries.

The principle of autonomy includes the promotion of academic freedom, which implies the freedom of university professors to engage in their search for truth irrespective of where such a search takes them — to, in the words of Brubacher (1997), think the unthinkable, and pursue the imaginable. This freedom ensures that professors will not be subject to bodily or material harm should they hold and express unpopular views or should they challenge the status-quo. The only restraint on their action would be such that is determined in the market-place of ideas, where ideas and minds are allowed to clash, and superior ideas presumably come to prevail over credulity and fraud.

In an autonomous institution, faculty-administration joint leadership is pronounced under the atmosphere of collegiality and consultation. Although individuals should have the freedom to form a union, under a consultative environment union activities within autonomous institutions are minimal. As was once expressed, a university that finds itself negotiating with its members has failed, no matter how minute the matter may be. All should find comfort in claiming part of the ownership of the institution and in defending its traditions and operation, while at the same time feeling free enough to criticize it constructively when warranted.

Funding strategies to achieve the goal of institutional autonomy require careful thought. While the era of unrestrained funding is over, governments must ensure that their institutions' pursuit of excellence is not hampered by limited resources. Indeed, the negative impact on institutions may stem from the mechanism of resource allocation even more than the absolute amount of funds allocated by the government. Bowen (1993) remarked that "the goal of academic freedom calls for substantial amounts of unrestricted funds and diversity in sources of support" (p. 27). Where institutions are subject to myriads of regulations, tight controls, and intrusive supervision, irrespective of the claims of the government, these institutions are not autonomous and their efforts to achieve excellence will be, to some degree, thwarted.

The Principle of Responsive Higher Education System

While autonomy confers a high privilege to higher education institutions, the principle of responsiveness demands constructive and productive engagement with society. Autonomy indicates that society has a strong confidence in its academe, but responsiveness demands that academe upholds its responsibility to society. The academe cannot be an island unto itself, even if

society allows it to be one. Higher education leaders have the responsibility to demonstrate to the public that their institutions are in the service of the nation and of the world.

First, a responsive higher education system is an adaptive organism. An adaptive system has a mechanism to change, to transform itself in response to changes within the environment. Changes in the economy, in politics, health, science, etc. present new challenges that must be met and society relies on all the talents within it to rise to these challenges. Therefore, higher education institutions that are in tune with their environment are fully cognizant of these changes and actively committed to undertaking these new challenges. Indeed, the nation's higher education institutions ought to be catalysts for change, agents that stir up positive change within society and in this respect must, in themselves, understand change, anticipate change, and respond to change. Chen Jia'er (1998), the President of Peking University, remarked that

As is known by all, since its creation, the university has been the place where human wisdom and knowledge originate, concentrate, radiate and disseminate to the outside world. In the information age, this function of the university will no doubt become even more prominent. "Knowledge" and "human talents" have become important power source for the socioeconomic development of society. Consequently, the ties between the university and society have become ever closer than before. The university has been widely acclaimed as the "engine" that produces "electricity" of knowledge, which is decisive for the socioeconomic development of society. (p. 12).

Second, for a higher education institution to be actively responsive, the leaders must have in place within it a self-monitoring mechanism for institutional renewal and transformation. A dynamic institution has an active sensory apparatus designed to sense external and internal changes. Institutional transformation is only possible where the institution is in tune with itself, conducts periodic self-examination and utilizes the data for self-renewal.

Lastly, a responsive higher education system also ensures that institutions fulfill part of their mission as the custodian of precious traditions and artifacts. Hence, it is in society's interest that a university upholds a conservatism ideology. This role requires institutions to be the retainer of important traditions and history for future generations. While responsiveness calls for rapid institutional transformation to meet new demands from society on the one hand, on the other hand, responsiveness calls for conservative posture that ensures that institutions are the most enduring part of society—rising above the cultural and political pendulum. Balancing these competing demands is the unique challenge

faced by higher education leaders, a challenge that is not well understood by the business sectors and by society as a whole.

Strategic funding for responsiveness is particularly tricky. Governments are often enthusiastic to fund institutions that demonstrate engagement with the issues of urgent interest to society or to the government. Few of these governments understand or care much for the conservative agenda of a higher education institution. Understandably, politicians are in the business of re-election and thus, they are eager to show concrete progress to voters—progress that can be readily attributed to their leadership and presence in office. However, the best higher education institutions in the world are those free enough to respond appropriately and to also manifest their conservative nature responsibly.

FUNDING FOR EXCELLENCE

Nations with first class higher education institutions undertake funding for excellence. First class institutions do not evolve by happenstance but are rather the products of smart leadership, which includes having a smart funding strategy to achieve never-ending excellence. Nations that starve their higher education sectors, therefore, should not be surprised that the leading higher education institutions of the world are located elsewhere and that the best of their minds leave home and are attracted to these institutions—resource allocation is a leading cause of brain-drain. Sporadic and inconsistent funding, reckless under-funding, and ill-devised funding strategies all have the same effects: they lower the capacity of higher education institutions to strive for excellence.

Therefore, funding for excellence entails a progressive funding mechanism. A progressive funding mechanism envisages the inflationary nature of the economy and funds the sector at least equal to the level of inflation. However, one must be quick to point out that higher education faces a different type of inflation due to the nature of the industry, which often results in an increasingly higher cost of operation. Thus, a progressive funding mechanism aimed at funding for excellence aligns its funding strategies to the inflation rate that is archetypal to the higher education sector.

In an environment characterized by funding for excellence, undue encumbrances are minimized. Yet, governments are fond of controls that strengthen their command over higher education institutions. Many of these controls produce feelings of progress and power to those policy-makers who devise them and achieve little in the way of enhancing institutional mission or management.

At worst, unwise government controls result in a greater cost burden, convoluted bureaucracies, and a reduced capacity to achieve excellence.

Funding for excellence provides incentive for stewardship. Stewardship entails transparent administration and judicious deployment of resources. Stewardship is further demonstrated by institutional administration that is not shrewd in budgetary secrecy, but makes alternatives and options open to discussion; decisions are made with sensitivity to quality, cost, and institutional and societal interest. The role of funding councils, therefore, ought to be a continuous search for creative incentive devices that will change institutional behaviors toward a greater level of stewardship.

What is said for stewardship can also be said for institutional performance. Since it is in the interest of society that its higher education institutions continue to strive for higher performance, society must ensure that funding is made available to achieve this goal. Not in all cases do tighter controls lead to higher performance, tempting as that assumption may be. Indeed, a high level of ingenuity is manifested in a system where the public policy-makers are able to enhance institutional performance through strategic funding without necessarily resulting to tighter government controls.

In conclusion, the role of society is to ensure that an environment is created for its higher education system to produce world-class institutions; anything less than that would result in brain-drain, sooner or later. First class institutions cost money, but more important than the absolute sum of money made available is the funding strategy or mechanism employed. Both the level of funding and the funding mechanism have potential to produce unintended consequences that may hinder or limit institutional capacity to achieve a greater level of excellence. It is the responsibility of higher education scholars and leaders to continue to examine the financial aspect of the sector, and to aid them in that effort is the strategic goal of the book in hand. A progressive higher education system is diversified, autonomous, responsive and adaptive, and funded for excellence. Readers are invited to reflect on the extent to which funding conditions provided in countries covered in this book wittingly or unwittingly, consciously or unconsciously, promote or hinder the attainment of these values.

ORGANIZATION OF THIS BOOK

The purpose of this book is to contribute toward our understanding of higher education from an international perspective. Books on higher education

finance are rare because of the technical nature of the field, the rapid changes often encountered in the policy arena, and the vast number and complexity of variables involved. There is some truth in the assertion that “it all comes down to money.” The difficulty is in selecting and organizing the information, given the impossibility of including “everything,” to illustrate the fact that money does affect “everything” in higher education.

Each of the following chapters undertakes a disciplined reflection supported by data on the higher education system with a specific focus on funding. To a lesser or greater degree, each author reflects on historical funding trends, characteristics of the higher education system, emergent financial issues, and implications for funding of higher education in the 21st century. Each author’s contribution reflects the challenges of the century, challenges that include globalization, technology, competition, access, diversity, quality movement, efficiency drive, and resource constraints to mention but a few. The organization of the material may vary to some extent depending on the country and the specific conditions under discussion.

Readers with little information about the countries covered in this book may benefit from the brief data sheet provided at the beginning of each chapter. The challenge of writing a book that can be used in different countries on topic of such a local variation is particularly formidable. However, it is the hope of all the contributing authors and in particular that of the Editor that this text will be one more tool in the hands of those who are curious about funding in other countries and those who are grappling with the challenge of understanding, managing, and leading the higher education sector.

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CHAPTER 2. FINANCING HIGHER EDUCATION IN THE UNITED STATES OF AMERICA: STRATEGIES FOR THE 21ST CENTURY

Steve O. Michael & Mark A. Kretoivics

INTRODUCTION

Those who are familiar with higher education in the United States know that there is no single higher education system in the country. What exists is a multitude of systems, but the totality or the conglomeration of these systems is often referred to, purely for convenience, as the American higher education system. The US has at least fifty higher education systems because the constitution places education under the jurisdiction of state governments. If one separates the private higher education system of each state from the public sector, we will be talking of a hundred higher education systems.

The United States operates a decentralized higher education system. Decentralized systems are often a more effective way to differentiate services that should be tailored to the needs of different local environments, but at the same time, decentralization contributes to the complexity of a system. Part of the complexity of the American higher education system becomes clear when one attempts to decipher how it is financed. Indeed, to be fully accurate and comprehensive, one would have to analyze funding mechanisms, issues, and challenges system by system. To avoid redundancy and provide a usable reference, what is presented here is a broad overview intended to convey some

important pictures and to provide a disciplined reflection on the funding challenges of separate, multiple systems of higher education. The price for this approach, some may say, is oversimplification of a funding system that is certainly complex.

To better make sense of this complex funding system, this chapter starts with a trend analysis or a historical analysis of the higher education environment. Trend analysis of this nature must be broad enough to accommodate all the systems and descriptive enough to be relevant to the financial challenge of each system. In addition, the chapter presents the higher education structure (a relatively easier task), financing for equity, sources of funding, structure of costs, and recommendations for the 21st century.

HIGHER EDUCATION STRUCTURE

There are several ways one might approach a discussion of higher education structure in the United States. An easy one might be to focus on sectors, organizational structures, and institutional size. Considering the fact that higher education is within the purview of state governments, governments that have no compulsion to emulate each other's designs and structures, state higher education systems are surprisingly more similar than dissimilar. Consequently, a relatively accurate picture of system structure that reflects all the higher education systems is easy to present.

However, it is important to note that there is no standard way of defining the concept of a sector. Some use sector to refer to private versus public higher education; others include institutional specializations and program durations. For the purpose of this exercise, a combined sectoral picture that is common in the literature is provided on Table 1. As indicated in this Table, over 4,000 higher education institutions are currently in operation in the United States. Of these, the private four-year nonprofit constitutes the largest sector with 1,541 institutions, followed by the public two-year colleges with 1,085 institutions. The private four-year for-profits, with only 318 institutions, make up the smallest higher education sector. However, one must quickly point out that the number of private for-profit institutions has nearly doubled since 2000.

Table 1 also shows the percentage of students enrolled in each sector. The 2,484 private higher education institutions (over 59% of all institutions) enroll slightly more than 23% of all higher education students. The majority of higher

education students (76%) attend public higher education institutions. About 40% of higher education students attend four-year public institutions, while slightly more than 37% attend 2-year community colleges.

Table 1. Number of Higher Education Institutions				
Type of Institution	Number of Institutions		Number of Students	Students Share
Public 4-year	628		6,055,398	39.55%
Private 4-year nonprofit	1,541	}		
Private 4-year for-profit	318	}	3,308,460	21.61%
Public 2-year	1,085		5,697,388	37.21%
Private 2-year nonprofit	135	}		
Private 2-year for-profit	490	}	251,043	1.64%
Total	4,97		15,321,289	100%
Source: <i>The Chronicle of Higher Education, Almanac Issue, August 29, 2003</i>				

With respect to the higher education structure, two areas of analysis are common in the literature. One area provides an illustration of the institutional or organizational structure while the other provides program structure. With respect to organizational structure, there are variations at the state coordination level. A typical state structure is provided in Figure 1.

To appreciate the financial role played by various actors within the higher education system, it is crucial to understand the organizational structure of the system. In the state of Ohio, for example, there are at least 68 four-year private institutions, 23 community and technical colleges, 13 four-year public universities, and 3 specialized medical colleges (Ohio Board of Regents). Private higher education institutions are generally not under the coordination of the state government; hence, Figure 1 refers solely to the public institutions. Each institution is relatively autonomous, but to enhance system integration, rationalization, and articulation, most state governments have a coordinating agency (known in some places as the Board of Regents). The function of the Board includes developing and approving a funding mechanism for all the public institutions within the state jurisdiction. This approach represents an alternative to one-to-one institutional budgetary negotiation with the state government and reduces system duplication and waste.

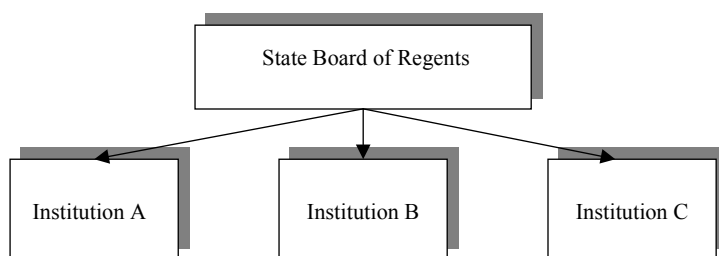


Figure 1: A State-System Overview

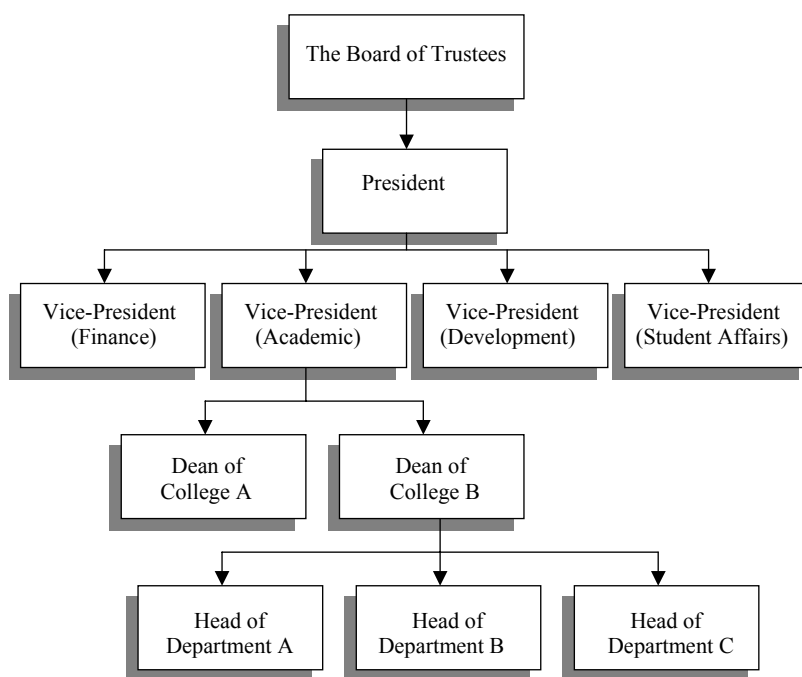


Figure 2: A Typical Institutional Structure of American Higher Education

Figure 2 illustrates a typical organizational structure of a higher education institution. With respect to the public and private nonprofit institutions, the highest policymaking body is the Board of Trustees, a body made up of laymen and women. In the case of the public, trustees may be appointed by the governor of a state or the legislature, or both, to serve for a period of time, or they may be

elected, as is the case with some community colleges. However, the private non-profit sector usually has self-perpetuating boards, with the existing board members and the president of the institution playing a significant role in trustee recruitment. The role of the board is to ensure that the mission of an institution is fulfilled (Chait, Holland, & Taylor, 1996; Michael & Schwartz, 1999). Increasingly prominent among all the boards' functions is organizing to generate financial resources for their institutions. However, this is more the case in the private sector than in the public sector.

The president serves as the chief executive officer (CEO) of the institution and as such is usually drawn from the world of academics. However, the changing environment has forced the sector to broaden the credentials of university or college presidents. Chief among the skills expected of presidents today is the ability to cultivate diverse funding sources for their institutions. Specifically, a college CEO is a major fundraiser for his or her college, a function that reflects the changing times in American higher education.

The second in command is the vice-president (academic), usually known as the provost, who heads the institution in the absence of the president but on a day-to-day basis presides over the academic affairs of the institution. Under the provost are the college deans, who also oversee the affairs of department heads. Both deans and department heads are now increasingly called upon to seek, cultivate, and develop creative alternative sources of funding.

More poignant in revealing the changing times is the increasing prominence of the role of the vice-president for development; in some institutions, they are known as vice presidents of institutional advancement. These college officers coordinate the institution's efforts in resource generation through fundraising, including corporate giving, annual giving, endowment building, etc. The contributions of these efforts will be evident as we discuss sources of revenue for higher education in the United States.

HISTORICAL TRENDS

Michael and Holdaway's (1992) model for analyzing higher education evolution in North America is a useful tool for discussing financial issues and challenges found in this sector. According to these authors, higher education history can be divided, albeit arbitrarily, into four overlapping stages. Each stage operates under a prevailing ideology described as Elitism, Reconstructionism,

Reductionism, and Entrepreneurialism. Table 2 provides a summary of selected characteristics and management responses associated with each of these ideologies. Ardent observers of the higher education environment may find it easy to increase the numbers of characteristics and management responses mentioned below, based on the classification provided. However, those mentioned convey important pictures of the environment. For example, only a small fraction of the population benefited from higher education during the era of elitism. Institutions were essentially gatekeepers, keeping the “less economically endowed” out of the ivory tower. Under reconstructionism, government actions to increase access through GI bills to veterans led to an unprecedented expansion of programs and infrastructures of US higher education institutions.

The primary concern of institutions at that time was how to manage their growth. All higher education sectors, including community colleges, technical colleges, private, and public institutions witnessed growth in demand and resources. At the beginning of the 20th century, there were 951 higher education institutions operating in America. Fifty years later, there were 1,851 such institutions. But by the end of the century, there were over 4,000 higher education institutions in the US (NCES, Table 174). At the beginning of the 20th century, the current fund revenue stood at about \$77 million for all higher education institutions in the nation. Fifty years later, the current fund revenue had increased to over \$2 billion and by 1996, was over \$198 billion (NCES, Table 174). Institutions had little or no reason to be overly concerned about accountability under elitism and reconstructionism.

However, the era of reductionism witnessed a decrease or a less than adequate increase in government funding, a decrease or a less predictable student enrollment, and an increase in public criticism. A definite shift occurred within the higher education market—a shift from a seller’s market to a buyer’s market.

Increased competition required more sophisticated marketing strategies on the part of management (Michael, 1990). Across-the-board cuts were experienced in some institutions; some even experimented with zero-based budgeting (Thompson, R. K., 1992). Strategic planning or some form of result-oriented planning techniques were introduced and institutions became generally more cost conscious (Coate, L. E., 1992; Michael, 1997).

Under entrepreneurialism, on the other hand, institutions found themselves competing for resources at all fronts (for students, for faculty, for recognition, for donations, for government attention, for corporate relations, and for all sorts of media attention). Perfecting the art of strategic planning, many insti-

tutions are now engaged in competitive advantage analysis and creative positioning. Enrollment management techniques are in essence sophisticated marketing; and management is more data based than ever before. Few if any institutions today have a mono-source of funding. Many have diversified, as will be revealed later in this chapter.

Table 2: Prevailing Ideologies within the Higher Education Environment		
Ideology	Characteristics	Management Responses
Elitism	small fraction of participants sellers' market ivory tower	act as gatekeepers stewardship minimum accountability
Reconstructionism	democratization of higher education sellers' market institutional diversification substantial state funding	gatekeepers growth oriented minimum accountability
Reductionism	financial constraints buyers' market increased competition restructuring and cutbacks unpredictable state funding do more with less increasing public criticism increasing use of performance and formula funding	increase tuition increase accountability open access strategic planning cost consciousness
Entrepreneurialism	increased competition buyers' market strategic program review and discontinuation quality assessment and indicators increasing public criticism increasing growth of for-profit and corporate institutions	creative funding market positioning creative recruitment cost and revenue conscious data-based management growth of distance education increased strategic funding

Higher education in the US operated under elitism from the creation of Harvard University in 1636 up until the end of World War I. Reconstructionism started in earnest after the Second World War and continued until the early seventies. Reductionism characterized the environment of higher education until the early nineties. Perhaps a description that best captures the era of reduction is the fact that institutions were faced with burgeoning demand without a commensurate increase in resources. Currently, higher education institutions operate within an entrepreneurial environment.

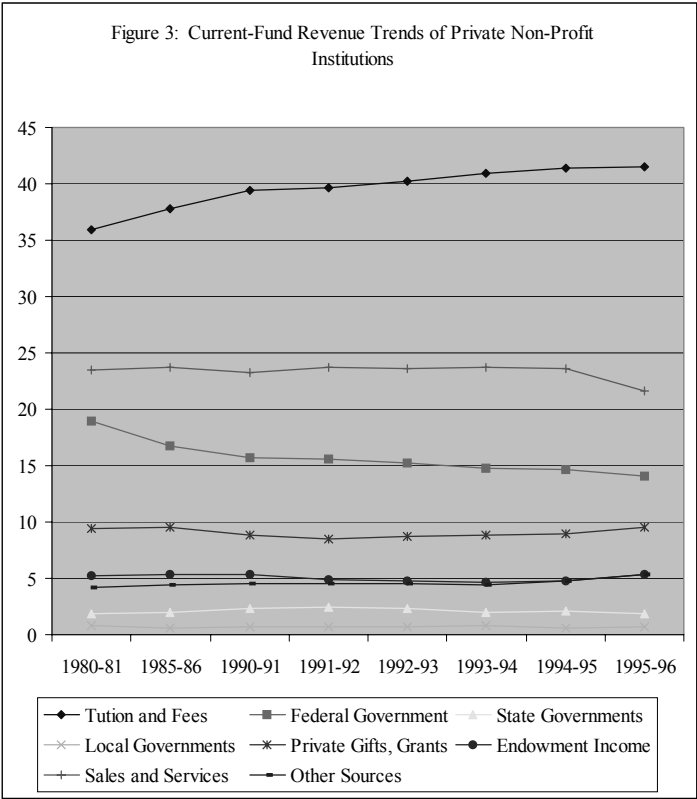
While the ideologies described above provide a useful scheme for understanding the environment of higher education in the United States (some may also find the model relevant to other countries), the ideologies themselves are overlapping and institutional evolution should not be seen as linear. It is not impossible for some institutions to operate under two ideologies at the same time. In addition, an attempt to provide specific time frames, while a useful exercise, is fraught with approximations and the actual time frames may differ from one higher education sector to another and from program to program within the same institution. It is not uncommon for there to be differential demand for separate programs within the same institution or for one program to enjoy abundant resources while a neighboring program scrambles. Therefore, the usefulness of the model lies in a better understanding of management issues and strategies prompted by these ideologies and manifested within the environment of higher education.

HIGHER EDUCATION REVENUE TRENDS

Analyzing revenue trends on a state by state basis would be unnecessarily cumbersome for the purpose of this chapter. However, a comparative analysis between the private and public sectors provides important insights about both the institutional and stakeholders' economic behaviors.

A close examination of the trend of each of the revenue sources in the private higher education sector shows either a flat line or a decline between 1980–81 and 1995–96 (Figure 3). The only exceptions to this observation are tuition and fees and “other sources.” Whereas tuition and fees constituted 35.9% of the private institution sector's revenue in 1980–81, the share of tuition and fees increased to 41.5% by 1995–96. The only source that showed an appreciable growth was “other sources,” which constituted 4.2% of the revenue of the private institution sector in 1980–81 but rose to 5.4% by 1995–96.

Unlike the private sector, where revenue from state government was minimal, in the public sector state government constituted a major source of revenue. The trend of this source of revenue, however, shows a troubling sign. For example, in 1980–81, the proportion of state contribution to public higher education revenue was 45.6%, but by 1995–96, the proportion has declined to 35.4% (Figure 4). Hence, the common saying among higher education observers that some public higher education institutions are now merely “state located”

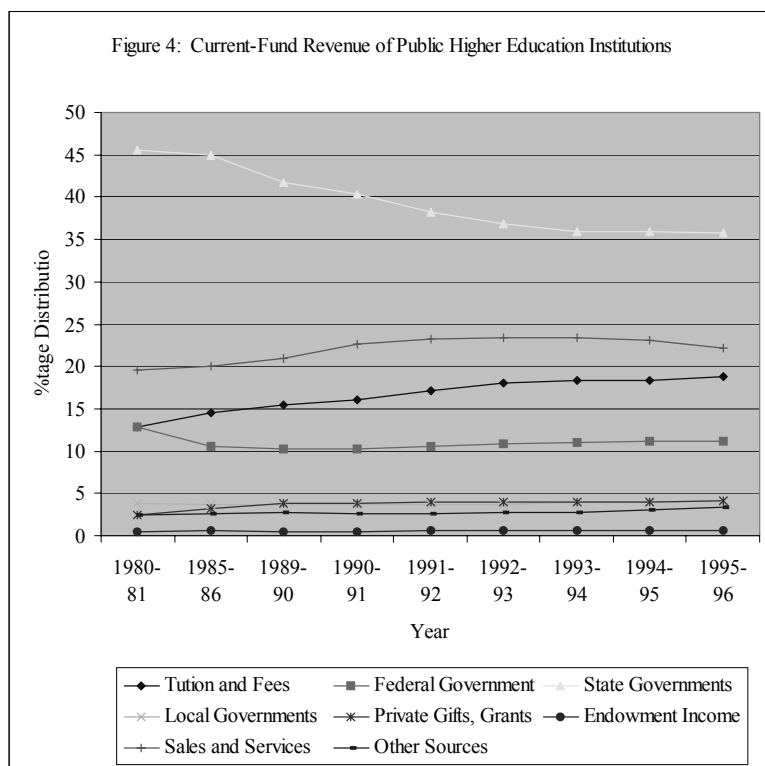


Source: NCES, 1999

institutions. To compensate for the loss of state revenue, the proportion of costs covered by tuition and fees increased from 12.9% in 1980–81 to 18.8% in 1995–96.

Figure 5 illustrates that higher education institutions in the United States do have diversified sources of funding. Diversified sources of funding are seen as a strength in that any institution with only one source of funding will remain dependent on that source. The structure as illustrated reveals that tuition and fees comprised 21% of the total higher education revenues in 2000. State governments constitute the second largest source of revenue, but only with 16% of the total. This is tied with endowment and investment income. Other sources of funding may include revenues from hospital services, auxiliary enterprises, and activities such as sales of intellectual properties.

The picture painted by Figure 5 requires further analysis because the revenue structure of public higher education institutions differs in some



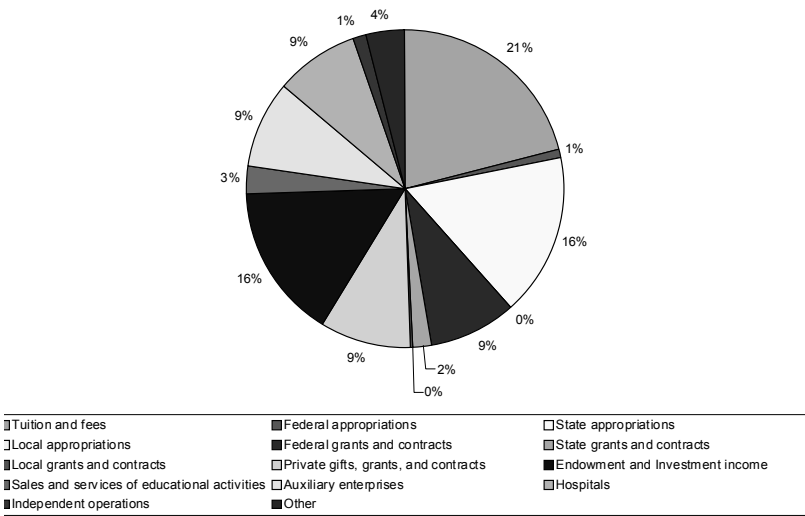
Source: NCES, 1999

important ways from that of the private higher education sector. Figures 6 and 7 below illustrate these differences.

Whereas tuition and fees constitute only 19% of the revenues of public higher education institutions, tuition and fees make up 43% of the revenues of the private higher education sector. Contributions from state governments make up only 2% of the private higher education sector, but 36% of the public higher education sector. Investment return/endowment income is significantly different between these two sectors (private 32%, public 1%), as are private gifts, grants and contracts (private 13%, public 6%), federal grants and contracts (private 7%, public 10%), and “other sources” (private 0.4%, public 4%).

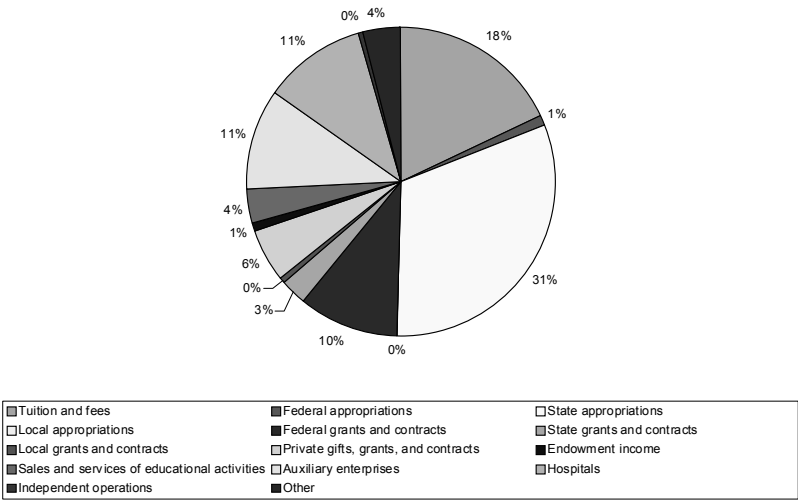
The implications of these differences are many. First, private institutions are more tuition dependent than their public counterparts. But the private sector is less encumbered by government control and thus is able to be more responsive and creative in its service offerings. In addition, private institutions,

Figure 5: Total Higher Education Revenues FY 2000



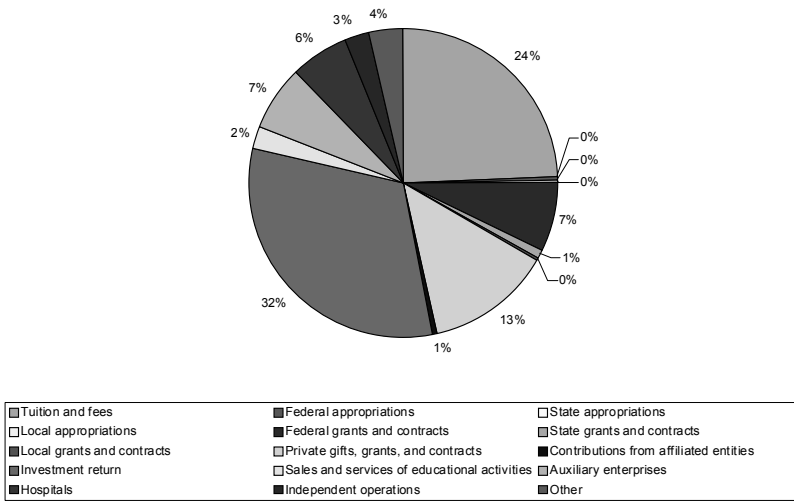
Source: The Chronicle of Higher Education, Almanac Issue, August 29, 2003

Figure 6: Revenues of Public Institutions FY 2000



Source: The Chronicle of Higher Education, Almanac Issue, August 29, 2003

Figure 7: Total Higher Education Revenues (Private)



Source: *The Chronicle of Higher Education, Almanac Issue, August 29, 2003*

given the nature of endowment markets, private gifts, grants and contracts, and other sources, have to engage in a considerable amount of marketing to attract these resources. Perhaps the most important implication lies with the fact that private higher education is more sensitive to enrollment figures and that without a deliberate effort on the part of the leaders of these institutions, the student population would be less diverse. Indeed, without substantial need-based grants awarded to students from lower income backgrounds, few such students could attend these institutions. And, to the extent that some minority groups are disproportionately represented in the lower socio-economic strata, these groups would be less represented at the private higher education institutions.

As stated earlier, higher education institutions rely on multiple sources of revenue to maintain their operation. There is clear evidence of a declining reliance on state government and an increasing reliance on alternative sources such as sales and services, endowment income, private gifts and contracts. These sources of funding require the utilization of sophisticated marketing strategies. Consequently, higher education leadership in the United States is a more strategic task today than ever before. Tools such as strategic planning, comparative advantage analysis, niche carving or positioning, donor cultivation, image engineering are only a few of the items in the toolbox of higher education leaders

who are forced to operate within an increasingly entrepreneurial and competitive environment. Given the significance of government appropriations and tuition and fees, further comments and observations are provided on these sources of revenue.

Government Appropriations

By any measure, the federal and state governments contribute the most to financing higher education in the US. Government contribution is a function of three major factors: the state of the economy, the relative cost and priority of competing needs, and the demand for higher education.

Government funding is first and foremost affected by the state of the economy (Michael, Holdaway, Small, 1993). Unless a government intends to run deficits, spending is constrained by revenue. Therefore, spending forecasts are based on revenue forecasts. Government revenues derive largely from taxes, primarily income tax at the federal and state levels, sales and property taxes at the state level. Increased tax revenues depend on raising tax rates (to the extent that this is politically feasible), expanding tax bases, and improving the economic performance of these bases. Since all tax bases are sensitive to economic growth or decline, government revenue is sensitive to economic growth or decline. Unemployment goes up in a recession and decreases the yield from personal income tax. Similarly, declining disposable income leads to decreasing purchases, which means lower sales tax revenue, and reduced building construction activity that goes hand-in-hand with recession means decreasing growth in property tax revenue. Ultimately, therefore, a forecast of the state of the economy provides a numeric indicator of future potential government support of higher education. Hovey (1999) observed that, relatively recently, “the nation’s economy has been growing faster than its long-term sustainable growth rate, swelling state as well as federal tax collections” (p. 6). However, Hovey cautioned that it is unlikely that the growth in Gross Domestic Product of 4% (inflation-adjusted) which characterized the late 90s would continue in the first decade of 2000. He noted that to maintain the level of services in higher education, state funding of higher education could need to increase by 6% annually for the next eight years to accommodate the growing demand. Few are optimistic that this will happen.

Higher education funding falls largely within the discretionary appropriations of state governments. Historically, higher education funding has suffered

disproportionately during the tighter times and benefited disproportionately during periods of economic growth (Hovey, 1999). The relative cost and priority of competing needs are, in part, responsible for this fluctuation. In election years, social services prioritization becomes the subject of public debates. The tendency is for politicians to promise funding of services or activities that provide them the most attraction with the voters. Consequently, both the Republicans and the Democrats speak out for education, with a focus on the K-12. At least some politicians are exploring the role of voucher and alternative schooling. It is common to promise smaller class sizes, increased testing (for students or teachers or both), efforts to equalize local school funding and to address the issue of dilapidated buildings, a focus on minority and inner city issues, Medicaid for a large proportion of the population, and increased law enforcement—while at the same time promising unprecedented tax cuts. Increased spending is based on projected surpluses, which in turn is based on the assumption that the economy will continue to grow rapidly. However, changes in government priorities affect government support of higher education. This is more so as we consider the fact that the costs of these competing social services have continued to rise and the fact that higher education has never constituted the hottest political issue. Given this scenario, the outlook on government financial support of higher education in the late 2000s is not particularly exciting.

In addition, population statistics point to an increased enrollment in higher education, a development that is both a blessing and a burden on higher education leaders. Increased enrollment indicates an increase in demand for higher education services but to the extent that costs rise with these services without a commensurate increase in revenue, increased demand becomes a challenge. In some states, government limits tuition increases and in other states, tuition has increased less than would be necessary to cover the increasing costs. Some states use a political funding approach for higher education, meaning that the discretionary funds for higher education are negotiated, usually biannually. Others use a formula funding technique similar to the example of Ohio's Funding Formula (provided in Appendix A). Formula funding techniques can be made sensitive to enrollment changes, but these techniques are often criticized for treating unlike institutions alike.

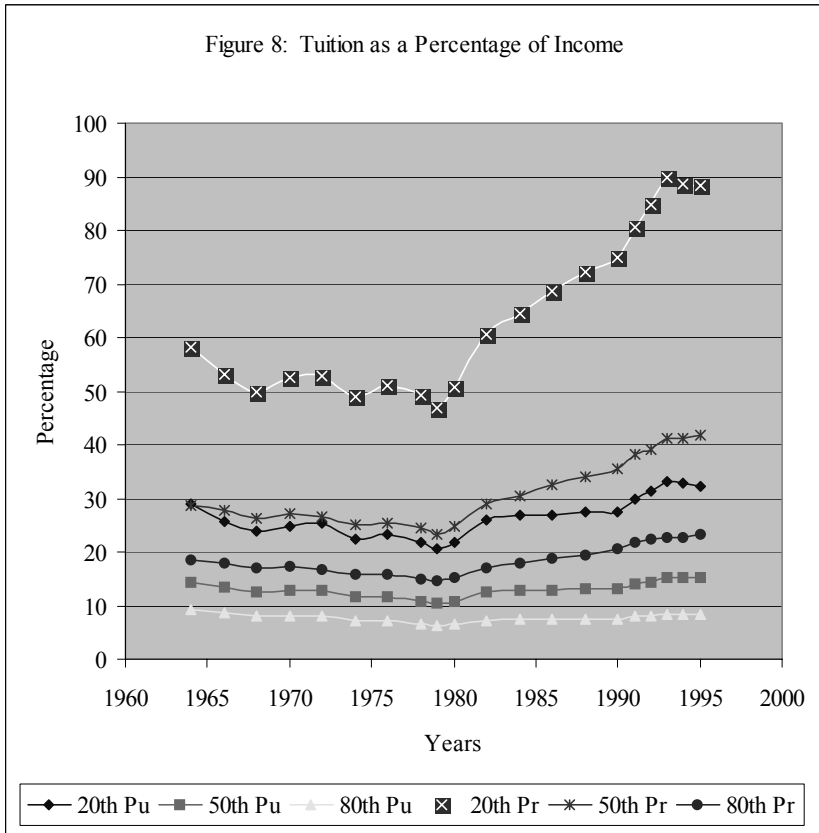
Tuition and Fees

Most criticisms of higher education center on the skyrocketing tuition and fees. Figure 8 below illustrates average undergraduate tuition, room, and board (in 1996 constant dollars) as a percentage of selected percentiles of income of all families between the year 1964 and 1995. The Figure shows differences in tuition and fees between public higher education institutions and private higher education institutions. In 1964, the average undergraduate tuition and fees (in 1996 constant dollars) in the public university sector was \$1,497, rising to \$3,200 in 1995, an increase of over 200%. In the same period, the average undergraduate tuition and fees (in 1996 constant dollars) at the two-year public college rose by over 250% from \$497 to \$1,264. The picture is equally dramatic in the private higher education sector. In 1964, the average undergraduate tuition and fees (in 1996 constant dollars) was \$6,515, rising to \$15,823 by 1995 (an increase of 243%). At the private two-year college, tuition and fees rose from \$3,526 (1996 constant dollars) to \$7,148, an increase of 203%.

More telling than the percentage increase in tuition and fees is the proportion of the family income taken by undergraduate tuition, room, and board. Figure 8 illustrates tuition, room, and board (in 1996 constant dollars) as a percentage of income of families at 20th, 50th, and 80th income percentiles, in both the public and private higher education sectors. Overall, tuition, room, and board as a proportion of family incomes declined (albeit unevenly) from 1964 to 1979, but have been climbing since then. The picture is, of course, most dramatic for families below the 20th income percentile. Private higher education tuition for this group would have constituted almost 90% of the family income. In 1995, tuition, room, and board at the private higher education institutions constituted 41.7% of the income of families at the 50th percentile. In the public higher education sector, tuition, room, and board cost the family at the 20th income percentile 33% of their family income in 1993. Of course, the lower the income percentile, the less affordable college education becomes in general and the more inaccessible the private colleges are.

Endowment Market

Endowments have become a major source of revenue for many institutions, especially those in the private sector. According to *The Chronicle of Higher Education*, Harvard University had a whopping \$17 billion endowment toward the end of 2002. By any measure, that is a substantial amount of money. Table 3 provides a



Source: National Center for Education Statistics, *Digest of Education Statistics, 1996*, Table 12-1.

summary of institutions with over a billion dollars in endowment in 2002.

It is no surprise that Ivy League institutions are well represented on this list and that most of these institutions are private.

Higher education leaders are no longer judged solely on their academic leadership but by their ability to grow their endowment, among other criteria. There are primarily two strategies for endowment growth: a) investment performance, that is, how successfully the institutional leadership invests the sum available, and b) the extent to which this leadership is able to generate new monies. Equally important are the issues of spending rates, the proportion of the endowment spent on current activities, and the ratio of unrestricted to restricted funds. While no institution can rely solely on endowment to run its operations, this source has made the difference between mediocrity and excellence for many higher education institutions.

Table 3: Institutions with \$1+ Billion Endowment (2002)

Institution	Market Value (June 30, 2002)
Harvard University	\$17,169,757,000
Yale University	\$10,523,600,000
University of Texas System	\$8,630,679,000
Princeton University	\$8,319,600,000
Stanford University ¹	\$7,613,000,000
Massachusetts Institute of Technology	\$5,359,423,000
Emory University	\$4,551,873,000
Columbia University	\$4,208,373,000
University of California	\$4,199,067,000
Texas A&M University System and Foundations	\$3,743,442,000
Washington University (Mo.)	\$3,517,104,000
University of Pennsylvania	\$3,393,297,000
University of Michigan	\$3,375,689,000
University of Chicago	\$3,255,368,000
Northwestern University	\$3,022,733,000
Rice University	\$2,939,804,000
Duke University	\$2,927,478,000
Cornell University	\$2,853,742,000
University of Notre Dame	\$2,554,004,000
University of Southern California	\$2,130,977,000
Dartmouth College	\$2,186,610,000
Vanderbilt University	\$2,019,612,000
Johns Hopkins University	\$1,695,150,000
University of Virginia	\$1,686,625,000
Brown University	\$1,414,285,000
Case Western Reserve University	\$1,347,054,000
University of Minnesota and Foundation	\$1,320,078,000
Rockefeller University	\$1,288,100,000
New York University	\$1,177,600,000
California Institute of Technology	\$1,154,540,000
University of Pittsburg	\$1,153,362,000
University of Rochester	\$1,141,722,000
University of Washington	\$1,111,726,000
Purdue University	\$1,098,939,000
Grinnell College	\$1,075,153,000
University of North Carolina, Chapple Hill	\$1,070,772,000
Williams College	\$1,060,043,000
Wellesley College	\$1,032,465,000
Pomona College	\$1,018,179,000
Source: <i>The Chronicle of Higher Education</i> , Almanac Issue, August 29, 2003	

Access to non-tuition, non-government financial resources creates a hierarchy among US universities and colleges and also enables institutions with the most wealth to dictate market trends. Winston and Zimmerman (2000) commented that “the central economic fact of the higher education market is the large differences in schools’ charitable revenues—their non-tuition income—which create a pronounced hierarchy based on schools’ wealth and the very different student subsidies that wealth supports” (p. 15). These authors went further to point to the wealthy institutions’ ability to set high tuition rates and, because of their wealth, to attract the most capable students by offering a very high tuition discount. They noted that

It’s a positional market in which a school’s access to student quality depends on the size of its own student subsidy relative to those being paid by schools close by in the hierarchy. Finally, schools that have the most charitable revenues also have the greatest saving—the most excess revenues. (p. 15)

HIGHER EDUCATION COST STRUCTURE

Concerns about the cost of higher education have risen dramatically in the past decade, forcing Congress to establish a National Commission on the cost of higher education in 1997. The work of the Commission resulted in the following recommendations:

That academic institutions intensify their efforts to control costs and increase institutional productivity.

That the academic community provide the leadership required to develop better consumer information about costs and prices and to improve accountability to the general public.

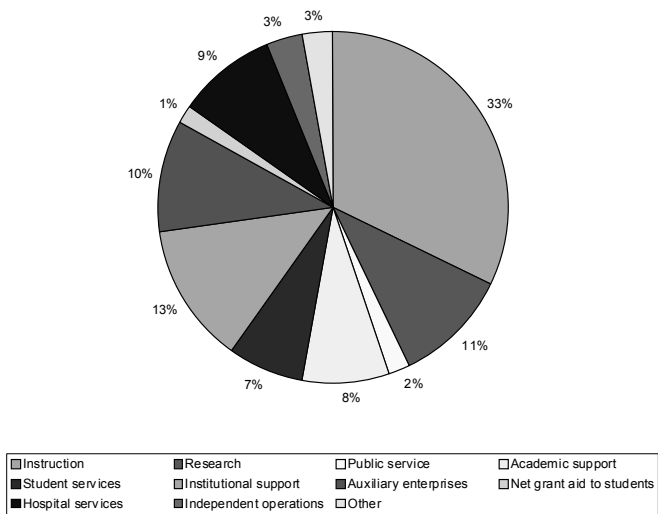
That governments develop new approaches to academic regulation, approaches that emphasize performance instead of compliance, and differentiation in place of standardization.

That the academic community develop well-coordinated, efficient accrediting processes that relate institutional productivity to effectiveness in improving student learning.

That Congress continue the existing student aid programs and simplify and improve the financial aid delivery system. (pp. 15-22)

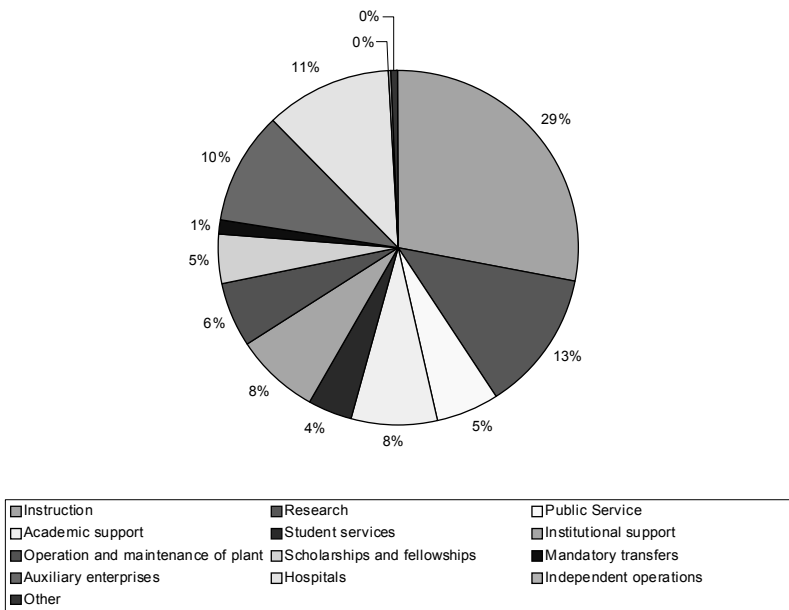
As revealed in Figure 9, some 33% of private higher education expenditures go to instruction, mostly for faculty salaries. This is followed by institutional support with 13%, research at 11% and auxiliary enterprises claiming 10% of private higher education institutions’ expenditures. Hospitals, academic

Figure 9: Total Higher Education Expenditures (Private)

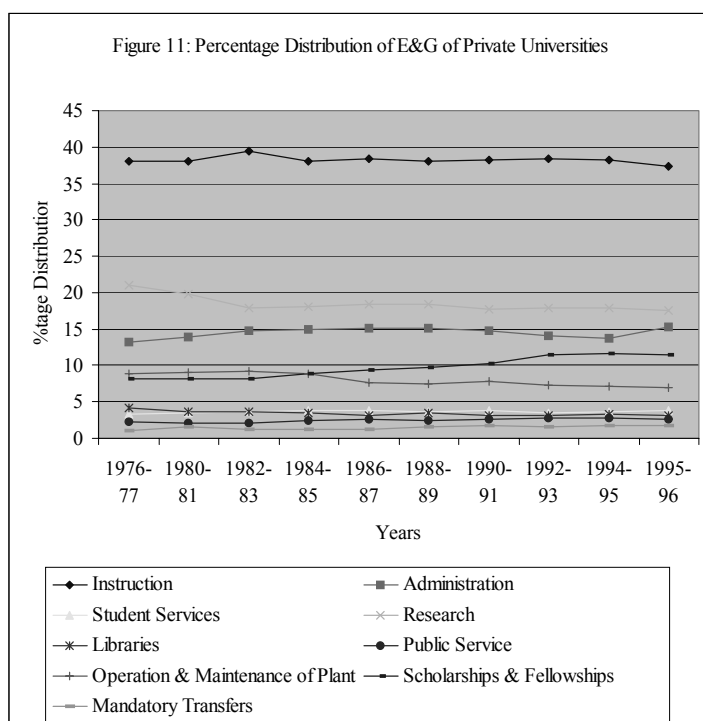


Source: *The Chronicle of Higher Education, Almanac Issue, August 29, 2003*

Figure 10: Total Higher Education Expenditures (Public) FY 2000



Source: *The Chronicle of Higher Education, Almanac Issue, August 29, 2003*



Source: NCES

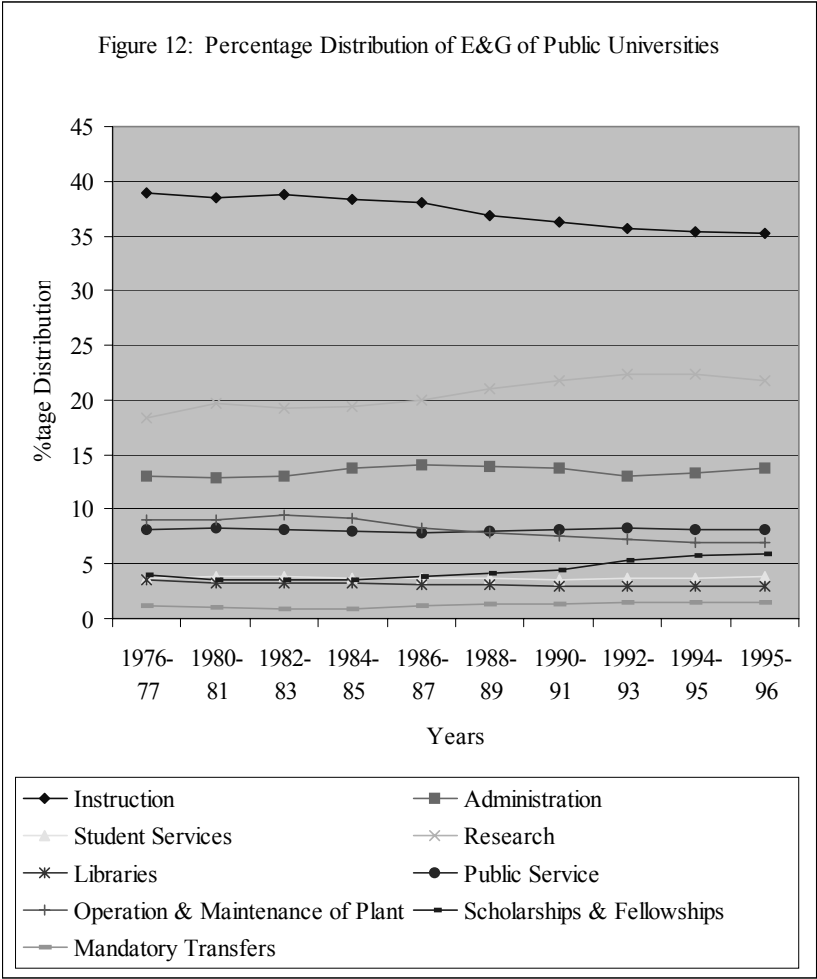
support, and student services account for 9%, 8%, and 7% of private higher education institutions expenses respectively.

Figure 10 shows that public higher education institutions spend their funds on the same kind of activities as the private higher education institutions. Differences in the percentage devoted to each item are noticeable in some. For example, the public higher education institutions devoted 29% of their expenditures to instruction. Research and hospital expenditures accounted for 13% and 11% respectively while auxiliary enterprises accounted for 10% of expenditures. Institutional support and academic support each accounted for 8% of the expenditures.

Significant differences were found in instruction (public 29%, private 33%), public service (public 5%, private 2%) and independent operations (public 0%, private 3%).

While Figures 9 and 10 show the components or structures of private and public higher education expenditures, Figures 11 and 12 show the trends of these expenditures for these two sectors from 1976 to 1996. These Figures attempt to answer the question: within the period under review, how have the percentage

distributions of expenditures changed and which of these activities have an increasing claim on institutional resources? The private and public higher education sectors were compared and illustrated by Figures 11 and 12. Figure 11 shows a few noticeable changes in some expenditure patterns in the private universities. The proportion spent on instruction is relatively flat, with a small bump in 1982 and a decline from 1994 to 1996.



The proportion spent on research declined from 1976 to 1982 and remained relatively flat since then. However, the most significant changes in trends are noticeable on two activities: scholarships and fellowships, and operation and maintenance of plant.

From 1976 to 1996, the proportion of the private higher education expenditures devoted to scholarships and fellowships increased steadily. However, the proportion of expenditures devoted to operation and maintenance of plant showed the opposite pattern, declining from 1976 to 1996. It appears that funds were siphoned from operation and maintenance during this period and redirected to scholarships and fellowships.

The picture is slightly different in Figure 12. The proportion of instructional expenditures in public higher education declined steadily from 1976 to 1996. The proportion of research expenditures increased slowly but steadily within that period.

Although the pattern of scholarship and fellowship expenditures shows a slightly upward trend and the pattern of operation and maintenance of plant expenditures shows a slightly downward trend, the differences between these two are not as pronounced as was observed in the private higher education sector.

These analyses reveal that, first, the share of instructional expenditures (which include faculty salaries) did not increase appreciably. Thus, the increase in cost cannot be attributed to faculty demands. Second, both private and public higher education sectors (more so the private sector) are devoting more of their resources to scholarships and fellowships, while both seem to be devoting less to operation and maintenance of plants.

HIGHER EDUCATION FUNDING FOR EQUITY

Higher education attendance in the United States is a function of several factors: personal situation, access conditions, and public policy. Personal factors include, among other things, family background, academic achievement, gender, racial background, and inclination and determination. Two factors associated with family background are especially important to higher education enrollment. First, parental educational background exerts some influence in participation rate. To the extent that college age students have parents with a college education, they have a head start over those without. More important, though, is alumni influence. In the private higher education sector, institutions such as Harvard, Yale, or Carnegie Mellon give preference to the children of their alums. Consequently, first generation college students have a more formidable challenge both in gaining access and in successfully completing their education.

Second, most traditional-age students rely on parental savings to meet the costs of their undergraduate education. A large percentage of students enrolled in higher education institutions receive significant financial support from their parents. Obviously, students whose parents lack the financial wherewithal are already handicapped in accessing higher education.

The bottom line is that potential students have differential family savings to meet the cost of higher education. Low income, first generation college aspirants have a far greater challenge fulfilling their aspirations than do high income prospective students with college-educated parents. Government funding mechanisms can help minimize the challenge to low income, first generation college students.

Equity demands that those with different abilities be treated differently; hence, students' academic promise as revealed by their academic achievements plays some role in their ability to access higher education. In the United States, most institutions depend on two primary standardized tests in making admission selections for undergraduate programs: the SAT and ACT. (Institutions also factor in a number of other criteria). Student achievement has two implications. First, the higher the SAT or ACT scores, the higher the probability of students gaining admission to top ranking institutions or institutions of their first choice. Second, the higher the SAT or ACT scores, the higher the probability that these students will qualify for a merit-based scholarship. Table 4 provides SAT requirements of selected higher education institutions.

Given this scenario, government assistance can be evaluated on the basis of its influences on the access rate of those with low SAT or ACT scores. Does the higher education funding mechanism ensure that students with lower SAT/ACT scores can benefit from some kind of higher education? In some countries, those with poor entrance examination results are barred for life from accessing higher education.

The issue of gender differences in higher education participation rates became a national concern only after the Second World War. Prior to this time, higher education was primarily a men's club. A reversal of this trend occurred in 1979, as illustrated in Figure 13, when for the first time in history the number of female students surpassed the number of male students in higher education institutions. Currently, female representation in some disciplines, for example engineering and computer sciences, remains a problem that a strategic funding program could address.

Table 4: Selected Institutions by Ranking and SAT/ACT Requirements

Top National Universities		
Institution	USNews Ranking	SAT Requirements
Harvard University	2	1400-1590
California Institute of Technology	4	1450-1580
Massachusetts Inst. of Tech.	5	1390-1560
Yale University	2	1380-1550
Stanford University	6	1360-1550
Princeton University	1	1360-1540
Dartmouth College	9	1350-1530
Columbia University	10	1300-1500
Duke University	8	1300-1500
University of Pennsylvania	7	1310-1490
University of Chicago	10	1290-1490
Tier 2 National Universities		
Institution	USNews Reputational Scores (Out of 5)	SAT Requirements
Stevens Inst. of Technology	2.6	1200-1420
Illinois Inst. of Technology	2.9	1220-1410
Boston University	3.4	1180-1360
Worcester Polytechnic Inst.	2.8	1180-1360
University of Florida	3.6	1170-1360
University of Maryland-College Park	3.7	1140-1340
Howard University	2.8	870-1340
George Washington University	3.3	1140-1330
SUNY-Binghamton	2.9	1110-1300
Syracuse University	3.4	1100-1300
Tier 3 National Universities		
Institution	USNews Reputational Scores (Out of 5)	SAT Requirements
University of Texas-Dallas	2.7	1070-1320
New School University	2.8	1056-1304
Polytechnic University	2.6	1100-1300
University of Maryland-Baltimore County	2.7	1060-1270
Drexel University	2.9	1060-1260
Florida Inst. of Tech.	2.4	1030-1240
New Jersey Inst. of Tech.	2.7	1030-1230
University of Oregon	3.4	1000-1230
Northeastern University	2.9	1030-1220
SUNY Buffalo	3.0	1000-1220
Tier 4 National Universities		
Institution	USNews Reputational Scores (Out of 5)	SAT Requirements
U. of Central Florida	2.4	1050-1230
U. of North Texas	2.4	960-1200

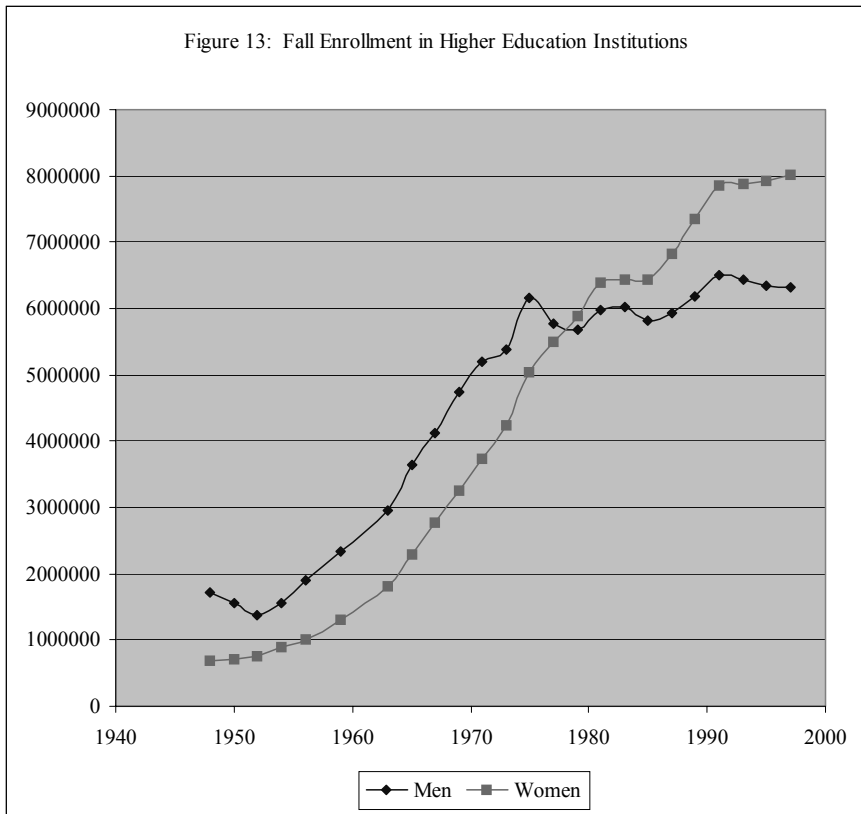
Nova Southeastern U	1.7	950-1181
Florida International U.	2.3	1040-1180
Texas A&M U.-Commerce	2.3	910-1170
Northern Arizona U.	2.4	940-1160
Portland State U.	2.6	910-1160
Indiana U. of Pennsylvania	2.2	970-1150
Florida Atlantic U.	2.2	950-1150
U. of Massachusetts-Lowell	2.3	950-1150
Source: http://www.usnews.com		

However, some scholars have raised the issue of declining male participation as a serious problem and have suggested affirmative action to address that trend. But King's (2000) study concluded that "there is not a generalized education crisis among men" (p. 1). She pointed out that "African-American, Hispanic, and low-income young men lag behind their female peers in terms of educational attainment and are far outpaced by white, Asian-American, and middle-class men and women. There is little evidence to suggest that white, middle-class males are falling behind their female peers" (p. 1).

The issue of race and minority participation in higher education in the United States requires special treatment. Historically, slaves were banned from acquiring literacy skills. Those who did ran the risk of severe punishment, in some cases leading to their death. However, through sheer determination, and through the efforts of those who subverted this law, some did acquire these skills. Their relentless efforts after the Civil War initiated formal education for African Americans—African Americans themselves were responsible for the first efforts to provide higher education for their own people. Eventually, desegregation laws opened the doors of white higher education institutions to blacks and other minorities. Recently, institutions established by blacks, either constrained by the economics of enrollment statistics or influenced by their state governments, have opened their doors to white students; hence, these institutions are now known as the "historically black colleges and universities" (HBCUs).

However, it is one thing to abolish segregation and another to actively recruit blacks and other minorities; it is yet another to retain these groups, educate them appropriately, and graduate them in good numbers. Even the citadel of learning did not escape the bigotry of mankind. Social unrest in the 60s and 70s would lead to the adoption of Affirmative Action which, in essence,

requires institutions to make extra efforts and to demonstrate that these efforts have resulted in enhancing the participation rates of minorities.



Some writers on diversity attribute the latest assault on Affirmative Action to the Reagan Administration which asserted that all, irrespective of race, should be treated “equally” before the law. There is a growing sentiment among conservatives that minority members require no extra assistance or consideration and that such policies now amount to reverse discrimination. This view fails to appreciate that all cannot be equal before the law if all were not present at the time of its enactment, or a law that places a disproportionate burden on different racial groups. California became the first to repeal its affirmative policy, followed by the state of Texas; initial enrollment statistics from these states show declining participation rates of minority members in some disciplines. However, recently the University of Michigan successfully defended before the US Supreme Court an admissions policy that used race as a criterion.

Irrespective of parental or personal wealth and societal support, attendance in higher education depends ultimately on the individual student's personal determination or will. Studies on minority participation and diversity issues in higher education suggest that personal determination to attend and succeed in higher education is influenced by personal perception of the benefit of the outcome and to the extent that perceived outcome varies by race or gender, differences in personal will and determination are expected to exist. The perception that a female professional might earn only a fraction of the income of a male counterpart with the same qualifications and experience might influence female college aspirants' personal determination to attend and succeed in school.

ACCESS CONDITIONS

Access conditions reflect factors such as an institution's admission requirements, recruitment efforts, institutional climate, and financial assistance. Higher education institutions in the United States range from those with highly selective admission criteria to those with open admission. Most community colleges practice open admission while universities generally have more restrictive admission requirements. Individual institutions may raise or lower the required SAT scores for admission or may do so for a specific group of people as deemed relevant to institutional mission. In addition to admission requirements, recruitment efforts also greatly influence enrollment and the make up of the student population. Investment in student recruitment generally means that institutions can cast their nets wider and institutions interested in diversity may make extra efforts in targeting specific populations of prospective students. Institutional reputation and climate aid in recruitment efforts. Institutions with a good reputation for providing a climate conducive to the success of minority students and women, for example, may find it easier to recruit these populations. Finally, institutions are increasingly using their financial resources as a strategic tool or leverage to increase admission and thus affect the participation rates of different groups of students.

Addressing the Issue of Equity

Higher education is an expensive investment for most people and, as discussed above, higher education in the United States is anything but a level playing field. To address inequitable access among different groups, individuals

Table 5: Total Spending on Student Financial Aid by Source (2001-02)

Aid Program	Amount
Federal Programs	
Pell Grants	\$7,242,000,000
Supplementary Educational Opportunity Grants	\$614,000,000
Leveraging Educational Assistance Partnerships	\$25,000,000
Federal Work Study	\$1,002,000,000
Perkins Loans	\$1,058,000,000
Ford Direct Student Loan Program	
Subsidized Stafford Student Loans	\$6,039,000,000
Unsubsidized Stafford Student Loans	\$3,775,000,000
Parent Loans for Undergraduate Students	\$1,208,000,000
Federal Family Education Loan Program	
Subsidized Stafford Student Loans	\$11,969,000,000
Unsubsidized Stafford Student Loans	\$8,484,000,000
Parent Loans for Undergraduate Students	\$2,190,000,000
Subtotal	\$43,605,000,000
Special Directed Aid	
Veterans	\$1,481,000,000
Military	\$484,000,000
Other grants	\$250,000,000
Other loans	\$110,000,000
Subtotal	\$2,365,000,000
Total Federal Aid	\$45,970,000,000
State Grant Programs	\$3,528,000,000
State-Sponsored Loan Programs	\$438,000,000
Private-Sector Loans	\$1,979,000,000
Institutional and Other Grants	\$12,209,000,000
Total Federal, State, Institutional, and Other Aid	\$64,124,000,000
Source: http://chronicle.com/weekly/almanac/2000/facts/2103stu.htm	

and governments undertake some programs targeted at this problem. For example, while the Bill Gates scholarship is aimed at talented low-income individuals, the McNair Scholarship is aimed at encouraging students of color to consider faculty careers. There are probably hundreds of individual and group

efforts targeting different groups for the purpose of improving their access to higher education in the United States.

However, the government constitutes the largest source of financial help for underrepresented groups as well as students from lower socio-economic backgrounds. Table 5 provides a summary of different aid programs provided to higher education students in 2001-02.

A close examination of Table 5 reveals several observations. First, the amount of financial aid provided by the governments, especially the federal government, is huge. At \$89 billion, this is a sizeable contribution aimed at improving access for over 15 million students. This represents 33% of the total revenue of both the public and private higher education sectors. The second observation relates to the number of programs offered by the governments. One may ask, why so many programs? The answer to this question is instructive to higher education planners around the world.

Higher education is one of the few sectors in our society that simultaneously pursue multiple and conflicting agendas. Hence, operating an effective higher education system is an endless balancing act. The programs listed in Table 5 reflect certain principles or policy goals identified below.

The Principle of Adequacy: The totality of aid available to individual students must be sufficient to help them participate successfully in higher education. Therefore, if one source is insufficient, there should be other sources to bridge the gap for students. Where a grant is insufficient, a loan can be used to supplement the grant.

The Principle of Completion Motivation: Aid programs must not be a deterrent to academic program completion. They must not create an incentive to stay longer in schools, but must motivate students to work efficiently and complete their programs in a timely way.

The Principle of Incentive and Reward: Aid programs must, however, be an incentive to those who are academically talented to go further with their education. The programs should reward those who work harder and talented students from the lower socio-economic status should have access to aid that will enable them to benefit from college education. For this purpose, there are several merit-based aid programs.

The Principle of Competition: Aid programs must not lead to complacency on the part of the institutions. Rather, competition among institutions must continue to galvanize institutions toward creativity and efficiency. To do this,

some aid programs provide funds directly to students who are free to take their funds to any institution of their choice.

The Principle of Private Involvement: Recognizing that governments do not have the financial resources to meet all of their financial needs and that governments are prone to inefficient bureaucracy, some governments provide incentives for private sector financial institutions to assist. Specifically, some loans provided by the private sector are guaranteed and subsidized by the government.

The Principle of Resource Stability: Some aid programs are paid directly to the institutions, giving these institutions much control in administering the programs. This kind of program provides certainty in terms of funds coming in from those aid programs.

The Principle of Equity: Equity demands that aid programs recognize differences in needs. Those who are able to pay should do so, and those who cannot should receive help. But it is a big challenge to determine need. Imagine two families with the same financial resources but different lifestyles, with one saving toward their daughter's higher education costs while the other enjoys their income without setting aside any savings toward their son's higher education. Is it fair to the first family if the scholarship fund is reduced because the second family is helped? This, of course, is one of the most difficult challenges faced by governments and institutions attempting to provide assistance without penalizing those who live prudently.

The Principle of Special Group Targeting: Even the best public assistance toward higher education costs have unintended consequences, and sometimes there is a need for a public policy to respond to special needs. For example, veterans and military personnel along with their dependents have special sources of financial aid that can be used to pay the cost of higher education.

Achieving these principles or policy goals while minimizing unintended consequences is a continuing challenge in the United States. It is impossible to have one aid program that can achieve all the policy goals identified above; and, indeed, there are many aid programs in the United States. It is to be hoped that the weakness of one aid program will be compensated for by the strength of another. In the United States, there are dozens of programs that can be classified as merit-based or need-based; there are grants (not requiring repayment) and loans; some are subsidized loans, others are unsubsidized; some are paid directly to students, others are paid directly to their institutions; some are available to the general public, others are available to target audiences. Providing financial

aid to millions of higher education students has become a mega business in the United States.

CHALLENGES OF THE 21st Century

No business or government leader in the United States today doubts the importance of education for personal and national success. As Immerwahr (1999) noted, “faculty, higher education administrators, and leaders of business and governments—[have] invariably stressed the importance of higher education to American society. . . Higher education is not only important for the society, but also for the individual” (p. 2). Altbach (2000) similarly pointed out that “the universities stand at the center of today’s knowledge-based economies. The postsecondary system has provided access to unprecedented numbers of students, enhancing social mobility and contributing to the cultural and political life of society” (pp. 1-2).

The sentiment supporting the importance of education has always centered around the K-12 education level, but of late there is an increasing realization that, while a high school diploma may get one in the door, in the not too distant future that may be insufficient for full participation in a knowledge-based economy. Indeed, higher education may become the most important vehicle in bridging the ever-expanding gulf between the socio-economic strata.

Certainly, higher education is an instrument *par excellence* for ensuring and maintaining the United States’ leadership in a growing, global society. However, higher education in the United States faces many challenges as the nation strives to maintain its position in the 21st century. Some of the policy-related challenges that have implications for higher education finance are summarized below:

1. *Maintaining Current Level of Services*

As revealed by population projections (See Appendix B), higher education enrollments will continue to rise. However, higher education costs will be rising, too. Unless revenue rises faster than the costs associated with increased demand and operations, higher education leaders will find it difficult to maintain the current level of services and quality. The challenges will certainly include preventing increased costs and loss of revenue from eroding the quality of services.

2. Funding for Diversity

Tomorrow's professionals will function within a more diverse environment. Cross-cultural skills will be as important as analytical skills. To develop these skills, institutions are becoming proactive in ensuring that students are educated within a multicultural setting. However, funding for diversity is expensive and some have challenged the need to devote resources to this goal. An effective multicultural campus will require not only ensuring that students, staff, and faculty from diverse backgrounds are present, but also ensuring that multicultural curricula and programming aimed at fostering diversity within the college or university community are in operation.

As revealed in this chapter, the burden of tuition on students from low socio-economic backgrounds has continued to increase. Without assistance, these students have no hope of attending private institutions. If they attended only the institutions with the lowest cost, they would be disproportionately represented in the community college sector. Therefore, higher education leaders, especially those from expensive private institutions, must rise to the challenge of providing access to promising but economically disadvantaged higher education students.

3. Shifting Public Policy

The current sentiment among politicians is to encourage students to fund their higher education through loans and tax breaks. This tendency will undoubtedly result in lower participation among students from low-income backgrounds. As King (1999) stated:

The growing reliance on student loans, the erosion of need-based aid-allocation standards, the political emphasis on college cost relief for the middle class, the new federal tuition tax breaks, growing state investment in merit-based aid and prepaid tuition programs—these and related public policy developments have major implications for access to higher education. Tuition and financial aid policies make a difference, and the whole system seems to be shifting in ways that may reduce opportunities for students with the least resources. (p. 190)

The challenge before public policymakers is to ensure that new policies do not penalize the already marginalized group of students.

4. Reducing Costs

Institutional leaders will continue to be challenged by increasing costs. The challenge lies in finding ways to keep costs down without sacrificing

quality, as mentioned above; that means an effective implementation of cost containment and cost curtailment. Historically, institutions have experimented with across-the-board cuts. This approach (although more politically acceptable than targeted cuts) is the least effective way to deal with financial constraints. Institutions will be faced with the task of targeting specific academic programs for discontinuation in order to free resources for more promising or more timely programs (Michael, 1998), but accomplishing this task will not be easy.

5. Managing Technology

Technology does not come cheap. While the unit cost spent on computers continues to decline, the overall budget allocated to technology continues to increase. The challenge before higher education leaders is learning how to stay on the cutting edge of technology without sacrificing the “soul” of the institution for it.

6. Managing Distance Education

Higher education tomorrow will witness the advent of new formats for distance education programs, and those new programs will affect the funding picture from any sides. As just one instance, in the traditional higher education market, physical location plays an important role in product differentiation. Such differentiation factors will be absent in a distance education market. Therefore, competing and thriving in the distance education market presents a different challenge to institutional leaders.

Currently, there is a rush to develop distance education; huge amounts of resources are earmarked for this initiative. But each institution must carefully weigh whether to invest in distance education, and do so only if solid rationales are provided, backed by feasibility studies, and only if such an initiative is consistent with the institution’s mission.

7. Positioning for Global Participation

As nations jockey for position in the emerging global economy, it is little wonder that many see the role of higher education as crucial. Territorial walls that once insulated and insulated national economies have crumbled. Nations lacking an educated populace that can take a global perspective are doomed to lose out. Whatever one’s ideological stance, it is a fact that the world markets have been thrust together and governments are best advised to consider

investment in higher education as a strategic instrument for positioning their countries for greater global participation.

8. Managing by Data

Higher education institutions will continue to grow in complexity in response to the complexity of their environments. At the same time, the demand for fiscal responsibility and accountability will continue to rise. Hitherto, many higher education leaders have paid little attention to management by data but such a practice cannot survive in an increasingly competitive environment. Smart management requires data from institutional assessment, benchmarking, comparative data, and sound financial projections and forecasts in order to make the appropriate decisions.

9. Educating Society for Responsible Funding

Perhaps the most important responsibility of higher education leaders in the 21st century is educating society about the role of higher education and the need to fund this sector responsibly. Until recently, higher education leaders have considered marketing, public relations, and government relations as crass and unnecessary salesmanship. But times have changed. Higher education leaders must embrace proven strategies, irrespective of their sources, that can help them inform the public, correct public misinformation, and influence public attitudes to the benefit of higher education. It should no longer be taken for granted that the benefits of higher education to society are readily apparent to every citizen. On the contrary, higher education leaders must accept the responsibility of becoming public educators, individuals whose role includes sensitizing society toward responsible funding.

Perhaps the most important achievement of the Commission set up to investigate higher education cost was their reinforcement of Winston's clarification of cost definitions. For some time now, scholars such as Winston and Johnstone have been calling attention to the need for policymakers and higher education critics to understand the nature of higher education cost. They have noted that the general public often confuses sticker price with tuition, tuition with cost of attendance, and cost of attendance with net cost, and that this confusion lies at the root of many criticisms leveled against the higher education sector. This author believes strongly that it is part of the moral responsibility of higher education leaders to understand higher education finance and to be competent in explaining the intricacies to lay men and women and to politicians.

Society must be assisted to understand the short-term and long-term implications of underfunding the higher education sector, and no one is better positioned to accomplish this task than college and university leaders.

10. *Training Higher Education Leaders*

It is not uncommon in higher education for a reluctant professor, inexperienced in budgeting and management, to be dragged into a leadership role—in many instances, the institution's presidency. Chances are that such an administrator has little or no inclination to devote much time to learning these important skills. The time has come for higher education to consider more seriously the training of those who assume top management positions. Success in one's academic career, and impressive publication records, may not automatically translate into success in administration. Just because one is an accomplished physicist or biologist or an engineer does not mean that he is equipped to run a multi-million-dollar operation effectively. Care must be taken to train leaders in budgeting, planning, financial analysis, and above all, the use of data for effective management. Tomorrow's higher education leaders require solid conceptual, human relations, and technical skills to lead higher education effectively.

11. *Enhancing Institutional Collaboration*

The 21st century environment will require greater collaboration among institutions. Collaboration will be necessitated by increasing specialization of these institutions. As institutions carve out their niches, institutional cooperation and collaboration will reduce costs while enhancing mutual benefits; this will become a strategic option for progressive higher education leaders. Similarly, intra-institutional, cross-disciplinary collaborations should be actively promoted. Academic problems are becoming increasingly complex. Therefore, our traditional simplistic, individualistic approach, where a professor or a researcher isolates him/herself from the rest of the world to concentrate single-handedly on a problem, may no longer be fashionable, efficient, and effective.

12. *Deferred Maintenance*

The cost of operating and maintaining plant continues to pose a serious challenge to higher education leaders. Some of these leaders have taken the easy way out by deferring maintenance of plant and facilities. This practice, as

observed recently at Yale University, has an unfortunate multiplier effect. Certainly, institutions can be more sophisticated with their depreciation accounting, making sure that assets are not only depreciated appropriately but a replacement cost is charged against current revenue. Prudent accounting will be needed for effective management of higher education institutions in the 21st century.

SUMMARY AND CONCLUSION

The traditional approach of quantifying educational benefits on the basis of personal or public goods may well have become archaic and irrelevant. The lessons from modern economics suggest that the most critical factor of production is the human resource. Angels do not build a nation; people do; and the best nations have plenty of “builders.” Great nations are smart builders and no one builds well without good education and training. Therefore, ultimately all education is a public good. Whatever education is aimed at freeing humanity from fears, bigotry, sickness and disease, misery, poverty, wars, and our animal tendencies; and whatever education is aimed at refining our tastes, broadening our perspectives, bringing sophistication to our lifestyles, expanding our resource base, enhancing our standards of living, engaging our intellect more fully, and bringing peace and progress to humanity as a whole is good education and is a public good deserving our very best efforts and resources. Nations that fail to adequately and appropriately educate their citizenry irrespective of race, gender, and economic backgrounds will not and cannot optimize their workforce returns or maximize their leverage in a global marketplace. Such nations may be forced to build bigger prisons and juvenile detention centers, but every prisoner is a painful reminder of a failed individual, a failed society, and a failing humanity.

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CHAPTER 3. FINANCING HIGHER EDUCATION IN CANADA

Daniel W. Lang

INTRODUCTION

Canadian higher education is difficult to grasp and comprehend as a unitary whole—indeed, higher education in Canada is not unitary. Although the federal government contributes financially to the nation's colleges and universities, its contributions are in most cases indirect. There is no federal system of higher education in Canada. Since the founding of the country in 1867, higher education has been first legislatively and later constitutionally a provincial responsibility.

This is not to say that some generalizations about higher education in Canada are not possible, even if in the form of an inter-provincial anthology. Canadian colleges and universities are almost universally public, secular, highly accessible, comprehensive, and binary. Although Canada is often presumed to be within the orbit of the United States, and in numerous fields it is, Canadian higher education has in many fundamental respects followed a different path. In particular, when one talks about the finance of higher education in Canada, the discussion is to an exceptionally large degree about public finance.

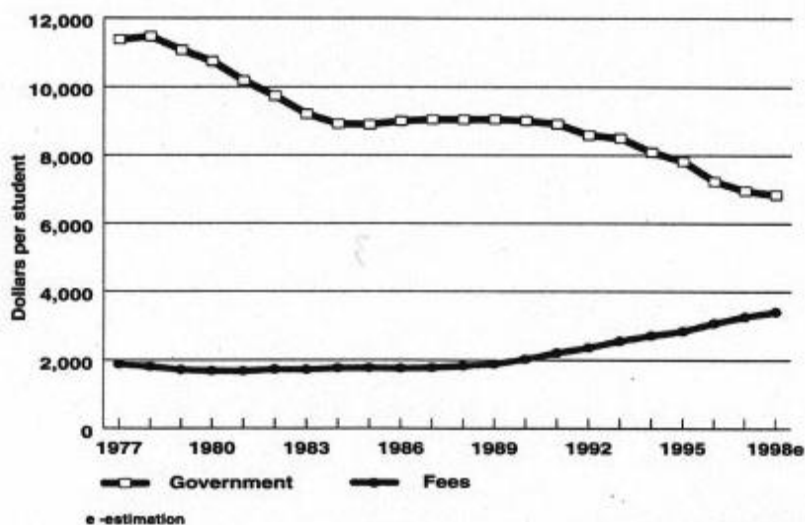
Until the mid-1990s, in most Canadian provinces the government either provided or controlled over 90 per cent of the funding that reached each college and university. Control included close regulation of tuition fees, of many ancillary fees, and of revenue from the sale of capital assets. Student assistance, although shared by the federal government and provincial governments, is for

the most part woven from a single fabric and funded either with public capital or with publicly guaranteed private capital. Private banks are, in practical terms, collection agencies for government.

While there is an inclination in some jurisdictions to regard “money as money” and funding formulas as policy neutral (Lang et al., 1989) that is not the case in Canada. Public funding for higher education in Canada, even when generous, can have and has had powerful steering effects. For example, throughout the 19th century and into the 20th century some Canadian provinces funded sectarian institutions. When sectarian factionalism became too fractious and inefficient, governments stopped it by withdrawing public funding and directing it to secular institutions exclusively. No institutional charters were changed, no enabling legislation was withdrawn; instead, the governments simply turned off the financial tap.

More recently, sharp and significant reductions in public funding in many provinces have forced universities to diversify their sources of funding and to raise tuition fees. These funding reductions have been severe. In less than a decade, the real dollar value of public funding for higher education in Canada dropped by about twenty per cent. In Quebec and Ontario, Canada’s most populous provinces, the declines were even greater.

Operating revenue per student in constant 1992 dollars



Source: AUCC

During approximately the same period—1993 to 1999—tuition fees on average doubled, and for some programs nearly tripled. Since governments in Canada closely control tuition fees, it is no mere coincidence between reductions in public funding and increases in tuition fees. This change in policy towards tuition fees is sometimes described as *deregulation*. Careful examination, however, indicates that *re-regulation* or *looser regulation* is the more appropriate term. Moreover, the changes in funding and regulation, however described, have in many cases not meant the withdrawal of government influence. Most Canadian provinces, as well as the federal government, by the beginning of the 1990s had discovered the magic of requiring matching funding as a means of leveraging private contributions to higher education (more on that, below). The practice is very common in government funding schemes that are aimed at raising funds for capital infrastructure, student scholarships, and research.

A final introductory note that defines the financing of higher education in Canada and distinguishes it from many other jurisdictions is that in most Canadian provinces universities are legally independent institutions, each one with its own charter or other enabling legislation. In many other jurisdictions, the status of Canadian universities would be classified as private or perhaps as charter. They are funded through what Canadian governments almost universally describe as *transfer payments*. They are not regarded as line-items in the governments' budgets. The allocation of transfer payments, employment of faculty and staff, entry into contracts and so on are institutional prerogatives. In this sense, universities are like schools, hospitals, municipalities, museums, art galleries and other public institutions that in Canada are publicly funded but not publicly owned or operated. In the jargon of Canadian public finance, this is often called the *MUSH sector*, meaning "municipalities, universities, schools and hospitals." Close observers of public finance in Canada observe that government financial policies frequently are not really directed expressly at universities (or, for that matter, schools or hospitals or municipalities), but at the MUSH sector generally. Thus when one talks about the financing of higher education in Canada, one is very often also talking about a broader public sector, and *vice versa*.

HISTORICAL DEVELOPMENT

Canada is a large country. Depending on how boundaries are defined, it is either the largest or second largest country in the world. But it is far from the largest in terms of population, with just over 31 million in 2002 and most of that is clustered in cities along Canada's border with the United States. In terms of Gross Domestic Product (GDP), at \$940.1 billion Canada ranks seventh among OECD countries. Per-capita GDP is US\$29,900, which means Canada is tied for sixth among OECD nations. The rate of participation in higher education, virtually all of which is notably public, is very high: 17 per cent of the population has completed university. The figure rises to 48 per cent when college credentials are included; in that case Canada ranks first in the world, a distinction that costs the country at large 7 per cent of its Gross Domestic Product.

In addition to being a big country, Canada is an officially bilingual and at least bicultural nation. The first schools and colleges in Canada were French, and Roman Catholic. The first permanent European settlement was Quebec, in New France (now Quebec City in the Province of Quebec). Quebec was founded in 1608. The Jesuits founded the first school in 1635, and by 1655 it had expanded to include a program that approximated the classical colleges that were beginning to be established in some of the English colonies to the south.

The British foundation of Canada was not laid until the Treaty of Paris in 1763, which followed the British capture of Quebec in 1760. Much to the chagrin of her New England colonists, England deliberately left the Roman Catholic Church and, notably, the educational institutions associated with it, largely intact. As far as higher education was concerned, the British influence was not felt until the American revolutionaries began to gain the upper hand in their war for independence. As colonists loyal to Britain were driven from their homes—mainly in New England, New York, and Philadelphia—many relocated to Nova Scotia and New Brunswick, and brought with them royal charters that they had secured for colleges in the American colonies. These colleges, like their American counterparts, were largely founded and controlled by colonial governments.

Somewhat later, early in the 19th century, colleges began to be founded through private benefaction and incorporated separately from government as private corporate entities. McGill College (now McGill University) in Montreal, Lower Canada, was founded on this basis. While the colonial legislatures had an interest in promoting higher education, they did not fund, nor did they interfere with, colleges and universities that were founded on this basis.

Public finance first became a factor in Canadian higher education in Upper Canada (now Ontario) in 1827, when the precursor of the University of Toronto was founded with an endowment of crown land. The University, which did not actually offer any courses until nearly forty years later, was referred to as “the provincial university.” This model was later followed in other Canadian colonies.

Like the United States in the mid-19th century, Canada, as it officially became in 1867, saw the founding of many small sectarian colleges, none of which were financed publicly. Until the beginning of the 20th century, the majority of Canadian colleges and universities were of this ilk. Public finance was not an issue. Moreover, since higher education was principally a colonial or (after 1867) provincial responsibility, it would not have been correct to perceive a national or Canadian posture towards colleges and universities at this time. Indeed, prior to 1900, the only higher educational initiative that could be characterized as national was the founding of a military college, and this was undertaken more as a matter of national defense than of education.

As new provinces were founded in the Canadian West at the opening of the 20th century, so shortly after were new public universities, modeled to a considerable extent on the US “land grant” universities. These were public institutions, although for the most part poorly financed. Moreover, and perhaps more distinctively, they were very autonomous. Responsibility for the public interest was vested by the government in the boards of trustees of the universities.

Canada, like Australia, began to find a national identity through the bloodshed of the First World War. This national self-awareness included the first national, or federal, interest in higher education. That interest and the modest financial commitment that accompanied it focused principally on research, particularly scientific research. Universities began to be regarded as the public’s principal instrument for conducting scientific research.

The Second World War cemented the connection between higher education and research, and more importantly between universities and the public good. The massive expansion of university enrollment which followed the war was funded almost entirely by public subventions, both federal and provincial. Tuition fees, as a source of total institutional revenue, declined during this period of growth, and reached their lowest point in the early 1970s.

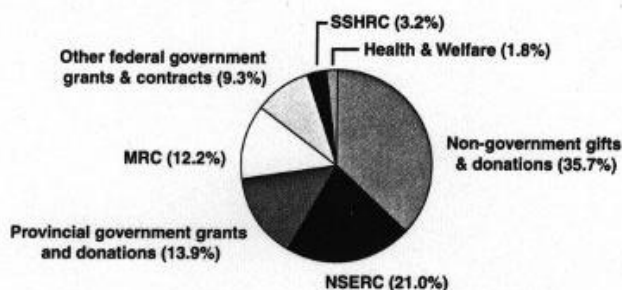
During this period also the distinctively “public” character of Canadian higher education began to emerge. By 1970, virtually all the many small sectarian colleges and universities that had typified Canadian higher education in the 19th century had become secular and eligible for public funding.

By approximately the same time, the terms *college* and *university* had taken on their current meanings in Canada. Although there are a few exceptions, a *college* in Canada when used to describe a free-standing institution is what in many other English-speaking jurisdictions would be called a *community* or *junior college*, that is, a non-degree-granting institution. In Quebec, a French-speaking Canadian jurisdiction, the term is *collège* [d'enseignement général et professionnel]. Degree granting authority in Canada belongs virtually exclusively to universities. There are a few *university colleges* that offer both baccalaureate and sub-baccalaureate credentials.

Accompanying these essentially provincial developments in post-secondary education were several federal financial initiatives that have continued to the present. Federal funding for research flows through three granting councils: the Natural Sciences and Engineering Research Council, the Social Sciences and Humanities Research Council, and the Medical Research Council. The Medical Research Council is being transformed to become the Canadian Institutes for Health Research. There is also a National Research Council but it provides relatively little direct funding for university research. Funding from those councils to universities amounted to about \$2 billion annually by the end of the 1990s.

Unlike many other jurisdictions, research agencies in Canada usually fund only the direct costs of research; no provision is made for the indirect costs and overhead costs of research. Nor may the salaries of professors be charged to research grants. Those costs are assumed to be met from provincial operating grants, tuition fees, and other sources of institutionally generated revenue. The recently established Canada Foundation for Innovation, a federal initiative, provides funding for research infrastructure but on a non-formula basis and without any direct connection to the location and volume of research sponsored by the granting councils.

After the sporadic funding schemes that followed both World Wars, the Canadian federal government in 1965 introduced the Federal-Provincial Fiscal Provincial Arrangements and Established Programs Financing Act (EPF). That act was amended and reviewed in 1984. This series of legislation was significant in three ways. First, from this point forward, all federal operating funding for post-secondary education ceased to be direct; it was instead paid to provinces for allocation to colleges and universities. Second, although the EPF algorithms have changed from time to time, they have all been based on some kind of matching scheme driven essentially by provincial budgetary policies. For example, in 1965, when the legislation was first introduced, the federal gov-

Research funding, 1996

	1980-81	1996-97	Growth rate
Total Federal Government	586,205	828,989	41%
SSHRC	29,222	55,248	89%
Health and Welfare Canada	18,074	31,220	73%
NSERC	277,765	366,831	32%
MRC	140,071	213,227	52%
Other Federal Government grants & contracts	121,074	162,463	34%
Provincial Government grants and contracts	176,950	294,711	67%
Gifts, Donations and			
Non-government grants and contracts	180,087	623,398	246%
Total	1,000,749	1,860,568	86%

Source: AICC, 1999

ernment matched provincial spending 1:1. By end of the 1990s, depending on the province and method of calculation, the match had dropped to between 0.4 and 0.15 to 1.0. Third, although the EPF algorithm is comprehensible and measurable, provinces are not obliged to follow it in detail in making allocations to various provincial educational (and health) sectors. The result is that, despite federal financial contributions, public finance policy towards higher education in Canada is framed principally at the provincial level.

The third federal financial initiative was the Canada Student Loan Program, which was introduced in 1964. The CSLP, like the EPF, is essentially a matching scheme that flows federal funding to the provinces, each of which determines its own financial aid scheme and defines financial need. For most students 60 per cent of the average loan is provided by the federal CSLP and the balance—40 per cent—is provided by a provincial loan program (Plager & Chen, 1999). The federal government, however, negotiates with Canada's private banks to raise capital and to contract for the administrative services needed to award loans and collect debts. The debt is guaranteed by government and,

during the period of a student's enrollment, plus six months, is serviced by government.

The future of this arrangement for student assistance is problematic because the private banks with whom the federal government has contracted to award and collect loans decided early in 2000 not to renew the contracts. Thus, the federal government has had to step in to raise the capital and administer the program at an estimated cost of \$150 million annually, which was about 50 per cent greater than the administrative cost of the previous arrangement.

The Canada Student Loan Program is exactly what its name denotes: a loan program. But several of the provincial student aid programs that the CSLP underwrites include grants and "loan forgiveness" (in effect, a grant made after the fact once a student's need-based debt reaches a specified upper level). The federal program does not provide financing for these and other non-repayable awards to students.

The federal government also operates a large scholarship program, called the Canada Millennium Scholarship Foundation. This is a new program; the first awards were made during the 1999-2000 academic year, following the establishment of a \$2.5 billion endowment. The scholarships are for \$3,000, and are awarded on the basis of financial need and academic merit. A small portion—five per cent—are awarded solely on the basis of merit. In some provinces the Canada Millennium Scholarships are used to displace a portion of loan forgiveness, which means in practical effect no net gain in funding is available to the student. Also, in Canada, scholarships greater than \$3,000 are subject to taxation as personal income, so any student who holds a scholarship in addition to a Canadian Millennium Scholarship may lose some of the other award through taxation.

The Canadian tax code allows a tax deduction for savings that parents set aside for their children's university or college education. This is called the Registered Education Savings Plan (RESP). As long as the contributions to an RESP are used for eligible higher educational expenses, they are never taxed. For the first several years of its availability, the RESP was used relatively seldom. In 1996, for example, there were about 17,000 students in receipt of RESP payouts that amounted in total to about \$50 million.

In 1998, the RESP plan was significantly enhanced to include a matching federal grant and to allow a wider range of eligible investment instruments. The impact of the Federal government's enhancements to the Registered Education Saving Plan on accessibility to higher education has so far been problematic. It is

a major public investment in higher education. Currently, however, less than two per cent of post-secondary students are using RESP funds to finance their education (Schofield, 1998). Raising the rate of utilization was probably one of the reasons for enhancing the previous program. But even if the rate rises, the nature of the RESP's tax arithmetic is such that those sectors of the population which avail themselves of the program might not comprise those who most need assistance, that is, those who are in the lowest tax brackets (Donnelly, Welch, and Young, 1999).

THE CURRENT CONDITION

Canada is made up of ten provinces and three territories. Although the federal government participates in the funding of higher education in every one of those provinces and territories, it would be a serious overstatement to say that there was "a Canadian system of higher education." The closest that one might come to identifying any unifying national system would be in the area of research. Instead, each province has its own system. In the Maritime provinces—New Brunswick, Nova Scotia, and Prince Edward Island—there is some regional planning and coordination through a Maritime Provinces Higher Educational Commission (MPHEC) and a Council of Maritime Premiers. In addition, all the provinces and the federal government are represented on the Council of Ministers of Education, Canada (CMEC). However, neither the MPHEC nor the CMEC has executive authority. So, as far as higher education is concerned, Canadian provinces are highly autonomous and, in turn, different.

Of the ten provinces, five have "buffer" agencies that occupy a middle ground between government and individual universities. These agencies have been created by government and are funded by government. Governments appoint their memberships. The names of these agencies are varied—commissions, councils, grants committees—but most are based on the model of the British University Grants Committee, itself now called the Higher Education Funding Council for England.

The roles of these agencies are not uniform. Some are advisory only. Others have some executive authority, for example over the approval of new programs and the review of existing programs. And others are custodians of funding formulas that are used to allocate provincial transfer grants among individual institutions.

The buffer agencies operate relatively openly and publicly, and, through their appointed membership are usually quite representative. A common practice, however, is that the agencies' advice and direction are not made public until they are released by government, a practice that sometimes results in awkward delays that disrupt institutional planning and decision-making.

The structure of government vis-à-vis the universities also varies among the provinces. Four of the ten provinces have ministries or departments that deal exclusively with post-secondary education, sometimes in conjunction with science and technology. The remaining six provinces lump post-secondary education together with elementary and secondary education.

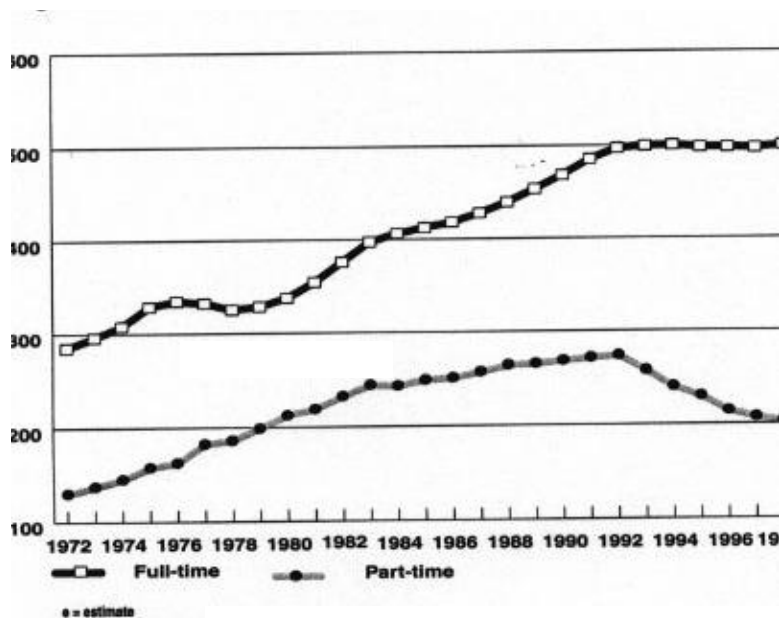
There is a series of voluntary agencies in and across all provinces:

- The Association of Atlantic Universities [Newfoundland, Nova Scotia, New Brunswick, Prince Edward Island]
- Conférence des recteurs et des principaux des universités du Québec
- Council of Ontario Universities
- Council of Western Canadian University Presidents [Manitoba, Saskatchewan, Alberta, British Columbia]
- University Presidents' Council [British Columbia]
- The Association of Universities and Colleges of Canada

It is important to understand that these associations are indeed voluntary. While they often act with considerable solidarity, they do so at the sufferance of their individual members, none of which cedes any autonomy to its respective association.

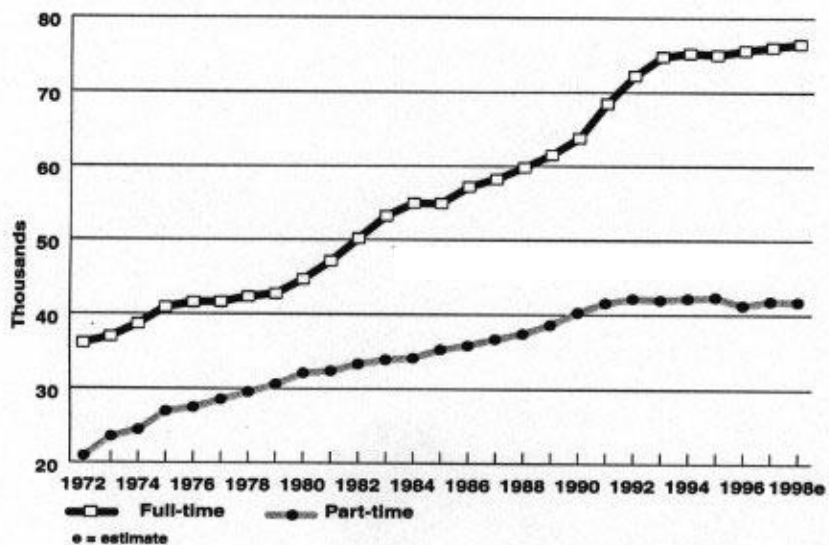
The two diagrams that follow, although highly generalized, describe the structure of most national university systems in Canada. In the diagrams, *scale* refers to capacity, *breadth* to the array of academic programs, *quality* to the normative position of programs (but usually not of institutions), and *distribution* to the location of institutions and more recently, to modes of program delivery. Governments have relatively little direct control over these factors except for the geographic aspects of distribution. Governments and buffer agencies have some control over minimum standards of quality, but the control usually is indirect and exercised through withholding funding. The first diagram describes systems without buffer agencies; the second refers to those with buffer agencies.

Only two Canadian provinces—Alberta and Ontario—deploy performance funding as an incentive towards quality. While the Alberta scheme is very elaborate, relying on a series of quantifiable indicators, it is quite minor in



Source: AUCC, 1999

Graduate enrolment by registration status



financial terms. Only one per cent of all operating funding available to the province's colleges and universities is allocated by this means. The Ontario scheme which went into effect in the 2000-2001 fiscal year is based on a slate of indicators that measure graduation, employment, and loan default rates. Like the Alberta scheme, the Ontario plan involves a relatively small amount of funding, less than one per cent of the operating grant.

ACCESS

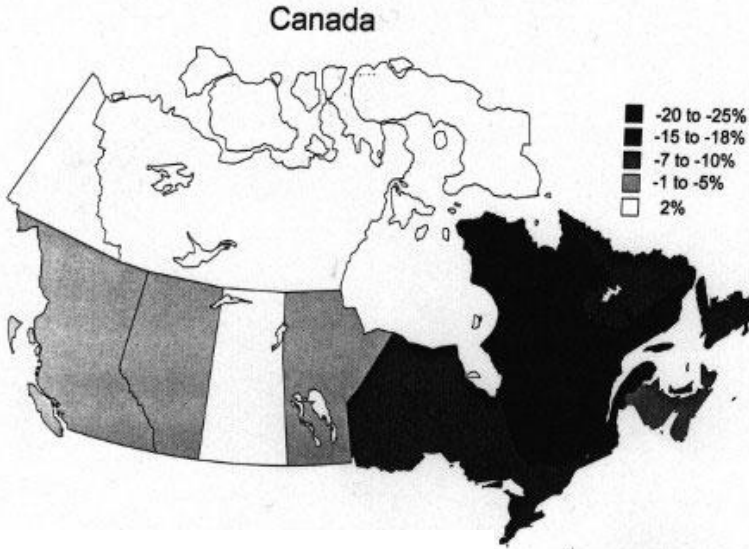
Canada's universities enroll about 600,000 full-time students annually. There are about 250,000 part-time students. In both groups about 80 per cent are registered for full-time study and 20 per cent for part-time study. Although full-time enrollment steadily increased since 1960, part-time registration fluctuated up and down. During the 1990s part-time enrollment declined by nearly 23 per cent. That decline also indicates that the average age of university students in Canada has gone down after a period of small but steady rise from 1980 to the early 1990s. The only area in which the age of students has continued to go up to any extent is among part-time graduate students.

By broad measures like the percentage of age group enrolled (27.3 per cent between ages 18 and 21) and the percentage of age group holding university degrees (21 per cent between ages 25 and 64), the level of access to higher education in Canada is unusually high, either first or second in the world depending on the specific measure that is used. The rate of degree completion is continuing to rise: when only the 25 to 34 age group is examined, the percentage of persons completing tertiary level education increases to 51 per cent, which is about double the worldwide average reported by the

OECD. Thus, at either end of the accessibility continuum—input of new students and output of graduates—Canada has an exemplary record. The new students who enter also reflect a high level of accessibility: in the 19 to 20 age group, about 81 per cent of Canadians are high school graduates.

Much of the expansion of enrollment in Canadian universities has been due to rising rates of participation and graduation among women. By 1999 the participation rate of women was 44 per cent greater than that for men (20.5 per cent versus 14.2 per cent). About 55 per cent of all full-time students in Canadian universities at the end of the 20th century were women. Among part-time students the comparable figure is higher at about 60 per cent; most of the decline in

Changes in provincial support to universities, 1995-98



Source: AUCC, 1999

overall part-time enrollment was among men. Women predominate in programs in medicine, dentistry, nursing, pharmacy, and natural science (AUCC, 1999).

Canada is a racially and culturally diverse nation, more so than many other countries. In two of Canada's largest cities, Toronto and Vancouver, the first language of more than half of the school population is something other than English. That, of course, has long been the case in Montreal. Not only in Quebec are there several universities that offer programs and services in both French and English. Statistics on the socio-economic background of university students are problematic in Canada because most provincial human rights codes prohibit the collection of such data. Similarly and for much the same reason, affirmative action and preferential admissions policies are uncommon among Canada's universities. A number of universities offer "transitional year" programs and post-admission programs that assist students from minority backgrounds adjust to university-level studies.

From the relatively few studies that have examined the socio-economic backgrounds of Canadian university students it appears that much of the recent growth in enrollment has come from students whose heritage was neither French nor English, and whose families were not well-to-do (AUCC, 1999). It

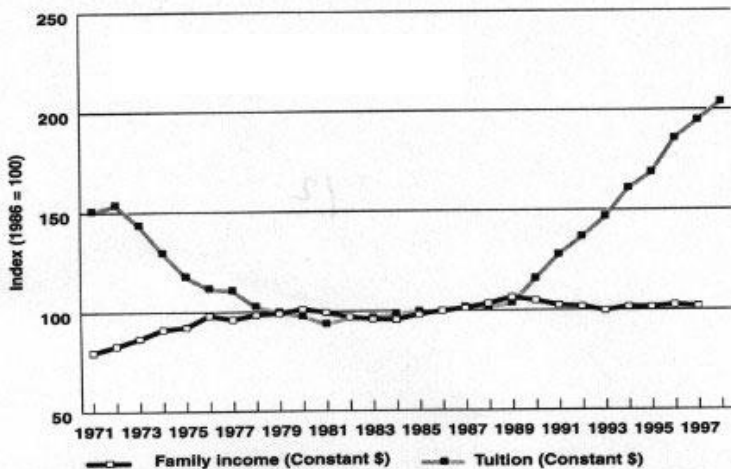
appears nevertheless that students from wealthier families and whose parents attended university are still more likely to attend university in Canada than those from families with less wealth and less prior education (AUCC, 1999).

TUITION FEES, ACCESSIBILITY, AND QUALITY

Nationally, tuition fees increased substantially over the last two decades of the 20th century to the point at which they represent a much higher percentage of university operating income. By the end of the 1990s, as a national average, universities were collecting roughly \$2.97 in government grants for every \$1 in tuition collected, versus \$6.44 in government grants in 1980 (Little, 1997). In Ontario, which saw the largest increases in tuition fees in the 1990s, tuition fees increased within a five-year period by from a low of 53 per cent to a high of 109.9 per cent. (That there could be a range of increases can be explained by the province's regulatory arrangement that allows individual institutions to increase fees within ranges.) Notably in terms of accessibility, the increases in tuition fees were not accompanied by increases in family income, which in Canada has remained relatively steady since the mid-1970s.

As in every province, some of the increases in tuition fees are offset by increases in spending on student aid. One way of measuring the relationship

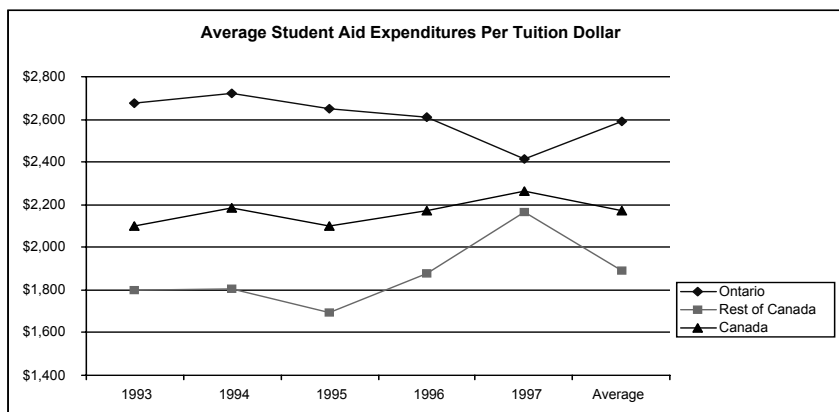
Family income vs tuition costs



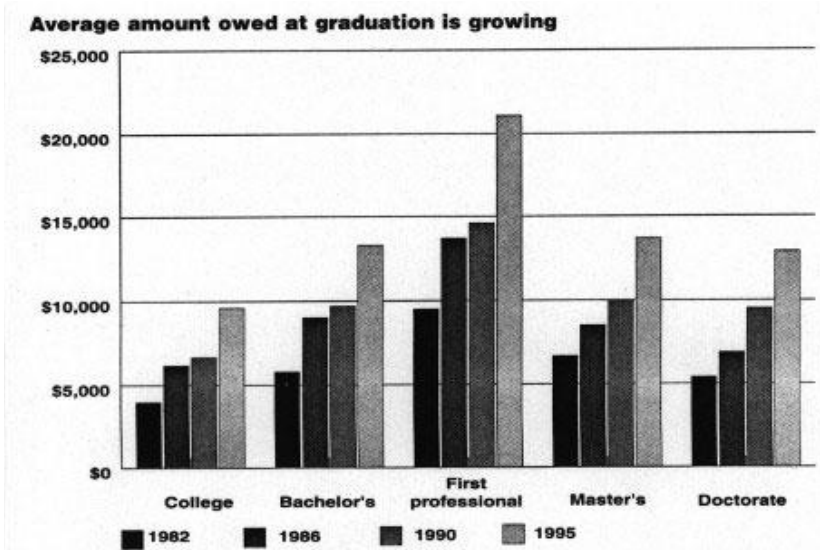
Source: AUCC, 1999

between tuition fees and student aid is to express student aid expense as a proportion of tuition revenue, as in the following table. From 1993 to 1996, Ontario trailed the rest of Canada in the ratio of spending on student aid to tuition revenue. In 1997, that trend reversed and Ontario moved ahead of the rest of Canada. Since Ontario is the only province that requires that a certain percentage (30%) of each tuition fee dollar increase be directed to spending on student financial aid, that trend might continue.

Because the most dramatic changes in tuition fees in Canada occurred only in the last few years, there is little data available on the impact of these changes. There were, however, two types of data that could be examined in order to offer at least a preliminary measurement of the impact of the increases in fees. On the one hand, the examination suggested that while there does not seem to be a strong and direct relationship between tuition levels and graduation rates, whatever relationship there might be seems to be positive: rates of graduation (and, implicitly, retention) rose approximately as tuition fees rose (Lang et al., 1999). Also, there may in turn be a decline in default rates on student loans as graduation rates rise (Ministry of Training, Colleges, and Universities, 2000). Student debt, nevertheless, is high and began to rise rapidly in the latter half of the 1990s.



Source: AUCC, 1999



On the other hand, there are indications, based on a longitudinal analysis of admission surveys over more than a decade, that students are beginning to display a greater interest in attending a university close to home (Lang et al., 1999). According to that study, academic reputation is decreasing in influence on students' choice of program and university. While additional research and further data are required in order to confirm these findings, one possible implication is that, as the cost of attending university increases, students perceive themselves as having to limit their range of choice to institutions nearby their homes.

Regardless of the jurisdiction, when tuition fees are increased, a fundamental policy question is raised. Was the increase aimed at increasing capacity and accessibility—as it was in Australia—or was it aimed at maintaining and, possibly, improving quality of output? This is neither an insignificant nor a merely technical query (Hansen and Stamper, 1987). What is the answer to that question in the Canadian provinces? In the late 1980s and early 1990s, in approximate terms, income from tuition fees increased moderately while government operating grants decreased in almost the same proportion. In other words, grant income plus fee income per full-time-equivalent student was more or less steady throughout that period. From 1994 to 1998, however, there was a more significant downward trend as, in most cases, especially in the more populous provinces, grants were reduced at a rate greater than the rate at which income from tuition fees increased.

The answer to the question, therefore, seems to be that over the entire period, which comprised different governments, increases in tuition fees have been deployed more to maintain quality than to increase capacity. If it had been otherwise, the sum of grant plus fee revenue per full-time-equivalent student would have declined (even if total sum went up). That clearly seems to have been the case for the first half of the last decade. The pattern in the second half of the decade is less clear. Were it not for some upturns in 1998-99, the center of gravity might have appeared to be shifting towards allowing quality to fall in order to maintain or expand capacity. There is no way to determine whether or those upturns represent the beginning of a trend. Given the forecasts of major increases in the demand for access in some provinces, the choice between accessibility and quality will be the most important policy question for Canadian higher education in the early 21st century.

This question is more complex than an “either or” choice. It has several dimensions, involving particularly the substitution of fees and other income for grants. First, other income, especially income from the sale of services and from fundraising, might not be reliable. The net operating gain from the sale of services may in fact be quite low, and may be buoyed by temporarily strong economies. The growth in revenue from gifts in the 1990s might also be a product of concomitant economic growth during that period. Moreover, much of the growth in gift revenue was in some provinces earmarked by government regulation, which meant that gift revenue was not really available as a substitute for operating grants.

Second, no one knows yet what will be the effects of increasing tuition fees to current levels. As revenue from fees begins to cover a larger portion of the cost of higher education, fees will begin to act more like real prices, and in turn will make fees as prices more elastic. At that point the difference between raising fees to improve or at least maintain the quality of programs, and raising them to expand access, will become sharply apparent to students and parents. Fees that are increased to expand access may appear to students and parents to be more like taxes than fees because the direct benefits to individuals will be problematic. This is a possibility that the Australians clearly recognized when they introduced tuition fees to fund expansion in the late 1980s. The Australian Higher Education Contribution Scheme (HECS)—which was carefully studied by a number of Canadian provinces in the 1990s—was fundamentally and openly linked to personal income taxes. The Province of Alberta, in capping the share of total revenue to higher education to which tuition fees may contribute, may have

recognized the policy distinction between funding accessibility and funding quality. The Province of Ontario was discussing a comparable cap (at 35 per cent), and in 2000-2001 began limiting increases in tuition fees to two per cent per year until 2005.

SOURCES OF REVENUE

Because of the social, cultural, and economic benefits that accrue from higher education to both individuals (private benefits) and society (public benefits), governments invest in universities in a variety of ways, some direct and some indirect. In Canada, as in other jurisdictions, there are different types of funding formulas, there are negotiated grants, there are management contracts, and there are various earmarked or “targeted” funds (which in most Canadian provinces are customarily called “envelopes”). These all are allocative devices; none necessarily determines the amount of funds that are available for allocation to universities at large.

In addition, Canadian provincial governments provide funding indirectly. There are government regulated and mandated tuition fees—mandated in the sense that the governments’ funding formulas assume that the fees will be levied and collected. There are taxes, the proceeds of which are earmarked for universities; there are tax levies that require spending on universities; and there are tax incentives that encourage private spending on universities. There are student aid programs that, in addition to promoting equity of access, provide a large part of the working capital of universities, including “self-funded” or “privatized” programs in those jurisdictions that allow them.

Finally, governments are large-scale purchasers of university services, particularly research in those provincial jurisdictions in which research is not funded through funding formulas and targeted funding. In several provinces, several sources of funding come into play in supporting research; the federal government, mainly through its research granting councils, provides research grants but in doing so assumes that the indirect and overhead costs of research, including professorial salaries and benefits, will be funded by the provinces.

The array of funding devices and sources for Canadian universities is thus quite large and varied. On the one hand, this can be regarded as the advantage of stability bestowed by diversity. On the other hand, such a complex and varied patchwork of funding makes planning difficult from the institutional standpoint

and accountability problematic from the standpoint of government. From both standpoints the connections between funding and policy are tenuous. Yet, in most, if not all Canadian provinces, it is the patchwork of funding schemes that defines the system of higher education. Remove the funding schemes, and the semblance of system virtually vanishes.

Thus it is important to ask where universities stand in relation to governments, the sources of funding that they either provide or allow to be provided, and the means by which funding is allocated. The following table shows sources of funding over time.

Four and a half decades ago, in 1959-60, just over 35 per cent of university income came from provincial governments. That amount was almost matched by tuition fees at about 29 per cent. Direct federal grants, which were still available at that time, constituted another 20 per cent.

Moving forward to the mid-80s one sees a noticeable and important change. By then, grants from the provinces constituted between 61 and 77 per cent of university income. At the same time government policies and operating grants formulas together tightly limited university tuition fees, which accounted for between 7 and 17 per cent of university income. The federal presence through direct grants to universities had disappeared.

Sources of Funding by Province, 1984-85 to 2002-03

	NS	Que.	Ont.	Alta.	BC
% Provincial grants					
1984-85	62.2	70.6	61.5	77.5	62.9
1996-97	39.1	61.8	41.6	47.4	48.8
2002-03	37.4	60.9	40.4	45.7	52.0
% Fees					
1984-85	16.7	7.5	16.5	10.5	14.1
1996-97	25.5	12.4	22.3	18.8	15.2
2002-03	26.2	9.2	25.3	21.3	18.3
% Other					
1984-85	9.7	10.9	9.3	4.2	7.9
1996-97	24.4	16.6	28.1	23.5	27.5
2002-03	27.8	19.5	26.2	25.7	23.3

(Dupre, 1998 and Canadian Statistics, retrieved from <http://statcan.ca/english/pgdb/educ03a.htm>)

By the mid-90s one notes further remarkable changes. On average, provincial support accounted for just less than half of university income (40-62%),

while income from student fees averaged just over 18% (12–25%) and was on a clear upward trend. By 1996–97, sources of income that previously were so minor as to be typically categorized as “other”—gifts, bequests, investment income, sale of services, and other non-government funding—had risen from about 5% of total university income to 10% by the 1980s, and on to nearly 25% in the space of about two decades.

In the beginning of the new century, the upward pressure on tuition continues as the average tuition accounted for 19% (9.2 - 26.3%) of the revenue in 2003 while provincial funding had dropped below the midpoint, accounting for only 48.6% (37.4 - 60.9%) of university revenue. Other sources of funding have shot up to 23.8 per cent.

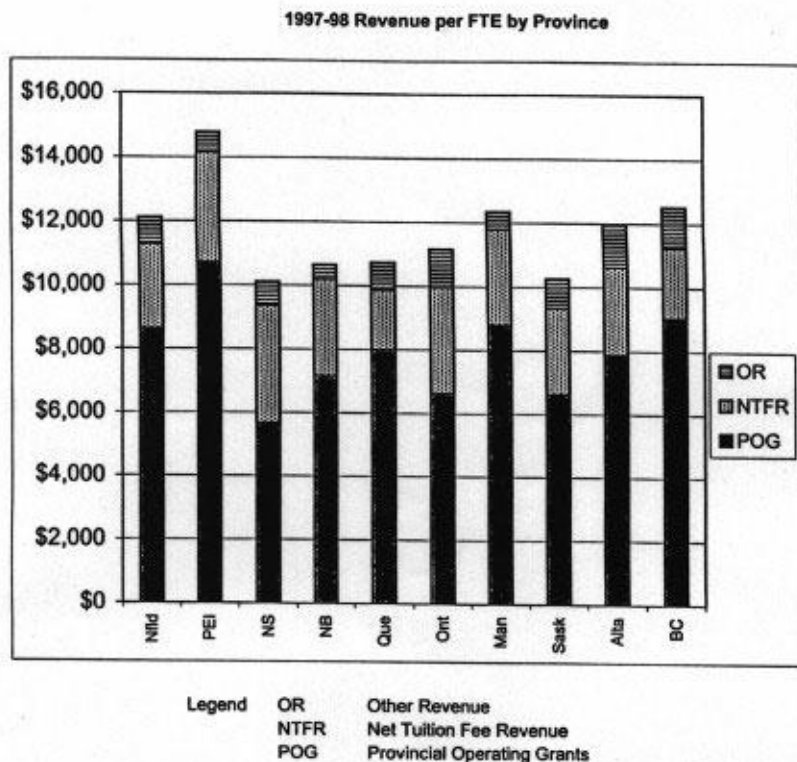
In terms exclusively of sources of funding, over four decades Canadian higher education shifted from being mainly public and federal-provincial to predominantly public and provincial, and finally to a nearly equal combination of public and private provincial. It is still appropriate to apply the term “provincial” to the private component of funding because, as in the case for example of Ontario, provincial governments continue to regulate tuition fees (albeit with greater parameters of institutional discretion) and to retain and exercise the authority to award degrees.

From the table it is obvious that there are differences between the provinces in the balances among the several sources of funding available to universities. In Ontario, along with Nova Scotia, Alberta, and British Columbia, provincial grants are no longer the majority source of funding. Quebec, where provincial funding is about 62% of total university funding, is the only significant exception to what otherwise appears to be a clear trend across Canada. In Quebec, the percentage of funding from provincial grants appears to be more a consequence of a policy about tuition fees than a policy about the government investment in universities *per se*.

Taking the three principal strands in the rope that funds universities as an idiom of policy, it appears that each—tuition fees, operating grants, and other income—has its own origin and motivation.

Tuition Fees

Since the mid-1980s, government funding policies towards universities in Canada have in most respects been derivatives of broader financial strategies aimed at the overall public sector. This has been as true of left-wing governments



Source: Council of Ontario Universities, 2000

as of their right-wing counterparts (Lang et al., 1999). The exception has been policy about tuition fees, which have continued to be a major political issue for all governments.

A key feature of some provincial tuition fee policies is that universities must set aside a specified percentage of any new revenue from tuition fees for financial aid to students in need. Thus, the net increase in tuition fees as a source of total revenue has in some cases been less than it appears.

Although there are few explicit policies that assume a relationship of specific fees to program costs, and in turn to the prospects of future earnings of graduates, a number of provincial regulations implicitly assume such a policy. For example, professional and graduate programs may have much higher tuition fees than other programs.

These policies beg two fundamentally important questions: how much do universities or governments know about the costs of programs, and how much

do they know about manpower supply and demand? As a matter of fact, determining program costs in higher education accurately is usually difficult (Lewis and Dunbar, 1999). Very few Canadian universities actually do it. Determining marginal costs is far more difficult than determining average costs, yet the policies are implicitly about marginal costs. Finally, and perhaps most importantly, the policies appear to be uninformed by the demonstrated fact that unit costs in higher education are determined mainly by the funding made available to universities (Bowen, 1980).

This is not a matter of institutional intransigence or indifference. PPBS (Program, Planning, and Budgeting System) was seriously tested in colleges and universities, as well as in the broader public sector, for a number of years, without success (Balderston and Weatherly, 1972). A particular problem is the highly variable meaning of “program,” which can be taken to refer to a degree credential (Birnbaum, 1983), an organizational unit (e.g., a department or faculty that offers a credential), or mode of delivery (e.g., part-time or co-op) (Jones, 1996). Normally, costs are associated with budgets, which are in turn associated with organizational units. But university departments and faculties often, in fact typically, offer more than one credential (Huisman, 1998, Lang, 1999).

Canadian governments tend to think of costs in terms of cost to government, and specifically the costs as defined by their funding formulas, which in turn define “program” as degree credential. Thus, what is a cost to government is revenue to universities. Not every Canadian province uses a funding formula, but several, particularly the larger ones, do. Moreover, like most funding formulas, the operating grants formulas in place in Canadian provinces are intrinsically linear and based on averages; in other words, while programs are funded differently, institutions are not, and all programs within a given category are assumed to have the same costs. In some provinces, special grants for bilingual programs and northern universities, for example, are the only real exceptions to average funding. Although cost studies demonstrate the significance of institutional size for the per student costs of instruction (Toutkousian, 1999), provincial funding formulas in Canada rarely make any provision for institutional size. Thus, formulas and other devices by which Canadian provinces and the federal government determine funding for universities are not reliable surrogates for cost structures.

One might assume that because some universities in Canada are offering “self-funded” or “privatized” programs, there must be a reliable means of deter-

mining the direct, indirect, and overhead costs of programs. Such an assumption, unfortunately, would be wrong. There are several reasons for this.

First, provincial governments typically have no real policies on such programs. They are unregulated as long as they are not eligible for operating grant funding. Thus the meaning of “self-funded” or “privatized” is largely a matter of institutional interpretation.

Second, these programs, which in the majority of cases lead to the MBA, are a good example of the problematic use of the term “program.” These notional programs are degree credentials that are offered by faculties that offer several credentials, of which the others are not self-funded or privatized. It should not be surprising, then, that the putative overhead recovery rates at the universities that offer self-funded or privatized programs vary widely.

Third, because in Canada the indirect and overhead costs of research are funded for the most part along with other institutional costs, including notably the costs of instruction, even the costs to government of instructional programs cannot be isolated

Fourth, most of these programs were not introduced on a self-funded or private basis because they would be inherently different from other academic programs, and therefore inappropriately funded by existing funding formulas. Instead, they were introduced on that basis because it allowed a way around what in some provinces were regarded as unrealistic and unreasonably restrictive tuition fee regulations.

Forecasting manpower supply and demand is generally difficult and highly problematic, but for higher education it is particularly difficult and uncertain (Berg, 1970). Canadian higher education is not an exception. There are legitimate reasons for that difficulty: university programs are from three to five years in length, and for certain fields and professions more than one degree is required. This means that short-term forecasting methods cannot be applied reliably to university programs. An example from Ontario is the disconnection between the education and employment of radiation therapists that occurred in the late 1980s. Concerned about a pressing shortage of radiation therapists, the government called for an expansion of existing programs and in a very unusual step allowed teaching hospitals affiliated with universities to offer training programs. By the time most students had finished their programs, employment opportunities for them had declined to the extent that many were either unemployed or had to find employment in other provinces and in the United States.

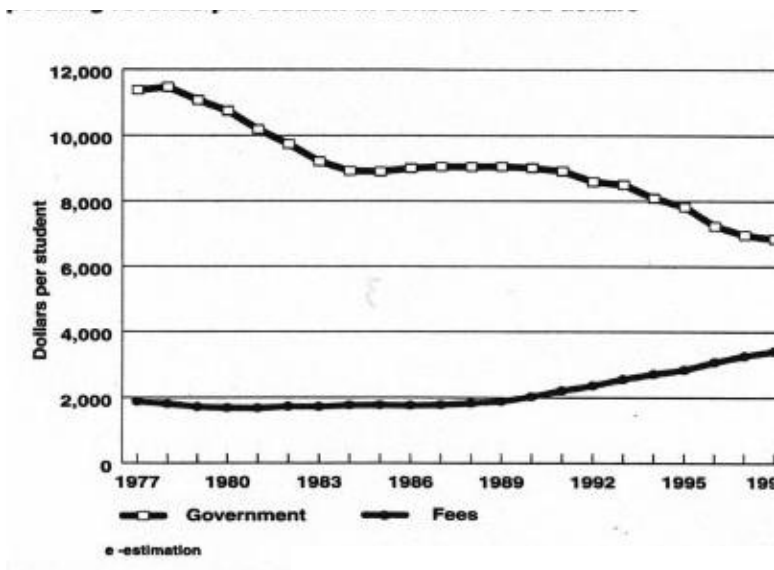
So, while the Canadian policies on tuition fees might seem to be clear, meaningful, and enforceable in terms of being based on program costs and future earnings of graduates, there is no track record that suggests that they actually will be. There is a risk here for government and, by implication, for universities. Students and increasingly their parents who accept or at least tolerate high tuition fees because of the prospect of future employment and earnings will, not unreasonably, expect those prospects to be fulfilled. A promise thus implied is a promise for which the government and the universities will probably be held accountable.

Operating Grants

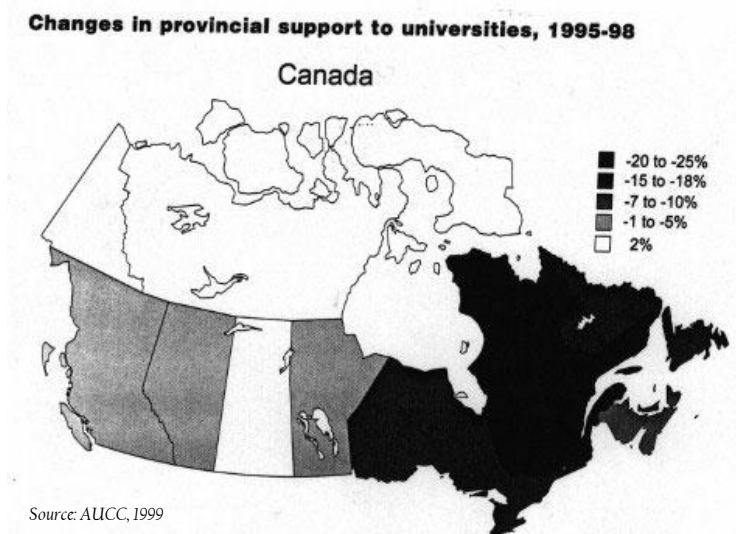
In the 1990s and in some cases before, as well, government operating grants to universities were reduced in every Canadian province. The average reduction in constant dollars since 1993 was about 20 per cent (AUCC, 1999). The reductions have been in almost all cases “across the board” without any intentional differentiation among institutions and programs. As governments have imposed major cut-backs in university funding, they have at more or less the same time made reductions that, in percentage terms, were the same for colleges, schools, and hospitals as well as universities. The extent to which these cutbacks in funding have altered the patterns of funding for higher education does not appear to be in any way an expression of policy towards universities *per se*. It is instead the by-product of larger budget-balancing *cum* tax reduction policies.

Across the board reductions, however, do not necessarily translate into equal net changes at the institutional level. Although funding formulas are often promoted as being neutral in terms of policy, most in fact are not (Lang *et al.* 1989). Funding formulas in Canada are not exceptions. A peculiar characteristic of some formulas in use in Canada is a major asymmetry between the range of weights that are assigned to programs to reflect various costs and the range of “formula” tuition fees that the algorithm of the formula assumes universities will collect. The former range is much wider than the latter. The practical effect is that universities with higher weight graduate and professional programs attract a smaller percentage of their total income from tuition fees, and universities with predominantly undergraduate programs attract a higher percentage.

Operating grants to Canadian universities also often include a series of so-called “non-formula” grants or “envelopes.” Some non-formula grants are



Source: AUCC, 1999



Source: AUCC, 1999

available to all institutions but are allocated on a basis different from the operating grants formula. For example, the envelope for access for disabled students is universally available and allocated on the basis of enrollment by headcount. Another example is the research overhead and infrastructure envelope, which is allocated on the basis of each institution's performance in attracting peer-adjudicated research grants. Other envelopes supplement the operating grant, for example, three universities in Ontario have access to a special fund for bilingual instruction.

So, what may begin apparently from a policy perspective as across the board reductions in Canadian universities may end up as a highly differentiated reductions at the institutional level.

Other Income

In the parlance of Canadian higher education, "other income" is the sector of revenue which comprises gifts, bequests, income from investments (which for most universities is the product of previous gifts and bequests), sale of services, and other miscellaneous revenue. Across Canada, this category of revenue increased by 250 per cent in the decade that ended in 1996–1997. The increases, some of which were greater than 300 per cent, were greatest in Alberta, British Columbia, and Ontario.

It is important to keep in mind that "other income" includes revenue from investments. The financial performance of stock and bond markets during the last decade has been so strong that the increase of this component of university income should be seen as neither surprising nor the product of government funding policies.

The sale of services component of "other income" has always been considerable. It includes some obvious enterprises like parking, student residences, food services, bookstores, and university presses. Some less obvious sales of services include: participation in municipal heat generation grids; the provision of generic services to other institutions, including other colleges and universities; the operation of medical, dental, and veterinary clinics; the operation of elementary and secondary laboratory schools that charge fees; and soil testing services, among others. What must be recalled, however, is that these services—usually called ancillary or auxiliary operations—are expected if not required to recover their costs, including indirect and overhead costs. Hence, the revenue

that they generate is in many cases offset by their costs, leaving little or no net gain.

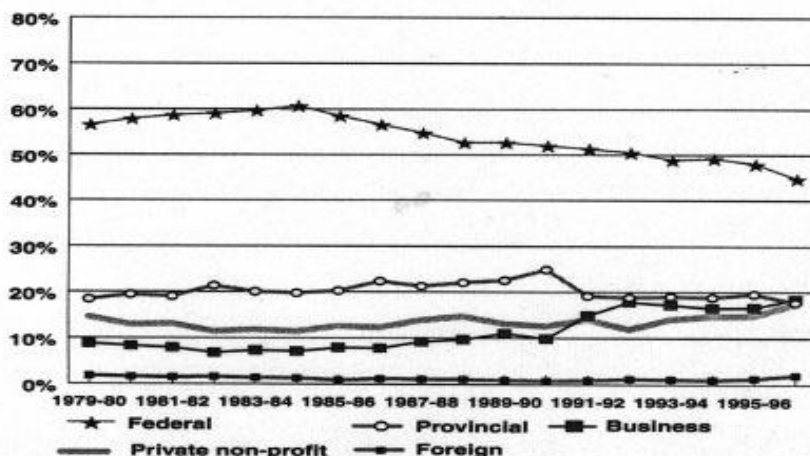
The greatest increase, and the increase of greatest concern, has been in the sale of research services (Newson and Buchbinder, 1988, Dupre, 1998). For example, in just five years (1991–1996) income to Canadian universities from patents and royalties increased by 400 per cent to over \$16 million. Of the four leading universities in attracting this type of income, two were in Alberta and two were in Ontario (AUTM, 1997).

Revenue from research grants and contracts from the private sector has also increased sharply, by over 300% from \$55.3 million to \$178.3 million (AUTM, 1997). However, neither Canadian industries nor Canadian universities are as methodical as their US counterparts in, first, accurately determining the indirect and overhead costs of research and, second, in recovering those costs. So, the net gain in revenue is probably smaller than the gross gain, by some considerable measure.

Whether or not governments anticipated the current levels of research conducted by Canadian universities on a business basis for the private sector, they were in most provinces promoted by government. Setting aside the problematic question about whether or not current levels of university-industry research collaboration were intended and caused by government policy, there are two very significant initiatives that clearly aim to continue the trend. The Canadian Foundation for Innovation, the Ontario Innovation Trust (which more or less complements the CFI), and Alberta Heritage Foundation for Science are major funding programs that depend to a large extent on matching funding from the private sector, and from the universities' existing resources. The CFI and the Ontario Innovation Trust programs are essentially sinking funds that the governments regard as investments from which there will be returns in terms of economic growth. The interest of firms in the private sector appears to be along the same lines: the funds represent a business opportunity more than a philanthropic opportunity. The Alberta program is an endowment instead of a sinking fund, but the purpose of its earnings is also to fund investments that will stimulate economic growth.

In terms of solving funding problems, neither the CFI, Ontario's Innovation Trust, nor other comparable provincial funds can be regarded as offsetting reductions in operating grants. First, the funding is clearly "one time only." Second, universities must redirect or raise their own funds in order to attract the government funding at a ratio 2:1. Thus from the point of view of net

**R&D expenses in Canada's higher education sector
by source of funds, 1979-1997 (in % of total)**



Source: AUCC, 1999

effect a university could in some cases be worse off by participating in the programs. What the CFI is more likely to do in terms of public finance is provide capital funding to offset the effects of depreciation. No provincial government in Canada has a regular program for funding depreciation on plant and equipment. On the institutional side, very few universities in Canada depreciate their capital assets as part of their budgets.

Forecasting trends in university revenue into the 21st century is problematic. The Canadian economy displayed strong growth in the latter half of the 1990s. By the end of the century, most Canadian provinces and the federal government either had or were on track to having balanced budgets. Some had significant surpluses. In the intense debates about the deployment of those surpluses, higher education has not come out at the top. Health care and tax relief have ranked higher. Early signs of additional support for higher education suggest that funding will increase enough to offset the effects of price inflation and enrollment growth, but no more than that. Even some of the funding for enrollment growth might be significantly discounted.

COST STRUCTURE

A question often asked with respect to university financing is whether or not changing levels of funding lead to significant changes in the relative proportions of total operating funds allocated to the various expenditures and functions of individual universities. If there were significant and disproportionate changes, one might conclude that changes in government funding—either in form or amount—were having an unintended policy effect on certain university activities or populations. For example, reductions in spending for student services would primarily disadvantage students.

This question has not been investigated extensively in Canada, but there have been two or three studies. The first involved data contained in the annual reports of the Council of Finance Officers—Universities of Ontario, usually referred to as COFO-UO. The COFO-UO reports include for each university data on income and expense by several formally defined and consistently reported categories. COFO-UO reports for the last ten years were examined. Ontario accounts, by various measures, for about one-third of higher education in Canada. The largest and most research-intensive university in Canada is located in Ontario, and is one of Canada's two members of the Association of American Universities. Also in Ontario, one finds a variety of specialized programs and universities of which there are only a few in Canada, for examples, pharmacy, forestry, veterinary medicine, dentistry, and agricultural science. Three of the province's universities are bilingual. Five others can be characterized as regional, predominantly undergraduate, institutions. In other words, if the Carnegie classification scheme were deployed in Canada, at least one Ontario university would fall into each category. So, for the purposes of this discussion, Ontario is reasonably typical of the entire country.

The second source of data is the series of reports submitted by universities to *Maclean's* as part of the magazine's annual survey and ranking. The *Maclean's* survey is comparable to, for example, the *US News and World Report* surveys in the United States and other "league tables" in Europe and Australia.

The *Maclean's* reports are available for the period from 1992 to 1997. It is important to explain that these reports are not the information that appears in *Maclean's* survey, which is mainly a series of indices calculated by the magazine from the data contained in the reports. The reports contain the raw data that were submitted to *Maclean's*. By mutual agreement, universities also submit these reports to the Association of Universities and Colleges of Canada (AUCC),

which then assembles a nation-wide data set. The analysis was based on that data set as well as on the data in the COFO-UO reports.

The basic question about the effects of funding on cost structures, then, was about the correlation between income and expense. To address this question a breakout of actual operating expenditures by object of expense and by functional area as displayed in each annual institutional report was examined for the years between 1986 and 1997. The operating expenditures account for roughly 70 per cent of all university expenditures and exclude ancillary expenditures (roughly 10 per cent), sponsored research (roughly 15 per cent), and trust and endowment (roughly 5 to 6 per cent). The institutional reports display "Object of Expense" (for example, salaries) and "Functional Expense" (for example, libraries) expressed as a percentage of total operating expenditures. The two categories comprised these items of expense:

Object of Expense	Functional Expense
Salaries and wages *Academic ranks *Other Instruction and research	Instruction and research * excluding Medicine * Medicine
Other salaries and wages	Library
Employee benefits	Computing
Library acquisitions	Student services
Equipment	Administration
Operational supplies	Physical plant
Cost of goods sold	Other
Utilities	
Municipal taxes	
Renovations, alterations, and major repairs	
Externally contracted services	
Scholarships and bursaries	
Other	

Between 1986 and 1997, many universities introduced early retirement schemes for both faculty and staff. This was done for at least two reasons. The first was in the expectation that it would reduce costs and improve productivity. The second was to introduce "new blood" where there had been little or no hiring due to constrained funding in prior years. Because in Canada the average

faculty member entering at the starting level can expect a salary increase roughly two-and-a-half times the base over his or her working life, it was evident that substantial savings could be realized by substituting junior faculty for senior faculty. Faculty complement could remain relatively unchanged, assuming of course that some of the savings were plowed back to replace the faculty who retired. There was indeed an increase in the rate of early retirement. In the early 1990s, there were about 250 early retirements annually among Canadian faculty; by 1997, the comparable figure had climbed to 1,000 (AUCC, 1999). The savings, however, were deployed more to offset losses in government funding than to maintain faculty complements, with the result that faculty complements generally declined throughout most of the 1990s. Some studies suggest that, in reducing funding to universities, the federal and provincial governments sought such an outcome in the name of efficiency (Budros, 1999).

For non-faculty appointments, such substitutions typically provide less savings since staff are hired for certain experience and expertise, which command a certain salary level, and in some cases, for example stationary engineers, there are legal requirements which must be met. Given the relatively widespread deployment of these early retirement schemes, it was reasonable to expect that the fraction of expenditures devoted to faculty salaries would decline over the period.

The analysis suggests that was indeed the case. While there were year to year fluctuations, overall the percentage of expenditures devoted to salaries of faculty in the academic ranks appears to have decreased. On the other hand and at the same time, the percentage of expenditures devoted to those classed as "Other Instruction and Research" increased, which suggests that some substitution might have occurred. In addition, the percentage of expenditures devoted to benefits has increased over the period, and so if total compensation were considered, the decline would be less than that indicated by salary alone.

Has the shift in balance between the expense of academic salaries and the expense of other instructional and research salaries been translated into comparable changes in complement? The answer appears to be that it has not been. From 1986 to 1998, the total number of full-time equivalent faculty declined by 6.4 per cent. During the same period, full-time equivalent enrollment increased by 13.5 per cent, thus producing a net gap of 19.9 percentage points. So, it appears that faculty workload indeed increased.

It does not seem, however, that the composition of the faculty workforce has changed significantly. In 1986–1987, 13.6 per cent of total full-time equivalent

faculty held full-time, contractually limited term appointments outside the tenure stream. The comparable percentage in 1997–1998 was 12.4. In 1986–1987, 12.7% of all full-time equivalent faculty held part-time appointments. By 1997–1998, that figure had risen to 14.1 percent. The percentage of faculty holding full-time tenure stream positions barely changed over the period: in 1986–87, the percentage was 73.7 while in 1997–1998 it was 73.6.

Other changes that the longitudinal analysis of spending between 1986 and 1997 indicated were:

- an apparent trend upward, despite some fluctuation, in the percentage of total expenditures on library acquisitions (but not library operations)
- a trend downward in the percentage of expenditures devoted to capital assets
- a trend upward in the percentage of expenditures devoted to scholarships and bursaries
- a peak and then, after the early 1990s, a decline to average levels in the rate at which universities were contracting out services (despite perceptions that this level had increased).

When expenditures were examined by function, one observed that, apart from student services which showed a steady upward trend and physical plant which showed a steady downward trend, the percentage of expenditures allocated to each category showed approximately as many upward changes as downward changes. In the case of the percentage expenditures devoted to instruction and research, excluding medicine, the three-year period 1993–1994 to 1995–1996 showed a decline which, at least in the case of 1994–1995 and 1995–1996, may reflect the drop in academic salaries observed as an “object of expense.”

To some extent this was offset by increases in the percentage of expenditures devoted to instruction and research in medicine. It is also of interest to compare the data on library acquisitions when presented as an object of expense with those on the total library spending as function of expense, which includes in addition to acquisitions, equipment, staff salaries, and operational supplies. The data suggest that within library budgets priority was given to acquisitions over other administration and services.

In summary, whether the data are analyzed on the basis of allocations to objects of expenditure or allocations to function, the observed changes are in most cases statistically insignificant. Inspection of the allocation by function

data reveals that, with the notable exceptions of student services, which showed a steady upward trend and physical plant which showed a steady downward trend, the year to year changes fluctuate both upward and downward. Inspection of the allocations as objects of expenditure showed that no category displayed a monotonic increase or decrease, although the expenditures on scholarships and bursaries came close.

In the case of student services, the expense pattern may be explained by an ironic combination of higher ancillary (not tuition) fees for those services and relatively recent government policy. Surrounded by much controversy, new and additional fees were levied in the late 1980s and early 1990s for a number of student services. In some provinces, when the government announced tuition fee increases it sought at the same time to limit increases in ancillary fees for student services. In Ontario, for example, a new policy on ancillary fees was introduced which limited new fees and fee increases for student services to those allowed by formal protocols that had to be negotiated by universities with student governments.

Although it was seen as a technicality at the time, the new policy on ancillary fees required that revenue from the fees could be spent only on the student services specified by the policy and the individual protocols. This aspect of the policy has had the effect—probably unintended by government—of protecting student services from reductions in operating grants.

The downward trend in spending on physical plant, in contrast to the upward trend in spending on student services, is probably more serious than the analysis suggests. As spending on building renovations, alterations, and repairs declined by approximately 9 per cent over the period of the analysis, the inventory of space in Ontario's universities increased by 20 per cent. If universities actually budgeted for the depreciation of their physical assets, the cost of this shortfall in funding would approximate \$600 million province-wide. The situations in other provinces are similar.

The other source of financial data available for analysis was the set of data that were collected by the Association of Universities and Colleges of Canada (AUCC), based on the data submitted to *Maclean's* for their annual surveys. This data set spans a shorter period of time (1992–2000) than the COFO-UO data set, and was collected from all Canadian jurisdictions, as opposed to a single jurisdiction. Because the data were assembled for a specific and narrow purpose, and are not regularly used for other purposes within universities, the *Macleans*/AUCC data set is perhaps somewhat less reliable than the COFO-UO data set. Despite

this, it is of value because in certain areas of spending it provides greater levels of detail, for example, scholarships and bursaries, and student services.

For Canada as a whole, universities increased the amounts devoted to scholarships and bursaries significantly from 1993 to 2000. These amounts, when expressed as a percentage of operating budgets, increased by 33 per cent over the period 1993 to 1996 and by 59 per cent over the period 1993 to 2000. The comparable figures for spending on student services over the same periods were 12 per cent and 17 per cent. That spending on scholarships and bursaries increased proportionally could have been expected as universities raised tuition fees by roughly the same percentages. In some provinces, universities were required by government to direct certain portions of additional revenue from tuition fees to scholarships and bursaries.

The increases in the proportions of spending directed to student services are somewhat more difficult to explain. No provincial government expressed any policy objectives in that direction. It could be that, because in Canada many student services are operated and funded as ancillary operations, they were largely immunized from reductions in government operating grants. It is also possible that, as tuition fees rose and operating grants declined, greater market behavior was engendered and that, in turn, providing better student services or, more precisely, maintaining existing student services, ranked higher in university priorities.

In summary, with the exception of the increase in spending on scholarships and bursaries, it appears that government funding policies have had no steering effect on how universities have accommodated reductions in operating grant funding. Each university appears to have accommodated the reductions according to its own plans and priorities. The only perceptible trends are relatively small increases in spending on student services and significant decreases in spending on the upkeep of physical plant, which appear to have no relation at all to government policy or practice. The latter decreases may signify a greater trend. Because Canadian universities typically do not depreciate their capital assets in their budgets, the true extent of accumulated “deferred maintenance” cannot be accurately measured.

The findings suggest that a trend that was identified in the early 1980s may have come to end. A study of the effects of financial restraint on Canadian universities between 1974 and 1982 (Skolnik and Rowen, 1984) indicated that universities, in response to cutbacks in government funding, tended to protect salary, wage, and benefit expenses and reduced various categories of non-salary

expense. In the 1986 to 1997 analyses, there was no significant evidence of the previous bias.

None of these findings can be taken to mean that the reductions in government funding have not done damage. They have. What the findings do indicate, however, is that the Canadian provincial governments have not sought to restructure or steer universities through financial policy. Nor have they sought to curb or invade institutional autonomy insofar as it pertains to allocations of available funds.

Regardless of the intentions of governments, these analyses indicate that the cost structures of Canadian universities remained relatively stable over the final decade of the 20th century. If one were to speculate about changes in the first decade of the 21st, three possibilities seem likely.

Allusion has already been made to one possibility: as deferred maintenance on physical plant accumulates, it will reach a point at which very major capital reinvestments will be unavoidable. Another possibility is a matter of logic. As tuition fees rise, both absolutely and as a percentage of overall institutional expense, spending on student assistance will rise too.

The third possibility is somewhat more speculative. Faculty demographics in Canada are similar to those in other post-industrial economies that made the shift from elite to mass higher education in the 1960s and 1970s. Within the first decade of the 21st century, 53 per cent of the Canadian professorate will reach retirement age (AUCC, 1999). Mandatory retirement at age 65 is the rule in most Canadian universities. Canadian universities therefore will be competing for new academic staff at approximately the same time as universities elsewhere. For example, US and British university faculty display demographic profiles similar to Canada's. Universities in those jurisdictions will be competing for the same staff. In a sellers' market, Canadian universities may have to raise rates of compensation to US levels. Proposals to significantly raise faculty salaries in Great Britain have been made with the same concern in mind.

INSTITUTIONAL AUTONOMY

Persuasive arguments have been advanced that public universities have greater autonomy in Canada than in any other country (Skolnik and Jones, 1992). There are a number of reasons for this.

One reason is the desultory and frequently shifting nature of relations between the federal and provincial governments. One result, among several, is a lack of coordination that in turn creates a vacuum in policy. Within that vacuum individual universities have much room within which to maneuver. Whether that is good or bad is problematic. On the one hand, it is sometimes difficult to translate policy into intended action. For example, it took the Canadian Ministers of Education, Canada (CMEC) nearly a decade to put in place a policy on the transfer of academic credit, which in the end was so watered down that it probably will have little effect on institutional behavior. On the other hand, the absence of nationwide policies has allowed a degree of institutional differentiation that is as remarkable as it is important in a geographically huge and diverse country with a relatively small population. In higher education, Canadians seem to have decided that not only does one size not fit all, one should not even try to make it do so.

At the provincial level, which constitutionally is where the responsibility for higher education resides in Canada, there are few systems of higher education as the term “system” is construed in most other jurisdictions. In most cases, each institution has its own enabling legislation that assigns to its trustees or governors full responsibility, including fiduciary responsibility, over institutional mission, strategy, priorities, and finances. Except through formal acts of provincial legislatures, the enabling legislation cannot be amended or rescinded. This leaves funding as the principal control or steering device available to provincial governments (Lang et al., 1989). While this device can effectively assist provincial governments in reducing spending to balance their budgets—as virtually every Canadian province had to do within the 1990s and in some cases before—relatively little has been spent with specific policy targets in mind. This observation should not be taken to mean that there are few targets that provinces aim to hit through various forms of public finance. There are many, but not much funding is assigned to them (less than ten per cent, in most provinces). The bulk of public funding to Canadian universities still reaches them through formulas or across-the-board reductions and additions. Moreover, and perhaps more significantly, the reductions that provincial governments have made have had the effect of reducing the leverage that funding provided to realize policy objectives. As institutions have diversified their sources of funding, either out of necessity or choice, they have gained some practical autonomy.

It is a matter of fact that public universities in Canadian provinces have a near monopoly over higher education (Skolnik and Jones, 1992). Two other

related matters of fact, as explained here, are that Canadian universities have extensive autonomy and have had to initiate vigorous efforts to diversify their sources of income, including especially higher tuition fees and expanded sales of academic services. To do this, the universities may exercise their monopoly power more extensively. The most frequent response of publicly-funded Canadian universities to discussions of privatization has been to insist that they should be not-for-profit, instead of the more predictable response that they should be disallowed.

As universities succeed in diversifying their sources of income, in practical terms they will become less dependent on government and more concerned about the allowance of private universities. A number of possibilities may then become apparent to government:

- They will seek to exercise control by regulatory means other than finance.
- They will accept the market as a control device and increase the autonomy of the public universities, but at the same time break their monopoly.
- They will “buy back” control by increasing grants and curbing increases in tuition fees.
- They will selectively allow “privatization by contract” in specific program areas that public universities cannot efficiently serve.

CHANGING TRENDS

Until recently, policies about tuition fees in Canada, primarily at the provincial level, were guided by a strong belief that the social benefits and “human capital” associated with higher education were sufficiently great that broad access was highly desirable, and that low tuition went toward achieving that level of access. That view, however, began to lose currency in the mid-1990s and a new approach to fee policy emerged, which reflected changes in attitudes toward higher education in general. Some of those trends include:

- The challenges of growth posed by the transitions from elite to mass to universal education, reflecting a lower priority on the rate of participation in higher education.
- Continued growth of higher education systems in the face of governments’ continuing concerns with debt and deficit.

- A growing skepticism about the degree of efficiency in public sector service delivery (Orstom and Orstom, 1977).
- A growing belief that students should pay a larger share of universities' operating income. This belief may or may not reflect a changing view of the balance between the public and private benefits of higher education. It might also be motivated by a belief that higher fees will engender competition among universities and make them more accountable.
- A relatively recent, more conservative, attitude toward social spending on the part of Canadians, particularly in the area of higher education expenditures (Livingstone and Hart, 1998).
- A recent, widespread disappointment in the university's ability to mitigate class reproduction (Nowotny, 1995).

Accompanying these trends is a growing political interest in "privatization." There is a "Which came first, the chicken or the egg?" dimension to university finance in Canada. Setting overall levels of funding aside, the constituent slices of the funding pie have changed significantly in relative size. That the tuition fee slice is larger and the government grant slice smaller concerns many but should surprise no one. Operating grants from government as a percentage of total university income began to decline as early as 1988-89, and continued to decline in every year since then, apparently regardless of the governments that were in office. The third slice, however, "other income," has also grown sharply. With that growth has come some concerns about the role of universities vis-à-vis the private sector. Notably, virtually every provincial government, regardless of its political stripe, has promoted stronger university-industry relations, as have the last two federal governments. So this development appears to be non-partisan and non-ideological. The "chicken or the egg" part of the issue is whether the expansion of activity in the areas represented by other income was the result of economic policies that promoted such growth or was the product of necessity, forced by reductions in government funding. The reasonable, albeit speculative, answer is that both factors played roles.

There is a third possibility: the rapid growth in income from other sources began abruptly in 1993. For the previous five years (1988-1992), other income had shown relatively little fluctuation as a percentage of total revenue (Council of Ontario Universities, 1999). The expansion of income from other sources, then, coincided very closely with economic growth. This applies to the growth in other income from donations and gifts as well as to the growth in research contracts and the sale of university services. The question that follows is whether or not these levels of income can be sustained during an economic

downturn or even in a period of no, or lower, economic growth. A similar question can be asked about the effects of economic growth or the lack thereof on the price elasticity of tuition fees.

The increased dependence on other income, particularly that portion that involves the sale of university services, has caused some concern about the “privatization” of higher education in some provinces, principally Alberta and Ontario, and to a smaller degree in Quebec. There is little evidence that privatization, as it is understood in other jurisdictions, is occurring in Canada. One should keep in mind, however, that, given the amorphous character of the organization of higher education in most Canadian provinces, and the unusually high degree of institutional autonomy, universities in Canada are already somewhat detached from the formal public sector. The regulations that define the dividing line between public and private higher education in Canada are about the terms on which degrees may be awarded.

The efficacy of the most frequently cited reason for government speculation about privatization—ways and means of expanding the capacity of the existing publicly-assisted institutions at lower cost—has not been actually tested in any province. An example is the Access to Opportunities Program (ATOP) in Ontario. ATOP was essentially a financial incentive scheme aimed at doubling enrollment in certain programs in engineering and technology. The annual cost of ATOP initially is about \$36 million. In terms of regulation, ATOP was typical of highly prescriptive central planning, instead of reliance on privatization and market behavior. There has been no public indication that the government considered changing its degree granting legislation as a means of increasing the province’s output of graduates in the programs and fields targeted by ATOP. Thus, when confronted with a need to expand capacity in specific areas, the government resorted to more regulation, not less, and apparently did not consider the private sector (except as a source of matching funds from industries with an interest in the programs targeted by ATOP).

Observing other jurisdictions—New Zealand, Australia, the U.K.—Canadian governments may have concluded that privatization does not necessarily lead to market behavior, and that market behavior does not necessarily lead to an array of programs and program capacities that coincides with certain policy objectives, like ATOP in Ontario.

Indeed, the term “privatization” seems to be used in Canada in at least two quite different ways. On the one hand, it sometimes is understood to mean a transformation of publicly assisted programs into self-funded programs— self-

funded in the sense that they meet all of their costs through fees and are not reported for formula funding. To the extent that these programs are successful—and they are, at several Canadian universities—they are by definition responding to a market demand, otherwise they would not meet the self-funding test.

But, on the other hand, “privatization” in the view of some provincial governments also includes the establishment and recognition of new institutions under their applicable degree granting legislation. Moreover, these institutions would be established, it seems, in the first instance not to encourage a freer market for higher education but to solve an accessibility problem in the public higher education sector. Institutions founded for that purpose would then have a public policy purpose and standing, even if they were private. Given the connection to accessibility as public policy, it might not be “privatization” at all, but instead an extension of public policy to include private or unregulated institutions.

Although it was of considerably less interest to Canadian governments in the 1990s, there is another quite different public policy objective that privatization is sometimes invoked to serve—diversification and differentiation—which had from time to time interested some governments. At least four provincial governments have talked in various ways about universities and colleges being more “specialized,” which seems to have meant to most of those governments something like the opposite of “redundant” or “duplicative.” In other words, the idea has been about costs, economy, and efficiency.

So far, in Canada, governments that wanted to achieve some sort of specialization in higher education have used highly targeted funding incentives to encourage it, for example, in bilingual education, in services to students with disabilities, and most recently through programs like Ontario’s ATOP. Universities, for their part and with very few exceptions, have discouraged discussions of greater institutional specialization. Perhaps the governments and the universities suspect that competition driven by privatization might lead to stagnation and “look alike” rivals instead of to greater specialization (Schumpeter 1942; Heilbroner, 1992) or, at best, to specialization that fails to fill unwanted gaps in the current array of higher educational programs and services.

It is in their similarities that these examples of targeted funding are indicative of probable government policies toward privatization in the 21st century. First, in all the examples the focus is a specific program or service, instead of the entire institutions. Second, no example suggests that Canadian governments are disposed to regard privatization as a selling off or transfer of public assets to the

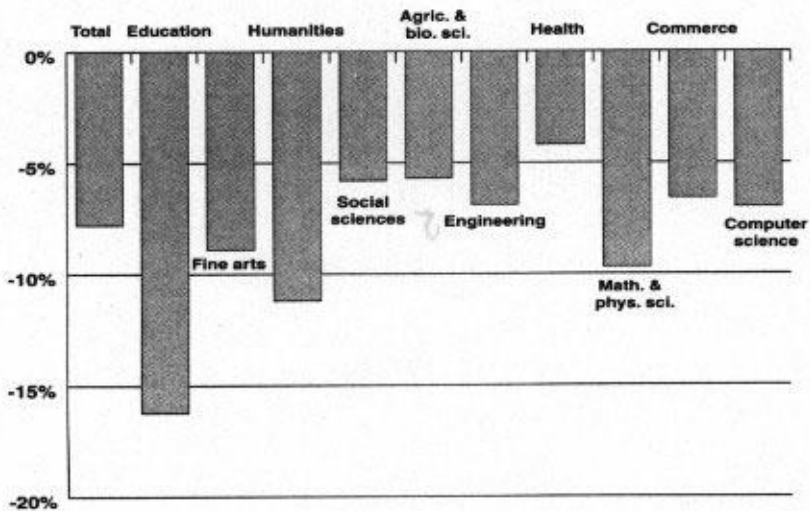
private sector. Nor do they suggest that any government has in mind the creation and use of a free market to define the scale, capacity, and shape of a nominal university system. The more likely indication is that the governments wish to regard higher education as a public good within a publicly controlled market to which certain institutions—private, sectarian, sub-baccalaureate—may have access program-by-program, but not institutionally. Access will be tightly controlled using standards that apply in the public university sector; in other words, private and non-university institutions that enter the sector will have to behave like public universities.

Faculty Roles and Rewards

Even before adjustment for enrollment growth, the overall complement of faculty in Canadian universities has declined. Although full-time-equivalency is often a factor that complicates measurement of faculty complement, it is safe to say that there were at least ten per cent fewer faculty members in Canadian universities in 1999 than there were in 1992 (AUCC, 1999). The figure that follows describes how that decline has been distributed across disciplines.

The federal government announced a program to provide initial but not permanent funding for 2,000 “Canada Research Chair” faculty appointments

Full-time faculty declines 1992 to 1996



Source: AUCC, 1999

over a five-year period, beginning in 2001. It is neither clear nor certain that this initiative will in the end result in an expansion of the Canadian professoriate. Given the unusually high rate of faculty turnover than will occur during the next few years, the program may be deployed principally to maintain the existing levels of staffing instead of raising them to previous levels.

Just as there are fewer faculty, those who remain are being paid less. The decline in compensation has affected senior faculty (full and associate professors) more than junior faculty (assistant professors, instructors, and senior tutors). According to Statistics Canada, the average salary of senior Canadian faculty was about \$83,000 in the 1970s. By 1996, in constant dollars, the comparable amount was just under \$80,000, a decline of about four per cent (Statistics Canada, 1997).

In making comparisons to other jurisdictions, particularly the United States, with whom Canadian universities compete most often for academic staff, it is important to note that when average salary figures are reported for Canadian university faculty the amounts shown are almost always for twelve-month appointments. There are relatively few opportunities for Canadian faculty members to supplement their incomes through research grants and contracts or through extra teaching. In fact, the major research granting councils and agencies in Canada do not allow university faculty to include compensation for themselves in grant applications. (Nor do they allow their employing universities to include charges for indirect costs and overhead costs.)

While most pension plans for university faculty in the United States are defined contribution plans, which benefited very significantly from growth in stock markets during the 1990s, a number of Canadian universities, including some of the largest, have defined benefit plans. Defined benefit plans are more secure, but depending on the economic climate, less rewarding. For those universities that have defined contribution plans, the values of the plans are limited by tax regulations that require a certain percentage of the funds to be invested exclusively in Canadian securities and bonds.

Infrastructure

Of all the funding needs that Canadian universities have, the one that receives the most erratic and uncoordinated attention is the renewal and replacement of capital assets. Some provinces have small annual funding programs for repair and renovation of existing physical plant. These programs

usually may be applied to a broad variety of infrastructure requirements, including information networks. Several provinces have space formulas that are used to allocate these funds, usually on the basis actual space inventories. The formulas allow universities to develop multi-year plans for building renewal, and in some provinces to carry funds forward to accumulate sufficient funding for larger projects.

What the space funding formulas do not do, however, is determine the overall amount of funding needed to maintain the value of capital assets. The average amount of funding made available on a regular annual basis across Canada for renewing and replacing facilities—in other words, for depreciation—is perhaps 40 to 45 per cent of the amounts required. This does not include the funding requirements imposed by enrollment growth, technological obsolescence, expanded research activity. Nor does it include the shortfalls in funding in previous years which have led to major deferred maintenance deficits. The result is that, province by province year by year, the deferred maintenance deficit grows.

The deficit also grows as research activity grows. Unlike other jurisdictions, the Canadian federal government, through its research granting councils and institutes, does not provide funding for the indirect and overhead costs of research. In those few cases in which indirect infrastructure costs are recognized, the rate—at 40 per cent—is low compared to, for example, US research universities (Munroe-Blum, Duderstadt, and Davies, 1999). Thus, in terms of deferred maintenance, Canadian universities actually fall behind every time they compete successfully for a domestically-funded research grant. Two provinces, Alberta and Quebec, are beginning to address this problem by programs that partially supplement the federal research funding. For nearly two decades Ontario has had a separate research overhead and infrastructure fund, but at less than \$30 million annually—less than two per cent of all that province's funding to universities—it is too small to be effective. Quebec's fund for more or less the same purpose is only slightly larger, at about \$44 million annually.

Ontario in 1999 created a large \$742 million SuperBuild Growth Fund that according to its terms of reference could have been used to replace research infrastructure, but virtually all of the allocations from the fund were for projects that involved enrollment growth, which was also eligible. That is, the allocations will be deployed to expand the space inventory instead of renewing existing space. That may also be the effect of the Canada Foundation for Innovation (CFI), which is the federal government funding initiative that comes closest to

addressing the deferred maintenance problem, albeit only for space used for research. Of \$1.8 billion scheduled to be spent by the CFI, about 25 per cent had been allocated by the end of 1999. Those allocations were mainly for expansion and new facilities and equipment. The CFI, then, appears to be addressing an obsolescence problem more than a deferred maintenance problem, although the two problems in some cases overlap.

By any measure, the problem is very serious. Although many areas of higher education in Canada are financially neglected, buildings and facilities have suffered the greatest shortfalls. The universities are in part culpable for the problem. Just as the federal and provincial governments do not provide regular, annual funding for repair, renovation, and alteration of physical infrastructure, Canadian universities typically do not depreciate their capital assets in their annual budgeting. Some universities present a measure of depreciation in their annual financial statements even if they do not fund it through the creation of capital reserves or separate plant funds. Thus while it is undeniable that the deferred maintenance shortfall in Canadian universities is massive and acute, its exact scale is not reliably known.

Moreover, it is likely to grow. Just over 50 per cent of the space inventory of Canadian universities, excluding student residences and ancillaries, was built in the decade between 1965 and 1974. Between 2000 and 2010, this space will be between 35 and 45 years of age. Building life-cycle studies conducted in Canada and the United States indicate that, with one exception (building foundations), all major building components will require replacement within 40 years at most. For some major components, for example, roofing and plumbing, replacement will be required sooner (Council of Ontario Universities, 1998).

Universities are also partially culpable for the deferred maintenance problem because, as the previously discussed analysis of cost structures indicates, their annual spending on physical plant, specifically building renovation, alteration, and repair, declined disproportionately in the decade between 1986 and 1997. While it is true that the decline was relatively small, it was the only statistically significant decline that the analysis identified. In other words, the universities placed their spending priorities elsewhere. Moreover, they did this at a time when the rate of deferred maintenance was growing.

FINANCING FOR THE 21ST CENTURY

Of the four nations that Sheila Slaughter and Larry Leslie (1997) studied in *Academic Capitalism*, Canada was the only one in which trends towards globalization were not measurably present. There are, of course, different perceptions of what constitutes globalization, and different indicators for each perception. Some of those indicators can be identified in Canada, but conclusions drawn from them are problematic. For example, while several provincial governments, principally Alberta and Ontario, have bruited the prospect of private higher education—which is a characteristic of globalization—none has actually allowed the entry of more private institutions or has allowed the privatization of public institutions. For another example, the analysis previously discussed here of university spending patterns indicates that, although the sources of university funding have shifted in directions that suggest globalization, the effects of those shifts on institutional spending priorities have been negligible (Lang et al., 1999). Sharp increases in tuition fees have also occurred recently in Canada, which is another telltale of globalization. Yet tuition fees in Canada are still considerably lower, on average, than fees for public universities in the United States (Council of Ontario Universities, 2000).

By these measures, it is neither certain nor reasonable to conclude that globalization will characterize Canadian higher education in the 21st century. The one indication that globalization might be a powerful force for change in Canadian universities is the dramatic change in the composition of funding for research. In 1980–81, about 18 per cent of all funding for research came from gifts, donations, and non-government grants and contracts. By 1996–97, the comparable percentage was about 33 per cent. That is a very large change. Moreover, a number of federal and provincial research funding programs inherently promote this trend by relying on matching funds from non-government sources. So, the shift in funding is likely to continue; there is no evidence that it will abate.

Will this shift necessarily change the landscape of Canadian higher education? Despite its large scale, the answer is not as obvious as it might at first appear. The shift affects mainly research. In 1999, five universities—only about 7 per cent of the total—received nearly 60 per cent of the funding awarded by Canada's three research granting councils (Munroe-Blum, Duderstadt, and Davies, 1999). Only two Canadian universities—McGill and Toronto—are members of the American Association of Universities, which comprises most of the United States' research intensive universities. In other words, only a few of

Canada's universities are so research intensive that they are likely to be extensively affected by the shift in funding for research, and in turn by the effects of globalization that the shift may represent.

Thus, in Canada, the effects of globalization might be different from those in other countries. Canadian higher education displays a rather definite dichotomy between community colleges and universities, but the university sector is quite homogenous and comprehensive. Within the Canadian university sector there is very little of the segmentation or "tiering" found, for example, in the California or New York post-secondary systems. Although some Canadian universities choose to regard themselves as "flagships" in their respective provincial system, none is formally recognized or, more to the point, funded as such. Globalization, however, may engender *de facto* segmentation if it results in significantly different funding regimes—in size and in kind—for some universities and not for others.

Another change that globalization might engender for research in Canadian higher education is in the treatment of research overhead. The indirect and overhead costs of research in Canadian universities are measurable but are often not expressly budgeted for and usually are not funded either separately or in relation to the volume of research conducted. In other words, these costs and the funding for them are usually deeply buried in institutional budgets and in provincial and federal funding formulas. Globalization has the inherent effect of forcing the exposure of those costs and tying them closely to their respective direct costs and to the competitive funding that covers them. This will change how some universities, even those that are less research intensive, conduct their budgetary affairs. For example, while Responsibility Center Budgeting or its variants is becoming common among entrepreneurial research universities (Clark, 1998, it so far is rare among Canadian universities (Lang,, 1999). Also, some scholars and policy-makers argue that it might also compromise academic freedom and slow the growth of knowledge and discovery (Newson and Buchbinder, 1988). It might also change the balance of financial responsibility between the federal government and the provincial governments in regard to research. Although difficult to find and measure, and although there are exceptions, that balance now assigns financial responsibility for the direct costs of research mainly to the federal government and responsibility for the indirect and overhead costs to the provinces. That division of roles may become practically untenable as globalization forces the exposure of indirect and overhead costs and links them tightly to the direct costs.

Rising tuition fees or, more precisely, a shift in the balance between public and private investments in higher education is also characteristic of globalization. Indeed, that balance has been shifting significantly in Canadian higher education. That shift, however, began to occur so recently in Canada that its effects on accessibility cannot yet be accurately measured. Moreover, since the levels of tuition fees were comparatively low in Canada before the shift began, the increases may not have yet reached levels comparable to those in countries where globalization is more advanced. Here a note made earlier should be repeated: in two Canadian provinces that have been aggressive in increasing tuition fees—Ontario and Alberta—governments have announced plans either to cap tuition fees or to limit their growth to inflationary adjustments. To that note should be added the fact that in Canada's second largest province, Quebec, tuition fees remained relatively low to begin with. It might be therefore that tuition fees in Canada might never reach the levels that characterize globalization in other countries. If they do, the measure probably will not be the absolute level of the fees, but level of the fees as a percentage of family income.

Will the current century see the advent of a significant private sector in Canadian higher education, as the spread of globalization might suggest? Despite political rhetoric in that direction, the extent of privatization in Canadian higher education has barely changed. Some of the few changes have taken place have not been forced by government but have been initiated by public universities as a means of being relieved of government regulation. One major public university, McGill, is considering the establishment of a private undergraduate college within the university. A former president of the University of British Columbia is trying to establish a private undergraduate college in order to offer a different kind of undergraduate experience on a different scholastic schedule. None of these overtures in the direction of privatization are of the ilk normally associated with globalization.

Thus, as Sheila Slaughter and Larry Leslie (1997) observed, Canada so far has not been quite in step with other countries in the march towards globalization. It might never get in step, and might in consequence retain some of its distinctive characteristics well into the century.

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CHAPTER 4. GREAT EXPECTATIONS AND DECLINING RESOURCES: FINANCING HIGHER EDUCATION IN MEXICO

Wietse de Vries

Nothing comes amiss
So money comes withal

Shakespeare, *The Taming of the Shrew*

INTRODUCTION

Public finance for higher education has been a constant source of conflict for at least three decades in Mexico. Every year there are intensive negotiations about the amounts to be received by the public sector and institutions. In the 1990s, these negotiations were complicated by a number of extra factors. First, at the start of the decade, the government launched special programs and started to use finance as a tool for reform. Second, after Congress became dominated by the opposition party for the first time in decades, debates started over issues that were traditionally decided behind closed doors by the executive branch. Accordingly, the number of participants has grown and the discussion has become more intense. And third, financial crises reappeared in the second half of the 1990s, leading to cuts in the budget. These complicating factors led to a growing need for information on patterns and costs, and to questions being asked about how much should be paid—and by whom—for a growing system of higher education. The strike that took place during 1999 over tuition fees at the National Autonomous University of Mexico (UNAM), the largest public university in the

country, proved that these questions are far from resolved. Another area of concern is that the debate repeats itself each year without resolving the basic problems that have persisted for thirty years.

Since the 1950s, with the emergence of human capital theories, educational economists have tried to respond to these issues. But, at least in Mexico, government decisions about financing higher education have followed patterns that do not reflect economical theory but rather display political give and take and the struggle of interests both within and without the system.

Traditionally, the debate has focused on the necessities of higher education: how much money do institutions need to function properly, and how are funds distributed from the perspective of equity and equality (López Zárate, 1997). These previous studies indicate that Mexican higher education receives far less than institutions in other countries, and that within the system, institutional funding is inconsistent, advantaging some institutions and putting other at a financial disadvantage. Although the National Association of Universities (ANUIES) and the Undersecretary for Higher Education and Scientific Research (SESIC) launched proposals for funding formulae during the 1990s, to date no such formula exists.

Other studies have compared the amounts within the public budget, as an indicator of the importance of higher education on the national agenda, to expenditure for other sectors (Murayama, 1997). These studies support or criticize recommendations by the World Bank, which has stated that basic education should be the responsibility of public finance, while private sources should pay for at least a part of higher education. These recommendations are somewhat controversial within the international education community. In Mexico, as in many other countries, public funding for higher education is unlikely to grow and the distribution of and access to it are critical issues.

These two issues lead to a contradiction which is hard to resolve: on the one hand, Mexican higher education needs more funding in order to keep up with other countries; on the other hand, it already has a privileged position within the government budget. In this chapter, I will review briefly these two issues, in order to demonstrate that their combination creates special problems within an underdeveloped country.

The focus of the chapter, however, will be on *how* higher education is financed. I will look at existing and potential mechanisms of funding in a system with growing diversity, which means reviewing the amounts of the budget, the sources of funding, the priorities, the mechanisms and underlying agendas, and

at the effects of funding mechanisms—considered as incentives for certain types of behavior.

From this perspective, the focus is on the model of funding—not so much on the amounts as on the modes. The basic objective is to review the rules of the game and their evolution during the 1980s and 1990s, related to the macro-economical tendencies, but foremost to the changing agenda for higher education itself. The central question is: what model has evolved and what are the (intended or unintended) effects? As such, I seek to contribute to a discussion that was started on possible models of allocation during the 1990s, but had not been resolved by 2004. Finally, I will make some observations on what can and should be done to make improvements, and I will propose a few issues to be placed on the public agenda for the coming years.

Before doing so, some problems should be mentioned. First, it is hard to obtain reliable data on finance for higher education in Mexico. Different sources produce different data. Second, changes in government not only produce modifications in policies, they also lead to alterations in accounting and presentation of data, where such data are available. For these reasons, I will review the Mexican public university sector primarily. Finally, government informants nearly always prefer anonymity.

HIGHER EDUCATION IN MEXICO

At the start of the 1990s, Mexican higher education enrolled 1.2 million students at the undergraduate level, 223.7 thousand of them in private institutions. Graduate students were few: 46 thousand in all. Though private institutions had started to emerge in the 1980s, their share of enrollments was still limited to less than 15% (ANUIES, 1999). By 1999, the Mexican system of higher education comprised some 1,500 institutions, attended by 1.7 million students and employing 160,000 academics. Of these, 850 institutions are private, most of them very small. In spite of their large number, private education comprises only 30% of undergraduate enrollments.

By 2003, enrollments had expanded to 2 million undergraduate students, of which 687 thousand (35%) attended private institutions. Graduate enrollments grew rapidly during the 1990s: from 46 thousand in 1990 to 138.3 thousand in 2003 (SESIC, 2004).

Although the system has expanded greatly since the 1970s, it accounts for only 12.4% of the relevant age group (18-21 years) at the undergraduate level. Graduate studies make up a small part of total enrollments (4%) while undergraduates account for 94% of students and 6% are registered in teacher training programs (SESIC, 2004).

The system is made up of several sub-sectors, each with its own logic, and I will limit my analysis to only one of them: the public universities. There are several reasons for this limitation. First, there is a radical distinction between what is public and private: private institutions do not receive public monies depending almost entirely on tuition fees, although some private institutions have received grants for research and graduate studies. Although formally regulated by the Undersecretary of Higher Education (SESIC), supervision is lax and no data exists on the funding of this sector. At the same time, public institutions depend almost entirely on government funds provided through the SESIC, and students pay only a small amount of the actual costs, with tuition fees generally representing less than 10% of the institutional budget.

The public sector is composed of several types of institutions: universities, technological institutes, technological universities and normal schools (teacher training colleges). The Technological Institutes are coordinated by the Undersecretary for Technological Education (SEIT), and secrecy surrounds data on their finances. The technological universities depend on the SESIC, but are a recent creation (after 1994), and have few enrollments. The teacher training colleges are also regulated by a separate Undersecretary for Basic Education (SEByN), with little information on finance available to the public at large.

This chapter is limited to the analysis of the 36 public universities. However small their number, they comprise 44% of total enrollments, with data available for the last two decades.¹ As far as the institutions are concerned, I will look primarily at funding by the SESIC, through subsidies and special development funds. Another flow of funding is via CONACyT for research and graduate programs, and although important, these funds only affect part of the system and represent relatively small amounts compared to subsidies and special funds, which contribute over 95% of funding received by public universities.

1. This chapter draws on data elaborated in a study for ANUIES (Kent, et al, 1998). During this study it proved impossible to obtain data from the Technological Institutes, even though they form part of the ANUIES.

I will also look at the logic of funding dictated by the federal government. State universities receive funds from state governments, and these contributions amount on average to 33% of the budget. Nevertheless, state contributions are essentially federal funds channeled “automatically” through state offices.² At the same time, all special funds created in the 1990s are federal.

Too Little, Too Much?

Compared to other OECD countries, Mexican expenditure in higher education is below average: \$4,688 (all dollar figures in this chapter refer to US dollars) a year per student in the public sector compared to OECD country mean of \$9,571 in 2000. This justifies complaints from the universities regarding their funding. The implications are serious: as salary payments consume over 80% of institutional budgets, lower public contributions translate into lower salaries. Whereas full-time junior professor in a public university in the US earned around \$44,500 per academic year (nine months), his Mexican colleague received about \$12,000 (OECD, 1997). Effects are also visible in infrastructure and research funds.

At the same time, however, spending per student in higher education is significantly higher than spending per student in basic education.³ As Table 1 indicates, in 2000, Mexico spent almost three times more for a student in higher education than for a student in basic education; this ratio was less than 2:1 in OECD countries. Even so, this ratio has changed dramatically since 1980, when higher education students received 11 times more than their counterparts in basic education (Table 2). This tendency to give more attention to basic education continued throughout the 1990s: by 2000, public expenditure per student in public education had more than doubled since 1990 (Ministry of Finance and Public Credit of Mexico, 2000), whereas expenditure per student in higher education had dropped by 46.3% in real terms (Observatorio, N° 2, 1999).

Thus, basic education gradually received more attention as compared to higher education, in line with recommendations from organizations such as the World Bank. However, this tendency seems hard to maintain—government goals are to expand enrollments and improve quality in higher education in the next

2. Only recently, with some states governed by opposition parties, have some state authorities started to develop local policies for higher education.

3. Basic education in Mexico includes kindergarten, primary and lower secondary (grades 1 to 3) education.

decade. How does one expand and maintain quality with a budget that is clearly reaching its limits and with an increasing budget for primary education? By 1999, the budget for education consumed 47.1% of the total expenditures for social development, with an internal distribution of 72.2% for basic education, 9.9% for upper secondary, and 17.7% for higher education (Observatorio, N°2, 1999).

Table 1: Per Student Expenditure on Education, 2000 (US\$)

Per Student Expenditure by Education Level	Mexico	OECD Mean
Primary Education	1,291	4,381
Lower Secondary	1,289	5,575
Upper Secondary	2,317	6,063
All Secondary	1,615	5,957
All Tertiary	4,688	9,571

Source: Education at a Glance, OECD (electronic version at <http://www.oecd.org/edu/eag2003>)

Table 2: Expenditure per student in public basic and higher education, compared to GDP per capita

Public Basic Education

	GDP/capita. (thousands of constant pesos, 1993)	Federal budget (thousands of constant pesos, 1993)	students (thousands)	pesos x student (thousands)	pesos x student / GDP per cap.
1980	13.31	14,732,000	17,414.0	0.85	0.06
1990	13.49	13,003,000	17,774.0	0.73	0.05
1993	14.23	24,187,000	20,137.4	1.20	0.08

Public Higher Education

	Federal budget	# Students (thousands)		Pesos per Student [*]		Pesos x Student/GDP x Capita	
	Thousands of constant pesos, 1993	Under- graduate	Upper Sec + Under Grad	Under-Grad	Upper Sec + Under Grad	Under- graduate	Upper Sec + Under Grad
1980	6,012,000	634	948	9.48	6.34	0.71	0.48
1990	4,310,000	891	1,263	4.84	3.41	0.36	0.25
1993	6,368,000	904	1,228	7.05	5.19	0.49	0.36

[*] Data on expenditure by the Secretary of Public Education does not distinguish between subsidies for undergraduate education and for upper secondary education provided by public universities. Unitary costs are calculated here for undergraduate enrollments and for total university enrollments including upper secondary education provided by public universities. Undergraduate enrollments include universities and technological institutes. Enrollment for basic education include pre-primary, primary and lower secondary levels.

Sources: C. Salinas, *Quinto Informe de Gobierno*, 1993. Anuarios ANUIES. Source for GDP and expenditure (constant pesos, 1993): E. Zedillo, *Segundo Informe de Gobierno*, 1996.

Institutions might be receiving insufficient funds, but at the same time limits have been reached in public expenditure. Amounts are low in absolute terms and when compared to gross domestic product (GDP) (see Table 3), but

education takes up 25% of the federal budget. A crucial point is that government budget is only 15% of GDP, the lowest in the OECD, and has little possibility of growth due to structural problems in tax collection (Elizondo, 1997). Another significant feature of both the national economy and the federal budget is instability, with abrupt rises and declines. Per capita GDP grew from 9,300 pesos in 1970 to 13,300 in 1980 (in constant pesos, 1993), but ten years later, in 1990, was practically at the 1980 level still. During the first half of the 1990s, it recovered but by the end of 1994, another crisis led to a sharp drop, and only by 1999 did it reach the level of 1994. Public funding for education follows the same pattern: rapid growth in the 1970s, crisis in the 1980s, recovery between 1990 and 1994, a new decline after 1994.

Table 3: Public expenditure in basic and higher education as a percentage of GDP, 2000

Percentage Expenditure on Education	Mexico	OECD Mean
The percentage of GDP spent on all levels of education	5.5	5.9
The percentage of GDP spent on primary and secondary education	3.9	2.2
The percentage of GDP spent on higher education	1.1	1.7

Source: Education at a Glance, OECD (<http://www.oecd.org/edu/eag2003>)

As a consequence, public expenditure on education is both too much and too little: education takes up almost 25% of government budget and higher education still has a privileged share of that budget, yet it is too little in terms of public expenditure per student in order to maintain decent salaries and high level research when compared with developed countries.

The Logic of Funding in the 1970s through the 1990s

Having discussed the amounts, I will focus on the logic of funding in higher education, first for the system, and then within the public university sector in particular. A first item to note is that funding does not depend on any explicit criteria. As the OECD stated after an evaluation of Mexican higher education in 1994, the criteria are neither public nor clear (OECD, 1997). This means that we can best look at the *de facto* criteria: I will analyze the historical development of funding and draw some conclusions from the tendencies observed.

Distribution among sectors of higher education has remained stable (Table 4), even though priorities and enrollments have changed through the last three decades (C. Salinas, 1994). Tradition and established interests play an important role, according to the data. Even though public universities were the sector of

major growth in the 1970s and 1980s, and enrollments in teacher training colleges dropped sharply after 1984, distribution has remained fairly unaltered. Data confirm that new plans and priorities may alter allocations during one year, but by the following year it is “business as usual.” An important result of this fixed distribution is a difference in expenditure per student by public sectors: for all tertiary education, yearly public expenditure per student in 1993 was \$4,264, but for the university sector expenditure amounted to \$4,158, while for the non-university sector it was \$5,471 (CERI, 1996). This means that distribution followed a different pattern compared to other OECD countries. In other countries, other sectors generally receive smaller amounts per student than universities, but the contrary is true in Mexico. Institutions that are supposed to be cheaper alternatives turn out to be more expensive in Mexico. In practice, these institutions follow their own logic, and Technological Institutes and Teacher Colleges have well over 50% of their faculty on a full-time basis, whereas this proportion is less than 30% in the university sector.

Table 4: Distribution of federal subsidies for higher education by sector in Percentage

Year	Universities	Tech. Institutes	Teacher Training
1977	63.5	26.9	9.6
1978	63.9	24.8	11.3
1979	69.2	17.8	13.0
1980	54.3	23.2	10.3
1981	56.2	24.3	9.2
1982	53.0	31.6	7.4
1983	57.3	28.0	6.3
1984	58.0	26.1	7.5
1985	59.7	27.1	8.3
1986	59.9	25.7	10.8
1987	63.9	25.2	8.6
1988	62.5	25.4	8.9
1989	60.9	27.8	8.4
1990	60.5	26.9	9.0
1991	61.8	27.0	8.2
1992	62.1	25.7	7.7
1993	61.8	26.2	7.2
1994 a/	59.5	27.3	8.2

a/ Authorized budget

Source: Carlos Salinas de Gortari, *Sexto Informe de Gobierno, 1994*; *Anuarios ANUIES*.

The development of the Technological Institutes during the 1990s merits a special mention: whereas at the beginning of the decade, they received more subsidies per student than the public universities, at the end they received less, according to the ANUIES (ANUIES, 2002). The SEP declared Technological Institutes a priority directing enrollments to this sector instead of to the universities. Following this logic, new Technological Institutes were created. However, subsidies for the sector did not increase at the same pace and, contrary to the universities, very few special funds were set up.

Does stability also mark distribution within the university sector? Funding of higher education to 1989 was comprised mainly of two streams: subsidies by the federal government and subsidies by the state governments. Federal universities such as the UNAM and UAM receive 100% from the federal government, whereas no fixed criteria apply to state universities: some receive 50% funding, others 90% funding, with an overall participation by the state governments of 33%.

Table 5: Enrollment distribution within the public university sector (students x 1000)

Year	State Universities	UNAM	UAM	UNAM+UAM/ total (%)	total
1970-71	93.0	74.0		44.3	167.0
1977-78	261.3	135.1	10.1	35.7	46.5
1980-81	404.7	131.2	23.0	27.6	558.9
1984-85	480.2	156.0	33.8	28.3	670.0
1988-89	551.6	135.1	44.3	24.5	731.0
1993-94	556.0	126.0	33.0	22.2	715.0

Sources: Anuarios ANUIES y Carlos Salinas de Gortari, Sexto Informe de Gobierno, 1994.

Table 6: Distribution of the federal budget within the public university sector (millions of pesos and percentages)

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Total Universities	16.4	22.7	38.2	61.3	81.4	136	241	649	1256	1265	1757	2517	3207	3937	4141
UNAM	9	15	17	29	38	90	106	285	552	603	709	935	1241	1524	1656
UAM	2	2	4	6	8	14	20	52	100	116	154	216	294	345	332
UNAM/total (%)	0.55	0.66	0.45	0.47	0.47	0.66	0.44	0.44	0.44	0.48	0.40	0.37	0.39	0.39	0.40
UAM/total (%)	0.12	0.09	0.10	0.10	0.10	0.10	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.08
UNAM+UAM/ total (%)	0.67	0.75	0.55	0.57	0.57	0.76	0.52	0.52	0.52	0.57	0.49	0.46	0.48	0.47	0.48

Fuente: Carlos Salinas de Gortari, Sexto Informe de Gobierno, 1994.

When the two federal universities are compared to the rest of the public universities, their special treatment may be observed (Tables 5 and 6). Even though the proportion received by the UNAM and UAM has declined over the decades, it has not fallen as much as their relative enrollments: by 1993, they made up 22% of enrollments, but still received nearly half of public expenditure on the university sector. In other words, the budget reflects the federal government's view of the importance of the UNAM. In 2002, the UNAM attended 17% of undergraduate enrollments in the public university sector, but still received 35% of the university budget (SESI, 2004)

Higher expenditure for the two federal universities based in Mexico City may be partially explained by their different cost structure: both universities have important research centers, and a significant proportion of the budget is dedicated to these activities, as opposed to state universities that spend most of their budget on undergraduate teaching. But then, the argument may be reversed. From the perspective of the state universities, federal universities are privileged by the government and thus have better conditions to develop research. The discussion is hard to resolve, as subsidies are allocated as lump sums without specific amounts assigned for research or teaching.

One difference should be pointed out, however: the UNAM and UAM do not depend on the SESI for their subsidies, as their budget is debated and allocated directly by Congress. Although the SESI has tried to limit the UNAM share, the UNAM has been successful in negotiating increments directly in Congress. The UAM has been less successful, facing budget cuts on several occasions in the last ten years.

What about the distribution within the state university sector? As stated before, distribution of subsidies within the university sector does not depend on public criteria. However, three criteria are said to have surrounded this distribution during the last three decades: The first states that during the 1970s and the start of the 1980s, subsidies depended on enrollments. The second states that, from around 1985, subsidies were assigned according to personnel hired with permission from the SESI. A third one states that subsidies were basically assigned on an incremental basis, according to the preceding year, corrected for inflation.

Evidence indicates that these criteria are myths (Martinez Rizo, 2000). During the 1970s, increments in enrollments were stressed as important objectives, and expansion was the main theme. Growth of enrollments was accompanied by a growing economy. Subsidies to universities increased rapidly, and

several universities started to inflate their enrollments, some by up to 100% (Martínez Rizo, 2000). Even so, no real relation existed between enrollments reported and subsidies received. By 1985, subsidy per undergraduate student varied between 17,222 and 1,847 pesos (UABCS & UdG respectively), in otherwise comparable institutions and programs. Even if one takes into account that several universities in Mexico enroll a sizeable population of upper secondary students—and that subsidies do not distinguish specific amounts for each level of education—differences in subsidy per total number of students remain enormous.

The change in 1985 did not alter this picture, as it was applied to totally different institutions. In some, 80% of faculty was full-time, in others less than 20%. The new logic introduced by the SESIC did not try to modify existing proportions but mainly tried to control growth of faculty numbers and budget. Even so, after calculating full-time equivalents (FTE), amounts per FTE turned out to be radically different. Amounts per FTE in some institutions are double that of others. (Kent, Rollin, Wietse de Vries, Didou, and Ramirez, 1998) As categories and their salaries are established nationally, these differences reflect that some institutions had more space for promotions than others. For example, The University of Colima (235.3 pesos/FTE) could offer twice as high a salary for each FTE as the University of Guanajuato (125.4 pesos/FTE).

Finally, not even a simple annual increment applies for the sector. Considering 1982 as basis (1982=100), some institutions received up to five times more subsidy by 1994, whereas others in 1994 hardly reached their 1982 level. Only a few institutions reflect constant good or bad performance. The majority show a pattern of important fluctuations, reflecting that allocations are based on annual negotiations, and not on explicit criteria.

This tendency continued in the 1990s and up to 2003. Between 1994 and 2003, the most successful institutions obtained increases of over 70 percent, whereas others saw increments of just over 10%. Once again, increases in subsidies do no guard any apparent relationship with changes in enrollments: some universities show increases in both aspects, others continued to expand enrollments, but were less successful in the financial sphere, showing a sharp drop in expenditure per student. Still others managed to obtain a greater share of public funding, while at the same time reducing their student numbers. As a result, expenditure per student continues to differ widely among institutions (SESI, 2004).

Politicians had and continue to have their play. As Martinez Rizo (2000) points out, since the 1970s, politically strong institutions managed to increase their subsidies through pressure where others could not. On occasion, political confrontations or outright conflict led to diminishing state subsidies, but with growing federal subsidies to compensate. This led to a growing centralization of the system, where state universities became increasingly reliant on federal funds.

This partly changed with the economic crisis of 1982, which led to a drastic cut in subsidies. However, the main change consisted in replacing an incremental scheme for a decremental one, but that downsizing did not affect all universities in the same way. Some were severely curbed for political reasons, while others received more favorable treatment even in times of crisis.⁴

The absence of publicly identifiable criteria and the differences in treatment had important consequences. First of all, a general impact of the crisis of the 1980s was that public universities did not look for alternative sources of income, nor did they develop strategies of reform in order to obtain greater proportions of the budget. In effect, one might explain the lack of response of institutions toward national policies from these data: as funding was not related in any way to performance, adopting reforms was not encouraged. This stands in contrast with the private sector that started to emerge in the 1980s. These institutions developed new forms of organization and turned successfully to private sources to finance their development (Martinez, 1994).

A second result is that the already diversified public sector grew more differentiated, due to different amounts of funding. If one considers that over 90% of subsidies are spent on salary payments, it follows that some were able to continue hiring and promoting, while others were forced to reduce faculty or to hire part-time professors to fill in vacancies. By the end of the 1980s, the public university sector was made up of very different universities, some in full financial crisis, others doing better, if only slightly.

The 1990s: Diversification of Funding

Whereas subsidies continued to be the principal form of finance, several special programs were introduced in the 1990s. By the end of the 1980s, several shifts occurred: on the one hand, the federal government started to introduce

4. An example of a university punished for political reasons is the Autonomous University of Guerrero. In 1983, its budget was reduced after accusations that the university financed the local guerrilla. However, this punishment continued well into the 1990s.

several types of evaluation. On the other, it created several new types of funds. These new policies were set up as a part of what the government entitled as the “modernization” of higher education.

At the beginning of the 1990s, the main flow of these new funds was organized through FOMES, the Fund for the Modernization of Higher Education. The program was created in 1990, and in 1991 guidelines were agreed. During the first years, institutions would present institutional development plans within these 10 guidelines, normally in the form of mega-projects. At least on paper, during 1990–1993, these projects were evaluated in the light of the data presented by each institution in its institutional self-evaluation. Relation between funding through FOMES and results presented in the evaluations was never clear, however, and in the years following 1993, these evaluations practically disappeared. Even so, a basic change occurred compared to the 1980s: instead of lump sum funding, projects presented by the universities were evaluated by the government on the basis of consistency and viability. During the first years, this was done by government officials; after 1992, groups of outside experts were formed, although the final decision remained with government officials. The UNAM was excluded from the program. According to government officials, this was done in order to avoid having state universities compete with the UNAM.

Additionally, a special fund was introduced for productivity grants to individual members of academe. This program provides extra payments to full-time faculty members after an evaluation of their productivity. The program has general guidelines from the government, but each institution has the liberty to define specific criteria. Grants were set to range between 1 and 2.5 times the minimum wage.⁵ Specific rules were introduced stating that these grants were not to be part of salaries and that unions were to be excluded from the process of evaluation.

A turning point occurred with the introduction of PROMEP by 1996. PROMEP started out as a grants program for graduate studies, directed basically towards faculty in service. However, its scope was broadened when the SESIC decided to plan faculty improvement on the long term (with a horizon of 2006), and proceeded to establish development plans with academic units. These plans not only stipulate the number of faculty that are going to study, but also total

5. With full-time salaries varying between 4 and 10 times the minimum salary, these grants represented an additional income from 10% to 25%. In 1999, a minimum salary amounted to 100 US\$ a month.

faculty numbers, the desirable proportion of full-time faculty, program offerings, enrollments and infrastructure (computing, laboratories, physical plant, libraries). Though PROMEP provided some funds for these additional aspects, from 1997, infrastructure for academic units started to be funded by FOMES, through projects presented by academic leaders from the academic units subject to expert evaluation at the SESIC. This way, FOMES became a part of PROMEP, and its logic changed somewhat: instead of allocating funds to university presidents for institutional projects, now it allocated funds directly to faculty members for the improvement of the infrastructure of academic units.

Growing coincidence occurred also between PROMEP and the program for productivity grants. The amounts were increased to 14 times minimum salaries after 1997, and more emphasis was put on the PROMEP profile⁶ as a requirement for receiving benefits. Additionally, PROMEP started to offer one-time stimuli to professors that complied with their profile, after an evaluation of each academic by the officials of PROMEP. So, during the 1990s, additional funds were introduced. Starting 2001, these different funds were organized under the umbrella of Integral Institutional Development Plans (PIFI). Within this procedure, all academic programs in the public university sector write their development plans, which are then grouped together by the university as an institutional plan contemplating the desirable growth of faculty, infrastructure and program offerings. The PIFI is then presented to the SESIC, where it is evaluated by outside experts and officials, after which decisions are made about additional funding out of the several special funds.

At the same time, other special funds were created: In order to improve the inputs of graduate programs in the public sector, SESIC and CONACYT created a special fund (PIFOP) that follows the logic of FOMES and PIFI. In order to stimulate programs to accredit, a special fund, FIUPEA, was set up, with the same logic as FOMES, but for accredited programs. Another special budget was introduced to attend to the historical differences in funding among universities, as well as one aimed to solve the emerging crisis of the lack of pension funds. Even though these special funds make up only a small part of overall funding —

6. PROMEP introduced *de facto* a new form of evaluation after 1997: it established a “profile” with which each full-time faculty member should comply in order to receive benefits. The profile requires a graduate degree (masters or doctorate), dedication to teaching and research, and participation in tutorial activities and in academic structures of decision making. Individual faculty is evaluated by the federal office of PROMEP.

less than 10% — they play an important part. Considering that over 90% of regular subsidy funding goes directly to payrolls, these special funds represent fresh resources for other matters: capital to invest or to use for political reasons.

It should be noted, however, that the impact of these special funds has been different throughout the sector: in some institutions they are marginal, whereas in others they represent up to 30% of the budget. To add further complexity, their impact changes nearly every year, as funds are allocated after yearly evaluations. As such, they may represent 20% of the overall budget one year but drop to 5% during the next. Finally, it should be noted that they are not related to subsidies. A university may be successful in one type of funding but not in the other, or obtain high amounts of special funds, but not receive additional funds through subsidies.

An additional feature that should be pointed out is that these special funds tended to concentrate increasingly on the more consolidated academic units, as evaluation takes into account the number and strength of academic groups and the compliance with the PROMEP profile. The initial idea behind PROMEP was to provide each university with acceptable inputs, comparable to universities in other countries. As such, the most needed institutions would have larger lists of demands.⁷ However, as proposals for faculty development and projects for FOMES are evaluated on their strength, in practice the more developed institutions stand a better chance of obtaining additional money.⁸

Thus, by the end of the 2004, funding mechanisms had changed in several ways compared to previous decades. In the current situation, a central planning procedure was established for inputs, based on the development plans developed by the academic units and reviewed by the SESIC. Some important improvements stand out. The federal government has at least started to plan inputs. The basic logic is to allow for increments of public funding according to developments planned in contracts between academic units and the SESIC, based on indicators such as the desirable number of faculty per student, the number of full-time professors, etc.

7. Information based on an interview with one of the officials of PROMEP, March 2000.

8. Obviously, when PROMEP states that only full-time faculty is liable to receive grants for graduate studies, or for productivity grants, universities with an higher proportion of full-time faculty stand a better change. By the same token, evaluations for FOMES take into account the number of faculty with the PROMEP profile and the degree of consolidation of each academic unit.

Even though the PIFIS gave certain rationality to the decision making process, on the whole, the logic of funding became increasingly complex and confusing in the 1990s. Whereas, in many other countries, universities were forced to do more with less, funding was made contingent on the (*ex-post*) evaluation of performance, and an increasing competition arose among institutions for research monies or contracts, in the Mexican case several, sometimes hard to combine, objectives occupied the agenda, making funding decisions seem erratic. How does this come about?

At the start of the 1990s, the Mexican agenda looked like that of many European countries: the lack of quality in the university sector was blamed on the rapid increase of enrollments in the 1970s and 1980s, combined with bad management and lack of reforms. The solution proposed was to halt further growth, and to improve the existing, with financial assistance linked to the evaluation of performance. Thus, FOMES was introduced to fund structural reforms, the results of which were to be evaluated by institutional and program reviews. At the graduate level, CONACYT introduced the “Pool of Graduate Programs of Excellence”, a selection of graduate programs that complied with quality standards, where only the best were liable for funding.

Though the idea of funding only the best did not disappear completely from the agenda, several other goals or considerations started to compete, particularly in the second half of the 1990s. Alongside quality, priorities were included regarding equity, access, system design, decentralization and resolving structural problems. And for practically each of these goals, a special fund was set up.

The goals that were included are:

- **Quality:** existing programs needed to improve, but the federal government came to the conclusion that part of the problems was due to the lack of funding in the 1980s. From this perspective, the accreditation of programs required better inputs, to be funded through FOMES, FIUPEA, and PIFOP. Special attention was given to faculty, stating that most programs need more personnel, with better qualifications, and full-time contracts, to be funded through PROMEP.
- **Equity:** within the system, some programs, institutions and states are worse of than others. Thus, in several moments, efforts were made to balance the allocation of subsidies, and a special fund was set up to attend institutions that were left behind in the past. Within the PIFI, after 2001, special attention was given to “closing the gaps of quality” between programs and institutions.

- **Access:** particularly after the evaluation by the OECD in 1995, the number of students attended by the system became a priority. The federal government decided that enrollments needed to grow, stating the goal of attending 30% of the relevant age group by 2006 at the undergraduate level, and to expand graduate enrollments. A program of financial assistance to poor students was introduced in 2001 (PRONABES).

- **System design:** as existing programs and universities are not able to cater for all extra enrollments, and students need to study other options than the traditional ones, new public programs and institutions need to be created. During the 1990s, the number of programs rose rapidly. Several public universities that offered some 25 undergraduate programs and a few graduate programs by 1990, now offer over 50 undergraduate programs, and an additional 50 graduate ones. A whole new sector of currently 54 Technological Universities was created, and additional Technological Institutes and Public Universities were set up. In addition to new universities, several existing ones started to open new campuses. While at the beginning of the 1990s, the SESIC tried to coordinate the 36 public universities we analyze here; by 2004 the SESIC website registers 334 public universities, taking into account the original 36 universities, their new campuses, new public universities and the Technological Universities (SEIC, 2004). In 2001-2002 alone, 17 public universities were created (Fox, 2002).

- **Structural problems:** many universities agreed upon generous pension plans in the 1970s, but without contemplating pension funds. In many universities, faculty can retire after 25 years of service, and considering that the boom of contracting occurred in the 1970s, a growing number of personnel are entitled to retire. The federal government set up a special program to create savings, while urging universities to change provisions for future generations.

- **Decentralization:** after the decentralization of basic education at the start of the 1990s, giving states more responsibility became an issue. This move seems in part result of a conscious policy, part result of the changing political context. That is, SESIC and SEIT moved to make states co-responsible for the opening of new public institutions and programs through COEPES, with the obligation of funding 50% of the costs.

- **Coordination and management:** in order to improve the functioning of the system, management had to improve. This meant the set-up of accrediting organizations, planning instances in the states, the creation of information systems, external audits, etc.

The result of this overloaded agenda is that each year, when discussing budget allocations, many petitions compete. Some universities argue they attend a bigger number of students, others that they created new programs. Others

point out that historically they have been treated worse than their counterparts. All universities state that they want to accredit their programs, but that they need additional inputs to do so. New institutions are set up every year, requiring a part of the budget. Professors study graduate programs, demanding promotion and better pay upon return.

At the light of the diverse federal agenda, it should come as no surprise that universities adopted diverse development strategies. Some opted for halting growth and the consolidation of their existing programs, so that they can be accredited. Others chose expansion, creating new programs or campuses. Still others incremented enrollments within existing programs.

To complicate matters more, the amount of subsidies and special funds is decided upon yearly in Congress, at the state or the federal level. This means that the several programs presented by the SESIC and other secretaries have to compete with other budget items such as Health, Social Security, or the rescue of the banking system, resulting in different amounts being allocated to each special fund from year to year.

After amounts are decided upon by Congress, institutions have to compete over scarce resources. As funds are limited, and insufficient at the light of the proclaimed goals, the allocation is made dependent upon the quality of proposals presented to the SESIC, evaluated by external experts. After evaluation, funds are assigned to universities to improve their operation.

Though competition may seem the most logical way to allocate scarce resources, it introduces particular problems. On the one hand, the less developed institutions or programs are in disadvantage, which means that with every allocation the gaps between programs or institutions widens. On the other, the best programs stand little chance, as they already count with the basic inputs. As a result, universities tend to present all programs as “intermediate”, but with a firm pledge to improve.

Then, the outcomes of the competition cause reasons for doubt. The proposals that receive approval may presume their development plan is on the right track, but those who do not are left in doubt. Then again, funding decisions may change during the following year, putting the doubt with others.

The existence of several special funds also contributes to the confusion: after evaluation, a program may receive funds to construct a new building, but not to buy the computers for the new laboratory. Of course, things also happen the other way around, making things worse.

Even though the SESIC has tried to impose certain rationality on the process, through the elaboration and evaluation of PIFIS, the process remains erratic. On the one hand, the quantity of money in each fund is limited, which means that some proposals cannot be funded, although they may have their merits. On the other, some funding streams escape the control of the SESIC, as they depend on the state government, the federal Congress or others. In short, by 2003, universities can have different goals, apply to different funds to sustain these goals, and recur to different instances to ask for help.

There is a constant, type Catch-22, factor is all this: the best way for universities to ask for additional funds is to argue that there are unattended needs. The worse an institution or a program could do is to argue that they already are top quality. This strange situation is the result of the design of funding policies: all funds created in the 1990s are of a remedial character, set up to attend insufficiencies. But at the same time, they are allocated through competition, where only the best proposals or programs are deemed all set for funding.

The aim of special funds is to provide each public university with acceptable inputs, comparable to universities in other countries. As such, the most needed institutions would have larger lists of demands⁹. However, as proposals for faculty development and projects for FOMES are evaluated on their strength, in practice the more developed institutions stand a better chance of obtaining additional money¹⁰. Competition means that special funds have tended to concentrate increasingly on the more consolidated academic programs, as evaluation takes into account the number and strength of academic groups and the compliance with the PROMEP profile.

The contradiction also shows up in public declarations. Each year, several university presidents presume proudly that their university obtained a top place in the competition for special funds, whereas this, according to one federal officer, should be considered a doubtful distinction: the higher the amount received the larger number of insufficiencies.

In any case, the existence of different funds for distinct goals, funded by different instances, explains in great part why funding patterns in the 1990s are

9. Information based on an interview with one of the officials of PROMEP, March 2000.

10. Obviously, when PROMEP states that only full-time faculty is liable to receive grants for graduate studies, or for productivity grants, universities with a higher proportion of full-time faculty stand a better change. By the same token, evaluations for FOMES take into account the number of faculty with the PROMEP profile and the degree of consolidation of each academic unit.

so erratic, but for different reasons than in the 1980s. Political give-and-take continues to be of importance, albeit in a new context. Universities nowadays lobby with the SESIC, but also with the federal and state government for additional funding. At the same time, they present projects to several special funds, and may state distinct goals when arguing their case.

Considering these aspects, what can be said about the impacts of funding practices on the system of higher education?

FINANCIAL POLICIES AND THEIR IMPACT

If we consider funding practices as rules of the game, as incentives or constraints for different types of behavior, the situation in 2003 shows improvement, but also important contradictions. Through the use of special funds, the federal government sought to improve the conditions of existing programs, and to introduce certain rationality in the allocation of these funds through planning exercises. However, both the implementation of special funding policies and the distribution of regular subsidies introduced unwarranted effects.

In the early 1990s, issues like access and equity disappeared from the agenda. The focus shifted to quality improvement, after two decades of rapidly expanding enrollments at public institutions and of student and faculty numbers growing at a faster pace than subsidies. Policies were formulated to at least stop the growth of the largest universities and to create alternatives, like the Technological Universities. However, during the second half of the 1990s, coverage and enrollment growth returned to the agenda, especially after the OECD observation that higher education in Mexico enrolls less than 15% of the relevant age group. The issue reappeared on the agenda, with the aim to increase coverage to 25% by 2006.

This brought the issues of access and equity back on the public agenda, but at the same time, a new economic crisis put severe restraints on the public budget. In effect, continuing (though slow) growth of the public sector is accompanied by declining subsidies per student. The special funds introduced by government during the 1990s sought to improve operating conditions of each program in the public sector, increasing faculty, improving their preparation, and improving the infrastructure of higher education. Compared to the 1980s, when public finance was characterized by lump-sum funding, institutional

autonomy and the discretionary power of university presidents have been reduced severely. The upside of this is that there is more control over spending, and that planning is rationalized. The downside is that the current set of funding mechanisms provides little incentive to improve the efficiency in public universities.

This is contrary to the federal government's desire to improve current programs enabling them to be accredited by newly created accrediting organizations. In order to do so, these programs present their PIFI to compete for additional funding, with which they can hire more teachers and improve conditions. But within this logic, all problems regarding quality tend to be blamed on the lack of sufficient inputs. As such, special funds introduced competition among institutions for need-based funding. This poses a dichotomy; on the one hand, the conception that all programs in the public sector should count with certain minimum inputs. On the other, since public funds are limited, policies privilege those programs that can be accredited in the short run, that is, those that already count with basic inputs.

In practice it has become difficult to obtain an increase in funding for an existing program, therefore, most universities have created new programs or activities to apply for additional funding. Throughout the 1990, the number of programs offered by universities increased at a higher rate than enrollments. Some universities doubled their number of programs while at the same time reducing total student numbers. Others opened new campuses in the interior of their state, but offering the same programs as in the main site.

Furthermore, the lack of criteria for general subsidies in conjunction with a history of unequal distribution of funding has created several unresolved or hard to change problems. The first problem consists in that faculty numbers, and their distribution according to type of contract and category, depend by and large on the subsidies assigned traditionally to each institution, and no major changes were introduced in this aspect. In practice, this means that huge differences persist as to faculty existing in each institution. And as PROMEP, FIUPEA, FOMES and the productivity grants program focus mainly on full-time faculty, these special programs accentuate differences rather than compensate for them.

While special funds have their pitfalls, subsidies continue to be problematic. As a result of the political changes in Mexico, the absence of criteria for overall subsidies started to play an important role. Until the end of the 1980s, public universities negotiated increases with the Undersecretary for Higher Education (SESIC), a process where, as pointed out above, educational matters

combined with political pressures. Though these decisions had to be approved formally by Congress, the majority of the PRI there guaranteed little problems.

In the 1990s, two changes occurred. First, Congress became dominated by the opposition, which opened an era of discussion, but also the possibility for universities to lobby different political parties to improve their share of revenues. Second, the arrival of political opposition parties at the executive and legislative branches in the different state governments, combined with a political agenda of decentralization of educational matters, lead to a more active role of the states.

The outcomes of this new political scenario differ by state. Some universities successfully lobbied in local Congress, and managed to augment their revenues coming from their state. Others did so by convincing the state governor. In other states, however, universities were not successful, and continued with their traditional share of state subsidies. An important issue here is that there are rich and poor states in Mexico.

At the federal level, similar processes occurred: some universities lobbied with success in the federal Congress, and obtained increases. Others were able to pressure the SESIC through the federal Congress or their local politicians, while still others managed to directly convince the SESIC that they needed additional funds. But then again, several were unable to convince anybody.

The current situation, as might be expected, is highly confusing: on the one hand, there are special funds allocated after evaluation of institutional development plans, where some universities have done better than others, for different reasons. On the other, public universities have lobbied with different degrees of success for increments of their basic subsidies, at both the federal and the state level. In the end, there are those that won in both arenas, several that did well in one type of funds, but not the other, and some cases that did not advance in either.

Government officials admit—off the record—that the strategy followed to reduce the demand for public education has been to allow for unregulated expansion of private education. But although this partly resolved the issue of access, it introduces new problems as to equity. Public institutions charge low fees in order to permit access to students with low incomes, but their capacity is limited. Plans to give financial aid to undergraduate students disappeared due to financial restraints. At the same time, private institutions charge tuition,

admitting students not admitted by the public sector. The strike during 1999 at the UNAM only proved that this issue is far from resolved.

Another change during the 1990s was in the differentiation of sources of finance. Private revenues are still a marginal source of income for public institutions, although there are exceptions.¹¹ Their main source of private funding is tuition fees. However, a growing part of the higher education system is funded through private sources. Within the public sector, private revenues represent less than 10% of the budget, but within the private sector they represent 100%, and during the 1990s, increases in enrollments were experienced by this sector. During the 1990s, 7 out of every 10 students that entered higher education went to the private sector. Private contribution to higher education is currently estimated at 35% of total expenditure (Kent, et al., 1998). The increase of enrollments in the private sector reflects that a growing proportion of students is willing to pay for their education and opts for private institutions.

Cost structures pose an additional problem. Throughout the system, payrolls still make up the largest portion of institutional budgets. In the public sector, investments in infrastructure are characterized by annual projects submitted to FOMES, without a long term vision. In the private sector, tuition fees are almost completely allocated toward salary payments, leaving little funds available for investments.

However, financial policies do have an important effect on institutional autonomy in the public sector. During the 1990s, there was a growing control on spending, through the allocation of earmarked funds. Control was mainly of the bureaucratic type, related to the inputs stated in the development plans accorded between the academic units and PROMEP. Through these plans, the federal government determines faculty numbers and qualifications, program offerings and infrastructure. Compared to the 1980s, when public finance was characterized by lump sum funding, institutional autonomy was reduced severely during the 1990s. At the same time, this means that there is little room left for improving the efficiency in universities, as the follow up by the government is geared towards inputs, not to outcomes.

Within the new strategies of funding, faculty have received special attention. As a result of policies, faculty roles and rewards have changed in several ways. Faculty in Mexico are divided into full-time (around 30%) and

11. For example, the University of Aguascalientes charges tuition fees that represent up to 30% of the institutional budget (Martinez Rizo, 2000)

part-time (70%). Within the public sector, salaries are regulated by national categories and agreements. Salaries range from \$400 to \$1,100 per month.

During the 1990s, salaries were governed by national agreements on raises. As such, the rates of increase were less than the inflation rate. Faculty policies in the 1990s have focused on rewards for productivity, with clear intention to differentiate between categories. The productivity grants introduced in 1990 were based on the example of the National System for Researchers (SNI) which emerged in 1984 as a temporal program to offer additional payments to high ranked researchers after evaluation. The SNI offers additional grants ranging from 4000 to 1,000 US\$ per month. The new program is directed towards teachers, though research productivity plays an import role in evaluations, carried out with national guidelines, but with room for local, institutional specifics. This program offers monthly grants of between \$100 and \$1,400.

The combination of salary control and additional grants for productivity has substantially altered income structures. With part-time faculty mostly excluded from grants, and only part of full-time faculty capable to qualify for grants, part-time income is situated around \$300 per month, full-time faculty without additional grants earns \$1,000 per month, whereas highly productive faculty members might earn up to \$4,000 a month.

What the precise effects of this differentiation are is not clear, as no studies on productivity exist. However, it should be noted that the tip of the iceberg has been generously rewarded through different programs, but that the bottom 70% has remained excluded from policies.

CONCLUSIONS AND RECOMMENDATIONS

Mexican higher education is facing several financial problems. Even though the public budget for higher education has clearly reached its limit, funding lags behind other OECD countries. This conundrum turns critical in the face of government goals to both improve quality and increase numbers of students and full-time faculty. However, the total amount of public funding for higher education is clearly insufficient to meet the goals proclaimed by the Mexican government. Though the budget increases each year — with increments depending on the national economy and the political give-and-take in Congress — it faces the challenge of improving both the existing and creating new programs and institutions in order to enroll more students.

The competition for funding leads to an erratic process of allocations: access competes with quality, competition for funds is at odds with equity considerations, diversification is desirable but should not hamper the consolidation of existing programs, decentralization is high on the political agenda, but the development of universities seems to be best addressed by a process of central planning. Every year universities hand in large wish-lists, of which only a small portion can be satisfied. The diversification of the system implies the creation of programs and institutions, which either operate with relatively higher costs, or work with insufficient inputs to be of acceptable quality, while overall only small gains in access are reached.

These funding processes send confusing signals to universities. Around 7% of the overall budget is assigned through special funds tied to an exhaustive planning process, while the remaining 93% is allocated for historical reasons, without explicit criteria, where other actors than the SESIC intervene. This means that universities depend on three streams of funding that operate through different channels, with different logics, and different amounts: federal subsidies, state subsidies and special funds.

At the same time, distribution within the system will be a critical issue. Some sectors are highly expensive, due to historical reasons, whereas others are chronically under-funded. These differences are a result of a lack of criteria geared towards performance, an issue that is hard to resolve as these differences relate to vested interests. The lack of criteria is especially notable in the case of subsidies. This creates an ambiguous situation for the special funds introduced in the 1990s: with special funds distributed through competition, but subsidies through historical criteria, signals become ambivalent. Finally, special funds are increasingly channeled to a small part of the system, to the more consolidated programs, leaving other parts of the public system subsist in difficult situations. The overall result is a system that is highly differentiated. There are huge disparities throughout Mexico, both in economic development and in higher education. Three public institutions account for almost 56% of the total public subsidies for higher education in the country (Spokesman, February, 2000). The crucial issue at stake is that these disparities seem to be dictated more by financial restrictions guiding policies, than by policies guiding public finance.

Several unresolved issues stand out for the future. Should the government give additional funds to really consolidate programs only, or introduce some scheme of compensation? If the present tendencies continue, differentiation will become even more pronounced, with clear impacts on the quality of public insti-

tutions excluded from additional funds. A second question refers to what the government funds, and what should be left to the private sector. Currently, the private sector starts where the public budget reaches its limit, without clarity on the priorities of the federal government for public education. A third issue is what public universities should look like and what they should be doing. Special funds have set new priorities, but they are not always coherent. At the same time, subsidies follow their own logic, not connected to special programs.

Finally, unresolved issues remain as to how funding is allocated. Currently, funds are allocated on the basis of a centralized planning of inputs, but that obscures what the desirable outcomes should be. And then, are there not alternative ways of funding higher education that might produce better results? Mexican higher education faces a difficult future, caught between high expectations and declining resources. The rational answer to these dilemmas would seem to be the introduction of clear, explicit funding criteria that would put an end to unfair competition, discretionary decisions or political infighting. But then, any type of formula faces an almost insurmountable political agenda: with funds reaching their limits, any formula would translate the gains of some universities into losses by others, being the most influential universities the most probable losers. At the same time, in a system that seeks to address quality and quantity simultaneously, any formula would imply obligations for the federal government that with which it could not possibly comply. For these reasons, it seems likely that the Mexican public sector will continue in the current fashion, complaining about old wrongs caused by subsidies, while trying to resolve emerging problems by way of special funds. Expectations will remain high, but funding mechanisms will continue to be confusing as well.

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CHAPTER 5. HIGHER EDUCATION POLICY AND FINANCE IN SPAIN

Jorge Calero

INTRODUCTION

Spanish higher education underwent a rapid transition from an elite to a mass system during the last decades of the 20th century. In 1960, only 89,000 students were enrolled in the system (that entailed an enrollment rate, for the 18- to 24-year-old population, of 2.85%); in 1998 there were 1,578,000, with an enrollment rate of 33.56% (see Tables 1 and 2). During the same period, the number of institutions went from 12 to 54 (44 of them public). This quantitative expansion, which arrived some years after the expansion of other European higher education systems, was accompanied by several dramatic qualitative changes that basically took place in the context of the transition from dictatorship towards democracy.

Higher education is currently involved in three areas of deep change that society as a whole is going through, namely the introduction of new technologies in the production and distribution processes, the development of an “information society” (see UNESCO, 1996) and the internationalization of both economic activities and knowledge. In the Spanish case, therefore, higher education is finding itself compelled to readjust its aims, structures and financing mechanisms shortly after a period marked by deep changes.

The general purpose of this chapter is twofold: first, to provide an understanding of the current structure and functioning of Spanish higher education with special reference to finance, and second, to point out those areas that are obsolete, non-functional or problematic in relation to either the effectiveness or the equity of the system, and also to suggest possible reforms addressed toward financing mechanisms.

The contents of the chapter are organized as follows: in Section 2, the main recent historical milestones in the Spanish higher education system are reviewed, in order to describe, in Section 3, its current situation. Section 4 focuses on various concerns related to equity: after a description of patterns of access, the student aid system is analyzed together with its limited contribution to the democratization of access. Sections 5 and 6 are centered on financial policy and finance mechanisms, emphasizing (Section 6) recent and potential changes in the sources of university revenue. The level of institutional autonomy in Spanish universities is discussed in Section 7, in which some initial institutional evaluation experiences that have been implemented during recent years are also described. In Section 8, the main current issues related to academic staff are introduced, together with some comments about the reform proposals in this area. Section 9 is a discussion of possible reactions, on an organizational and financial level, of Spanish universities in a context of growing globalization. The chapter ends with Section 10, in which some conclusions and recommendations are put forward that could be helpful in future debates on higher education policy.

RECENT HISTORICAL DEVELOPMENT OF SPANISH HIGHER EDUCATION

After the dictatorship, it was not until 1983 (at the beginning of the period of socialist government) that a new legal framework for the whole higher education system,¹ the University Reform Act, was passed. This reform set the basis for an expansion and modernization of the system, bringing transformations to almost every area of university activity. The main aspects of the reform are as follows:

1. As will be described later on, the Spanish higher education system does not contain a non-university sector.

- Self-government: universities gain autonomy in their institutional procedures. Democracy is introduced in the election of the university authorities; the role of academic staff in decision-making is reinforced. In this context of institutional autonomy, the main function of the new Council of Universities is to provide a certain coordination and planning to the whole system.
- Recognition of the multiplicity of partners: Social Councils are established by the University Reform Act as a means of giving a diversity of partners (business enterprises, trade unions, regional and local authorities, etc.) related to each university a say in university affairs. Social Councils, however, have a limited capability to influence university decisions.
- Research: the reform introduces several elements that favor research activities (previously almost non-existent) in university departments. New finance mechanisms for research are created.
- Academic staff: the University Reform Act establishes a new design for the academic career. This design is centered on two tenured, full-time positions (Senior Lecturer and Professor). Two other positions are introduced: Assistant Lecturer (a position addressed to covering the training period) and Associate Lecturer (a part-time position addressed to external professionals). The use of these two positions by the departments has frequently been distorted in relation to their initial functions.

The implementation of these reforms took place in the general context of the decentralization of the public sector. From 1985 to 1996, responsibility and financing was gradually assumed by the new regional governments (autonomous regions). The proportion of public expenditure on higher education administered by regional governments in 1985 was 18%; this proportion reached 54% in 1990 and 90% in 1996.²

After the reform (the period 1984–1992), Spanish higher education received a growing flow of public financial resources. This was a period of strong expansion and investment. New universities were created (often by the regional governments) and there was a thorough renewal of infrastructures. User choice of institution was permitted within each region from 1985 onwards, with a limited amount of places reserved for students from other regions; this system substituted the previous bureaucratic allocation of students to institutions. This double process of supply expansion and introduction of user choice was not seized upon to generate a greater institutional differentiation: universities kept preexisting models and reproduced old organizational problems.

2. Source: 1985, 1990: Uriel et al. (1997); 1996: Ministerio de Educación y Cultura (1998).

The Spanish private higher education sector was marginal until the 1990s. In 1991, only 35,000 students (3% of the total) were enrolled in private institutions (mainly owned by the Catholic Church). A certain development of the sector took place after the regulation of private institutions in 1991: enrollment amounted to 96,000 students in 1999 (6.1% of the total).³ Private institutions focused their supply on low-cost, high demand fields of study, namely Social Sciences and Law.

Another milestone of the recent evolution of the system is the reform of curricula, which took place in the early 1990s. New curricula were organized following a modular credit system; the academic year was divided into semesters. The initial aim of this reform was to shorten the time it took to earn degrees, which had been well above international standards: five years for long-cycle studies, three years for short-cycle studies. After the curricula were reformed, the theoretical length of long-cycle studies was reduced to four years. However, the real length of studies (after taking into account the high proportion of students who fall behind) was not substantially altered. Only specific programs aimed at improving the productivity of some engineering degrees (those in which the failure rate was higher) were successful in reducing the real length of studies.

In the early 2000s, further reforms are planned. A reform of the University Reform Act is foreseeable in the near future, since the main political parties have often pointed out its shortcomings. A complete diagnostic of the system, aimed at guiding a set of reforms, has been presented and discussed: the *University 2000 Report* (Bricall, 2000), commissioned by the Committee of Rectors of Spanish Universities, will guide the next reforms in Spanish higher education.

Table 1. Number of Students in Spanish Universities

	Men	Women	Total
1982	368,294	323,858	692,152
1985	431,664	422,440	854,104
1990	559,337	581,235	1,140,572
1995	713,226	792,385	1,505,611
1998	741,607	837,185	1,578,792

Source: Consejo de Universidades.

3. Source: Consejo de Universidades (several years).

Table 2. Gross Enrollment Rate in Higher Education (pop. aged 18–24).

	Men	Women	Total
1980–1981	17.23	14.65	15.95
1985–1986	18.68	18.97	18.82
1990–1991	23.97	26.03	24.98
1995–1996	29.06	33.94	31.45
1997–1998	30.80	36.44	33.56

Source: Population: INE; Students: Consejo de Universidades and INE.

GENERAL STRUCTURE AND CURRENT SITUATION OF THE SYSTEM

Spanish universities offer short-cycle degrees (3 years), long-cycle degrees (4 to 5 years) and doctorate degrees, which can be attained through the completion of doctoral courses (usually two years) and a doctoral thesis.⁴ Most universities also offer a variety of master's degrees and postgraduate courses (1 to 2 years).

The current situation of Spanish higher education is characterized by its homogeneity and lack of diversification. The system lacks a non-university sector and the structure and supply of the institutions are still quite homogeneous. For many years, the system was oriented towards taking in large numbers of students and considerations of diversification and quality were secondary. Recently, however, the total number of students has reached a peak and no further rapid growth is foreseeable, a situation that favors the possibilities for adapting supply to social demand (both in terms of individual demand and the needs of a rapidly changing labor market).

In aggregated terms, the whole of higher education demand is covered by supply. However, entrance procedures create a considerable mismatch between the wishes of students and the courses in which they are enrolled (see Mora, 1996). This is partly explained by the fact that through these procedures, supply generates its own demand: excess demand in certain degree programs presses some students to enroll in other degrees with lower qualifying requirements.

Table 3 presents the evolution of the distribution of students between different types of studies (by length and subject area) during the last decade. After reviewing this information, some points appear to be very relevant:

4. Only less than 15% of the students who take doctorate courses finish by presenting a doctoral thesis.

- Demand is concentrated (64.5% of the total) on long-cycle degrees. However, the participation of short-cycle degrees in total demand was growing during the decade.

- Social Sciences and Law are the fields most in demand, enrolling around half of the students. This demand has not substantially altered in the last few years.

- Engineering experienced significant growth in demand (from 17.7% to 23.7%). This new demand was mainly generated by short-cycle degrees.

- Two fields of study, Humanities and Health Sciences, suffered a decline in demand: from 15.5% to 11.5% in the case of Humanities⁵ and from 9.9% to 7.2% in the case of Health Sciences.

One of the main drawbacks of the higher education system in Spain is its low productivity: the failure rate is disproportionately high, and the curriculum reforms applied since 1992 did not significantly reduce it. The real length of time for earning degrees is much higher than the theoretical length.⁶ Degree completion is among the lowest in OECD countries; the indicator “graduates over new enrollments” (see Table 4) has an aggregated value of 56%, falling to values between 39% and 45% in Experimental Sciences and Engineering.⁷

The stock of graduates as a percentage of the whole population has traditionally been low in Spain, as a result of the aforementioned low level of degree completion, together with the fact that enrollment rate was comparatively low until recent years. However, this situation has changed (see Table 5) and the value of the indicator for Spain (13%) is among the highest in European countries, but still far from the value for the United States (26%).

High levels of unemployment hinder the transfer of university graduates to the labor market. Youth unemployment in Spain is the highest among European Union countries. One indicator that can describe the gravity of the problem in the case of university graduates is the proportion of graduates unemployed one year after completion of studies—in 1997, it was 46%; this proportion was 20% in

5. In the field of Humanities, the demand corresponding to Teacher's Training studies fell sharply.

6. This is one of the factors that explains the age structure of the student body: in 1995, 33.1% of the students were 25 years old or more (source: European Community Household Panel). Another factor is the growing access of older students, partially through a specific exam for students over 25, which gave access to 11,674 students in 1997.

7. The high value of the indicator for the field of Health Sciences (long-cycle) is explained by the *numerus clausus* applied in the studies of Medicine.

France and only 6% in the US. The employment situation of university graduates is, however, clearly advantageous. Data presented in Table 6 show that graduate unemployment is 3 points below the average and 4 points below that of the next academic level down. Female unemployment is higher for all educational levels and its aggregate value (26.03%) is double that of male unemployment (13.06%), but a university degree is also good protection against unemployment for women. Women holding a university degree have 29% less probability of being unemployed than women who only completed secondary school.

Table 3. Distribution of Students by Length of Study and Subject Area. Academic Years 1988–89, 1993–94 and 1998–99.

	1988–1989	%	1993–1994	%	1998–1999	%
Length of studies						
Short cycle	290,980	28.4	448,761	33.1	554,560	35.5
Long cycle	735,222	71.6	905,783	66.9	1,008,634	64.5
Subject area						
Humanities	158,780	15.5	139,090	10.3	173,452	11.1
Social Sciences and Law	507,864	49.5	713,906	52.7	772,540	49.4
Experimental Sciences	76,068	7.4	106,029	7.8	134,579	8.6
Health Sciences	101,753	9.9	111,661	8.2	112,679	7.2
Engineering	181,737	17.7	283,858	21.0	369,944	23.7
Total	1,026,202	100	1,354,544	100	1,563,194	100

Source: Ministerio de Educación y Cultura.

Table 4. Graduates/new enrollments by subject area. Academic year 1997–98.

	Graduates	New enrollments	Graduates/ New enrollments (%)
Short cycle	80,529	142,062	56.69
Experimental Sciences	733	1,330	55.11
Health Sciences	11,266	14,035	80.27
Social Sciences and Law	49,447	77,730	63.61
Humanities	55	69	79.71
Engineering	19,028	48,898	38.91
Long cycle	105,469	187,322	56.30
Experimental Sciences	10,287	23,684	43.43
Health Sciences	9,898	10,329	95.83

Social Sciences and Law	57,160	93,432	61.18
Humanities	17,236	35,656	48.34
Engineering	10,888	24,221	44.95

Source: INE (1999)

Table 5. University Graduates as a Percentage of Whole Population (25–64 years), 2001.

Spain	17
France	12
United Kingdom	18
USA	28
Italy	10
Germany	13

Source: OECD Education at a Glance 2003.

Table 6. Unemployment Rate by Educational Level and Sex, 1998.

	Men	Women	Total
Illiterate and no studies	19.42	25.33	21.67
Primary	12.68	24.09	16.29
Secondary (academic branch)	14.26	28.82	19.84
Secondary (vocational)	11.08	30.11	19.22
Higher education	9.89	20.46	15.28
Total	13.06	26.03	18.17

Source: INE (1999) Encuesta de Población Activa.

ACCESS TO HIGHER EDUCATION AND EQUITY-RELATED FINANCE POLICIES

The expansion of the system during the last few decades involved democratization of access, both in terms of gender and socioeconomic background. The previous inequity of the system has been evened out but, as will be seen in this section, access across different groups is still far from homogeneous and the financing system is not specifically addressed toward improving that situation.

Access for women was one of the main factors in explaining the expansion of student numbers. Women, who were a small minority in Spanish universities in the 1960s, outnumbered men in 1986. Their enrollment rate in 1997–98 (see Table 2) was 36.4%, almost six points above the rate for men. The participation of women in various studies is, however, quite uneven, since there is still a strongly stereotyped process of study choice (see Calero and Bonal, 1999, Ch. 9).

Access patterns are still substantially dissimilar for students coming from different socioeconomic backgrounds. Table 7 shows net enrollment rates depending on the type of occupation of the head of the family. Differences between rates are acute; rates range from 8.7% ("Elementary occupations") to 61.3% ("Professionals"), with an average rate of 24%. The category "Technicians and associate professionals" has the second highest rate (32.2%).

The isolation of the effects of head of family occupation (through logistic regression analysis) shows that this variable is, together with parental educational level, the strongest determinant of the probability of access (see Calero, 1996). An alternative way of tackling the issue of equity in access is analysis by family income. Table 8 presents the results of this analysis using data contained in the European Community Household Panel (files referring to Spain, 1995). In this table, the distribution of the higher education service is broken down by family per capita income quintiles (family size corrected through OECD scale). The less well-off families "consume" 14.89% of the service, approximately half of the proportion consumed by families in the highest quintile (27.84%). Even though this distribution is clearly inequitable, analysis made with data from 1980 show that there is a tendency towards reducing differences in access across income groups.⁸

Subsidized tuition fees (students pay currently 18% of the total cost; see Section 6) have traditionally been the main finance mechanism to promote the access of low-income groups to higher education. The student aid system was non-significant until the 1980s and still has little significance in the Spanish finance system. A grant program, developed and enlarged since 1983, was the only element of the student aid system until 1998, when an experimental loan scheme was implemented. The grant program currently covers only 19.8% of the whole student population and the expenditure that entails adds up to 9.3% of total public expenditure on higher education (see Table 9). Besides its reduced quantitative incidence, the program suffers from a limited effectiveness, especially on the distributive level (see Calero, 1996).

Through the new experimental loan scheme, established by the central government (Ministry of Education and Culture), students may borrow up to US\$3,800 a year from commercial banks. Collateral is not required for students whose marks are above a certain standard. Repayment terms are defined by a

8. Per capita income used to generate data in Table 8 did not receive a specific treatment to correct deviations between declared and real income. Such treatment was applied to previous data (from EPF databases), introducing differences in the final results of the analysis.

three-year repayment period, after a one-year period of grace, and subsidized interest rates.⁹ This scheme coexists with smaller programs organized by some autonomous governments and universities.

Table 7. Net Enrollment Rate by Occupation of Head of Family, 1995.

	Net Enrollment Rate (%)
1: Legislators, senior officials and managers	27.2
2: Professionals	61.3
3: Technicians and associate professionals	32.2
4: Clerks	20.7
5: Service workers and shop and market sales workers	23.0
6: Skilled agricultural and fishery workers	21.1
7: Craft and related trades workers	19.0
8: Plant and machine operators and assemblers	19.7
9: Elementary occupations	8.7
Total	24.0

Source: European Community Household Panel. Spain, 1995

Table 8. Distribution of Higher Education Services by Family Per Capita Income Quintiles (Family Size Corrected through OECD Scale). Percentages, 1995.

Quintile	% Receiving Higher Education
1st	14.89
2nd	15.11
3rd	19.77
4th	22.39
5th	27.84
Total	100

Source: European Community Household Panel. Spain, 1995.

Table 9. Expenditure on the Grant System, Number of Grant-holders and Ratio between Grant-holders and Students.

Academic Year	Expenditure on the Grant system/PEHE (%)	Number of grant-holders	Grant-holders/students (%)
1985-1986	7.02	113,884	13.8
1990-1991	8.35	213,765	19.4
1996-1997	9.33	292,877	19.8

Source: Expenditure on the grant system: Calero and Bonal (1999) and Ministerio de Educación y Cultura (1999). Number of grant-holders: Consejo de Universidades (1992) and Ministerio de Educación y Cultura (several years).

9. This scheme was implemented following a first proposal included in Consejo de Universidades (1995). It is remarkable that alternatives based on income-related repayments were not taken into account, despite the advantages (in the area of equity and disincentive reduction) that can be attained through such schemes (see Woodhall, 1989).

GENERAL TRAITS OF THE HIGHER EDUCATION FINANCE POLICY

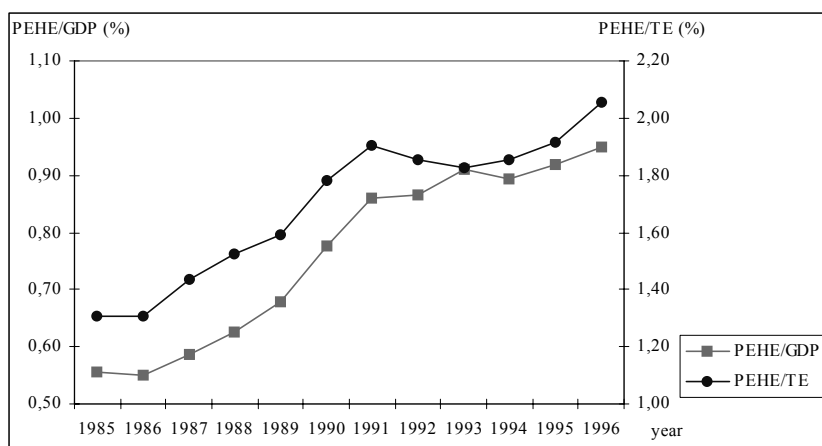
The financial effort made by the public sector in higher education increased dramatically during the 1984–1993 period, as a consequence of both the socialist government's educational policy and the decentralization process. This increase is shown in Fig. 1: the weight of public expenditure on higher education over GDP increased from 0.5% in 1985 to 0.9% in 1993, partially alleviating the previous scarcity of means. From 1993 onwards, public budgets for higher education suffered stagnation as a result of the generally restrictive budgetary policy. This stagnation prevented the levels of Spanish public expenditure on higher education from catching up with those of other OECD countries. Some comparative values of public expenditure per student are shown in Table 10, where the relative situation of Spain is still well below average. The *Report on University Financing*, presented by the Council of Universities in 1995, pointed to this financial shortage and proposed several measures to raise public expenditure on higher education to the equivalent of 1.02% of GDP by 2004. This report also proposed increases in cost recovery through an incremental increase in tuition fees (which should reach 20% of total costs) and a loan scheme. With the exception of the loan scheme (see Section 4), these proposals have only been partially applied. To date these proposals have not been implemented.

The allocation system used in higher education finance is essentially a combination of bureaucratic and collegial elements (following Clark's typology). Market or quasi-market elements are limited to the student's choice of institutions (which, for the time being, have few implications on the allocation of resources) and to some mechanisms that provide, in a more competitive framework, new sources of revenue for the universities (see Section 6).

Decisions about the general level of finance and its allocation between universities are made on a bureaucratic basis by the regional governments; finance allocation inside the universities depend on decisions made by a "professional bureaucracy, governed by a community of experts—in this case, the academic staff" (Vallés, 1996: 8; see Section 7).

The greater part of the finance circuit is supply-oriented: institutions receive block grants with relative autonomy from changes in the demands of students. Institutions charge tuition fees well below average cost. Subsidized fees are not means tested and the indiscriminate character of this subsidy generates regressive distributive effects that are not compensated for by the student aid system.

Fig.1. Public expenditure on higher education as a percentage of GDP and Total Public Expenditure. 1985–1996.



Note: PEHE: Public Expenditure in Higher Education; TE: Total Public Expenditure.

Source: PEHE: Uriel et al. (1997) and Ministerio de Educación y Cultura (1998).

GDP and TE: INE (several years).

Table 10. Public Expenditure per student (US\$ converted using ppp). 2000.

Spain	6,666
France	8,373
Germany	10,898
Italy	8,065
Sweden	15,097
Austria	10,851
United Kingdom	9,657
USA.	20,358

Source: OECD Education at a Glance (2003).

SOURCES OF REVENUE AND COST STRUCTURE

Sources of Revenue

The traditional sources of revenue of the Spanish universities have been transfers (coming from the general revenue) and, to a lesser extent, tuition fees paid by students. As is shown in Table 11, in 1998 tuition fees amounted to 18% of total university non-financial income, while transfers added up to 76.4% of that income.

Most of the transfers take the form of block grants. There is a distinction, however, between transfers that must be allocated to recurrent expenditure

(60.2% of total income in 1998) and transfers destined for capital expenditure (16.19%).¹⁰ The method used in the allocation of block grants between universities has traditionally been mainly incrementalist and/or based on negotiations between the universities and the administration (see Oroval and Calero, 1993). Nevertheless, some regional educational authorities tentatively initiated the application of formulae from the mid-1990s onwards. Formula funding is currently used in four regional higher education systems (Andalusia, Galicia, Castile-Leon and Valencia¹¹).

Tuition fees have slightly lost in relative importance in the universities budget during recent years: their value rose slightly above inflation whilst the budget grew faster. Tuition fees for a student enrolling in a course for the first time range from US\$455 to US\$730 (in 1998) and are paid by all the students except grant-holders. To penalize the repeating of subject courses, fees are higher for subsequent enrollments on the same course.

It was not until the 1990s that a progressive diversification of the sources of revenue took place. The main areas of change have been as follows:

1. Institutional contracts: this type of performance-related financing has been implemented (still on a small scale) in some regions, as a means of respecting institutional autonomy and providing accountability. The objectives considered when drawing up the contracts are usually related to reductions in the failure rate and improvements in teaching quality, research and management. Equity-related objectives (linked, for example, to access) are not often considered.
2. Competitive calls for research funding, included in the National Scientific Research and Technological Development Plan, were implemented beginning in 1988 as a means of allocating resources to research groups.
3. Research and service contracts made between research groups and the private sector or public administrations. Foundations linked to the universities, which retain around 10% of the total amount of the contract in order to finance university research infrastructures and administrations, usually manage these activities.

10. Transfers destined for research are included in this item. However, part of the funds allocated to research are not transferred directly to the universities, but to foundations linked to the universities.

11. The most elaborated funding formula is used in the *Five-year Funding Plan (1999-2003)* for the universities of the Autonomous Community of Valencia. This plan links the allocation of 10% of the resources to the attainment of several goals by the universities.

New forms of research funding (b and c) brought, in 1997, a total of 186,750 million ptas. (US\$1,245 million) to the universities. Most of that amount (69%) came from competitive calls from the Spanish R&D system; 7.2% came from competitive calls from the European R&D system. Research and service contracts signed with public administrations provided 17.3% of this total, while research and service contracts signed with the private sector amounted to 6.5% of the total.¹²

Table 11. Sources of revenue of Spanish public universities (non-financial operations), 1996.

	Millions ptas.	%
Tuition fees	131.137	18,01
Sales of goods and services	23.647	3,25
Transfers		
for recurrent expenditure	438.814	60,27
for capital expenditure	117.847	16,19
Other income	16.673	2,29
TOTAL REVENUE	728.117	100,00

Source: Hernández Armenteros (2000).

Cost Structure

Before the public expenditure growth which took place in the 1980s and 1990s, almost the totality of the university budget was allocated to academic staff wages: levels of investment were very low and other recurrent expenditure (administrative staff wages and expenditure on goods and services) was extremely low. The cost structure of universities went through a profound transformation after the expansion of investment. The weight of wages on the budget declined to 59.66% in 1998 (see Table 12). The budgetary stagnation suffered since 1993 meant that some universities had difficulties when faced with the recurrent expenditure increments provoked by the new investments.

Apart from the participation of other recurrent expenditure and investment, the low weight of expenditure on wages (when compared to other countries) can be explained by three factors: firstly, the high student/teacher ratio,¹³ secondly, the high academic staff/administrative staff ratio and, finally, the low wage levels of both academic and administrative staff.

12. Source: INE (1997).

13. This ratio had a value of 20.5 in the academic year 1997-98.

Table 12. Cost structure of Spanish public universities (non-financial operations) 1998.

	Millions ptas.	%
Wages and salaries	439.278	59,66
Purchases of goods and services	103.005	13,99
Financial expenditures	8.682	1,18
Transfer payments	14.271	1,94
Total recurrent expenditure	565.236	76,77
Total capital expenditure	171.041	23,23
Total expenditure (non-financial operations)	736.277	100,00

Source: Hernández Armenteros (2000).

Institutional Autonomy and Evaluation

Through the University Reform Act (see Section 2), universities gained institutional autonomy and new democratic governing bodies were created in the universities. These governing bodies are elected following a collegiate procedure: academic staff, students and administrative staff elect their own representatives. As Vallés points out, the resulting structure is corporatist and often makes the implementation of reforms difficult:

The University Reform Act model substituted the centralized and bureaucratic management system with a system that could be described as a “professional bureaucracy with a corporatist veto.” In effect, the peculiar configuration of a “professional bureaucracy,” governed by a community of experts—in this case, the academic staff —, was affected by the intervention of two other collectives: administrative staff and students. However, the corporatist approach of their intervention has often been projected over university management more as a capacity of veto than as a capacity to give impetus to strategic renewal (Vallés, 1996: 8).

Partly as a consequence of this governmental organization, the process of decision making is slow and difficult. Moreover, the representation of socio-political actors in the government of universities is restricted to the Social Councils; this limits both the responsiveness of universities to the needs of society as a whole and the accountability of these institutions. In the last few years, several proposals for the reform of university government have been put forward. The improvement of the decision-making procedures and the consideration in these procedures of the interests of agents external to the university are shared elements in such proposals.

The introduction of institutional autonomy and user choice is inseparable from the provision of information, through evaluation systems, the results of which are available to funders and users alike. From the funders’ viewpoint,

institutional autonomy must be counterbalanced by accountability (which entails a thorough knowledge of the overall quality, as well as other details, of an institution). Users need to be informed about the quality of the institutions in order to be able to make rational choices in a context of open enrollment.

However, it was not until the mid-1990s that Spanish universities started to implement some tentative experiences in institutional evaluation. Two programs should be mentioned. Firstly, the Association of European Universities (CRE) launched the *European Programme for the Evaluation of Institutional Strategies for Quality* in 1993, in which six Spanish universities were involved. Then the *National Plan for the Evaluation of University Quality* was launched in 1995 by the Council of Universities, permitting the evaluation (on a voluntary basis) of several aspects of teaching and research quality.

The inclusion of evaluation results in funding formulae is a “natural” result of evaluation, which would improve objectivity in the allocation process. However, in the Spanish case, the fact that institutional evaluation challenges part of the traditional university “culture” must be taken into account. Its implementation should be made in a careful and respectful way in order not to generate unnecessary resistance; its links with funding should be established gradually.

Academic Staff: Roles and Reward

The University Reform Act (1983) brought about significant changes in the structure of the academic career. Firstly, full-time tenured positions were designed as the main element of the structure (after the passing of the Act, an *ad hoc* examination gave professional stability to a large group of previously non-tenured teachers¹⁴ and new tenured positions were offered abundantly during the following years). Secondly, research began to be considered an indispensable activity for most of the academic staff. Thirdly, the evaluation of teaching and research quality was introduced (this aspect was developed in 1989, through a system of teaching and research evaluation which regulates the distribution of some minor economic incentives).

Almost two decades after the passing of the University Reform Act, the situation of academic staff in the Spanish universities may be summarized by the following points:

14. This group led a very active political movement in favor of university reform during the transition from dictatorship to democracy.

- The procedures for academic staff selection and promotion have provoked a limited territorial mobility; each department tends to select candidates linked to itself.
- The shift of emphasis from teaching towards research (since the latter determines the possibilities of promotion and additional earnings) has prevented the levels of teaching quality from being improved.
- Non-tenured positions are usually unstable and poorly compensated.
- The proportion of non-tenured academic staff is high (it reaches 47.6% of the total, see Table 13); there are few possibilities of that situation changing in the near future.
- There has been a slowdown in the creation of new positions during the last few years; this will entail, in the near future, an insufficient renewal of staff. This problem will particularly affect a whole generation of young teachers, with excellent training, who can hardly consider the university teaching to be a good professional prospect.

Foreseeable reforms in academic staff designs will probably tend to introduce greater flexibility in hiring methods, limiting the amount of tenured positions and creating new types of non-tenured positions. This revision of the civil servant tradition in the academic staff would generate greater mobility and competitiveness. Nevertheless, these reforms should be carefully regulated and monitored in order to both avoid arbitrary action and to defend the principle of academic freedom.

Table 13. Evolution of academic staff in public universities.

	Tenured	%	Non-tenured	%	Total
1990-1991	26,371	41.42	37,294	58.58	63,665
1995-1996	36,559	51.64	34,240	48.36	70,799
1997-1998	40,324	52.41	36,612	47.59	76,936

Source: Consejo de Universidades (several years).

FINANCING FOR THE 21ST CENTURY: THE CHALLENGES OF GLOBALIZATION

Higher education policy and finance must be oriented, in coming years, towards keeping pace with the new globalization phenomena and, if possible, having a substantial influence on them. As was pointed out in a recent UNESCO report, globalization involves several processes in which higher education activities are significant:

Globalization, it must be emphasized, means not only economic globalization; it is also the internationalization of human resources and the circulation of ideas" (UNESCO, 1998: 12).

Spanish higher education has a limited capacity to react with regard to a changing internationalized environment. In the paragraphs below, three areas are pointed to, namely mobility, flexibility and institutional differentiation, that are fundamental if this capacity to react is to be increased.

Student mobility has traditionally been limited in higher education in Spain. An important objective in higher education policy in the coming years should be to give students the possibility of choosing an institution regardless of their place of residence. Two conditions have to be met so as to guarantee this principle. Firstly, as a formal condition, the existence of open enrollment for every institution; for the Spanish territory, the academic year 2004-2005 was set as the deadline for this condition to be fulfilled.¹⁵ Secondly, as a material condition, sufficient resources must be available to ensure student mobility; as was explained in Section 4, the Spanish grant system is not yet sufficiently developed to cover a high level of mobility.

The mobility of Spanish students across countries has increased since the late 1980s, after the implementation of programs such as Erasmus (for European Union institutions) and Intercampus (for Latin American institutions). This exchange process could improve through advances in the area of recognition of studies, diplomas and degrees between European higher education systems and the implementation of the European Credit Transfer System. This is still being negotiated by EU countries. The growing participation of Spanish academic staff in European research networks (especially in those included in the several Framework Programmes of the European Community) implied the rupture of the traditional isolation of Spanish academics. This process of international partnership must be intensified in the future.

The adaptation of higher education to the new needs of the labor market makes it necessary to make the system more flexible. The relation between learners and higher education should not be circumscribed to a few years, but considered as a continuous process; institutions should provide a wide range of choice and multiple entry and exit points. In this sense, Samil (2000) puts forward the idea of a "training for life package" that could be offered by the uni-

15. The process towards a completely open enrollment starts in the academic year 2001-2002, when 20% of the places of each university will be available to students coming from regions others than that of the university.

versities. This idea is linked to proposals for alternative finance mechanisms such as “post-secondary entitlements” (Levin and Moreno, 1983) or the “franchise model” (Van Ravens, 1998), which share the principle of providing a flow of public finance available for continuous training.

Institutional differentiation and specialization is another trend which Spanish higher education must follow, along the lines recommended in the previously mentioned UNESCO report:

Higher education must change radically, by becoming organically flexible, and at the same time more diverse in its institutions, its structures, its curricula, and the nature and forms of its programs and delivery systems, and by mastering the information technologies which can help it achieve its purpose (UNESCO, 1998: 2).

This differentiation will be stimulated by competition: new private universities and franchises from foreign universities, together with the supply of on-line courses, will force universities to differentiate their supply. Public higher education should, nevertheless, direct the process of differentiation in such a way that it does not entail substantial divergence in quality levels across institutions; moreover, competition and differentiation between public institutions should be developed inside a general cooperative framework (see Oroval and Calero, 1993). The development of a contract policy for allocating public finance could be an excellent means for achieving equilibrium between differentiation and cooperation.

CONCLUSIONS AND RECOMMENDATIONS

In this final section some concluding remarks will be made, based on those aspects that have received special emphasis in this chapter. Together with these remarks, a number of recommendations will be put forward aimed at providing subjects for discussion in the debate on Spanish higher education policy. The following approach is used as starting point for these recommendations:

The role of government is expected to shift from bureaucratic control to policy steering, stable funding formulae, quality monitoring, project-based investment, and providing a cushion against the wider excesses of the demands of the free market (UNESCO, 1998: 68).

The current situation of Spanish higher education is, essentially, the result of three interconnected factors: the expansion in the number of students, which took the enrollment rate to 33.5% in 1998; the implementation of the University

Reform Act (1983); and the patterns of public intervention applied during the 1980s and the 1990s (specifically, the territorial decentralization which took place in higher education during the 1985–1996 period, and the expansion of public expenditure, especially during the 1984–1992 period). Two traits that are worth keeping in mind when analyzing Spanish higher education are, firstly, its homogeneity and lack of diversification (in this sense, the absence of a non-university sector is remarkable) and, secondly, the low participation of private institutions (they enroll only 6.1% of the total student population).

The transition to a mass higher education system meant more egalitarian access during the latter decades of the 20th century; maybe the clearest example of this process is the rapid rise in enrollment rate for women, which is currently 6 points ahead of the rate for men. In spite of this, access patterns for different social groups (see Section 4) are still visibly inequitable. As is well known, higher education finance is a limited tool against inequality in access, since important barriers to access lie in family and cultural factors. However, in the Spanish case, finance mechanisms specifically aimed at favoring access of the underprivileged (grants and loans) do not use all their potential possibilities. They have a marginal quantitative presence and little effectiveness in supporting either equal access or mobility. It is the opinion of this writer that a reformed and more active higher education student aid system should be connected with secondary education, in order to give continuity to the financial cover; that it should also be less dependent on the academic evolution of the student and, finally, it should allocate more resources to guaranteeing student mobility.

The financial system applied in Spanish higher education after the University Reform Act combines elements that are mainly bureaucratic and collegial. Transfers from public administrations, taking the form of block grants, are the main finance mechanism. However, there is a growing presence of market or quasi-market elements (such as the student's choice of institutions, competitive calls for research funding and research or service contracts); some of these new elements are used to provide a progressive diversification in sources of revenue. Two areas should be improved in the financial process: firstly, the level of objectivity in the distribution of resources and, secondly, its flexibility and adequacy in the attainment of strategic objectives. The generalization of funding formulae is an excellent means of improving objectivity, incorporating, at the same time, incentives and disincentives to raise efficiency and equity (it could be, for example, a good way to reduce the high failure rate suffered by the whole

system). Institutional contracts can adapt financial resources to the diverse and changing needs of the institutions, injecting more flexibility into the system.

The implementation of the University Reform Act brought a high level of institutional autonomy for Spanish universities. However, this autonomy was implemented in a problematic context: the structure of the governing bodies is corporatist, making the decision-making process difficult. Moreover, institutional evaluation is still not well developed (only a few tentative experiences have been applied) and there is, thus, a deficit in accountability. Since it is an extraneous element in the Spanish university “culture,” evaluation (and, especially, its links with resource allocation) should be incorporated gradually.

The situation of academic staff in Spanish universities is defined by a limited territorial mobility combined with a recent change of emphasis from teaching towards research. After the University Reform Act, a growing proportion of teachers began to see their academic career as a full-time job; however, in 1998, 47% of the academic staff occupied non-tenured positions, which are usually part-time, unstable and poorly compensated. It is the opinion of this writer that reforms that affect academic staff should run along the following guidelines: firstly, academic staff wages, especially those of non-tenured positions, should be comparable to wages in the market sector. Secondly, the incentive system should be reinforced in order to raise teaching and research quality. And, finally, the exchange of knowledge and flexibility would be improved if academic staff mobility were intensified through, on the one hand, changes in the selection and promotion process and, on the other hand, financial support for mobility inside and outside the country.

The globalization process generates new requirements for Spanish higher education, which will need to keep on readjusting its structures and aims. In Section 9, three areas were pointed to that are decisive in this readjustment process: mobility, flexibility and institutional differentiation. Some recommendations were given regarding these three areas. Apart from the aforementioned impetus to academic staff mobility, student mobility should be supported through finance and organizational measures. A structured development of lifelong learning would give more flexibility to the learning process: this development means the possibility of choice, for students, between multiple entry and exit points, together with financial mechanisms designed to support such choices. The use of new information and communication technology (through on-line universities, for example) could also increase flexibility of access and choice in higher education. Finally, as far as institutional differentiation is con-

cerned, the writer considers that a contract policy could be a very helpful tool for public policy, since it permits the inclusion of the differentiation process into a framework of cooperation.

Acknowledgment

The author received valuable research assistance from Ana Villarroya.

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CHAPTER 6. FINANCING HIGHER EDUCATION IN AUSTRIA AND FUTURE CHALLENGES

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INTRODUCTION

For over a decade, funding has remained a major focus of interest and debates in the Austrian higher education system. In 1986, students at the Technical University of Vienna organized a strike to protest the insufficient equipment and computer facilities at their university. This strike, immediately supported by the faculty, was a turning point in student politics in particular and in higher education policy in general. In the 1970s, student activists were engaged in various political campaigns, such as protest against the Vietnam war or against nuclear power stations, which almost all were related to general political issues, not to their particular role as students. Academics had some quarrels with the government, e.g. opposing the political moves towards democratization of university organization such as participation of junior faculty (*Mittelbau*) and students in academic decision making. Funding was not an issue at that time.

The 1970s experienced a tremendous increase of public expenditure for higher education which helped compensate for the significant increase in enrollments. Education in general, and universities in particular, were a high political

priority for the social democrat government of that time. It was the political intention to modernize and to “open” universities, in the sense of widening participation for new groups and in the sense of including new elements of social relevance into the curriculum. In the heyday of Austro-Keynesianism, it seemed beyond the political imagination that a lack of public funds could jeopardize this program. However, in the 1980s, the political support for expansion of higher education and for university reform slackened. Education was no longer a political priority and the increasing public expenditure for universities slowed. A gap arose between the increase in the number of students (which was still impressive) and the growth of funds (which lagged behind).

Table 1 shows the development of the GDP, the budget for higher education, the number of students in higher education and the number of academic staff from 1970 to 1999:

<i>Table 1: Growth in the higher education system:</i>				
1970 = 100	1970	1980	1990	1999
GDP (real)	100	147	186	224
Budget for Higher Education (real)	100	202	328	374
Students	100	218	371	459
Academic Staff	100	150	168	216
<i>(Source: WIFO. *STAT, Hochschulberichte)</i>				

In the second half of the 1980s, fiscal consolidation became a new government priority, which amounted to an austerity policy in many policy areas. The government made clear that it was neither willing nor able to satisfy the financial demands from higher education institutions. While the tensions between the ministry on the one side and academics and students on the other side increased, it became more and more evident that the traditional funding arrangements for Austrian higher education were no longer sufficient. A series of reforms followed which aimed to enable universities to use the public funds more efficiently and to open up new private sources of income.

This chapter highlights this process of change. It describes the basic features of the traditional pattern and the driving forces behind the reforms. The main intention of the chapter is to explain new funding mechanisms in the context of rising demands from students and a shift in the policy priorities of the government.

GENERAL CONTEXT

Political and Demographic Context

Austria is a landlocked country in the center of Europe. It has an area of 83,858 square kilometers and as of 2002, a population of slightly more than 8.1 million inhabitants. The Gross Domestic Product (GDP) was \$234.5 billion (US), resulting in a GDP per capita of \$28,800—which is 12% higher than the OECD average and among the top ten of OECD countries.

The educational structure of Austria consists of nine years of compulsory education (ages 6 – 15), a differentiated system of upper secondary school which prepares individuals with skilled qualifications or for entry into the tertiary education system, and the tertiary educational system which consists of technical/vocational and university programs.

Seventy-six percent of the 25- to 64-year-old population have completed at least upper secondary education and 14% have attained some kind of post-secondary qualification (OECD). The educational attainment levels have risen significantly in the past decade. Among the 25- to 34-year-old population the percentage of individuals attaining tertiary education has increased from 8% in 1991 to 14% in 2001. Approximately 35% of an age group will receive the *Reifeprüfung*, which is a condition for access to higher education. In 2003 more than 37,000 students graduated from upper secondary schools with a *Reifeprüfung* (Matura), in the same year more than 25,000 (35% of the age cohort) students continued with some sort of post-secondary education.

Austria is a federal state comprising of 9 provincial (*Länder*) governments and a federal government. General legislation for all educational matters rests with the federal parliament. By constitutional law, maintenance of compulsory schools is a responsibility of the provinces and communities while maintenance of post-compulsory and higher education is a responsibility of the federal government.

The Fabric of Higher Education

It is no easy task to outline the architecture of a higher education system which is in a process of fundamental change. Many of the features described in the following paragraphs are presently subject to reforms. To emphasize change and the most recent trends bears the danger of neglecting the enduring elements. One the other hand, it is undeniable that a fundamental change is going on. The

implementation of those reforms is a lengthy and inconsistent process and it is safe to say that for a medium term prospect the traditional characteristics will continue to shape the system.

- Higher education is almost **entirely public**; there is **no significant private sector** in a strict sense¹. Until 1999, the federal government had a legal monopoly in the university sector; since then, private universities have been permitted, but have stayed small in number of students. While the latter are not entitled to receive federal funding, the federal government plays a very active role in the funding of public higher education. Universities have been state agencies up to the year 2004, administered by the federal ministry. They were subject to tight regulation and were almost entirely funded by the federal budget. Since 2004, the universities are no longer state agencies, but “public enterprises.”

- Higher education has a **homogeneous character**. Until the establishment of *Fachhochschulen* in 1993, universities had a monopoly in higher education (cf. Lassnigg/Pechar, 1988). Within this sector, there is a high degree of uniformity. Until the late 1980s, it was the deliberate attempt of the government to keep the differences between the single universities as small as possible. Each university was supposed to be an embodiment of the prototype of the national university. That policy has changed, but even while institutions are encouraged to develop their own profile, the most important parameters (e.g. access of students, conditions of employment for academics) were regulated by federal law up to 2004. Despite of the deregulation of the last decade, it may be argued that the federal government has kept significant power by setting up the basic framework for universities through the new higher education act (*UG 2002*) and by claiming a prominent role in its interpretation.

- The **Humboldtian legacy** has effectively shaped academic life, in particular the understanding of academic freedom. While postulating the unity of research and teaching, the Humboldtian idea promotes education “through research” rather than educating students by scholarship. In other words, the reciprocal responsibilities of academics and students are vague and weak. From this background, the curriculum consequently has no undergraduate section in which students are guided and monitored by the staff in order to acquire the basic knowledge in their fields. Austrian students enjoy from the very first semester the kind of freedom of learning

1. In some respect, *Fachhochschulen* are an exception: they are owned and run by “quasi-private” associations or corporations. However, provinces, communities and other public bodies join the associations or are shareholder of the companies which own the institutions. Finally, *Fachhochschulen* are almost entirely funded by public money.

which in many other countries is given to graduate students only. This corresponds with weak responsibilities of academics towards their students. Students are supposed to conduct their studies in a completely independent way. Academics and students likewise are obsessed with the danger of a “school-like” curriculum (*Verschulung*) alongside the ongoing introduction of a Bachelor/Master structure according to the Bologna process.

At the beginning of the 21st century, Austrian post-secondary education consists of four sectors:

1. Most important in terms of enrollment and public attention is the **university sector**, which consists of 15 research universities (180.000 regular students in 2002/2003), three of which were “outsourced” as stand-alone universities for medicine in 2004, and 6 universities of the arts (7,600 regular students in 2002/2003).² In 1998 the latter were upgraded to university status;³ formerly they were colleges of arts. Some of them, in particular the universities of music in Vienna and Salzburg, are the only Austrian elite institutions in Austrian higher education which attract many highly qualified foreign students. The research universities vary significantly in terms of size (Table 2) and curricular profile.

Half of them are specialized institutions (such as technical universities or business schools), mostly medium sized or small. The traditional universities with a broad variety of disciplines have in most instances larger enrollments. In terms of regional distribution, Vienna, the capital city, is the only location with nationwide attraction and significance. One third of the universities are situated in Vienna; they enroll more than half of all Austrian students.

2. The **private university sector** was established by law (*Universitäts-Akkreditierungsgesetz, UniAkkG*) in 1999 and has stayed very small ever since (fewer than 1,300 students at 5 institutions in 2001; 7 institutions are currently accredited, 2004). Before 1999, there was already a campus of a private US higher

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2. Another public university, the *Donau-Universität Krems* offers postgraduate courses with professional orientation only and did apparently not have full university status until 2004. Before, although named *Universität*, the institution lacked significant rights, such as to appoint full professors. Also, its mission was mainly based on teaching (by mostly external faculty) rather than research - and the students (2.400 in 2003) did not have regular student status. The institution is therefore not included in our remarks on research universities.
 3. In the following, if there is no further qualification, the term *university* is equated with (*public*) *research university*.

education institution at Vienna using the English term “university” in its name, establishing a “grey zone” of private higher education.

Besides demonstrating its monopoly on higher education by establishing the *UniAkkG*, the government has attempted to execute a quality control over private higher education institutions. Together with external examiners, the *Akkreditierungsrat* prepares a decision on accreditation which must then be validated by the Federal Minister of Education. Unlike public institutions, private universities receive their institutional accreditation for a limited period of time (3 or 5 years) and must then reapply for a renewal. Each study program must be approved separately.⁴

Table 2 Overview of the Austrian research universities (figures from 2001)

University	Academics	Enrollments	Graduates	Expenditures/ Student	Expenditures/ Graduate
				(in Å)*	(in Å)
Vienna	3,612	65,397	4,881	7,220	96,734
Graz	1,343	23,011	2,040	7,136	80,495
Innsbruck	1,494	22,204	2,232	8,534	84,897
Salzburg	521	9,818	992	8,964	88,721
Technical University, Vienna	991	15,801	1,238	10,112	129,059
Technical University, Graz	565	8,451	1087	11,350	88,245
Mining and Metallurgy, Leoben	183	1,683	188	19,491	174,489
Agricultural Science, Vienna	311	4,395	543	14,966	121,135
Veterinary Medicine, Vienna	191	2,037	203	25,319	254,058
Economics and Business, Vienna	362	18,905	1,245	3,502	53,173
Linz	461	11,458	955	6,787	81,430
Klagenfurt	259	5,247	358	7,708	112,973
Total	10,293	188,407	15,962		
(Source: Hochschulbericht 2002)					
* The Austrian schilling was trading at about 15: \$1.00, prior to its replacement by the Euro.					

4. It may be seen as significant that the only institution having lost its accreditation as a private university after only 2 ½ years, in July 2003, was an institution which saw its role mainly in teaching and less in research. Created on the model of an American liberal arts college with religious affiliation, the institution had never intended to implement the Humboldtian model of a unity of research and teaching. The institution is still active in Vienna, now offering validation of its degrees by overseas institutions — again, an example of the unofficial “grey zone” in higher education in Austria.

Private universities are not entitled to receive grants from the federal budget, but they may receive funding from the provinces or from cities and communities. The main income of many private universities is nevertheless drawn from tuition fees (which are not limited in this sector) and from private sponsoring.

3. The **Fachhochschul-sector** was established in 1993 and is still small, compared to the public university sector (20.600 students in 2003). The new sector was deliberately founded in order to provide short and vocationally orientated study courses. Furthermore, the *Fachhochschulen* differ fundamentally from traditional universities in terms of organization and funding. They are a major step towards deregulation of Austrian higher education.

4. There are a number of **post-secondary institutions with a rather school-like curriculum**. In the Austrian tradition they are not considered to be part of higher education. These are the colleges for teacher training (*Pädagogische Akademien*)⁵, academies for social workers (*Sozialakademien*), and schools for the paramedical professions (*Schulen für medizinisch-technischen Dienst*). In addition, some post-secondary courses are linked to vocationally-oriented upper secondary schools with a curriculum that resembles those schools (*Kollegs*). As a total, all those institutions enroll about 8% of all post-secondary students (22,000 in 2000).

Table 3. Enrollment of Austrian and foreign students in the different sectors of post-secondary education 1970/71 to 2001/02

	1970/71	1980/81	1990/91	1995/96	1998/99	1999/ 2000	2000/01	2001/02
I. Universities	53,152	115,784	193,479	220,341	222,209	228,577	229,247	184,237
I.a. Research Universities	51,276	110,516	186,607	213,525	214,912	220,831	221,505	176,724
I.b. Universities of the Arts	1,876	5,268	6,872	6,816	7,297	7,746	7,742	7,513
II. Fachhochschulen	0	0	0	1,761	7,869	9970	11,743	14,338
III. Other post-secondary	7,518	12,784	14,984	16,747	20,405	20,711	21,955	23,398
III.a. Teacher training	5,997	7,431	6,095	7,146	9,699	10,202	10,746	11,407
III.b. Others	1,521	5,353	8,889	9,601	10,706	10,509	11,209	11,991
Total	60,670	128,568	208,463	238,849	250,483	259,258	262,945	221,973

(Source: Hochschulbericht 2002, own calculations)

5. Only teachers for compulsory schools are trained at those institutions. Teachers for the elite track of secondary schools which are completed with a *Reifeprüfung (Matura)* are trained at universities.

ACCESS

Free Access

Austria is somewhat unique in having no tuition fees (from the 1972 to 2001/02) and at the same time — in the biggest sector, the research universities — free access:

- Austrian universities do not select their students. Students who have successfully completed the final certificate (*Matura*) within the elite track of Austrian secondary schools (*Gymnasium*) are free to enroll in any field of study at any Austrian research university for an unlimited period of time. Most policy-makers hold the opinion that secondary school still is sufficiently selective that entrance exams to universities are not necessary. In addition, Austrian universities are supposed to have equal standards and quality and for that reason they are not allowed to set different entrance requirements (e.g. different grade averages). This philosophy is continued in the open access to doctoral studies which is open to all graduates of regular Master's level studies (*Diplomstudien, Magisterstudien*).

- Austrian research universities are not allowed to reject students due to limited resources. There is no *numerus clausus* which would allow one to link the number of students to the number of staff and other resources. The government adheres to an open access policy without feeling much obligation to carry the financial consequences. In particular the teacher-student ratio has dramatically deteriorated over the last three decades. On average, the ratio for all academic staff is 1:18, the ratio for professors is 1:92. However, there are certain fields of study where the ratio is much worse. One of the two faculties for humanities at the University of Vienna (*Fakultät für Human- und Sozialwissenschaften*) has a ratio as high as 1:117 (all academic staff) and 1:415 (professor) (cf. Hochschulbericht 2002; all figures for 2001).

- A further aspect of the open access policy is the right to unrestricted length of study. This liberty is a double-edged sword. It means that the university does not monitor the progress of students. This makes it very easy for academics not to care about the students' needs. As a matter of fact, the *laissez-faire* conditions for students are matched by *laissez-faire* conditions for academics. In a sense, this is a core of the Humboldtian ideal of a university. The question was never addressed in Austria, if this still is a proper concept for mass higher education.

In this context, it should be mentioned that there is no official part-time mode of study at Austrian universities. Students tend to use their academic freedom by selecting fewer courses per semester, if they want to combine studies and work. Figures on the average duration of studies at Austrian

universities are therefore distorted. Only an official introduction of a part-time study mode would generate precise data for international comparison.

In all other types of higher and post-secondary education there is no open access: universities of arts and music are entitled to arts hold entrance examinations and select students with respect to their talent. This permits them to restrict their total number of students effectively. *Fachhochschulen* and other post-secondary institutions admit students as a function of available study places.

A nominal tuition fee (*Studienbeitrag*) was introduced again in 2001/02 after a highly controversial public debate. Austrian students and citizens of the European Union have to pay 363 Euros per semester. Those from other countries pay the double fee, but citizens from a number of developing countries are entitled to fee reimbursement.

The introduction of tuition fees has precipitated a decline in the number of total enrollments by around 20% (Table 3). This significant finding can be explained in terms of an outflow of non-active “paper students” who before the introduction of fees had preserved their student status for various reasons, one of which was the fact that leaving university was sometimes a much more strenuous and complex bureaucratic process than staying enrolled. Estimates based on examination statistics concluded that the number of “active students” (who took at least one examination in two years) remained stable (Pechar & Wroblewski, 2002).

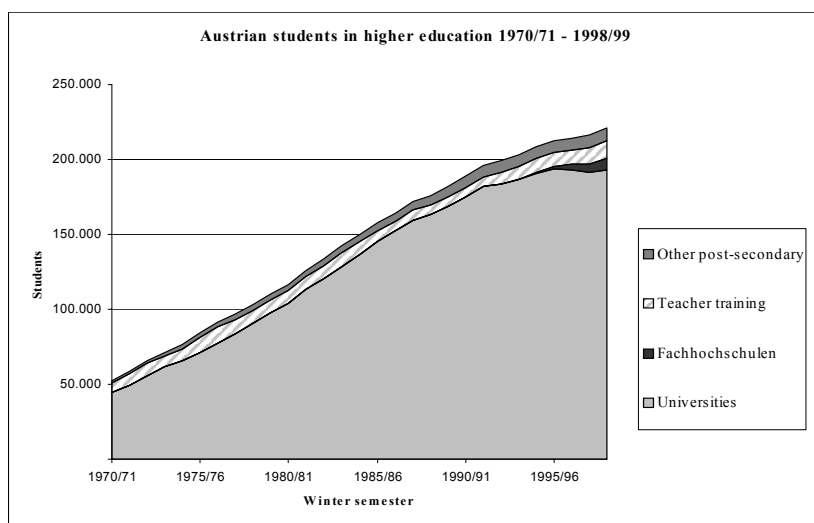
Directly after the introduction of these fees, there was also an 8% decrease in the number of first-year enrollments. The following years have since shown an increase in new enrollments which have compensated for this temporary decline.

Significantly, at first, the fees were not used as an additional income for the universities, but they were collected by the treasury to improve fiscal consolidation. This was changed in 2004 as fees are now considered a direct income of the universities.

Massification

In the early 1970s, the open access policy was designed to encourage high levels of participation. During the 1970s and 1980s Austria experienced an extraordinary increase of enrollment in post-secondary institutions. The total number of students rose from 52,000 in 1970 to 189,000 in 1990. In the 1990s, the growth rate was falling.

Figure 1. Austrian students in higher education 1970/71 to 1998/99



(Source: Hochschulbericht 1999)

This massive expansion was partly caused by demographic factors (high birth rates) and partly by growing participation rates (Table 4). The expansion was strongest at universities. From 1970 to 1990 the number of students quadrupled. At that time, Austria had not diversified its higher education system, so universities had virtually a monopoly. However, starting in the 1980s, the problems of a homogeneous university sector with laissez-faire conditions became apparent. The long duration of studies (on average 7 1/2 years for the first degree) and the high drop out rate was increasingly considered a problem. This was one of the reasons for the establishment of *Fachhochschulen*.

Table 4. Change of demography and participation

	Population aged 18 to 26	Students aged 18 to 26	Ratio of students to population of same age (%)
1970/71	796.704	32.281	4.1
1975/76	836.550	50.342	6.0
1980/81	919.337	74.055	8.1
1985/86	1,009,647	98.409	9.7
1990/91	930.593	107.745	11.6
1995/96	752.088	103.955	13.8
1996/97	738.559	103.301	14.0
1997/98	713.384	99.780	14.0
1998/99	695.600	98.368	14.1
(Source: Hochschulbericht 1999)			

SOCIAL-ECONOMIC STATUS OF STUDENTS

The no-fee and open-access policy was a deliberate attempt of the government to increase participation of students from families with low income and low educational attainments. To evaluate this policy is difficult because the available data are not satisfactory. In particular, no income-related data are available. At the occasion of first enrollment, students have to deliver data on the educational background and the occupational status of their fathers. According to that data, the relative size of student cohorts from different social backgrounds has not changed very strongly since 1970. In particular, the relative size of student cohorts coming from the most advantaged (white collar worker with university degree) and the least advantaged (working class) origins is relatively stable (Table 5).

Table 5. Occupation of the fathers of beginners, winter semester 1970/71 to winter semester 1997/98

Occupation of the father	Winter Semester						
	70/71	80/81	90/91	95/96	97/98	2000/01	2001/02
I. Self-employed - total	29.00%	22.90%	21.40%	22.20%	23.10%	25.10%	25.80%
I.a. Professionals	23.10%	17.10%	16.90%	17.70%	19.00%	20.30%	21.20%

I.b. Agriculturers	5.90%	5.70%	4.60%	4.50%	4.10%	4.80%	4.60%
II. Employees	71.00%	77.10%	78.60%	77.70%	76.80%	74.90%	74.20%
II.a. White collar	59.70%	63.80%	66.50%	62.70%	62.50%	64.20%	63.60%
a.1. higher education	16.70%	15.30%	17.30%	14.90%	15.90%	15.40%	15.00%
a.2. Matura	18.50%	17.00%	18.00%	16.70%	17.10%	17.40%	17.30%
a.3. Compulsory/ vocational education	24.50%	31.50%	31.20%	30.50%	29.00%	30.80%	30.90%
II.b. Blue collar	11.30%	13.30%	12.10%	13.70%	12.90%	10.70%	10.60%
b.1. skilled workers	—	6.50%	6.20%	7.20%	7.20%	4.90%	4.80%
b.2. other blue collar	—	6.80%	5.90%	6.00%	5.10%	5.80%	5.80%
Total	100%	100%	100%	100%	100%	100%	100%
<i>Note: The totals contain the cases with no distinct indication of the education of the father (iEmployees with no indication of the education of the father).</i> <i>(Source: *STAT, taken from iBericht „ber die soziale Lage der Studierenden, 1999 and Wroblewski/Unger, 2003)</i>							

The variations which occur over time are difficult to interpret because over the same period the occupational structure has changed. For example, why did the percentage of students coming from self-employed families decrease? An answer may be reflected in Table 6, which relates the change in participation to the change in the occupational structure and indicates an “occupational reproduction quota.” This quota contains information on how many students have started enrollment in higher education for every 1,000 fathers in a particular occupational group at the beginning of the 1980s, the 1990s and at the beginning of the 21st century. The biggest “winners” of higher education expansion in these two decades have been children from self-employed families and from workers with low educational attainment (also children of farmers; but their numbers are not significant).

Student Assistance

Austria has a binary system of public student assistance:

- “Indirect student assistance” was built in order to ease the burden which results from the legal obligation of parents to support their student children. It mainly consists of a monetary transfer to the parents (family allowance) irrespective of their income.

Table 6. Quota of admission according to the occupation of the father 1981/82, 1992/93, 2001/02

	1981/82			1992/93			2001/2002		
	Male population aged 40-65 in 1,000	Beginners with fathers' occupation:	Relation	Male population aged 40-65 in 1,000	Beginners with fathers' occupation:	Relation	Male population aged 40-65 in 1,000	Beginners with fathers' occupation:	Relation
I. Self-employed - total	184.8	3,407	18.4	175.5	4,242	24.2	195.1	5966	30.6
I.a. Professionals	96.8	2,602	26.9	103.7	3,348	32.3	129.4	4895	37.8
I.b. Agriculturists	88.	805	9.2	71.8	894	12.5	65.6	1071	16.3
II. Employees	792.8	10,967	13.8	942.4	14,780	15.7	986.4	17138	17.4
II.a. White collar	379.3	9,027	23.8	463.3	12,402	26.8	542.5	14693	27.1
a.1. higher education	40.1	2,127	53.1	63.1	3,310	52.4	83.9	3470	41.4
a.2. Matura	59.6	2,544	42.7	73.0	3,139	43.0	119.6	3992	33.4
a.3. Compulsory/ vocational education	279.6	4,356	15.6	327.1	5,953	18.2	339.1	7158	21.1
II.b. Blue collar	413.5	1,940	4.7	479.1	2,378	5.0	443.9	2446	5.5
b.1. skilled workers		920		223.4	1,313	5.9	240.8	1099	4.6
b.2. other blue collar		1,020		255.7	1,065	4.2	203	1347	6.6
Total	977.5	14,374	14.7	1,117.9	19,022	17	1,197.5	23,104	19.3
Note: The totals contain the cases with no distinct indication of the education of the father (i.e. Employees with no indication of the education of the father). Beginners include data for Fachhochschulen since 1995/96) (Source: Bericht „ber die soziale Lage der Studierenden, 1999 and Wroblewski/Unger, 2003)									

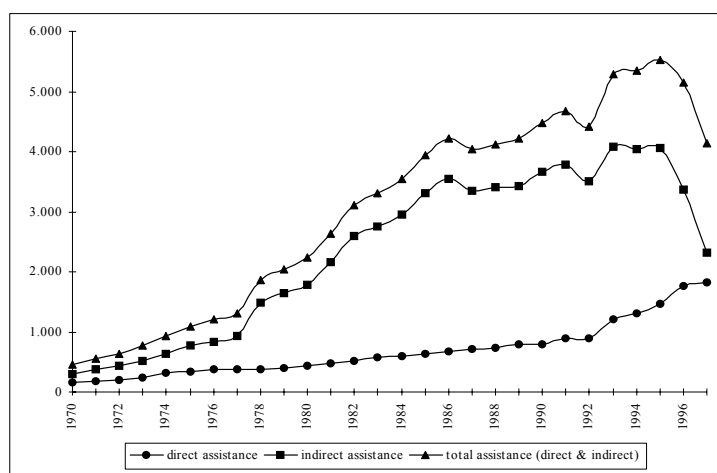
- The main component of “direct student assistance” is social grants, which are remedial measures for those low-income families who cannot afford to pay for the livelihood of their student children. Entitlement is dependent on low parental income on the one hand, and appropriate academic achievements of the student on the other hand.

- With the introduction of tuition fees, an additional allowance for students receiving student assistance was introduced. At the same time, their number reached a new climax of 29,563 (winter 2001).

Students in all three sectors of post-secondary education are eligible for assistance, both direct and indirect. However, due to basic differences in the

learning culture and the curriculum between the research universities and other forms of post-secondary education, the situation of students in the latter differs fundamentally from those at universities. At research universities, the last decades were characterized by a significant deterioration which is due to cuts in indirect assistance (Figure 2). Total expenditure for indirect assistance increased until the mid-1980s, in particular in the period of 1977–1986. During that time the average increase per year in real prices was 24%. In the following decade there was only a nominal increase which was, in real prices, already a yearly decrease of 1.3%. Starting in 1995, the austerity packages resulted in a sharp decline of nominal expenditure (average decrease per year in real prices: 22.5%). Expenditure for direct assistance followed a different, in some ways opposite, route. Until 1992 there was only a moderate increase (average increase per year in real prices: 4.3%). In the following five years nominal expenditure doubled, giving an average increase per year in real prices of 15.8%.

Figure 2: Public expenditure for direct and indirect student assistance in million



(Source: BMWV, own calculations)

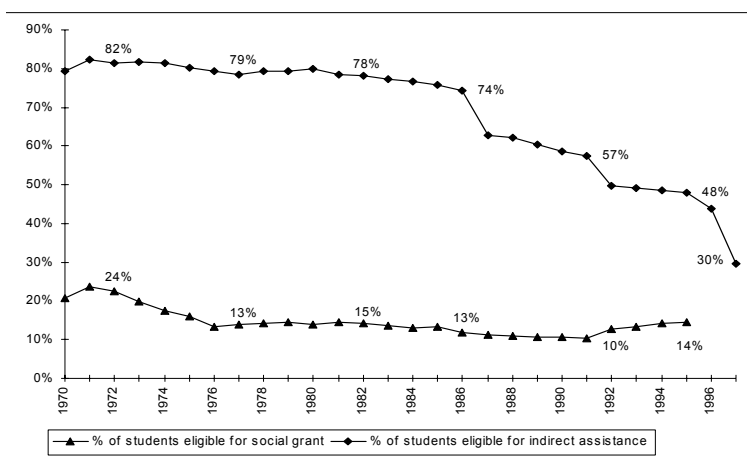
These remarkable changes in the pattern of expenditure for direct and indirect assistance are mainly due to modifications of the criteria for eligibility for both types of assistance (figure 3):

- During the 1970s and 1980s, income thresholds for direct assistance were adapted to inflation but this did not take into account the general rise

of living standards. As a consequence, eligible students (as a percentage of total enrollment) fell from 24% (1970) to 10% (1992). This figure increased up to 14% in 1995 after a policy change which resulted in significantly raising the income threshold.

- Due to generous eligibility criteria, approximately 80% of students enrolled received indirect assistance during the 1970s. Starting in 1986, severe restrictions were introduced. The age limit was reduced (from 27 to 26) and additional criteria of academic achievement were introduced. As a consequence, eligibility of university students dropped to 30% of total enrollment in 1997.

Figure 3: Eligible students for social grants and indirect assistance in % of total enrollment



(Source: BMWV, own calculation)

Students in other forms of post-secondary education have not been hit by cuts of student assistance in the same way. This can mainly be attributed to the different culture of teaching and learning which results in a lower drop-out rate and a significantly shorter duration of study. Therefore, in those courses only a few students fail to meet either the age or the academic criteria for indirect assistance. The difference is not that obvious for the social grant, because there the main criterion for eligibility is parental income. However, due to the shorter duration of studies, about 30% of the students enrolled in colleges for teacher training are eligible for social grants. One can assume that the situation in the other post-secondary institutions mentioned above is similar.

Institutional Autonomy

Traditionally, Austrian universities have a high degree of academic autonomy—in the sense of the individual right of freedom to teach and to do research—but have had little institutional autonomy. For many centuries they have been state-owned and mainly state-run institutions, not corporate bodies with legal entity. There was a sphere of autonomous administration which, however, was basically restricted to the right to pass resolutions on proposals to be forwarded to the responsible minister who then took the decision. There was no confidence in the self-regulatory capacity of the academics to run “their” university.

Major changes can be shown by analyzing three organizational reforms through university acts and their amendments of 1987, 1993 and 2004.

Only in the late 1980s doubts about the efficiency of the concentration of authority and decision-making at the ministerial level arose. Since then, there has been a growing awareness that the system has to be restructured and decentralized and that the university’s self-government has to be strengthened. A first step was taken in 1987. An amendment to the former **Act on University Organization (UOG 1975)** empowered universities and their units to finalize research contracts and to manage the income thereof as well as donations, inheritances and legacies separately from the federal budget regulations.

A further move towards decentralization began in 1990 when the government announced its intention to reform the organization of universities and to set up a new sector in higher education (cf. Pechar & Pellert, 1998). In autumn 1991, the Ministry proposed a reform which envisaged a fundamental change of the Austrian tradition of governance and administration of universities. This reform proposal included a remarkable degree of institutional autonomy and proposed to shift decision-making in many crucial issues from the Ministry to the universities. The old-type rector should be replaced by an academic manager. A buffer organization, a board of trustees, should be created, which should have the task of system-wide coordination; and the authority of the Ministry should be limited to the task of determining the global goals and a framework of the overall system.

This reform proposal, especially the reorganization of the internal governance structure of the university, has met heavy criticism from the academic community. The proposal was revised several times and finally the resulting bill **Bundesgesetz über die Organisation der Universitäten (UOG 1993)** passed

Parliament in July 1993. Not all of the envisaged and rather far-reaching changes have been incorporated into the act. However, an important increase of institutional autonomy took place:

- Universities continued to be federal institutions, but they enjoyed an increased autonomy with regard to their internal organization and the internal allocation of funds;
- the position of the rector has been strengthened, although for many decisions he/she needed the approval of a collegiate body;
- not all faculty members were civil servants, anymore; there were also private contracts with the university;
- assessment of teaching and research became obligatory;
- the “University Curatorium” (*Universitätenkuratorium*), an intermediate body, was to function as a nation-wide coordinator and to secure evaluation and assessment procedures.

The reform has been implemented step-by-step and in 2000 all 12 universities were regulated by the new Act. The organization of the schools for the fine arts and music was harmonized with that of the other universities by an Act in 1998.

In 2002, the Austrian Parliament passed a new Organisation Act, the *Universitätsgesetz 2002 (UG 2002)*, the implementation of which began in 2004. Public universities are now separate legal entities, i.e. universities are no longer state units, but corporations under public law (*Körperschaften öffentlichen Rechts*). Hence, compared to the conditions under the UOG 1993, the universities acquire an unparalleled status of corporate autonomy:

- The internal organization of universities (other than the general regulations concerning the decision making structure) is not determined by the UG 2002. The academic senate of each university is entitled to decide on an institutional statute (*Satzung*).
- Each university has a governing board (*Universitätsrat*) with five to nine members. Half of the members are elected by the academic senate (*Akademischer Senat*); the other half are appointed by the Federal Minister.
- Being elected by the board, the position of the rector is reinforced and made significantly more independent from the internal collegiate academic bodies of the institution. Certainly, their new dependency on the board cannot be neglected.

- All academic faculty and non-academic staff are now employed directly by the university. Academics are no longer civil servants but employed on the basis of private contracts.
- The federal government remains responsible for basic funding, but universities are freed from the fiscal regulations of the federal budget (*Kameralistik*). They now receive a lump sum budget (*Globalbudget*) which is determined for periods of three years and which the universities may distribute to their own discretion.
- All resources are allocated on the basis of performance contracts (*Leistungsvereinbarungen*). While 80% of the individual budget per institution are fixed, another 20% are allocated on indicators from the fields of research, teaching, development and public objectives.

In 1990, as mentioned above, the Austrian government also decided to establish new higher education institutions called **Fachhochschulen**. They were to offer shorter and vocationally-oriented alternatives to university courses. The act which governs the new sector passed Parliament in May 1993. It differs fundamentally from the traditional regulations in higher education in Austria and has been a major step towards institutional autonomy: the new courses are offered by institutions set up by private law. Standards and quality are secured by accreditation and assessment procedures. The responsible body is the *Fachhochschulrat*, a board which includes academics and practitioners. The federal government subsidizes the courses applying a per capita formula. At the start of the new sector in 1994, most institutions running courses have been “associations,” now the dominant legal status are “companies limited” which from the point of legal determination and transparent responsibilities is preferable. The members or shareholders of these associations or companies are predominantly regional governments, municipalities and chambers. With regard to the allocation of responsibilities in the new institutions, a “dual system” is evolving: there is a division of labor between the company management, responsible for financial and administrative matters, and the teaching staff. The latter is responsible for academic affairs (curriculum design and development, coordination of teaching, matters concerning the learning of individual students). The appointment, development and dismissal of staff is a joint responsibility.

As already stated, the **private university sector**, legalized in 1999, has stayed very small, but it has used its institutional freedom to promote innovation: not bound to the Austrian degree system at public institutions, private universities were the first to offer Bachelor's degrees in Austria, the first to offer

an American style PhD program (only since 2004 an option for public universities as well) and the first to establish a fast-track program in medicine.

SOURCES OF REVENUES

Universities

It follows from their lacking legal capacity that universities have not been federal institutions similar to public companies but units of the federal administration until 2004. Consequently, universities have been financed by public funds as any other branch of the bureaucracy. The money has been distributed by line budgets. University staff have been for the main part civil servants; their posts have been assigned by the federal budget law.

Before 2004, the federal budget for universities was not allocated along formulas but at discretion of civil servants. The Act on University Organization of 1993 aiming at a devolution of power from the state to the university level had already increased the responsibility of universities for the internal allocation and management of their funds. Although universities did not yet get a lump sum budget, the budget was specified in only three item lines (expenditure for personnel, for equipment and for operating costs) and the funds were to some extent transferable from one item line to another.

Other sources of revenue, beside the federal funds, were only gradually evolving. Until 1987, Austrian universities could accept donations, inheritances and legacies and were also able to enter research contracts with industry and other external partners, but the property and money earned were considered to belong to the Republic of Austria. Although this income eventually was distributed to the university that earned it, reclaiming the funds was a complex and lengthy process. In 1987 by an amendment to the Act on University Organization, universities and their units (departments, institutes) gained the status of a legal entity insofar as they were empowered to conclude research contracts and accept and manage income from donations, inheritances and legacies on their own responsibility; federal budget regulation did not apply. The role of the state administration was limited to legal supervision.

The possibility of contract research increased the motivation of university staff to engage in such activities. Although it has always been possible for university staff to enter research contracts and consulting in their private capacity, it is obvious that the role of these “private” research/consulting activities differs

by discipline and is not viable in some areas, especially in those which require additional personnel and major equipment.

In the past, universities and *Fachhochschulen* in Austria did not charge fees for degree courses, but it was possible to collect fees for non-degree courses (*Universitätslehrgänge*), mainly in the field of continuing professional education. Under the UOG 93, all income from these fees was earmarked for the relevant course, but managed according the federal budget regulations which again reflects the bureaucratic tradition of Austrian universities. Table 7 shows the revenues from the state and from the private sector which reflect the strong reliance of universities on public funds.

Table 7. Income of the Universities (2000) in million Å:			
University	Federal budget*	Income from third parties	Income from different activities (sales, course fees)**
Vienna	586.944	38.067	8.322
Innsbruck	245.296	11.303	4.210
Graz	253.406	17.917	3.398
Technical University, Vienna	135.123	30.148	2.440
Technical University, Graz	82.433	16.146	1.510
Salzburg	68.994	1.908	2.364
Linz	58.495	13.029	2.721
Agricultural Science, Vienna	58.586	20.283	770
Economics and Business Administration, Vienna	50.730	5.910	2.500
Veterinary Medicine, Vienna	74.092	3.512	3.579
Klagenfurt	33.016	0.730	0.912
Mining and Metallurgy, Leoben	24.331	4.562	0.282
Music and Performing Arts, Vienna	55.032	0.210	0.676
Music and Dramatic Arts (Mozarteum), Salzburg	26.714	0.213	0.717
Music and Drama, Graz	24.444	0.354	0.216
Applied Arts, Vienna	19.341	0.136	0.120
Fine Arts, Vienna	16.532	1.731	0.160
Art and Industrial Design, Linz	9.052	0.707	0.223
(Source: Hochschulbericht 2002)			
*Not included are the special funds for research, and private projects of university teachers which are not declared to the statistics.			
**Tuition fees were not yet introduced)			

Since 2004, the federal government retains the responsibility for basic funding, but universities are freed from the fiscal regulations of the federal

budget. They now receive a lump sum budget, allocated on the basis of performance contracts. Of the individual budget per institution, 80% is fixed, and 20% is allocated according to indicators. There are enormous differences in the federal expenditure per student between the single universities. It is obvious that paper and pencil studies need less money than laboratory-based disciplines and it might be that there are also other special features which justify differences in the allocated money. However, it is striking that the ministry never makes those decisions transparent nor gives any reason which would enable a public debate about the assessments and judgments which are the basis for those decisions. Until 1990, not even the sums allocated to the different universities were published.

Fachhochschulen

Universities and *Fachhochschulen* differ in the “funding philosophy” (Pechar 1997): In both sectors the federal government plays an dominant role. However, for the universities the federal government has accepted responsibility to cover all costs (under the condition that it also defines the financial needs), whereas for the *Fachhochschulen* it has accepted only a limited responsibility. One could say that the state has a rather paternalistic relation to the universities and a more distant one to the *Fachhochschulen*. The government explicitly stated its plan for the development and funding of the new sector in 1994, 1999 and 2004, by three investment and development plans, each governing a five-year period. The documents set out the funding scheme used by the government, the amount of federal funds available each year and criteria which have to be met by courses to be eligible for funding.

Although a system of mixed funding had been planned for the new sector, it was clear from the beginning that the major part of its budget would have to be borne by the federal state. The latter uses a per capita funding scheme; the amount per student and year varies by discipline and is between 5,814 and 6,904 Euro. Building, capital investment and additional running costs are borne by the provider (provincial or municipal authorities, chambers and other organizations). The aim of the new funding scheme has been to strengthen the providers' responsibility for the handling of the budget as well as for students' progress

In contrast to the universities, *Fachhochschulen* may charge fees (in the same amount of 363 Euros per semester), but they can decide not to do so. Currently, in three Austrian provinces there are no tuition fees at *Fachhochschulen*.

Private Universities

Private institutions certainly depend on external private and/or public sponsors. Another source of income are tuition fees, the amount of which is not limited in this sector. So far, three different types of institutions can be distinguished:

- Institutions mainly funded by private sponsors and by tuition fees. These institutions may tend to establish for-profit education.
- “Off-shore” or “branch” campuses of mother institutions in other countries. Usually, these institutions are closely linked to their home institution’s corporate identity and to its funding scheme.
- Institutions with a basic funding from province governments, cities and communities and additional income through private sponsoring and tuition fees. These institutions have a tendency to follow the ideal of non-profit organizations.

An example of the latter shows a special kind of public-private partnership: after the re-foundation of the (public) University of Salzburg (*Paris-Lodron-Universität Salzburg*) in the 1960s, the regional authorities had continually tried to reestablish a faculty of medicine⁶ — a project that was never realized, as the federal ministry refused to accept the proposal. The law on private universities of 1999 has since then given local authorities a chance to establish the faculty of medicine as a small-scale private institution. Due to its links, the private university is closely cooperating with the faculty of natural sciences at the *Paris-Lodron-Universität* (tuition of undergraduates) and with the public hospital sector (*Salzburger Landeskliniken*).

Tuition Fees

In the early 1970s, fees (which had been very small at that time) were abolished. During the 1970s and 1980s, the idea of free higher education was hardly ever contested. Higher education was regarded as a public good which must be funded completely by the state. Starting with the 1990s, the lack of public resources has stirred a debate on possible additional revenues from private sources. One result was the reintroduction of (nominal) tuition fees in the aca-

6. The old university was founded in 1622 and run by a confederation of Benedictine monasteries. After the secularisation, an own faculty of medicine was established. The old university was closed in 1810.

demic year 2000/2001. The political decision was nevertheless highly controversial:

- Conservatives have never been enthusiastic about free higher education. They rather pragmatically accepted the fact that this policy has had an overwhelming public support for many years. However, public attitude changed as soon as conflicts about the distribution of the federal budget intensified due to fiscal consolidation. Starting in the late 1980s, there have been repeated pleas for fees from single conservative politicians. The party as a whole embraced a policy of wait and see.
- The situation is quite different for the social democrats. In the past, free higher education was a core value with high symbolical meaning for this party. But even in the social democratic camp the fiscal crisis has changed attitudes towards free higher education. There are increasing doubts whether this policy has met the high expectations of the early 1970s when fees were abolished in order to foster equality of educational opportunities (cf. the section on the social-economic status of students).
- Fees remain a delicate political issue. For most people who support fees, the issue has little significance. However, for many opponents the issue is a high priority. The group with the strongest resistance to fees, the students, has used its high potential to organize visible political protests, which, however, certainly could not stop the political decision.

For good reason, the impact of fees on social justice dominated the policy debate in Austria in the 1990s. From an egalitarian perspective, free higher education is much more ambiguous than most of its supporters acknowledge. Given the fact that the social make up of the Austrian student body has not changed significantly, one can hardly consider it as an efficient and accurate policy to achieve greater equity. The distributional effects of public expenditure on higher education are highly controversial (cf. Pechar & Keber 1996; Sturn & Wohlfahrt 1999). In any case, it is true that fees can hamper access of low-income students. In order to prevent this, there was a promise to bring fees into line with the social condition of students and their ability to pay. Students who receive federal support are therefore exempt from tuition fees.

Opponents of fees have argued that contributions from students would simply compensate and legitimize the policy of fiscal stringency. Actually, during the first years after the reintroduction, the fees were only a means of fiscal consolidation. Since 2004, universities receive the tuition fees directly. In some respect, this will strengthen the recently gained institutional autonomy. But even

so, one may fear that the income through fees will merely enable further cuts of public expenditure.

Cost Structure

Any discussion of the cost structure of Austrian higher education institutions is strongly predetermined by the regulations concerning the federal budget. Universities fall under the national budget for science, which runs on a central system of bookkeeping. This leads to state-oriented accounting, with little information about the costs of the universities' tasks.

This reality has often been criticized. Early attempts to improve the quality of the information showed the difficulty of creating a coherent system for tracking the major costs of these institutions because of the interdependence of teaching and research, the high degree of freedom of academic personnel, the free access for students and the tradition of concealing information.

The Act of 1993 made it obligatory for universities to use a business-like accounting system. Special regulations were laid down in 1999. A working group consisting of all Austrian universities has developed ways to implement a business-oriented accounting system that allows for better steering of the universities. Most universities started implementing this new accounting system in 2001 or 2002. Increasing transparency of the use of public funds was one of the major goals.

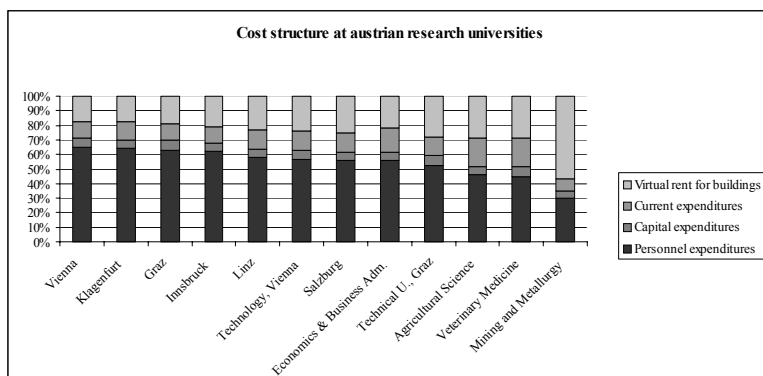
As universities are almost exclusively financed by the federal budget, the federal accounts reflect almost all of the universities expenditures. Expenditures for buildings run under a different budget division, and are not counted towards the university budget.

In its statistics, the Ministry of Science includes a virtual budget for classroom space, calculating a standardized rent for the buildings, to give an idea of the resources required to run the university.

The data reflect the differences in the structure of the expenditures of the different public universities: The highly specialized research universities have a higher proportion of infrastructure and current expenditures than the traditional "mixed" universities.

The *Fachhochschulen* and the private universities are not listed along these items in the federal budget account. The *Fachhochschulen* get lump-sum budgets. The private universities do not receive federal funding and they are entitled to keep their income undisclosed.

Figure 4: Cost structure at Austrian research universities (1998)



(Source: Hochschulbericht 1999)

Table 8. Expenditures 1998 by university, in million Å

	Personnel expenditure s	Capital expenditure s	Current expenditure s	Virtual rent for buildings	Total
Vienna	281.171	25.217	48.037	76.888	431.313
Innsbruck	118.239	11.773	20.857	40.115	190.984
Graz	109.155	11.773	19.258	32.775	172.961
Technical U., Graz	80.158	10.610	19.694	42.296	152.758
Technology, Vienna	50.290	5.596	11.555	20.857	88.297
Salzburg	48.255	4.506	11.410	21.584	85.754
Linz	41.351	3.852	9.375	16.351	70.929
Economics & Business Adm., Vienna	32.775	3.125	9.738	12.790	58.429
Agricultural Science, Vienna	30.305	3.779	12.936	18.532	65.551
Veterinary Medicine, Vienna	22.165	3.125	9.738	14.171	49.200
Klagenfurt	21.729	1.817	4.433	5.814	33.793
Mining and Metallurgy, Leoben	16.133	2.762	4.360	30.668	53.923
Fine Arts, Vienna	8.648	0.872	1.744	7.703	18.968
Applied Arts, Vienna	12.718	0.727	2.108	4.796	20.348
Music & Performing Arts, Vienna	36.845	0.872	3.488	8.285	49.490
Music & Dramatic Arts, Salzburg	19.840	0.727	2.544	5.668	28.778
Music & Drama, Graz	18.532	0.727	1.671	3.634	24.563
Art & Industrial Design, Linz	5.450	0.436	1.235	4.360	11.482

(Source: Hochschulbericht 1999, converted to Å)

Faculty Roles and Reward

Since Austrian universities were state institutions until 2004, all academic and non-academic staff were not employed by the institution, but were civil servants (except for a small number of staff with private terms of employment). Staffing numbers were set by the government. Since 2004, all faculty and non-academic staff are employees of their university.

Traditionally, the most important organizational unit in Austrian universities has been the chair held by a *professor ordinarius*, who covered all the main tasks and responsibilities of research, teaching, and administration in his/her field of study. All other academic staff was subordinated to the chair and was to support him/her. This organizational pattern, which originated in the 19th century, was modified by various reforms triggered by the expansion of higher education since the 1960s.

A first important step was the organizational reform of 1975 (UOG 1975), in which chairs were replaced by institutes, which were units for similar or related subjects. Furthermore, the non-professorial teaching staff was (with reduced influence) included in collegial self-administration.

In 1993 there was a new organizational reform intended a further equalization of the tasks and status of the academic staff. The difference between the *professor ordinarius* and *professor extraordinarius* was abolished. Under the UOG 93, all university teachers with a *Habilitation* had in most respects gained the same status of professor.

With the introduction of the UG 2002, the role of the *professor ordinarius* has gained importance again. Junior faculty, including fully qualified assistants with *Habilitation*, have been significantly constrained in their role in internal management.

However, the traditional notion of the chair is still present in many formal and informal ways. Many institutes in fact have only one professor, which means that the traditional chair pattern is still alive. The *Habilitation*, a “second thesis” and its defense, which is a prerequisite for a full teaching authorization and which practically speaking (though not legally) is a condition for being appointed as a professor, is still in practice (although its possible abolition is under debate). One significant aspect of the UG 2002 in this context is the fact that universities can restrict the right to prepare expertise in the *Habilitation* process to *professori ordinarii* (cf. Lang/Feucht, 2004). By this, the curia of *professori ordinarii* may restrict the number of fully qualified scientists. At least, they

have gained further power on this decision, while the above-mentioned fully qualified assistants are excluded from the process.

Academic staff in the broader sense includes external lecturers and scientific personnel who have completed a *Habilitation* without having a post at a university (*Universitätsdozenten*). The latter continue the tradition of the *Privatdozenten*, going back to the 19th century. Employed academic staff is divided into different categories discriminated by status and function. A main dividing line is the *Habilitation*, which entitles one to teach without any further permission (full teaching authorization). Until recently, academic staff without habilitation were only authorized for support functions. A change in the civil service code for academics in 1997 gave them the right to teach. Their courses, however, have to be ordered by academic authorities (*beauftragte selbständige Lehre*).

What are the qualifying procedures and career patterns for employed academic staff? The situation under the UG 2002 differs fundamentally from the prior career patterns. As employees of the university, the academic staff are no longer civil servants — and therefore a general dismissal protection is lost. In addition, prior to 2002, graduates with a first degree (Master's level) could become and work as assistants while preparing their theses. Now, they may get a grant to participate in research projects. A Doctoral degree now is a prerequisite for appointment as an assistant and an assistant starts with a temporary contract. During this period he/she is supposed to finish his/her *Habilitation*. Then he/she may apply for the post of a professor, in case of a vacancy. There are permanent and temporary posts for professors. Proposals for candidates for vacant posts of professors are made by an appointment committee of the university. Previous to 1993, it was the Minister who selected one out of three candidates. With the UOG 1993 and the UG 2002, the right to appoint a professor was passed over to the rector.

Table 9 gives an overview of the quantitative development of the different levels of academic staff and student numbers. As one can see, student numbers have almost quadrupled, whereas numbers of staff not even have doubled. However, one has to keep in mind that enrollment numbers at Austrian universities included a significant number of “paper-students” until 2000/01. With the introduction of tuition fees, many of them have left university. It may be estimated that a certain number of “paper students” are still matriculated even though they have to pay the nominal tuition fees. The different levels of academic

staff have, however, grown at a very different pace. Most significant, in absolute terms, is the growth in the number of assistants and non-academic staff.

Table 9: Academic staff and students at research universities, 1970 ñ 2002

	1970	1980	1990	1995	2000	2001	2002
Professors	906	1,589	1,732	1,854	1,854	1,850	1,850
Prof. ordinarius	806	1,119	1,152	1,276			
Prof. extraordinarius	100	470	580	578			
Assistents	3,653	4,883	5,434	6,801.2	7,335	7,628.3	7,695.5
Others*	317	690	727	746.3	763	748	746
total academic staff	4,876	7,162	7,893	9,401.5	9,952	10,226.3	10,291.5
non-academic staff	3,304	4,316	5,716	6,743	8,032	8,073.3	8,084.3
total students	51,276	110,516	186,607	213,525	221,505	176,811	179,966
* federal teachers and civil servants with academic functions ** including libraries (since 1998) (Source: Hochschulbericht 2002 cñ Statistisches Taschenbuch 2003)							

HIGHER EDUCATION INFRASTRUCTURE

Traditionally, three ministries (Education, Finance, Economics) participate in decisions concerning the university infrastructure. There has not been a master plan or general concept for the development of the higher education infrastructure. As most of the universities are located within the center of relatively large cities, reacting quickly to new developments and using unusual sites for university buildings has often been the only chance to enlarge and renew the infrastructure; the practicability of long-range planning has therefore been limited. The overall budget situation has a direct impact on the equipment and infrastructure of the universities, as governments tend to cut public spending equally for all sectors in times of budget restrictions.

Some years ago the establishment, adaptation and running of university buildings was transferred to a federal company (*Bundes-Immobilien-gesellschaft, BIG*). Decisions about new buildings are made jointly by the Ministry of Education, Finance and the relevant university. New buildings are financed by the *BIG* and the buildings are then rented by the university. In some cases provinces and municipalities provide additional funding.

The University Organization Act (UOG 1993) that came into effect in 1993 brought more responsibility to the universities. The libraries, computing labs

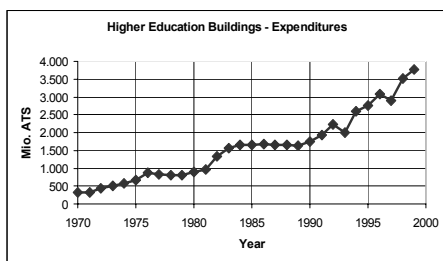
and other service departments which were formerly provided with their own budget by the Ministry are now part of the universities, with the rectors responsible for the personnel, budget and buildings. At the same time, this means that universities have to develop strategies to match the different needs of science, teaching and service units under the conditions of stagnating or decreasing budgets.

Also, the UOG 1993 introduced new players and models of decision-making. The University Curatorium (*Universitätskuratorium*) was established as an advisory committee to the Minister on issues of university policy. The university boards again represented the social, economic and regional environment and had an advisory function within the university. Both institutions were to strengthen long term planning and the future development of the sector and the individual university.

Higher Education Buildings

During the past 50 years, the development of higher education buildings went through three major periods: the reconstruction of the devastated and damaged buildings after World War II; the intensive construction from the 1960s onwards; and considerable expansion and the development of new sites and new buildings since then. In this period, two new universities were created, one in 1966 in Linz, and one in 1970 in Klagenfurt. Since the end of the 20th century, the expansion is slowing down; new projects and major trends mainly concern repairs, new installations and technical developments. The major changes in organization concerned conferring university status to universities of arts and music (1998) and in the “outsourcing” of all three existing faculties of

Figure 5: Expenditures for higher education buildings 1970 –1999 in million Austrian schillings:



(Source: Hochschulbericht 1999)

medicine (Graz, Innsbruck and Vienna) as independent universities for medicine (2004).

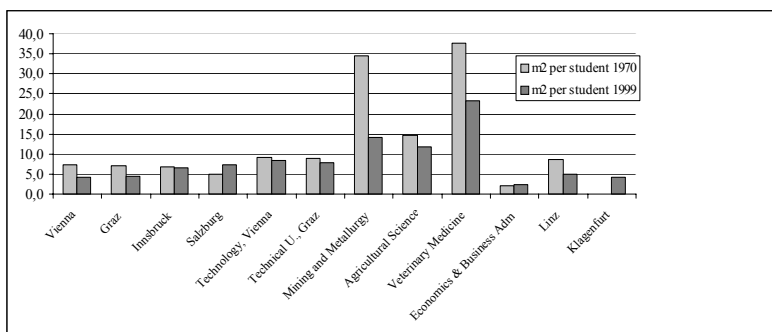
Table 10. Increase in space at research universities and universities of the arts, 1970 to 1999		
University	Square meters	
	1970	1999
Vienna	127,000	303,500
Graz	47,000	127,000
Innsbruck	43,000	174,000
Salzburg	13,000	84,500
Technical University, Vienna	59,000	164,000
Technical University, Graz	35,000	86,500
Mining and Metallurgie, Leoben	22,000	29,000
Agricultural Science, Vienna	16,000	72,000
Veterinary Medicine, Vienna	19,000	55,000
Economics and Business Administration, Vienna	8,000	52,000
Linz	15,000	65,000
Klagenfurt	0	23,500
Total Research Universities	404,000	1,236,000
Universities of the Arts	50,000	133,500
(Source: Hochschulbericht 1999)		

The period of intense construction was primarily due to the growth of the number of students (“massification”). Since the 1990s, concerns about safety and health are becoming more importance. Also, adaptation to the technical innovation and the diversification of the student clientele (part-time students, working students) brings the need to extend opening hours and to provide restricted areas of access also in the evening, during weekends and during the night.

Compared to the situation in 1970, the space available to each student is reduced; the average has dropped from about 12 square meters per student to 8 square meters per student.

But the graph also shows that the big differences between universities were reduced during this period. It must not be forgotten that the universities ranging at the high end are specialized universities with considerable research needs.

According to the planners in the Federal Ministry, the condition of the buildings is considered quite acceptable. Of course, many buildings require con-

Figure 6: Available space per student, 1970, 1999:

(Source: Hochschulbericht 1999, own calculations)

stant adaptation and care, and the need to integrate technical innovations is ongoing.

Equipment of lecture halls, classrooms and laboratories at universities is not standardized. Planners may therefore quickly react to new needs and trends, of course under consideration of security standards and budget restrictions.

Libraries

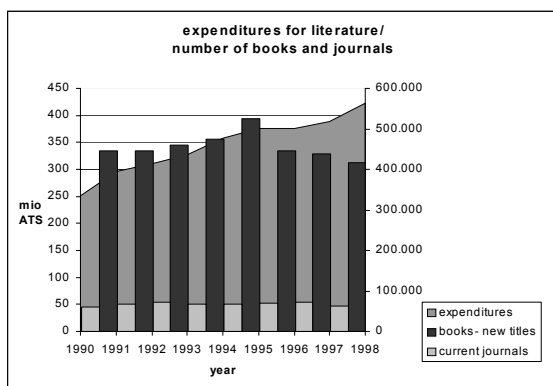
The equipment of libraries is an important factor for the quality of an academic site. In recent years, the dramatic increase in prices, especially in the technical subjects, combined with budget restrictions, has led to stagnation if not decline. Universities will have to combine their efforts in order to provide adequate equipment. A new Austria-wide catalog system has already been implemented. The libraries will have to find new forms of cooperation to enlarge the scope of their offerings by loans between different sites and will have to rely more and more on electronic media.

Figure 7 shows the evolution of the expenditures of scientific libraries and university libraries (excluding the National Library and Austrian Phonotheek) and the volume of new books and current journals.

Other Infrastructure

The need for IT equipment is constantly growing, and so are the expenses. Universities will have to meet students' needs for computer workplaces within the universities. Dormitories offer Internet access, and most students own a per-

Figure 7: Expenditures for literature/number of books and journals 1990 –1998



(Source: Hochschulberichte 1993, 1996, 1999, own calculations)

sonal computer, but there is still a need for more equipment within the universities. Also, nearly all researchers, teachers and administrative personnel use a personal computer and software at their workplace, if not specific equipment for research.

Modern university management requires management information systems which are accessible to all university members. Students tend to rely more and more on the Internet for information about courses, study programs, examination results, etc. Universities seek to meet these needs by installing intranet applications, information booths, chip-card access to information and one-stop services. Pre-registration for new students and registration for courses is already done online at some institutions.

Also, the increased demand for security on campus has to be met by technical means. All these new services bring additional cost to higher education institutions.

CONCLUSIONS

As we have seen, the Austrian higher education system is in a process of fundamental change, accompanied by heavy ideological controversies. The well known political frontlines between the conservatives and the social democrats do not necessarily apply to these controversies. Those who want to “modernize”

universities are spread over all ideological map and the same is true for those who want to keep the basic traditions of the Austrian system. Funding has a key position in that process and it is one of the most controversial issues. When it comes to money, at least the frontlines are clear: they run between the government on the one hand, and all HE groups (professors, junior faculty, students) on the other hand, with the general public in an uncertain position, being inclined sometime to one position and then to the other.

At first glance, the whole issue is a question of public expenditure for higher education. Academics and students complain of an underfunding of universities and *Fachhochschulen*; they blame the government for not caring sufficiently about the financial needs of their institutions. As a matter of fact, the growth rate of public expenditure went down and the expenditure per student did decrease over time. In other words, the financial situation of universities deteriorated, mainly as a consequence of fiscal consolidation. But how can we define how much the government should appropriately spend on higher education? This issue is obviously complex; we cannot simply look back to a “golden age” when educational expansion was one of the top priorities of the government and public debt was not yet considered to be a major problem.

A number of factors can explain why per capita spending for higher education fell and why it is unlikely that it ever again will reach the level of the early 1970s:

- Expanding participation rates increase the financial burden for the government to fund higher education. This is a trivial conclusion, but in earlier times, the government obviously underestimated the fiscal consequences of educational expansion⁷.
- Since the 1980s, the policy orientations of the government changed. Public debt is now considered a major problem and fiscal consolidation has become a top priority.
- Another reason why public expenditure for higher education has come under stress is that competition with other public responsibilities that had rising, sometimes exploding, costs (such as healthcare or old-age pensions) has become more pronounced.

7. In the late 1970s, a research report commissioned by the government (Bodenhofer 1980) has already forecasted some of the fiscal problems the government experienced during the 1990s. Since this was inconsistent with the policy orientation of that time, the report did not receive much attention.

A useful point of reference for approaching the question of appropriate levels of expenditure is international comparisons. With respect to educational expenditure as a percentage of GDP, the direct public expenditure for higher education institutions is 0.9% (1995); this is exactly the same figure as for OECD total. However, if one looks at total expenditure from both public and private sources, the picture changes. For Austria this figure is 1.0%, only insignificantly different from the former; for OECD total, on the other hand, it is 1.7%, which is almost double the former figure (cf. OECD 1998, 83).

These data underline the enormous dependency of Austrian higher education on public sources of funding. In times of fiscal stringency this becomes a weakness which restricts further development. At least in that respect, the *Fachhochschulen* are in a different position. Since the federal government has refused to cover all costs, *Fachhochschulen* have to attract additional funds from other sources. Private money does not yet play a significant role, but *Fachhochschulen* are very successful at opening up additional public sources. Municipalities and provinces, which formerly did not pay for higher education, contribute a big share to the public expenditures of this sector. However, it is unlikely that this type of mixed funding, which has proven successful at the *Fachhochschul* sector, can be transferred to the university sector. The financial commitment of provinces and municipalities to *Fachhochschulen* can be explained by the strong links of those institutions with the regional economy. As shown above, some of the private universities are in similar positions concerning interest and funding from local authorities, but in contrast to the *Fachhochschulen* they cannot receive funding from the federal budget. The public universities, on the other hand, have fewer regional connections; they are oriented to a nationwide level and this is seen as justifying that they are solely funded by the federal government.

The main challenge for universities in the future is how they can increase their income from private sources. The private source which has probably caught the most public attention is tuition fees, which were reintroduced in 2000/2001.

Other potential sources of private income are “third party funds,” i.e. income from research contracts. It is controversial why this kind of income still plays only a marginal role in Austrian higher education (compared with many other OECD countries).

- On the one hand, many Austrian academics express significant resistance and hostility to any entrepreneurial attempts to open up new

“markets.” These attitudes reflect the strong impact the Humboldtian idea of the university still has. An entrepreneurial and managerial culture would undermine academic autonomy. Nevertheless, even before 2004, successful programs in the field of continuing professional development, which made it possible to charge self-defined tuition fees, show that some departments have already found entrepreneurial ways for cross-funding.

- Even without rejecting a market approach, academics often lack the skills and techniques which are required for successful behavior in competitive markets. In many respects, academic work is inherently chaotic, unpredictable and difficult to organize. But to a certain degree this can be balanced by a supportive organizational structure which mediates between the two alien cultures of business and academia. Such support is not yet very present at Austrian universities.

- Finally, the plain self-interest of academics hampers the entrepreneurial success of the university as a whole. For many academics the venerable notion of academic freedom has the welcome side effect that they have significant discretion in earning extra income. While all higher education systems grant academics some fringe benefits of that kind, they differ significantly in the way they define and supervise official duties. In Austria, the definition of such duties was strict in a bureaucratic sense, but there was no effective control of such instructions. In the past, this was mainly due to the fact that academics were not employed by the university, but by the government; any attempt by the ministry to supervise official duties would have been rejected as an attack on academic freedom. As a result, Austrian academics have enjoyed a high degree of freedom to earn extra income on an individual basis. It is obvious that a large proportion of that money would be a potential additional income for the university; therefore the new labor contract scheme of the UG 2002 will most probably lead to major revisions in this field in the next future.

All the issues touched upon above are among the reasons why a new organizational reform of universities was launched in the early 1990s. Universities were state institutions, but of a very special kind, not to be compared with regular administrative bodies. Due to the high degree of academic autonomy, the ministry has never had effective authority in broad areas of academic life, and this lack of control is not confined to the “private life” of universities (i.e. academic issues in a strict sense), but also applies to their “public life” (i.e. issues where the government rightly could claim accountability). The answer was to strengthen the self-guiding capacity of universities. The following process has then led to full institutional autonomy with the UG 2002.

There are many reasons why such a policy was introduced in a time of fiscal stringency, when public expenditure for higher education was cut. The shortage of public funds urgently required increasing the efficiency with which those funds were deployed. While that goal is unassailable in theory, to put it into action requires a kind of leadership which is accepted by academics. The UOG 93 introduced a new type of rector, which was halfway between the traditional European rector (a *primus inter pares* without any effective authority) and the American president. The UG 2002 has again significantly strengthened his authority. And, when public funds are cut, it becomes necessary to open up private sources of funding. We have already touched upon the difficulties Austrian universities face in trying to do so. One can summarize these problems under the heading “organizational weakness,” which reflects the *laissez-faire* habits of the Humboldtian legacy.

Austrian higher education will be in a state of transition for many years. Many academics desperately hope that the process of reforms will come to an end soon and that conditions of constancy will return. But the driving force behind the reforms is not the arrogance and ignorance of the government, but the “demand-response imbalance” (Clark 1998, 129). Expanding demands from students and a virtually endless knowledge growth outruns resources.

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CHAPTER 7. FINANCING HIGHER EDUCATION IN SOUTH AFRICA AND FUTURE CHALLENGES

Prakash Singh

INTRODUCTION

As South Africa (SA) emerges from decades of struggle against institutionalized apartheid, its people face the ever increasing challenge of transforming a society that was weakened and corrupted by misrule, mismanagement and exploitation into a vibrant and successful democracy. Transformation involves every aspect of South African life. Inevitably, the task of transformation entails more than reconstructing the systems and structures that sustain any society. Required is a fundamental shift in attitudes, in the way people relate to each other and their environment, and in the way resources are deployed to achieve society's goals (DOE, 1996a, p. 11).

Education in apartheid SA was not normal. Education in post-apartheid SA is not yet normal. It is not realistic for anyone to expect decades of deprivation and denial of basic human rights to be rectified within a short period of time. In the *Sunday Times* (May 14, 2000, p.20) editorial titled "Teaching new values to the generation to come out," the following comment is made on the harsh reality facing South Africans in the transformation of education:

Our society is one in which the values of equity, openness and tolerance, although enshrined in our Constitution, have failed to take root, with grave consequences. What White South Africans regard as transformation is often not viewed in the same glowing light by their Black countrymen, who often feel that they are

strangers in the domain of another when they enter these “transformed” White institutions.

A major characteristic of South Africa’s higher education (HE) system (Appendix A at the end of this chapter provides a list of abbreviations used) is a legacy of the apartheid ideology which provided the framework for the structuring of the education system after 1948 (NCHE, 1996a, pp. 9-10). The HE sector in South Africa mirrors the distortions and inequalities of the apartheid past, as well as the tensions and uncertainties of the national transition to a democratic order. Historically Black institutions (HBIs) were developed in order “to service the apartheid social order and hence have been disadvantaged financially, in the range of disciplines offered, and by the underdevelopment of graduate studies and research capacity” (ANC, 1994, p. 12).

That there has been a profound change in SA in political attitudes towards public expenditure is unquestionable. Changes in the funding of HE currently are largely an aspect of these changes. A discussion of funding of HE in SA therefore cannot simply ignore the blatant discrepancies that existed and currently exist between historically White institutions (HWIs) and HBIs. Furthermore, the issues of diversity pose new challenges to higher education institutions (HEIs). These challenges have an impact on every aspect of academic life within the context of a transformational process. Consequently, my focus in this chapter will be initially to describe the effects of the policies of the former apartheid government on the HE sector and then to critically analyze the extent of the progress toward campus diversity in the post-apartheid era. This will be done within the broader context of HE funding concerning:

- the amount of public expenditure on higher education
- changing priorities within this sector
- sources of funds
- mechanisms of resource allocation.

HE is simply not a single activity — it is multifaceted. HE in SA constitutes all the education that takes place in colleges, technikons and universities or under their academic supervision. Therefore, a serious discussion of its finance cannot ignore its heterogeneity.

HISTORICAL DEVELOPMENT

It was only towards the end of the 19th century that the State gradually began to assume responsibility for secular education in South Africa. According

to the *Official Yearbook of South Africa* (SADOFA, 1985), university education in SA actually started in 1829 with the establishment of the South African College at Cape Town. This College prepared students for the matriculation examination as well as for some of the more advanced examinations of the University of London. Between 1829 and 1874, a series of similar colleges were established in the Eastern and Western Cape, and one each in Pietermaritzburg and Bloemfontein. Under the University Acts of 1916, the universities of Cape Town, Stellenbosch and South Africa were established (Behr & Macmillan, 1971). This paved the way for the creation of additional HEIs in SA.

The Bantu Education Act No. 47 of 1953 was the precursor for the division of education in SA along racial/ethnic lines to reinforce the dominance of White rule by excluding Blacks from quality academic education and technical training (NCHE, 1996a). The 1959 Extension of Universities Act effectively closed White universities to Black students and began the establishment of separate HEIs for Blacks. Those who proceeded to these institutions formed the Black elite with the then Nationalist Party government exercising control over both, administrative structures and curriculum. According to Christie and Collins (1986, p. 172), this “extension of state measures to bring education under its direction was part of a wider system of extending state control, which included strengthening and increasing repressive mechanisms such as labor bureaux, pass laws, and restrictions on urbanization.”

State control over education meant that education was to be used to support other State policies, and in particular the homeland or Bantustan policy. The homelands or Bantustan policy formed the cornerstone of the apartheid policies of the Nationalist Party. This policy reduced the number of permanently settled Blacks in urban areas and thus provided an alternative basis for the supply and control of cheap Black labor. A major function of Bantu education during apartheid was to contribute to the homeland policy by creating a Black elite and bureaucracy in the homelands who would both support the separatist ideologies of the Nationalist Party Government. The Bantu Education Act promoted the notion of political, cultural, and economic segregation in broad terms. This was made very clear by the then Minister of Native Affairs, Dr H.F. Verwoerd in his infamous Senate speech of June 7, 1954 (Christie & Collins, 1986, p. 173):

More institutions for advanced education in urban areas are not desired. Deliberate attempts will be made to keep institutions for advanced education away from the urban environment and to establish them as far as possible in the Native

reserves. It is the policy of my department that education would have its roots entirely in the Native areas and the Native environment and Native community. There Bantu education must be able to give itself complete expression and there it will perform its real service. The Bantu must be guided to serve his own community in all respects.

There is no place for him in the European community above the level of certain forms of labor. Within his own community, however, all doors are open. For that reason it is of no avail for him to receive a training which has as its aim absorption in the European community, where he cannot be absorbed. Until now he has been subjected to a school system which drew him away from his own community and misled him by showing him the green pastures of European society in which he was not allowed to graze. This attitude is not only uneconomic because money is spent for an education which has no specific aim but it is also dishonest to continue it. It is abundantly clear that unplanned education creates many problems, disrupting the community life of the Bantu and endangering the community life of the Europeans.

The Extension of University Education Act legislated the restriction of admission to universities according to race. Technikons were developed in 1978 alongside the universities and the colleges. All these HEIs developed within the broader framework of the apartheid ideology like the rest of the education system. This eventually led to South African HE having as its main components 21 universities, 15 technikons and about 140 colleges (NCHE, 1996a). The distinct functional differences amongst these HEIs resulted in their qualification structures also being different.

One of the most visible legacies of apartheid was the complete fragmentation of the education system. The effect was the creation of 17 education departments responsible for schools. In many cases, more than one department was responsible for schools in the same area, resulting in very inefficient management and use of resources. This fragmentation went even deeper. Apartheid led to an education system characterized by racial, regional and gender inequality as well as ideological distortions in teaching and learning. Education was sharply separated from the world of work and training; schools had very little contact with institutions responsible for training teachers; in-service educators had little or no contact with colleges of education; technical colleges and technikons had very little to do with each other or with universities (DOE, 1996a).

The policies of apartheid espoused by the former Afrikaner Nationalist Party government denied Black people fundamental human rights to educate themselves in terms of their ability and compete equally for the best jobs available in the labor market which during this period was mostly reserved for

Whites. Griffiths and Jones (1980, p. 188) described this demeaning set up very aptly:

Concepts such as “equal pay for equal work,” “the rate for the job,” and “advancement on merit,” are really hollow principles unless workers of all racial groups are able to effectively compete with each other as a result of receiving education and training of an equal standard. In South Africa, education and training are not racially integrated. It is differentiated along racial lines at all levels (schools, universities, and in-service industrial training).

Up until the end of 1994, the following range of government HE funding practices existed in SA (NCHE, 1996b):

- Most of the government funds allocated to HWUs in the pre-1994 SA were generated by a formula which had been in place since 1982 and which was revised in 1993. HBUs in the old SA were brought onto the formula in about 1985.
- Universities in the four “independent” republics were funded either in terms of a formula similar to that of the South African universities or by means of direct budgetary allocations approved by their parliaments. These allocations were normally tied to the budgets of government departments of education.
- Technikons in the old SA were up until 1992 funded in terms of a scaled down version of the university formula. This formula was revised in 1993, using data based on the actual cost structures of technikons. Technikons in the “independent” republics were funded by means of direct budgetary allocations approved by their parliaments. These allocations were also normally tied to the budgets of one of at least fourteen departments of education.
- Other colleges such as agricultural, nursing, military and police colleges were funded by direct allocations tied to the budgets of their “home” departments — e.g. departments of agriculture or national health or of police.

These various government funding practices fell into the following broad categories:

- formula funding
- budgetary funding
- full funding.

Table 1 shows clearly that the apartheid model induced a situation of divided and unequal control in education. For instance, the department that was established to serve the interests of the White group had control in 1991 of 65% of universities and 75% of technikons. Table 2 shows that the Department of

Education and Culture (House of Assembly) in 1992 controlled 85% of places in technikons and 77% of places in universities. In contrast, African scholars in 1992 had a 74% share of school enrollments but 25% and 37% shares of the enrollments in technikons and universities (see Table 3). While the then Nationalist Party Government claimed that education would be separate but equal, the statistics clearly indicate that Africans did not have educational opportunities equal to those of Whites (Bunting, 1994, pp. 8-10).

Table 1. Number of education institutions in SA by Government Department: 1991

Department	Schools	Technical Colleges	Teacher Training Colleges	Technikons	Universities
Education & Culture (Assembly)	3 634	69	15	8	11
Education & Culture (Delegates)	518	3	2	1	1
Education & Culture (Representatives)	2 082	14	13	1	1
Education & Training	8 013	22	15	1	4
DOE: Gazankulu	486	1	3	-	-
DOE: Kangwane	278	1	2	-	-
DOE: Kwazulu	3042	10	10	1	-
DOE: Leboa	1753	6	12	-	-
DOE: Qwaqwa	179	2	3	-	-
DOE: Kwanabele	278	1	1	-	-
Total	20263	129	76	12	17

Table 2. Summary of 1992 head count enrollments by SA Government Departments

Government Departments Established to Serve the Interests of:	Schools	Technical Colleges	Teacher Training Colleges	Technikons	Universities
Whites	13%	71%	16%	85%	77%
Indians	3%	7%	3%	5%	3%
Coloreds	11%	6%	13%	4%	4%
Africans	74%	16%	68%	6%	16%
Total	8,374,564	89,933	57,076	114,071	318,965

Table 3 Summary of 1992 formal education enrollments in SA by population group

Population Group	Schools	Technical Colleges	Teacher Training Colleges	Technikons	Universities
Whites	12%	60%	15%	60%	50%
Indians	3%	7%	3%	6%	7%

Coloreds	11%	8%	13%	9%	6%
Africans	74%	25%	69%	25%	37%
Total	8,374,564	89,933	57,076	114,071	318,965

Table 4. Indicators of access to higher education in SA

	Total Higher Education Enrollments as a Proportion of Population in 1991 in Age Group 18-22	Total Higher Education Enrollments per 1000 of Population in 1991
White	60%	51
Indian	33%	35
Colored	11%	13
African	9%	9
Average	17%	18

NOTE: The calculations of the proportions for Africans do not take account of the population totals of the TBVC states.

Figure 1. Likely progress of cohorts of White and African scholars: Grade 1 to higher education

	White	African
Entering Grade 1	1,000	1,000
Entering Grade 12	800	200
Passing Grade 12	750	80
Entering University	280	28
Entering Technikon	170	8
Entering Teacher Training College	20	8

The data presented in Table 4 confirms the inequalities that existed (and even exist currently) in the access to HE enjoyed by the different population groups. In Figure 1, the averages for the five year period 1987–1991 shows that 80% of White pupils entering Grade 1 were likely to enter Grade 12, whereas only 20% of African students were likely to emulate their White counterparts. For every ten White student entering university, only one African student was admitted into university. Figure 1 clearly illustrates the implications of these different drop-out rates for access to higher education in SA (Bunting, 1994, p.40).

Since the early 1970s, the gap in the *per capita* costs for schooling to the different population groups by the government became narrower. In the 1971/1972 national budget, the *per capita* costs of children of the various racial groups were as follows: Africans R25.31; Indians R124.40; Coloreds R94.41 and Whites, R461. In 1992 (Table 5), the Whites received R4,694 *per capita*; Indians R3,959; Coloreds R3,231; Africans R1,775 and Africans in self-governing territories R1,165

(De Wet, 1998, pp. 74-75). The comparatively high drop out rates amongst African learners from schools must be viewed in the context of socio-economic factors and the debilitating effects of apartheid.

Table 5. Per capita costs for the different population groups for the period 1986 to 1992 (in R)

Year	Whites	Indians	Coloreds	Africans	Self-Governing States
1986	2,746	1,952	1,330	610	347
1989	3,572	2,645	2,115	927	647
1991	4,504	3,625	2,853	1,535	909
1992	4,694	3,959	3,231	1,775	1,165

Source: De Wet, 1998, p.84

Formal degrees issued by the former House of Assembly universities were perceived by students and by potential employers to be of a higher value than those issued by the other universities. In 1990, 67% of White students were registered at the favored House of Assembly residential universities. In contrast, 43% of African students were registered at the University of South Africa (UNISA) and 25% at Vista University (VU). The latter HBU had 78% of its predominantly African students enrolled in 1990 for undergraduate diplomas (Bunting, 1994, p.41)!

One of the major consequences of racially discriminated education in SA was that Blacks had extremely limited access into the professional and semi-professional occupations. Out of a total population of 30,986,920 in 1991, it is calculated that 1,015,692 South Africans were in possession of a matriculation certification or a higher qualification. This represented 3.3% of the total population. In that year (1991), 14.2% of the Whites had a standard ten or higher qualification, Coloreds 1.6%, Indians 4.2% and Africans 0.9%. The total number of graduates was 305,306 in 1991 with the Whites contributing 82.6% to this figure, Coloreds 3.1%, Indians 5.2% and Africans 9.1%. In 1991, there were 10,553 South Africans with doctorate degrees. Of this group, 86.2% were White, 2.2% Colored, 4.5% Indian and 7% African (De Wet, 1998, pp. 61-62).

The National Commission on Higher Education (NCHE, 1996a) found that, in 1993, Africans had a participation rate of only 6.3% — well below that of Whites, who had a participation rate of 54.4% and Indians, who had a participation rate of 62%. White and Indian students had participation rates just below that of the USA and comparable to most other first world countries,

whereas Africans had participation rates equivalent to less developed countries such as Nigeria and Brazil. This indicated that *Whites and Indians experienced HE as a mass system, whereas for Africans it functioned only as an elite system catering to a small proportion of the population.*

According to the NCHE (1996a, p. 14), there were 148 White students to every Black student in engineering in 1993. The NCHE described the effects of apartheid on denying access to Blacks into HE as follows:

The apartheid schooling system effectively restricted Black students from entering higher education and particularly disciplines in the natural sciences. This is evidenced by the fact that one Black pupil to every sixty White school pupils obtains a matriculation exemption in physical science and maths. This problem of a disadvantaged schooling system for Black people has been compounded by the entrance requirements for higher education which disqualify Black students, whose matriculation results in many instances bear little relation to their ability to cope with higher education. While access is increasing this has not significantly altered the skewed student profile.

Student outputs of the South African HE system have been extremely uneven, and reflect the inequalities and inefficiencies in South African HE. A study of the throughput rates evokes the inequities created by apartheid. The throughput rate is used as a standard international indicator of the efficiency of HE. A low throughput rate indicates a high drop-out rate and/or a high failure rate.

According to the Green Paper on Higher Education Transformation (DOE, 1996b, p. 12), student access and student outputs are uneven across the HE system. In 1993, 42% of qualifying students from the HBUs earned undergraduate diplomas, indicating that many of them were unable to meet the entrance requirements for degree studies. In contrast, only 2% of qualifying students from the HWUs were in this category! The throughput rates present an alarming picture of the success of Black students in HE. Furthermore, the Green Paper notes that the HBUs have significantly poorer throughput rates than HWUs from bachelor to doctoral degrees.

The analysis of the historical development of HE in SA revealed an imbalance in the distribution and utilization of national resources according to race during the apartheid era. A discussion of the transformation of HE, engineered by a democratically elected government since 1994, now follows.

CURRENT CONDITION

The White Paper on Higher Education (DOE, 1997a) has led to the passage of the Higher Education Act No. 101 of 1997 and the South African Qualifications Authority (SAQA) Act. In both pieces of legislation, there is a clear agenda of transformation. The Higher Education Act No. 101 of 1997 (HEA) has paved the way for major transformation to take effect in the HE sector. The essence of this Act is captured in its opening paragraph, on page 1:

To regulate higher education; to provide for the establishment, composition and functions of a Council on Higher Education; to provide for the establishment, governance and funding of public higher education institutions; to provide for the appointment and functions of an independent assessor; to provide for the registration of private higher education institutions; to provide for quality assurance and quality promotion in higher education; to provide for transitional arrangements and the repeal of certain laws; and to provide for matters connected therewith.

In terms of the provisions of the HEA, the Council on HE (CHE) has been established as a juristic person. As part of its functions, the CHE is expected to advise the Minister (of Education) on:

- quality promotion and quality assurance
- research
- the structure of the HE system
- the planning of the HE system
- a mechanism for the allocation of public funds
- student financial aid
- student support services
- governance of HEIs and the HE system
- language policy.

The Department of Education's White Paper *Education and Training in a New Democratic South Africa* (DOE, 1994) spells out clearly the values and principles of national education and training policy to be espoused currently by all the relevant stakeholders, including the HE sector. The key values and principles are (NCHE, 1996b):

- Access to education and training of good quality must be open to all.
- The education and training system must permit learners to move easily from one learning context to another to enhance the possibilities for life-long learning.
- Special emphasis must be placed on the redress of inequalities among those who have experienced special disadvantages.

- The state's resources must be deployed according to the principle of equity. The same quality of learning opportunities must be provided to all citizens.
- The improvement of the quality of education and training services in South Africa is essential. A national qualification framework (NQF) and other quality assurance mechanisms must be established.
- The principles of democratic governance and of accountability must be reflected at every level of the education and training system.
- The education system must counter the legacy of violence by promoting the values underlying the democratic process and the charter of fundamental rights, the importance of due process of law and the exercise of civic responsibility.
- The curriculum in all forms of education should never be simply vocational but should always encourage critical and independent thought.
- Curriculum choice should be diversified in order to give increasing numbers the skills they will require in the world of work.
- The expansion of the education and training system must meet the test of sustainability. Sustainability is to be understood in more than just a financial sense. True sustainability occurs when those involved claim ownership of educational and training services and are involved continuously in the planning, governance and implementation of those policies.
- The efficiency and productivity of the education and training system must be improved to justify public expenditure, to improve the quality of the system and to improve the life chances of learners.

The subsequent establishment of the NQF has contributed to the transformation of the educational system in SA from a contents-based to an outcomes-based approach. By the end of June 2003, all public university and technikon qualifications were submitted in an outcomes-based format that satisfied the requirements for interim registration on the NQF (SAQA Update, 2003, p.2). This paved the way for learners to know what they have to do to be successful, educators would know their obligations to students, and employers would know what to expect from job candidates with particular qualifications. The NQF ensures that (DOE, 1997b, p. 5):

- Education and training are brought together. In the past, education was seen as an area where knowledge is gained and training as an area where skills are obtained. The NQF now joins these areas. This will enable learners to move from one place of learning to another.
- Learning is recognized whether it takes place in formal or informal settings.

- Learners are able to move between the education and working environments.
- Areas of learning are connected to each other to enable learners build on what they learn as they move from one learning situation to another.
- Credits and qualifications are easily transferable from one learning situation to another.
- Needs of learners and the nation are addressed and met.
- Qualifications obtained by learners are recognized and accepted nationally and internationally.
- Relevant national representative groupings participate fully in the curriculum development process.

Thinking of HE qualifications in terms of the NQF requires a major paradigm shift for HE. For over a decade, *NATED 02-116: A qualification structure for universities in SA* (see Table 6) represented the official government policy for HE qualifications. According to Fourie (1999), this document covered the aims of the university, the qualification structure, guidelines for degree curricula and guidelines for a degree and a diploma structure. It was based on a 1982 report of an investigation into the qualification and study programs of universities in SA. As evident from Table 6, moving away from the structural (and generic) qualification structure of NATED 02-116 to the NQF requiring registration of unit standards or whole qualifications with particular outcomes and other relevant design features, will require considerable commitment, time and effort (Fourie, 1999, p. 14-15).

One of the major weaknesses of SA has been its lackluster record, in world terms, on the performance of research and development and in its competitive economic status. The Campus Diversity Audit report (Harper & Cross, 1999) indicates that while significant research and intellectual activity have been devoted to issues of race, class, gender, ethnicity and other forms of identity in SA, very little has materialized concerning developing scholarships focussed on campus diversity (CD) issues. Funding appears to be the major contributory factor for the present state of research on diversity.

Table 6. Comparison of the Principles Underpinning the NQF and NATED 02-116 Policy Guidelines

NQF Principle	Implication for Education and Training	NATED Policy Guidelines
Integration	Form part of a system of human resources development which provides for the establishment of a unifying approach to education and training	QS is based on the premise of the university's primary task being fundamental training of high quality & secondary task of professional preparation
Relevance	Be and remain responsive and appropriate to national development needs	One of the secondary tasks of the university is useful citizenship
Credibility	Have national and international value and acceptance	QS should not differ radically from similar structures elsewhere in the world
Coherence	Work within a consistent framework of principles and certification	QS should form a logical whole and there should be a reasonable measure of correspondence between universities in terms of character, standards and designations without unduly detracting from the individuality and academic autonomy of universities
Flexibility	Allow for multiple pathways to the same learning ends	QS should provide for variety of post-matriculation levels of scientific study
Standards	Be expressed in terms of a nationally agreed framework and internationally accepted outcomes	
Legitimacy	Provide for the participation of all national stakeholders in the planning and co-ordination of standards and qualifications	It is the universities' prerogative to determine the contents of their curricula
Access	Provide easy entry to appropriate levels of education and training for all prospective learners in a manner which facilitates progression	
Articulation	Provide for learners, on successful completion of accredited prerequisites, to move between components of the delivery system	QS should take into account the possibility of horizontal movements between tertiary institutions
Progression	Ensure that the framework of qualifications permits individuals to move through the levels of national qualifications via different appropriate combinations of the components of the delivery system	Levels of scientific study should be meaningfully inter-linked
Portability	Enable learners to transfer their credits or qualifications from one learning institution and/or employer to another	Links among courses should enable students to switch to another type of institution
Recognition of prior learning	Through assessment give credit to learning which has already been acquired in different ways, e.g. through life experience	
Guidance of learners	Provide for the counselling of learners by specially trained individuals who meet nationally recognized standards for educators and trainers	
Democratic participation	Provide for the active participation of practitioners in the relevant field in the writing of unit standards and in their regular revision	
Equality of opportunity	Provide common learning outcomes which can be reached at different rates by learners with specialized educational needs, by adults, and by children both inside and outside mainstream schooling opportunity	

Sources: Human Sciences Research Council 1995; Department of National Education 1987.

The shortage of appropriate skills at the higher levels (masters degree and higher) is a contributory factor and this is more acute in the fields of natural sciences and engineering. Tables 7 and 8 evoke the relatively low overall enrollment and graduation figures in these fields. Of greater concern are the absolute and relative figures of Black people being trained in the natural sciences and engineering fields. A key challenge facing HE in SA is to meaningfully facilitate entry of Blacks into these areas of specialization within appropriate funding support mechanisms (Kgaphola, 1999).

Table 7. University masters and doctoral degrees awarded by population group (1996)*

	White	Colored	Indian	African	TOTAL
Natural sciences & Engineering	964	27	48	116	1,155
Health sciences	411	11	25	52	499
Social sciences & Humanities	2,281	106	144	495	3,026
TOTAL	3,656	144	217	663	4,680

*These statistics exclude figures for the University of the North-West
Source: Human Sciences Research Council (1998)*

Table 8. University enrollment for masters and doctoral degrees by population group (1996)*

	White	Colored	Indian	African	TOTAL
Natural Sciences & Engineering	4,927	210	300	829	6,266
Health Sciences	3,000	150	528	751	4,429
Social Sciences & Humanities	11,192	1,059	819	3,954	17,024
TOTAL	19,119	1,419	1,647	5,534	27,719

**These statistics exclude figures for the University of the North-West.
Source: University of the Western Cape (1998)*

According to the White Paper on Higher Education (DOE, 1997a), the government recognizes the urgent need to increase the supply of postgraduates to the academic and general labor markets. The attrition and aging of well-qualified academic staff and the emigration of graduate labor compels attention. Of concern are the current low levels of enrollment in and graduation from doctoral programs that are insufficient to satisfy future national requirements. Gross race and gender inequities are obvious at the postgraduate level. The new *block funding* mechanism will therefore support student places at research-based postgraduate levels of study in fields where institutions have demonstrable research training capacity. Also, HEIs will be able to apply for *earmarked funds* to enhance

the infrastructure necessary to support expanded postgraduate training to address the inequities that currently exist.

The Green Paper (DOE, 1996b) endorses the NCHE's (1996b) proposed three classes of earmarked funding as follows:

Earmarked funds for institutional redress

The Ministry estimates from budget outlays, an amount dedicated to a program of funding to redress equities and deficiencies experienced by historically disadvantaged institutions (HDIs). HEIs applying for funding under this program are required to demonstrate the way in which they have been disadvantaged and to prioritize their needs. The first period targeted for this funding was 1998 to 2000. Funding through this program is to support improvements in the following areas: staff development, academic development, curriculum development, library holdings, student amenities, buildings and the development of institutional capacity.

Earmarked funds for student financial aid

In order to ensure that capable students are not excluded from access to HE because of their financial means, the government has approved a well-functioning student aid scheme. The Ministry (of education) supports the creation of an adequate and effective program of financial assistance for needy students in order to achieve transformation objectives and sustain an equitable HE system. In 1996 alone, the Ministry allocated US\$46m to NSFAS (National Student Financial Aid Scheme), which is managed by TEFSA (Tertiary Education Fund of South Africa). Allocations to HEIs by the agency from the earmarked funds are based on the equity profiles of institutional enrollments, linked student progression and graduation rates. A multifaceted approach is being adopted by the Ministry that incorporates the following key elements for a sustainable long-term scheme:

- a. a loan component
- b. a bursary/grant component
- c. scholarships
- d. employer-sponsored cadetships
- e. student work/study schemes
- f. an endowment fund
- g. a graduate tax
- h. bank loans.

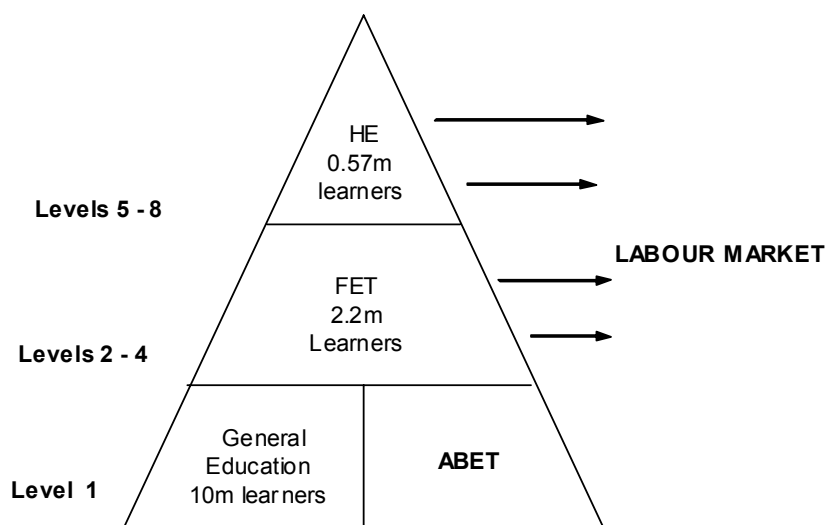
Earmarked funds for other specific purposes

For the triennium 1998-2000, funding through this program is confined to three areas:

1. research capability development
2. postgraduate training
3. management information systems development.

In 1998, the Further Education and Training (FET) Act was passed. FET includes grades 10 to 12 school education, and any other form of equivalent education outside the schooling system (see Figure 2). It is the critical link between compulsory school education from grade 1 to 9 (general education), higher education (HE), and the world of work. According to the report in the *Sunday Times Business Times* (November 14, 1999, p. 1), FET is offered by 6,460 high schools, 152 technical colleges and a few private institutions. With the overwhelming majority — 2.1 out of 2.2 million learners in FET — in senior secondary schools, the government spent just over 70% of all the money available for FET (that is, 20% of the education budget) on schools.

Figure 2 Further Education & Training



Source: *Sunday Times Business Times*, November 14, 1999.

ACCESS IN GENERAL

The ANC Policy Document (1994, p. 113) has clearly outlined the principles for HE:

- The national government will have central responsibility for the provision of HE.
- The redressing of historical imbalances will be a priority.
- The HE system, and individual systems, will be required to be effective and have clearly defined objectives linking to national development.
- Democratic values of representation, accountability, transparency, freedom of association, and academic freedom will underpin the HE system.

Some of the greatest challenges facing the democratically elected government relate to the twin goals of national reconstruction and development. On the reconstruction side, the pursuit of equity and redress are the key priorities, and nowhere more so than in the education system, which is characterized by severe imbalances after decades of inequitable funding. Policy-makers are currently focusing on issues such as the need to improve quality and efficiency in education and are promoting forms of education which can contribute to economic and social development (Meyer & Hofmeyr, 1994, p. 19). With the change in government in 1994 and the subsequent abolition of restrictions into HEIs, there has been a flight by students of color from HDIs to the HWIs, simply because of the latter's better infrastructure.

In terms of the capacity to meet the dire need to undertake an internal socio-economic reform and meet the challenges posed by international commercial competition, SA has been found wanting as far as its human resources are concerned (Kgaphola, 1999). According to the 2003 annual survey by the International Institute for Management Development, as reported in the *Sunday Times Business Times* (May 18, 2003, p.1), SA has more or less retained its competitiveness relative to the world's biggest economies. The report ranks SA 18th of the top 30 countries with populations greater than 20 million. On business efficiency, SA is ranked 10th from 11th the previous year and only 24th in 1999. It scored highly on management practices and on the performance of the stock market, but low on skilled labor availability, the labor force as a percentage of the population and the brain drain.

Kgaphola aptly states that (1999, p.61):

At government level, the transformation agenda in higher education has initially focused on the macro-environment, with particular emphasis on efficiency gains from

the point of view of representativity, equity and system-wide coordination. Most crucially, there has been a recognition that the imperative of an interwoven global economy necessitates new and innovative approaches to educational planning.

Noticeable changes materialized in African and White student enrollments in universities and technikons between 1993 and 1999. African student enrollments increased from 191, 000 in 1993 to 332, 000 in 1999, an increase of 74%. In marked contrast, White student enrollments in universities and technikons fell by 60, 000 in 1999 compared to 1993—a drop of 27% (Harper & Cross, 1999, p.41).

According to Harper and Cross (1999, p.41), the rapid change in the number and proportion of African students in the system has not occurred evenly across all sub-sectors of the university plus technikon sector. African student enrollments in HBUs fell by 9% in 1999 compared to 1993, but rose by 140% in HBTs in 1999 compared to 1993. African student enrollments in historically White Afrikaans universities grew by 1, 117% in 1999 compared to 1993. The increase in historically White English universities was 94% over this period. The enrollment of African students at UNISA fell by 11% over this period but increased by over 20% at Technikon SA.

These changes in the overall proportions of African students provide an indication of equity improvements in the HE system. However, the system will be an equitable one only if African students are spread equally across programs and only if their performances within programs match that of their peers. Harper and Cross (1999, p.42) point out that inequities still exist within the system since large proportions of African students are clustered in distance education programs (most of which are in the humanities) within HWUs.

The *Campus Diversity Audit* conducted by Harper and Cross (1999) also reveals that female student enrollments grew sharply up to 1997 and then levelled off between 1997 and 1999. The total increase in female enrollments in 1999 compared to 1993 was 44%. Male student enrollments reached a peak of 305, 000 in 1995 and remained level for 3 years, but then dropped sharply in 1999 to 273, 000, a decline of 10%. The 1999 enrollment of male students compared to that of 1993 was only 2, 000 (about 1%) higher.

Table 9. Head count enrollments by gender (Thousands)

	1993	1995	1997	1999
Female	202	262	296	291
Male	271	305	300	273

The above data reveal that there was a major shift in the proportion of female higher education students, from 43% in the system in 1993 to 52% in 1999. In a broad sense, this implies that gender equity improved over a period of seven years. However, it appears that female enrollments have been clustered in humanities programs with the consequence that they are seriously under-represented in programs in science, engineering and technology and in programs in business and commerce (Harper & Cross, 1999).

SOURCES OF REVENUE

A discussion of funding in HE can possibly open up crevices of ambiguity especially when an attempt is being made to focus on *all* the sources of revenue injected into such institutions in a specific country. Williams (1992, p.2) justly sums up this situation as follows:

The heterogeneity and complexity of higher education together with distinctions between amount, mechanisms and sources of finance, between subsidy of institutions and subsidy of students, between fee subsidy and maintenance grants, and between student grants and student loans gives rise to many opportunities for confusion in any discussion of higher education funding.

Fortunately, in SA the Higher Education Act of 1997 (HEA) spells out the policies and procedures to be observed underlying the funding of public HE. In chapter 5, section 39 of the HEA, the allocation of funds by the Minister of Education is delineated as follows:

1. The Minister, after consulting the CHE and with the agreement of the Minister of Finance, must determine policy on the funding of higher education and publish such policy by notice in the *Government Gazette*.
2. The Minister, subject to the policy determined in subsection (1), must allocate public funds to higher education on an open and transparent basis.
3. The Minister, subject to the policy contemplated in subsection (1), may impose
 - any reasonable condition on an allocation contemplated in subsection (2); and
 - different conditions on different public higher education institutions, different instructional programs or different allocations, if there is a reasonable basis for such differentiation.

In terms of the HEA, the funds of a public HEI consist of:

- funds allocated by the Minister in terms of section 39 for purposes of HE
- any donations or contributions received by the HEI
- money raised by the HEI
- money raised by means of loans
- income derived from investments
- money received for services rendered to any other institution or person
- money payable by students for HE programs provided by the institution
- money received from students or employees of the institution for accommodation or other services provided by the HEI
- other receipts from whatever source.

The current debate on the funding of HE revolves mostly around the subsidy formula (SF). When one views the SF in a historical perspective, the influence of apartheid and the inability by the former government to apply the SF justly to all HEIs comes to the fore. Various problems in the financing of HEIs have arisen through the formula not being appropriately applied, or being applied to different circumstances than those for which it was initially designed (Melck, 1995). Diversified funding as part of the RDP (Reconstruction and Development Program) and the GEAR (Growth, Expansion and Redistribution) macro-economic frameworks will allow for greater amounts to be allocated to HBIs in order to build their capacity and improve the quality of their programs.

The SF for universities and technikons as set out in SAPSE Manual 110 is a comprehensive and detailed formula that calculates the amount of subsidy due to an institution of HE based on student enrollments. The SF is a so-called student-driven formula. The SF calculates the total amount that an institution needs in order to perform all its functions with a certain number of students. The amount calculated is called the formula subsidy. The State, however, is aware that a HEI has additional sources of income such as student fees, donations, and interest on investments. The State therefore reduces the formula subsidy by means of another formula that calculates the State's contribution to the income of the HEI. In practice, however, there is not enough money available to fund the State's contribution to every university and technikon. The State's contribution to every HEI is then further reduced by a certain ratio that is commonly known as the *A-value*. A simplified breakdown of the subsidy formula appears in Appendix B (Vista University, 2000b).

Naturally, there are pressing fiscal constraints on the education sector despite a sizeable proportion of the GDP being set aside for education. In 1994 alone, education expenditure comprised 7% of the GDP, of which 80% was tied up in personnel costs (Buckland & Fielden, 1994; Department of Finance, 1994). In 1996/7 the budget for HE was R5.21 billion (representing approximately 16% of all government expenditure on education) with R3.5 billion of this sum allocated to universities. The figures for 1997/8 indicate that R5.341 billion was allocated to HE and R4.934 of that amount was allocated to universities. In 1997/8, 21% of the total State budget and 7% of the GNP was allocated to education. However, the government contributes only 53% of the total income of universities and technikons and the other 47% of income has to be derived from fees in the state sector (Geber & Munro, 1999, pp.29-30).

The Tertiary Education Fund of SA (TEFSA) was founded in 1991 to facilitate funding for historically disadvantaged students who could not afford to study at universities and technikons. It relies on contributions from government and local and foreign donors. Recently, TEFSA has been administering the National Student Financial Aid Scheme (NSFAS) to which the government allocated US\$46m in 1998 and US\$60m in 1999 (*Business Day*, 1999). TEFSA uses this money for grants to universities and technikons, which then allocate study loans to needy students. An amount of R266m was allocated to universities for loans in 1998 while R127m was granted to technikons. TEFSA assisted 67, 600 university and technikon students in 1998 alone! It is responsible for the loan recovery process from students and in November 1999, received statutory powers for this purpose after President Thabo Mbeki signed the National Student Financial Aid Scheme Act. However, the South African Students' Congress (SASCO) called on the government and the private sector to contribute more funds towards student financial aid. SASCO secretary-general Jomo Khoza said (*Business Day*, November 26, 1999, p.6):

While we appreciate government's contribution to TEFSA, it is still not sufficient. One of the underlying reasons for a decline in student numbers at universities and technikons is that many students can't afford the fees.

However, education Ministry spokesman Bheki Khumalo defended the government's contribution to TEFSA pointing out that it was addressing human resource issues (*Business Day*, 1999). Khumalo emphasized that 14% of the total education budget went into the higher education sector, which meant that the government spent about R4bn a year on the subsidization of students.

According to the report in the Business Day (1999), TEFSA converts up to 40% of original loans into non-repayable bursaries if students perform well in the subjects for which they registered. It recovers the loans from the students once they start work and earn a minimum annual salary of R26 300. The pass rate for students who received loans from 1995 to 1998 ranged from 71% to 76%. Besides TEFSA's financial aid, universities and technikons also allocate some of their own funds to student financial aid.

COST STRUCTURE

According to the White Paper on Higher Education (DOE, 1997a), the new funding framework was to consist of two main elements:

- 1) a simplified mechanism for allocating general purpose, *block funding* to institutions on a rolling triennial basis, and
- 2) the provision of *earmarked funds* to achieve specific purposes, including targeted redress of inequities in access and capacity, student financial assistance, staff development, curriculum development, research development, libraries and information technology, capital works and equipment, and planned improvements in operational efficiency.

The National Plan for HE (DOE, 2001) gives effect to the transformation of the HE system as outlined in the White Paper (DOE, 1997). The White Paper (DOE, 1997a) stated that the funding framework would be established with procedures that are simple, transparent, flexible and fair, and which are capable of being managed within the available and foreseeable capability of the DOE and the institutional councils, management's and academic leadership. The notions being employed in the White Paper with regard to block funding are those of:

- funding rates per FTE (full-time equivalent) student place
- index-linked estimates of the relative costs of teaching
- prices per student place
- a funding grid of rand values against broad fields of study and levels of study which requires analysis of the indicative average costs of such teaching and related activities.

In terms of the White Paper, the block grant would be payable to institutions on the basis of their planned and eventually approved FTE enrollments in different fields and levels of study. If, for example, four levels of study are used as a basis as well as five fields of study, then the following grid of (approved) FTE

student numbers would be used to calculate the annual block grant for a particular institution (SAUVCA & CTP, 1999):

	Level 1	Level 2	Level 3	Level 4
Study field 1	E_{11}	E_{21}	E_{31}	E_{41}
Study field 2	E_{12}	E_{22}	E_{32}	E_{42}
Study field 3	E_{13}	E_{23}	E_{33}	E_{43}
Study field 4	E_{14}	E_{24}	E_{34}	E_{44}
Study field 5	E_{15}	E_{25}	E_{35}	E_{45}

In this grid E_{ij} refers to the number of FTE students enrolled in study level i and field of study j for a particular institution.

According to the White Paper, the government's funding rates per FTE student for each cell in the above grid is to be based on the indicative average costs of such teaching and related activities. In this way, it would be possible to establish a so-called funding grid reflecting the price or subsidy per FTE enrolled student for each study level and field of study:

	Level 1	Level 2	Level 3	Level 4
Study field 1	P_{11}	P_{21}	P_{31}	P_{41}
Study field 2	P_{12}	P_{22}	P_{32}	P_{42}
Study field 3	P_{13}	P_{23}	P_{33}	P_{43}
Study field 4	P_{14}	P_{24}	P_{34}	P_{44}
Study field 5	P_{15}	P_{25}	P_{35}	P_{45}

In this grid, P_{ij} refers to the funding rate per FTE enrolled student in study level and field of study j . The White Paper implies that the block grant can then be calculated by adding all the products $P_{ij}E_{ij}$ together, that is, $P_{11}E_{11} + \dots + P_{45}E_{45} = \sum P_{ij}E_{ij}$.

As indicated above, the funding grid prices are to be based on the indicative average costs of such teaching and related activities. This seems to imply that grid prices do not necessarily have to be equal to the average institutional costs but that policy considerations related to the steering of the HE system could lead to grid prices based on (or informed by) average costs but modified by policy considerations. Evidently, grid prices should nevertheless have some bearing on the actual institutional costs and deviations from this, especially large deviations, should be considered carefully (SAUVCA & CTP, 1999).

In the above example, four study levels have been selected which correspond to the number of levels utilized in the present funding arrangement. Obviously, any reasonable number of study levels could have been selected for purposes of developing a new block grant funding model.

Universities and technikons engage in various activities, not all of which were subsidized in the past. These activities can be classified in terms of programs. Firstly, the primary missions of these HEIs are instruction (program 1.0), research (2.0) and public service (3.0). They also engage in activities classified as academic support (4.0), student services (5.0), institutional support (6.0), and operation and maintenance of plant (7.0). Other activities relate to bursaries (8.0), auxiliary enterprises (9.0) and independent operations (11.0).

Every university and technikon receives a total of 1, 000 subsidy students for so-called setup purposes, that is, to be used for cases where there are no students enrolled but costs are already being incurred. This happens in cases where new courses are being developed for which students will only enrol for in another year or two. The 1, 000 subsidy students are divided into 600 subsidy students in the Human Sciences and 400 students in the Natural Sciences.

The subsidy to be received by all institutions must be calculated a year in advance as part of the budgeting process of the State. The only SAPSE data available at the time of calculation, however, is that of the previous year. There is therefore always a two-tier difference between the SAPSE reporting year and the year in which the subsidy is received. This means that the effective subsidy students in the following year ($n+1$) have to be projected from known data in previous years. This is done with the following formula (Vista University, 2000b):

$$S(n+1)=S(n-1) + [S(n-1) - S(n-2)]$$

Where S = effective subsidy students for years $n-2$, $n-1$ and $n+1$

This formula is very sensitive to changes in enrollment and projects substantially upwards or downwards. A damping factor was therefore incorporated to ensure a measure of stability in the subsidy that an institution earns.

In the case of VU, the annual growth rate in projected effective subsidy students is limited to 2.5% in contact education and 5.0% in distance education. If the projected effective subsidy students are less than $S(n-1)$, then the actual number of effective subsidy students of $S(n-1)$ is accepted as the projected effective subsidy students for $S(n+1)$. The projection of effective subsidy students can be illustrated as shown in Table 10 (Vista University, 2000b).

Table 10. Projection of effective subsidy students

1998	1999	2000	2001
Year before Last Year	Last Year	This Year	Next Year
Year $n-2$	Year $n-1$	Year n	Year $n+1$
		Submit SAPSE tables of 1999	Receive the subsidy based on 1998/1999 figures
Actual subsidy students in year $n-2$: $S(n-2)$	Actual subsidy students in year $n-1$: $S(n-1)$		Projected subsidy students in year $n+1$: $S(n+1)$
Projection Formula $S(n-2)$			$S(n+1) \cdot S(n-1) + S(n-1) \cdot S(n-2)$
Example: 10, 000	12, 000		~14, 000

The Constant N

For every component of the SF there is a fixed constant based on the cost structure of that particular component. In the SF ($\text{Subsidy} = S \cdot N \cdot C^*$), N is the only element that is fixed. S and C are variables that change from year to year (see Appendix B).

C-Values

The variable C in the formula, the so-called C -value, is a Rand value allocated to each of the ten sub-components of the subsidy formula. These C -values increase annually in order to keep up with salary increases and inflation. The ten sub-components $C1$ to $C10$ are as shown in Table 11.

Table 11. $C1 - C10$ Components

Salaries for instruction / research professional personnel	$C1$
Salaries for personnel other than instruction / Research professionals and service workers	$C2$
Salaries for service workers	$C3$
Supplies, services	$C4$
Buildings and land improvements	$C5$
Equipment	$C6$
Book volumes in Human Sciences	$C7$
Book volumes in Natural Sciences	$C8$
Annual periodical volumes in Human Sciences	$C9$
Annual periodical volumes in Natural Sciences	$C10$

Increase in subsidy students from the previous maximum

The increase in effective subsidy students from the previous maximum is used to calculate the subsidy needed to obtain new assets, such as computers and library books. The underlying assumption is that at the stage where the previous maximum number of subsidy students had been enrolled, the institution had sufficient assets to cater for those students. With any increase in effective subsidy students above the previous maximum there is a need for further assets to cater for the additional effective subsidy students.

K-Factors

In the formula $S \cdot N \cdot C$, the expression $N \cdot C$ is a constant which does not vary between universities in a particular year. $N \cdot C$ is then calculated at the DOE as a constant known as the k-factors in all the components of the subsidy formula (see Appendix B).

In order to address the cost structure of HEIs in the future, a *Block Grant Funding Model* has been developed by the South African Universities' Vice-Chancellors' Association and the Committee of Technikon Principals (SAUVCA & CTP, 1999). According to their proposal, various models, each varying in sophistication and each depending on its own set of parameters, can be designed to serve as a model for the expenditures incurred by HEIs. However, it is strongly mooted that the only model that would fit the description as suggested in the White Paper (DOE, 1997a), is the *linear model*. Such a model has the distinct advantage of additivity, the elements thereof can easily be interpreted in real terms, and predictions made in terms of such a model can easily be checked against intuition.

In terms of the linear model, the expenditures F of a residential university can in general be written as

$$F = (a_1 + k_1 S_1) + \dots + (a_5 + k_5 S_5)$$

where a_i (the so-called setup costs) and k_i (the so-called) marginal costs are two sets of five constants each which can be calculated by fitting these constants through linear regression techniques to empirical data in respect of residential

universities. The linear independence of the independent variables S_1 to S_5 requires that $S_i^0 = a_i / k_i$, these quantities being the so-called setup-cost for study field i .

In the above expression, F represents a model for the expenditures for a residential university in a particular year, the so-called base year, appropriately expressed in terms of the 5 independent variables S_1 to S_5 and two known sets of constants. The State, however, only provides a fraction g , the so-called State contribution factor, of the model expenditure to tertiary institutions. This provision in future will be known as the block grant. For the sake of simplicity, it has been suggested that g be taken as a constant having the same value for all tertiary institutions. Hence, the block grant T for a residential university would be given by the following:

$$T = g [(a_1 + k_1 S_1) Z_1 + \dots + (a_5 + k_5 S_5) Z_5]$$

where Z_i are five adjustment (or steering) factors allowing for the possibility to adjust the actual institutional costs according to policy considerations. In the absence of such policy considerations, Z_i are all taken to be equal to one. The value of g is determined by matching the new block grants total (with $Z_i = 1$) thus calculated to the corresponding total allocations received by these institutions in the base year. Clearly, the steering factors affect both the marginal as well as the setup costs.

In order to calculate the block grant for any year subsequent to the base year, cost escalators e_i are now introduced for each field of study i , each having the property that $e_i = 1$ for the base year. Hence, the block grant T for a residential university in any subsequent year, would then be given by the following

$$T = g [(a_1 + k_1 S_1) z_1 e_1 + \dots + (a_5 + k_5 S_5) z_5 e_5]$$

$$= g [a_1 z_1 e_1 + \dots + a_5 z_5 e_5] + g \hat{A} P_{ij} E_{ij}$$

where E_{ij} refers to the FTE student grid and P_{ij} to the following funding grid:

	Level 1	Level 2	Level 3	Level 4
Study field 1	$w_1 k_1 z_1 e_1$	$w_2 k_1 z_1 e_1$	$w_3 k_1 z_1 e_1$	$w_4 k_1 z_1 e_1$
Study field 2	$w_1 k_2 z_2 e_2$	$w_2 k_2 z_2 e_2$	$w_3 k_2 z_2 e_2$	$w_4 k_2 z_2 e_2$
Study field 3	$w_1 k_3 z_3 e_3$	$w_2 k_3 z_3 e_3$	$w_3 k_3 z_3 e_3$	$w_4 k_3 z_3 e_3$
Study field 4	$w_1 k_4 z_4 e_4$	$w_2 k_4 z_4 e_4$	$w_3 k_4 z_4 e_4$	$w_4 k_4 z_4 e_4$
Study field 5	$w_1 k_5 z_5 e_5$	$w_2 k_5 z_5 e_5$	$w_3 k_5 z_5 e_5$	$w_4 k_5 z_5 e_5$

The above block grant formula demonstrates that the expression $\hat{A} P_{ij} E_{ij}$ alone is insufficient to provide a full description of the expenditure and funding model. This expression $\hat{A} P_{ij} E_{ij}$ should be utilized in conjunction with the factor g and together with the expression for the so-called setup costs $g [a_1 z_1 e_1 + \dots + a_5 z_5 e_5]$. The elements P_{ij} of the funding grid as well as the setup costs are index-linked through the various cost escalators and are subject to policy considerations through the presence of the steering factors.

The SAUVCA & CTP (1999) point out that the position of non-residential universities needs to be considered carefully. It is axiomatic that the main difference between the expenditure patterns of non-residential and residential universities currently can be ascribed to the difference in the instructional models utilized by these types of HEIs on the average. In accordance with the White Paper (DOE, 1997a), residential HEIs are pursuing ways to reduce teaching costs through broadening the use of high quality but less labor-intensive teaching and learning strategies, including distance education and resource-based learning. Non-residential institutions similarly are considering more effective instructional models which at slightly higher cost will improve student throughput and completion rates.

It would not be unexpected should residential and non-residential institutions soon be utilizing almost the same instructional model on the average. This would imply that residential and non-residential institutions should then receive the same block grants. In the meantime, the steering factors in the block grant formula for residential universities, in conjunction with the upward adjustment of the cost scaling factors in a proposed block grant formula for non-residential universities, could be utilized to steer the tertiary education system in the direction of more cost effective and more uniform instructional models. As an alternative to steering, consideration could be given to introducing different modes of instruction to the block grant formula as a third dimension, and using the assignment of student places as a mechanism to steer the system towards the same goal. This would, however, introduce a substantial complexity into the block grant model.

At present, the funding position in respect of non-residential universities is that the funding basis for residential universities has by and large been applied to non-residential universities, the only major modification being that the effective subsidy students for non-residential universities have been scaled down by a factor of 0.667. In moving towards more cost effective and efficient

instructional models, it is suggested that a scaling factor q equal to 0.667 initially be applied to non-residential universities, and that this factor gradually be adjusted upwards to steer towards a more optimal instructional model for non-residential universities. If the block grant formula for residential universities is again applied to non-residential universities, the latter will initially receive a block grant of:

$$T = g q [a_1 z_1 e_1 + \dots + a_5 z_5 e_5] + g q \hat{A} P_{ij} E_{ij}$$

where initially $q = 0.667$ and where all the symbols have their meaning as in the case of residential universities. An analysis of available empirical data for all HEIs confirms that this value for the scaling factor will not at this initial stage put non-residential universities at a disadvantage relative to residential universities.

In the case of residential technikons, it is suggested by the SAUVCA and the CTP (1999) that the same formula for the block grant of residential universities be used except that a scaling factor t be introduced to match the new block grants total for residential technikons to the corresponding total allocation received by these institutions in the base year. The main motivation for such an approach lies in acknowledging the ideal of many of the larger technikons to eventually become *universities of technology*. It seems reasonable that the normal block grant formula for residential universities would eventually apply to such technological universities. Furthermore, this would also be in line with the approach advocated in the White Paper (DOE, 1997a) to seek an easing of the boundaries between colleges, technikons and universities. Hence, the block grant T for a residential technikon may be written as

$$T = g q t [a_1 z_1 e_1 + \dots + a_5 z_5 e_5] + g q t \hat{A} P_{ij} E_{ij}$$

where all the other symbols have been defined above. For non-residential technikons the q -factor of 0.667 is also suggested to apply to the above expression initially as in the case of non-residential universities. In the case of the block grant formula based on only a few fields of study, most institutions will have relatively large numbers of students enrolled for offerings associated with each of these individual study fields. The setup costs for all individual study fields can then be assigned to each institution as intended. If, however, the number of

enrolled students per study field is minimal, then strong arguments can be forwarded not to grant the relevant setup costs to the HEI in question.

The SAUVCA and CTP (1999) point out that it is obvious that the full implementation of the proposed block grant funding model will result in a situation where some HEIs will receive more than what they have received before and others will receive less. In order to effect a smooth transition from the present approach to the proposed one, it has been suggested by the SAUVCA and the CTP that the new funding model be phased in over a three-year period. Suitable steps should be taken to eventually ensure the full application of the proposed block grant formula after the period of three years.

INSTITUTIONAL AUTONOMY

Institutional autonomy in a true democracy would imply that the HEI reserves the right, *inter alia*, to decide on the structure of programs and the admission policies of students. With the social inequities that still exist in SA between the relatively prosperous Whites and the poor Blacks, it is unthinkable to contemplate that without State intervention, the playing fields of the HEIs would be levelled by the HEIs alone! Therefore, co-operation rather than competition must be the vogue that will currently address the restructuring of HE in SA.

The NCHE (1996, p. 156) defines autonomy as follows:

Traditionally understood as the power to govern without outside control. Substantive control refers to the power of an institution to determine its own goals and programs. Procedural autonomy is the power to determine the means by which goals and programs will be pursued.

With the birth of a deracialized state, racial privilege can no longer be defended in the language of racism. The language of individual rights and institutional autonomy must not appear as a fig leaf defending racial privilege. While HEIs must pursue excellence, we need to beware of right-wing tradition that has come to cohere around a discourse on maintaining standards. Mamdani (1995, p.24) notes with concern that it “is a tradition that argues that quantity is always at the expense of quality, and that democracy is at the expense of excellence.” He questions whether the “opposition between quality and quantity, between democracy and excellence can be relative and conditional rather than absolute and unconditional.” He justly points out that the combined call by uni-

versities to *maintain quality* and *defend standards* could be an agenda for continuing to be unaccountable to the disadvantaged majority in society. He aptly points out (Mamdani, 1995, p.25):

There is no point in introducing an affirmative action program that recognizes the diversity of society and then proceeding with a teaching process that does not. What, after all, is the point of admitting students from disadvantaged communities in the name of equity, only to expel them after the first examination in the name of maintaining standards? What is the point, unless it is to discredit the very notion of university reform?

There is no purpose in striving for institutional autonomy that lacks accountability. The State, as the major customer, has the right, as is currently happening, to determine the shape and size of HEIs in SA. Racial discrimination has to be confronted by the State at all costs in order to deracialize these HEIs. Naturally, the implication is not that the State will interfere with the day-to-day affairs of HEIs but market driven programs need to be put into place as well so that SA is globally recognized for its economic development. The latter can only materialize if quality and capacity building become part of the transformation process of HEIs in SA.

The direct involvement of the State in the transformation of HEIs does not imply that freedom of expression has been now sacrificed for the sake of change and that we are now espousing laws similar to that that prevailed during the apartheid era. This is absolutely untrue. Freedom of expression is enshrined in Act 108 of 1996, the Constitution of the Republic of SA (1996, p.9) as follows:

1. Everyone has the right to freedom of expression, which includes
 - (a) freedom of the press and other media;
 - (b) freedom to receive or impart information or ideas;
 - (c) freedom of artistic creativity; and
 - (d) academic freedom and freedom of scientific research.
2. The right in subsection (1) does not extend to
 - (a) propaganda for war;
 - (b) incitement of imminent violence; or
 - (c) advocacy of hatred that is based on race, ethnicity, gender or religion, and that constitutes incitement to cause harm.

In the Green Paper (DOE, 1996b, p.39) as well, academic freedom is defined as “the right of individuals to pursue the goals and procedures of aca-

democratic thinking free of interference or censure in terms of any political, religious or social orthodoxy.”

The National Plan for HE (DOE, 2001) has provided the framework and mechanisms for the restructuring of the HE system which has now been implemented. This has created a new organizational and regulatory framework which can facilitate negotiated planning, responsible interaction and productive partnerships. These new developments will have an impact on the scope of institutional autonomy in the sense that they will require a culture of co-operation and will lead to increased accountability. Proposals, as outlined in the Green Paper (DOE, 1996b), will affect institutional autonomy in the following ways:

- Through the proposed new funding mechanism, student recruitment is made subject to overall targets and to the distribution of numbers between major fields of study to be decided upon within the context of the national education plan. Naturally, such allocation of funded student places implies a limit on institutional autonomy.
- As far as course and curriculum planning and development are concerned, the proposals on accreditation in conjunction with the role of the NQF as well as SAQA do entail a certain degree of curtailment of existing autonomy.
- Institutional autonomy will no longer be absolute in assessing academic performance. The review and evaluation of the activities of institutions will take place at national level within the framework determined by a national management information and performance indicator system.
- The Ministry will reserve the legal right to have independent assessments made and advice provided when it considers it necessary to do so, in circumstances such as those that may bring an institution into disrepute on the grounds of mismanagement, corruption or persistent turmoil.

FACULTY ROLES AND REWARD

The restructuring of HE in SA has necessitated HEIs to not only readdress the structure of the curriculum and the issues of equity, but also reassess the staff roles and rewards. Financing in the form of subsidy provided by the State impacts the role of faculty. Student numbers at postgraduate level are weighted greater for subsidy purposes and this acknowledges the increased instructional load required for these students as well as the important role of research in their studies, especially at doctoral level. Universities are expected to maintain the necessary infrastructure for research and to stimulate staff and students to par-

ticipate actively in research activities by publishing research reports, contributing to departmental publications, hosting conferences etc (Vista University, 2000e).

In terms of qualifications, experience and research output, appointments and promotions are usually considered at any of the following levels in an academic department, especially in the Faculty of Education (Vista University, 2000c):

Junior Lecturer	Honors degree
Lecturer B	Master's degree
Lecturer A	Master's degree and three years' relevant teaching and/or evidence of good research potential.
Senior Lecturer	Doctoral degree and proven research record, including at least 5 journal papers, of which at least 3 shall be in refereed journals. (Other academic achievements, such as original theatrical productions, literary works, development of software, etc., may be taken into account in lieu of some publications.)
Principal Lecturer	Doctoral degree, 10 years relevant experience and research output, including at least 5 refereed journal publications or the equivalent. Evidence of outstanding contributions to teaching and curriculum development will be a key requirement.
Associate Professor	Doctoral degree, extensive experience and proven research record including fifteen journal publications, at least ten of which should be in refereed journals. Scholarship, as demonstrated by leadership in research, will be the principal basis on which promotion to this rank will be considered.
Professor	Doctoral degree, ten years relevant experience and extensive research output, including twenty journal publications, at least fifteen of which should be in refereed journals. International recognition and scholarship, as demonstrated by the media in which work is published, will form the major basis for consideration.

Although the above criteria, applicable at each level, is applied specifically by VU, other HEIs have more or less similar frameworks in making appointments or considering promotions. The faculty role *and* reward of a lecturer is largely determined by the appointment level that he or she occupies. The level of an offering taken by a student has an influence on the financial resources needed to provide tuition (see Appendix B). A doctoral student will require a professor while a junior lecturer can offer a course in an undergraduate diploma.

In the above example, the remuneration can range from approximately R91,500 per annum for a junior lecturer to approximately R200,000 for a full

professor. The latter will be expected to conduct research, be involved in supervising doctoral theses and publish extensively. Academic research awards are also available as incentives. For instance, at VU, an incentive of R20,000 or six months special research leave is granted to a lecturer who achieves any of the following (Vista University, 2000d, p. 11):

- Ten articles in subsidized journals, or
- Sole author of two books/co-author of four books, or
- Successful supervision of eight research Master's/twelve coursework Master's students, or
- Successful supervision of four Doctoral students, or
- Being the most outstanding faculty researcher consistently for three years.

Evidently, faculty rewards depend on the output of the individual. A publication in an accredited journal earns the author R12,000 from the DOE (Vista University, 2000e). This amount is divided as follows:

- one-third (R4,000) will be paid into the University's Research Fund
- one-third (R4,000) will be paid into the Departmental Research Fund
- one-third (R4,000) will be paid into the research account of the staff member.

Another factor that is affecting the role of academics is the number of students registering at HEIs. The poor matriculation results over the past few years, coupled with the high unemployment figures, has meant that the number of students registering at HEIs has dropped significantly (with some exceptions). At Vista University (VU), for instance, a Recruitment Monitoring Committee has been formed as a result of the recommendations of the Council Finance Committee to the Council of this institution. VU is the second largest national HEI (after UNISA) in SA. It makes use of the dual mode approach (contact and distance education) to offer undergraduate and postgraduate programs throughout the country. According to the circular released by the office of the Deputy-Vice Chancellor (DVC): Administration at VU (VU, 2000a), the core areas of the decision by Council are as follows:

1. The University must reduce its salary bill by 10% from the 1999 budget by June 30, 2000.
2. The salary bill must be reduced by a further 10% by December 2000.
3. The operational budgets should be reduced by 5–10% for this same period.

The escalating salary bill at VU was exacerbated by the following:

1. The number of students declined from 28,652 in 1997 to less than 20,000 in 2001. This decrease will reduce the University's future income and subsidy amount *substantially*.
2. The growing student debt from previous years (which now hovers around R40m) further compromises the University's future financial position.

The Recruitment Monitoring Committee takes the following factors into account to review requests for additional student and staff appointments:

1. The staff/student ratio in a department for the current year. It is difficult to justify full-time appointments for courses where student numbers are well below 10.
2. The ratio of courses offered by a department versus the staff complement of that department at all the campuses.
3. The implication of the appointments to the long-term financial *viability* of the University and its academic programs. There are also students who are appointed and who owe the University a substantial amount of fees. The Committee believes that the behavior of nonpayment is being rewarded by the University through this practice.

Hence, faculty roles and reward cannot be divorced from the transformation process currently taking place in the HEIs in SA. Issues of CD and equity will naturally impact on this vital aspect of HE in SA.

HIGHER EDUCATION INFRASTRUCTURE

In terms of the HEA, the Minister of Education may, after consulting the CHE and by notice in the *Government Gazette*, merge a subdivision of a public higher education with another HEI. The assets, liabilities, rights and obligations associated with the subdivision concerned devolve upon the public higher education institution with which the subdivision has merged. This has to be carried out in a manner agreed by the councils of the public HEIs or failing such agreement, in a manner which will be determined by the Minister after consulting such councils (Higher Education Act, 1997, p.22).

Despite the democratic elections of 1994, the stark disparities between the HWIs and the HBIs that existed during apartheid still exist. The HBIs have yet to make substantive progress towards overcoming the inferiority label attached

to them during the apartheid era. The Minister (of Education), Prof. Kader Asmal, intends making a significant announcement soon on the status quo of the 21 universities and the 15 technikons. Currently, proposals are being submitted by the various stakeholders to a task team to address this crucial issue which will then be handed over to the Minister for submission to parliament.

According to the deputy executive director of the Association of Vice-Chancellors of Historically Disadvantaged Tertiary Institutions, Lula Gebreyesus, the country's HE system continued to be divided along racial and ideological lines and this did not reflect the country's democracy (*Evening Post*, April 11, 2000, p.2). She has proposed to the Parliament's Education Portfolio Committee that the Government should consider merging HDIs with their White counterparts in order to save the former from possible collapse! Furthermore, Gebreyesus has echoed the concerns of most South Africans by pointing out that the acceptance of Black students by HWUs was still very difficult. She said that:

Despite their claims of being willing to accommodate Black students, historically White institutions continue to allude to their "excellence and higher education standards" as a means to deny them access to these institutions.

According to a report in the *Eastern Province Herald* (April 19, 2000, p. 13), the Government's rationalization of teacher training colleges expected to see the number of such institutions reduced to 25 when the process was completed in the year 2001. The Minister, Professor Kader Asmal, announced that these 25 institutions would cater for approximately 15, 000 students. In addition, two distance education colleges were planned, to serve approximately 5,000 FTE students. In 1994, there were 150 institutions training about 200,000 students, of which about 80, 000 were enrolled at provincial education colleges. The Minister justly pointed out that most of these colleges had been established by homeland and so-called independent States—without consideration of cost, need or quality—and were no more than vocational high schools by another name.

As of 2000, there were 50 teacher training colleges with 20,000 students out of a national total of 82 public institutions offering teacher training to 115,000 students. Prof Asmal said (*Eastern Province Herald*, April 19, 2000, p. 13):

In the course of the planning process, it has become clear that no public college of education can survive as an independent institution within the higher education sector.

All surviving colleges of education will therefore be incorporated into universities and technikons. In a letter to the editor published in the *Sunday Times* (May 21, 2000, p.25), the Minister supported the position taken thus far by the government and he pointed out “that the government has moved decisively but sensibly on teacher training.” He admitted that there “have been mistakes, but this is to be expected in such a complex process.” By January 2001, there were to be approximately 25 public HEIs offering teacher education. The Minister asserted that this “is a manageable size for a system that can be nurtured and steered towards meeting the needs of the country.”

A report in the *Sunday Times* (April 30, 2000, p. 1) pointed out that the education Minister was set to embark on a radical shake up of HE with proposals that bachelors’ degrees be extended to four years and that a small number of universities be developed into world-class institutions. The motivation for the four-year degree was that the kind of skills needed by the market could not easily be provided in three years. The proposals, having been discussed by a task team established by the Minister to investigate “the size and shape” of South African universities, were to be handed to the Minister in June 2000, before being tabled before Cabinet.

The proposals suggest, *inter alia*, the introduction of an associate bachelor’s degree—a two year qualification—which can be done as a vocational qualification or linked to the bachelor’s degree. All HEIs—including universities, technikons and teacher training colleges—will be re-graded. Only some will be accredited to provide the four-year and higher degrees. Others will offer the two-year qualification only, while some will offer both the four- and two-year degree in a complimentary model.

A report in the *Mail & Guardian* (May 12, 2000, p.2) alludes to the anticipated change. According to this report, a five-tier system was being planned.

The first tier, A, is to incorporate existing technical colleges with a focus on the development of skills for the work place. The next tier, B, is to comprise two or three technical colleges per region and in addition is to offer two-year associate degrees by franchise from another HEI. The middle tier, C, is to comprise multipurpose teaching institutions registering students for associate degrees, four-year bachelors and BTech degrees, with accommodation for academic support. D institutions are to offer not only undergraduate degrees but also postgraduate study at master’s and MTech level, with a limited number of departments having the appropriate expertise providing doctoral possibilities. The fifth tier, E, specializes in research of internationally accepted standards and

will offer nothing less than four-year bachelor degrees at undergraduate level, with advanced facilities for masters' and doctoral work.

The Minister's investigation comes in the wake of falling student enrollment, poor pass rates, low research outputs, high student debt, unregulated growth of private institutions, and skewed racial and gender distribution of students and staff.

According to Dr. Saleem Badat, executive officer of the CHE and a member of the task team, SA had to move towards a differentiated system as it could not afford 36 HEIs all wanting to offer the same programs. He states unequivocally (*Sunday Times*, April 30, 2000, p1):

Our notion of what a university is has to be re-thought. There will be some whose mission will be to focus on good-quality undergraduate teaching. There will be others whose mission will be good-quality undergraduate teaching and a wide range of postgraduate programs. By the nature of the composition of their staff, these will be institutions that lead knowledge production and research.

Entrance requirements for the latter institutions are to be higher than for institutions at the lower end of the spectrum. These institutions will not be expected to provide academic development or support, while those at the lower end will be expected to focus heavily on academic support. Successful graduates at HEIs at the lower end should be able to move into HEIs at the higher end of the spectrum with greater ease than is now possible. The two-year associate degree is viewed as a good foundation to enable students to cope with a fully-fledged degree program, since weaknesses in the school system are unlikely to be eradicated soon.

The future of HE in SA is aptly encapsulated in the vision outlined in the ANC Policy Framework for Education and Training (ANC, 1994, p. 113):

There will be a well-planned and integrated, high quality national system of Higher Education whose students and staff are increasingly representative of South African society. The system will be linked to national and provincial reconstruction, in particular to human resource development and the production of scientific and other knowledge to service the economic, political, cultural and intellectual development of our communities and nation.

Implicit in the vision, according to Moja, Cloete and Smit (1995, pp.96-97), are the following:

- access to lifelong education and training irrespective of race, class, gender, creed or age
- a well-planned, integrated, high quality system of HE whose students and staff are increasingly representative of South African society

- a system which is linked to national and provincial reconstruction, particularly as related to human resource development and the production of knowledge to serve the economic, political, cultural and intellectual development of our communities and nation
- that the national Government will have primary responsibility for the provision of higher education
- that redressing historical imbalances will be a priority
- that the higher education system and its constituent institutions will be required to be effective and to have clearly defined objectives which are linked to national and provincial reconstruction and development
- that representativeness, accountability, transparency, freedom of association and academic freedom will underpin the higher education system
- that there shall be mechanisms to ensure horizontal and vertical mobility and flexibility of access between general formative, technical, industrial and adult education and training in the formal and non-formal sectors
- that there shall be nationally determined standards for accreditation and certification for formal and non-formal education and training, with due recognition of prior learning and experience
- that research and postgraduate work relevant to the development needs of the majority will form an increasingly important component of HE, and
- that community development must become an integral component of teaching and research.

CONCLUSION AND RECOMMENDATIONS

South Africans need to earnestly deliberate, to a greater extent, amongst themselves in order to eradicate the monstrous *two nation syndrome* often referred to by President Thabo Mbeki (SABC, May 1, 2000):

In South Africa, we have two nations: the one is Black and poor and the other is White and relatively prosperous.

The inequities and racial divisions created by apartheid cannot continue to exist if we are to engage in unifying our fragmented nation into a unified one, hence the creation of the RDP and GEAR macro-frameworks by the South African government to address these fundamental, basic human right issues.

The RDP vision and goals, which informed the NCHE proposals, are to be achieved under the GEAR macro-economic framework. The Campus Diversity Audit report (Harper & Cross, 1999) indicates that GEAR demands greater fiscal discipline to minimize the budget, monetary restraint to reduce inflation, a

social contract based on salary restraint to protect and create employment, and limits on public expenditure. This opens up new opportunities as well as constraints to HEIs. Under these circumstances, therefore, questions of rationalization, quality, relevance, efficiency, effectiveness, and educational performance become more pressing than ever before. For HEIs to meet these challenges successfully, they will of necessity have to engage in a paradigm shift. This can be approached in various ways, as pointed out in the Campus Diversity Audit report, from developing a strong, visionary leadership, changing the character of the academic corpus to injecting an entrepreneurial approach to university work. In practice, institutional responses are twofold. Several HEIs may respond to the challenges by adopting a narrow technician's view as a matter of aligning their programs to the marketplace. However, there appears to be an increasing awareness in many HEIs that these challenges can only be dealt with more effectively from a holistic perspective with the necessary attention given to the wider socio-political context, particularly CD issues.

How HEIs approach CD ranges from tolerance of difference, *affirmation* or *celebration* of diversity, to diversity as a strategy for *embracing*, or *accommodating* or *engaging* differences. Of greater significance is an emergent realization that the future of CD will certainly depend on its ability to integrate the politics of cultural and identity recognition with the politics of social justice and equity. This will require a re-conceptualization of diversity in the context of transformation (Harper & Cross, 1999, p.34).

HEIs are gradually redirecting their student bodies and their staff to reflect the demographics of South African society. Ever since the first democratic elections in 1994, there has been a growing awareness about addressing the social imbalances inherited from apartheid and being responsive to the wider social needs of the country. Much has been contemplated to address the plight of the historically disadvantaged communities and much has yet to materialize to provide quality education to all including the *poorest of the poor*. No simple task, indeed.

Evidently, various strategies are being put into place to address issues of difference, language and identity, curriculum, teaching and learning practices, social antagonism, divisive attitudes, and other social illnesses on campuses. The issues of CD, although fragmented and uncoordinated in many ways, have now gained a wide space in South African HE. Their future, as pointed out by Harper and Cross (1999), will depend largely on the ability and vision of the leadership

to embrace them as part of the mainstream responsibility of their institutions, a central part of what HEIs really stand for in South Africa.

Acknowledgment

I wish to express my gratitude to the following for their assistance:

Ms. O. Allie, the librarian of Vista University, Port Elizabeth campus, for providing me with suitable literature on HE funding; Prof. K. Nyamapfene, the ex-DVC (academic) of Vista University, for providing me with the information on the SAUVCA/CTP formula; and the Department of Management Information of Vista University for compiling a document for me, explaining the subsidy formula as currently employed in SA.

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APPENDIX A. ABBREVIATIONS USED

ANC	African National Congress
Bn	Billion
CD	Campus Diversity
CHE	Council on Higher Education
CTP	Committee of Technikon Principals
DOE	Department of Education
DVC	Deputy Vice-Chancellor
FET	Further Education and Training
FTE	Full-Time Equivalent
GDP	Gross Domestic Product
GEAR	Growth, Expansion and Redistribution (Macro-Economic Framework)
GNP	Gross National Product
HBI	Historically Black Institution
HBT	Historically Black Technikon
HBUS	Historically Black University
HDI	Historically Disadvantaged Institution
HEA	Higher Education Act No. 101 of 1997
HE	Higher Education
HEI	Higher Education Institution
HWI	Historically White Institution
HWU	Historically White University
m	Million
NCHE	NCHE National Commission on Higher Education
NQF	National Qualification Framework
NSFAS	National Student Financial Aid Scheme
QS	Qualification Structure
RDP	Reconstruction & Development Program
SA	South Africa
SADOFA	South African Department of Foreign Affairs
SAPSE	South African Post-Secondary Education
SASCO	South African Students' Congress
SAQA	South African Qualifications Authority
SAUVCA	South African Universities' Vice-Chancellors' Association
SF	Subsidy Formula
TBVC	Republics of Transkei, Bophutatswana, Venda & Transkei
TEFSA	Tertiary Education Fund of South Africa
UNISA	University of South Africa
USA	United States of America
VU	Vista University

APPENDIX B. A SIMPLIFIED BREAKDOWN OF THE SUBSIDY FORMULA

$$\text{Subsidy amount} = (S * N * C) * G * A$$

Where S = Effective subsidy students
= $\frac{1}{2} (E + P) * W$ for contact education and
= $\frac{1}{3} (E - P) * W$ for distance education

Where E = Enrolled FTE students

Where P = Passed students

Where W = Weight of level
= 1 for undergraduate diplomas/degrees
= 1 for first bachelor's degree
= 1 for postgraduate diplomas/degrees
= 2 for fourth year of first degrees/final year of undergraduate professional bachelor's degrees
= 2 for honours degrees/postgraduate bachelor's degrees
= 3 for courses for masters' courses
= 3 for masters' dissertations
= 4 for courses for doctoral courses
= 4 for doctoral theses

Where N = Applicable formula constants for each element of the formula

Where C = The Rand value of each element of the formula (adjusted annually)

Where G = Ratio of government contribution (determined annually)

Where A = Ratio of cut in subsidy (the A-value, determined annually)

Note: The generic formula is used to calculate the subsidy amount applicable in each element of the formula.

Source: Department of Management Information, Vista University (2000b)

CHAPTER 8. FINANCING HIGHER EDUCATION IN INDIA UNDER STRUCTURAL ADJUSTMENT

Jandhyala B.G. Tilak

Economic reforms and market liberalization are not ends in themselves but are means to achieve the goals of development... If the latter cannot be achieved by market reforms, supplementary positive action must be adopted, and their financing must be provided for in any plan allocation of investible resources. (Planning Commission, 1996, p. 13).

To compete in the world industrial economy, it is essential to have higher educational institutions, scientists, technologists and engineers. Universal primary and secondary education is a worthy goal in its own right, but alone it does not provide the wherewithal to compete in the international market. (Singh, 1994, p. 180).

GLOBAL ECONOMIC CRISIS AND ADJUSTMENT

The adjustment policies promoted by the IMF and World Bank since the 1980s and adopted everywhere in the developing world, including in India, are by now well known. They have serious short-term and long-term implications for almost all sectors of the economy. The adjustment policies include major policy reforms and consist of two distinct strands of a single package: (a) short-term stabilization policies attributable to the International Monetary Fund (IMF) and (b) long-term structural adjustment policies associated with the World Bank (IBRD). Both signal a new wave of policy-oriented loans, and constitute an important type of non-project lending of the Brettonwoods institutions. Stabilization policies, essentially viewed as a short-term demand-oriented

device to reduce macroeconomic imbalances, rely on demand management and include sustainable reductions in budgetary (fiscal and revenue) deficits, and current account of the balance of payments, and reduction of inflationary gaps through devaluation of local currency, reduction in government expenditure, reduction in public subsidies, control of bank credits, tax reforms, controls on wage increases, the dismantling of price controls to allow the market to determine prices, etc. The most direct consequence of all this would be cuts in government spending, leading to a drastic reduction in public subsidies across the board, though the reductions need not necessarily be, and most often are not, uniform across all the sectors. Actually, cutbacks in government expenditures are expected to be focused on unproductive or less productive sectors (Tanzi, 1989, p. 25), and not necessarily on human capital development sectors like education and health. These stabilization policies, including the austerity measures of the IMF came into conflict with the long-term policy requirements as viewed by the World Bank.

The structural adjustment loans were, in a sense, the World Bank's response to this conflict, and with this, the World Bank, as Mosley and Weeks (1994, p. 319) described, "broke new intellectual ground with its claim that developing countries could adjust to adverse macroeconomic conditions via measures to boost the supply side of the economy." The "gigantic experiment in development policy" signifies the World Bank's new lending and investment strategies, and aims at correcting fundamental long-term weaknesses in borrowing countries. It focuses on macro economy and includes non-sector specific policy reforms; it is not intended to address sectoral concerns, which are addressed by sectoral adjustment loans. The conditions that are attached to structural adjustment loans are macroeconomic and some are common to the stabilization policies, such as reduction of fiscal imbalances and deficits, macroeconomic efficiency, containment of the wage bill, and employment freezes, besides trade liberalization involving abolition or liberalization of foreign exchange and import controls, hospitality to foreign investment, etc. These loans, however, aim at providing financing much more quickly than conventional loans to assist the economy on a long-term basis. At the same time, they provide scope for even more intervention by the World Bank in the domestic economy, in that they address the need perceived by the World Bank for comprehensive economic reforms across the board.

In contrast to the short-term stabilization policies of the IMF, the structural adjustment policies aim at long-term structural reform, including

improvement in productivity of resources, improvement in allocation of resources, increase in economic efficiency and flexibility of the economy, increase in competition and, thereby, expansion of the economy (see Michalopolous, 1987; World Bank, 1988; Tanzi, 1989; and Thomas and Chhibber, 1989). More importantly, they also imply a reduced role of the state and increased role of the market mechanism, or privatization and dismantling of the state apparatus in the name of de-bureaucratization. It is generally argued that but for the adjustment policies, distortions in allocations would take place and inefficiency at the macro level might increase.

In principle as well as in practice, stabilization and structural adjustment policies are related. "If you do not solve the problems of stabilization, then you cannot, by definition, start the process of restructuring your economies. If there is widespread excess demand in the system, if inflation is not brought under control, if government deficits keep on growing year after year, fanning inflationary expectations, in that sort of environment, it is very difficult to assume that you adopt structural policies...." (Singh, 1992, p. 108; see also World Bank, 1990). Both stabilization and structural adjustment policies are viewed as a single indivisible package of reforms and thus they are also related in practice: the adjustment loans are required to be preceded by stabilization policies, though both are found to be going on simultaneously in many cases, achieving neither macroeconomic stability nor restoration of sustainable growth (Bajpai, 1993; 1995, p. 113).

The objectives of the overall adjustment policies thus have been (a) to stabilize the economy, (b) to improve allocation of resources, and thereby raise the level of output and income and (c) to achieve higher levels of savings and a more efficient use of investment resources in order to raise the rate of economic growth. These goals are to be achieved through (a) privatization and (b) globalization. Privatization implies reducing the role of the state, and placing the market at the center of the society. Thus the policy is, as Emmerij (1987, pp. 3-4) rightly noted, "noninterventionist [by the government] in spirit" and "concentrates on increasing the efficiency of market signals as a guide to an improved allocation of resources." Thus, privatization is seen as a powerful phenomenon that puts markets and market concerns ahead of the state and policies and concerns of the state.¹ And globalization is found to be a very powerful force, which places the world economy ahead of national economy and accordingly domestic policies have to be subordinated to international policies, and national economies are to be thrown into an international blender. The role of the state is

reduced particularly in the domestic economy and is found important only in promoting private sector and globalization.

The World Bank started disbursement of such adjustment loans in 1980, and it is reported that more than 80 developing countries have taken such loans so far, and have undergone or have been undergoing the process of structural adjustment. Second generation structural adjustment loans are now being designed by the World Bank and by governments of various countries. Thus, there are very few developing countries which have not experimented in varying degrees with these adjustment policies. In this sense, the whole developing world is in the process of adjustment, and one can simply refer to this as a global adjustment period. The 1980s and the 1990s were, in short, a period of economic crisis and adjustment all over the globe and this trend appears to be continuing in the early years of first decade of the 21st century.

The adjustment programs have been found to have mixed effects on national economies —on both social and economic sectors—and have given rise to a few winners and many losers. The World Bank's own evaluations were not very favorable to adjustment programs (see Leftwich, 1994). With respect to economic growth, only a few countries have been found to have “done well whilst most have not only not done well but their performance has actually deteriorated, in some cases, quite severely, compared to the pre-reform period” (Sobhan, 1992, p. 72). As per the Latin American experience, structural adjustment reform produces “at best very limited positive results ... despite a number of potential sources of bias in its favor; and such benefits as they are, are overshadowed by the very strong negative effects” on investments and economic growth (Woodward, 1992). The effects are not confined to investments and economic growth. As Streeten (1998, p. 63) summarized, these economic policies contributed to increased impoverishment, inequalities, work insecurity, weakening of institutions and support systems, and erosion of establishing identities and values.” All these consequences have led many to question whether these reform policies are “for growth or for decay” (Colclough and Green, 1988).

Kakwani (1995) has found that countries that have adopted structural adjustment programs have not performed better than non-adjusting countries with respect to the population's standard of living. In fact, in a large number of

1. For the same reason, most of the economic reforms introduced since 1980 in many countries can best be described as ‘market reforms,’ as against ‘redistributive reforms’ of the earlier decades (see Lipton, 1995).

cases, they found themselves in a worse situation than non-adjusting countries (see also Lindenberg, 1993). Actually, the poor are most affected, as the structural adjustment reform program “has organized a drastic shift in class power to the benefit of the wealthy and privileged” (Vieux and Petras, 1996, p. PE28). These economic reform policies inherently justify social hierarchy and inequality; and indeed they aim at reversing the state efforts towards social equality (Laxer, 1993, p. 13). Structural adjustment programs and anti-poverty programs are not consistent with each other, often harming poor groups (Killick, 1995). Internal contradictions, conflicts, and pressures generated by the structural adjustment programs along with increasing debt burden necessitate authoritarian responses from the governments, abdication of basic welfare responsibilities by the state, etc., resulting in destabilization of the political systems and in several cases democratic and ethnic tensions. Africa provides many examples of this (Cornia et al., 1992; Walton and Seddon, 1994; Adekanye, 1995).

The problems associated with adjustment policies seem to be varied, serious, and complex—particularly in large countries. Perhaps structural adjustment reforms “hold good only under very restricted assumptions, perhaps only for small economies and not for large ones” (Bajpai, 1995, p. 113).

To conclude, in general, structural adjustment policies have been found favorable at best to export-oriented growth, and to the external account; their effect on aggregate investment is almost everywhere negative; their influence on national income and on financial flows from overseas is, on balance, neutral; their effects on distribution are also at best neutral, and their effects on living standards of the poor are adverse (Mosley et al., 1991, pp. 301-02).

INDIA'S ECONOMY UNDER ADJUSTMENT

In the context of analyzing the impact of the World Bank/International Monetary Fund adjustment policies on standards of living, Kakwani et al (1990) classified 86 developing countries of the world—in Africa, Asia, Europe and Middle East, and the Latin America—into five categories, based on their adoption of adjustment policies: (a) “intensely adjusting” countries, that have relatively long periods of experience with the adjustment policies and processes, having taken three or more structural adjustment loans by 1989 and having started in or before 1985 (25 countries), (b) “pre-1986 adjusting countries” that have received fewer than three structural adjustment loans but were included in the program before 1985 (11 countries), (c) “post-1985 adjusting countries” that

received adjustment loans between 1986-88 (19 countries), (d) “non-adjusting” countries (of type I), that *did not need* IMF/World Bank-type of adjustment measures, and which had an increase in average annual growth in GDP per capita during 1980-87 (17 countries), and (e) “non-adjusting countries” (of type II), that were “potential candidates” for World Bank adjustment loans with a decline in the average annual growth in per capita GDP during 1980-87 (14 countries).²

India was classified in category (d). That is, as late as in 1990, India was recognized as a country that did not need adjustment measures of the kind suggested by the World Bank and the IMF³; it was also not regarded as a “potential candidate” for such loans. Within a year, the situation had changed completely. India suddenly had become an adjusting country with the introduction of a package of sweeping policy reforms in July 1991, and it was feared that it might become “an intensely adjusting” country soon.

While optimists had hoped that structural adjustment policies would transform India into a rapidly industrializing economy like the East Asian tigers, the adverse effects of these policies on various productive sectors are widely noted. After the reform policies were introduced, i.e., during the 1990s, agricultural production was found to have declined (Rao, 1994); industrial production grew at a meager rate of 1.6 (Sinha, 1994); imports continue to increase faster than exports and the country was becoming a “severely indebted country” (Datt, 1996) and entering into a debt trap—India has had to borrow funds to pay interest on earlier loans, and these interest payments account for 94% of the new borrowing (Dandekar, 1994); and so on.

During the period of adjustment, an increasing rate of unemployment was forecast (Mundle, 1992; Singh, 1993; Toye, 1995). The annual rate of growth in employment in the organized public sector came down, from 2.17% during 1981-90 to 0.34% during 1991-98.⁴ Unemployment of the educated seems to be increasing, with greater numbers of job seekers registering in the employment exchanges. The rates of growth of graduate and post-graduate unemployment continue to be high. Particularly, the number of unemployed engineers is increasing rapidly in most states, as shown in Table 1.

2.Kakwani (1995) later extended the analysis to cover the period up to 1990.

3.It is not only the World Bank research, but also others were highly optimistic about India's economic growth in the 1990s. E.g., Adams (1990, p. 9) concluded: “India remains well poised to continue its rapid growth through the 1990s.” See also Rosen (1991).

4.Author's calculations (rates of growth based on semi-log regression equation). Data are based on IAMR (1999, pp. 266-67).

Table 1. Annual Rates of Growth (%) in Unemployed Engineers (Degree Level only) Selected States

Year	1990/89	1991/90	1992/91	1993/92	1994*/93	1995/94	1996/95	1997/96	1997/98*
Andhra Pradesh	13.1	-1.1	50.2	71.9	-49.4	-1.0	19.2	36.7	8.8
Assam	2.2	7.2	4.1	141.6	0.3	3.5	2.1	12.4	19.5
Bihar	7.7	6.6	-0.4	-14.1	-0.4	2.3	14.9		-0.02
Chandigarh	-12.7	-5.6	-2.4	3.7	36.5	-0.9	-20.9	144.0	7.2
Delhi	10.7	3.2	0.4	-2.3	-0.8	3.6	20.1		2.8
Gujarat	3.6	-0.3	14.3	-3.1	267.3	-1.3	-5.6	67.1	29.6
Haryana	-24.8	-11.3	1.2	29.9	-13.3	-7.1	226.4		7.6
Jammu & Kashmir						25.4	35.3	44.9	..
Karnataka	-20.6	-6.8	32.7	71.9	-47.1	18.3	73.4	31.5	11.7
Kerala	182.0	-1.1	-6.9	55.0	-55.7	-21.8	8.7	-7.3	-3.1
Madhya Pradesh	10.3	1.9	-16.0	24.4	-12.1	4.9	27.7		2.6
Maharashtra	68.6	1.6	45.7	44.5	-10.0	20.7	19.6	216.2	30.1
Orissa	-12.6	2.2	4.9	16.8	121.8	-3.6	-0.3		18.1
Punjab	-1.3	5.2	0.0	-21.7	-23.8	1.0	62.9	213.3	5.5
Rajasthan	0.0	2.2	-3.8	134.4	-5.6	1.0	10.8		17.1
Tamil Nadu	34.9	24.2	-6.3	-48.7	5.8	2.6	26.0	25.7	-2.0
Uttar Pradesh	-6.7	9.8	-10.7	8.7	-7.3	3.6	14.7		0.6
West Bengal	0.2	-1.1	-1.1	-15.8	-40.6	-0.7	-5.5	225.2	-4.6
* based on semi-log regression equation. Source: IAMR (Various Years) Manpower Profile India Year Book									

During the last few years, revenue expenditure increased faster than capital expenditure and non-plan expenditure increased faster than plan expenditure. In fact, developmental expenditure seems to have been cut and the cuts have been very serious, causing damage to development projects (Bhagwati and Srinivasan, 1993; Sengupta, 1995).⁵ For example, as shown in Table 2, the shares of plan expenditure, development expenditure, capital expenditure in total expenditure of the central government have been much lower in the period after the reforms were introduced than in the preceding (pre-reform) period. The states seem to be suffering more, as the transfer from the central government to states declines. As indicated in the 1995-96 union budget, central transfers seemed to have further declined in the subsequent years and might decline again in the near future; as a result, states have been under increasingly severe pressure. The overall financial situation in the states has deteriorated. These trends are very clear. The revenue expenditure of the states as a percentage of

5. See also several papers in Parikh and Sudarshan (1993).

GDP fell from 15.7% in 1991-92 to 13.1% in 1996-97. The share of development expenditure in the total revenue expenditures of the states fell from 67.1% in 1990-91 to an estimated level of 62.8% in 1996-97 (Sipahimalani, 2000).

Among the several development projects, social sectors suffered most. The combined outlays of the center and the states on rural development and social services as a proportion of GDP in 1994-95 were significantly lower than in the pre-reform years (Guhan, 1995). Development expenditure on social services declined from 5.3% of GDP in 1989-90 to 4.9% in 1994-95 (budget estimates) (World Bank, 1995b, p. 42). Further, as the Gupta (199) and Sundaram and Tendulkar (2000) have shown, the incidence of poverty has increased (see also Sen, 2000).⁶ The rate of growth of state income in most states has been less in the post-reform period, compared to pre-reform period. Unemployment levels have increased between 1993-94 and 1999-2000.⁷ The effects on health care, food intake and nutrition are also found to be significant and are particularly severe in the case of the poor and women (White, 1995).

Table 2 Unemployed Engineers (Degree Level only) Selected States

Year	1989	1990	1991	1992	1993	1994	1995	1996	1997
Andhra Pradesh	1894	2143	2120	3184	5473	2770	2743	3271	4472
Assam	135	138	148	154	372	373	386	394	443
Bihar	914	984	1049	1045	898	894	915	1051	..
Chandigarh	102	89	84	82	85	116	115	91	222
Delhi	225	249	257	258	252	250	259	311	..
Gujarat	385	399	398	455	441	1620	1599	1509	2522
Haryana	129	97	86	87	113	98	91	297	..
Jammu & Kashmir				109	..	138	173	234	339
Karnataka	3241	2574	2399	3184	5473	2897	3427	5942	7813
Kerala	760	2143	2120	1974	3060	1357	1061	1153	1069
Madhya Pradesh	1011	1115	1136	954	1187	1043	1094	1397	..
Maharashtra	541	912	927	1351	1952	1757	2120	2536	8018
Orissa	159	139	142	149	174	386	372	371	..
Punjab	155	153	161	161	126	96	97	158	495
Rajasthan	231	231	236	227	532	502	507	562	..
Tamil Nadu	2621	3537	4393	4117	2112	2235	2294	2891	3635

6. The percentage of poor in rural areas increased from 35% in 1990-91 to 45% in 1998 (Gupta, 1999).
7. The rate of unemployment (unemployed per 1000 population) has increased from 56 in 1993-94 to 72 in 1999-2000 among males and, from 67 to 73 among women in rural areas. The unemployment among males in urban areas increased during the same period from 56 to 70. 20 *The Hindu* (January 2001).

Uttar Pradesh	947	884	971	867	942	873	904	1037	..
West Bengal	561	562	556	550	463	275	273	258	839
Annual Rates of Growth (%)									
	1990/ 89	1991/90	1992/91	1993/ 92	1994*9 3	1995/ 94	1996/ 95	1997/ 96	1997/ 89*
Andhra Pradesh	13.1	-1.1	50.2	71.9	-49.4	-1.0	19.2	36.7	8.8
Assam	2.2	7.2	4.1	141.6	0.3	3.5	2.1	12.4	19.5
Bihar	7.7	6.6	-0.4	-14.1	-0.4	2.3	14.9		-0.02
Chandigarh	-12.7	-5.6	-2.4	3.7	36.5	-0.9	-20.9	144.0	7.2
Delhi	10.7	3.2	0.4	-2.3	-0.8	3.6	20.1		2.8
Gujarat	3.6	-0.3	14.3	-3.1	267.3	-1.3	-5.6	67.1	29.6
Haryana	-24.8	-11.3	1.2	29.9	-13.3	-7.1	226.4		7.6
Jammu & Kashmir						25.4	35.3	44.9	..
Karnataka	-20.6	-6.8	32.7	71.9	-47.1	18.3	73.4	31.5	11.7
Kerala	182.0	-1.1	-6.9	55.0	-55.7	-21.8	8.7	-7.3	-3.1
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Orissa	-12.6	2.2	4.9	16.8	121.8	-3.6	-0.3		18.1
Punjab	-1.3	5.2	0.0	-21.7	-23.8	1.0	62.9	213.3	5.5
Rajasthan	0.0	2.2	-3.8	134.4	-5.6	1.0	10.8		17.1
Tamil Nadu	34.9	24.2	-6.3	-48.7	5.8	2.6	26.0	25.7	-2.0
Uttar Pradesh	-6.7	9.8	-10.7	8.7	-7.3	3.6	14.7		0.6
West Bengal	0.2	-1.1	-1.1	-15.8	-40.6	-0.7	-5.5	225.2	-4.6
* based on semi-log regression equation. Source: IAMR (Various Years) Manpower Profile India Year Book									

EFFECTS OF ADJUSTMENT ON EDUCATION

What are the effects of these policies on education? A few major surveys have reviewed the effects of adjustment policies on education in developing countries.⁸ Educational development and adjustment seem to be antithetical. The adjustment policies stress that “society can no longer afford social democracy, so expensive social and education programs must be curtailed”

8. For example, see Noss (1991), Kakwani et al (1990), Tibi, 1989, Bestecher and Hill, 1990), Sanyal (1992), Reimers (1994), Unesco (1993), Fuller and Abte (1992), Ilon (1994), and Tilak (1989, 1990a, 1992a). But most of the surveys referred to human development or social sectors, and within education to basic education in particular, and rarely focused their attention on higher education or on other levels of education. The likely effects of adjustment policies on human development in general, or social sectors, and on education in particular, specifically on primary education, in India have been briefly reviewed in the literature. See Gupta and Sarkar (1994), Prabhu (1994, 1995), Tilak (1998a), Panchamukhi (2000), etc.

(Laxer, 1993, p. 13). As macroeconomic adjustment and education are closely related through the budgetary mechanism, this curtailment is easy to implement.

Budget restructuring as a strategy of economic adjustment leads to reduction in public spending on education; and declining budgets for education may affect the quantity and quality of the graduates of the education system, which will have a negative impact on macroeconomic growth and adjustment. Not only the macroeconomic choices, the meso and micro choices were significantly influenced by adjustment policies, and the influence has been on the whole negative (see Cornia and Stewart, 1990).

Noss (1991, p. 4) described the process of adjustment measures influencing education:

Adjustment measures (undertaken with or without World Bank assistance) affect education through changes at the macro and micro levels of the economy. Adjustment at the macro level often implies a combination of budget containment measures for the public education system, limited access to post-primary public education, and higher user fees for education services at the secondary and tertiary levels. At the micro level, changes in household incomes and prices (user fees, reduced student subsidies) directly influence the demand for education by altering the opportunity cost of attending school... Household incomes also affect health and nutrition status, and thus indirectly influence attendance and learning ability. Finally, adjustment affects education through changes in markets and infrastructure (resulting from currency devaluation, fiscal and monetary restraint, and price liberalization) that affect supply of education services and the opportunity cost of attending school ...

Why and how do education budgets suffer under “adjusting” processes? Public investments in education decline significantly, in absolute and/or relative terms, in the adjusting countries, because the debt burden in the adjusting countries increases dramatically and correspondingly the debt service payments and the governments have to necessarily reduce the public spending. It is easier to reduce the expenditure on education than expenditure on other sectors. Hence the axe falls more severely on education, while it may fall on most other sectors as well—though the World Bank (1990) feels that the cuts need not necessarily be inflicted on all sectors.

Getting the balance of payments in equilibrium becomes an important goal of the national economies, and currency devaluation becomes an important instrument to achieve this under adjustment programs. As Noss (1991, p. 23) noted, the currency devaluation may induce shifts in the allocation of public budgets towards sectors that are more import- or foreign exchange-intensive, and as education does not belong to either category, it suffers in the form of reallocation of public resources away from education.

Lastly, incomes and prices are affected by adjustment policies, and the demand for education is influenced by incomes and prices. As incomes and living conditions are adversely affected during the process of adjustment, demand for education falls. This would be most true in the case of weaker sections. Demand for education may fall further due to changes in labor market—increased levels of unemployment, reduced levels of wage earnings and earnings differentials, and corresponding increase in the need for participation in the labor market, and increased costs of education.

These effects may be only for a short term. In the long term, as some hope, the adjustment policies may help all sectors,⁹ including education, leading to improvement of efficiency in education. But education is a long-term activity, and perhaps once it goes off the tracks due to paucity of funds it cannot be set back on the rails quickly when funds are available. Further, the world has only a few years' experience with such adjustment policies, so that the long-term results are yet to be observed. Some of the adverse consequences may be due to the fact that policy changes under adjustment are guided by political rather than efficiency considerations (Noss, 1991, p. 3). But all in all, short-run expediency dominates the public policy making during the adjustment process, and the long-term socioeconomic benefits of public investment do not seem to carry any weight. In this sense, the policies suffer from lack of a broader long-term vision and development strategy (see also EPWRF, 1994).

HOW DOES HIGHER EDUCATION IN INDIA RESPOND TO ADJUSTMENT MEASURES?

First, it must be noted that the very success of economic reform programs critically depends upon higher education. As with globalization and international competition, the need for a more educated labor force would be strongly felt. With an illiterate and ill-educated work force, the reform programs cannot even take off properly. In this sense, higher education becomes “*even more important in the new context of a global economy*” (Stewart, 1995, emphasis in the original). But the policies of adjustment seem to go against the growth of higher education.

9. For example, Kakwani (1995, pp. 495-96) argues, “the effects of structural adjustment programs on social indicators can be fully realized only in the long run; it may be too early to measure such effects now.”

While the Indian experience with the adjustment policies is relatively short, some effects are already being clearly felt; and with respect to some other effects, the signals are becoming clear. The recent cuts for higher education in the union government's annual budgets, and also in the budgets of the state governments, the Supreme Court's *de facto* reversal of its own judgment against capitation fee colleges in India (see Tilak, 1992c, 1994),¹⁰ the objectives of the government in constituting committees with a request to recommend methods of mobilizing private funds for higher education (e.g., UGC, 1993; AICTE, 1994), and the efforts to introduce bills in the Parliament in favor of the opening of private universities—all can be viewed as short term and even as “myopic” responses to the structural adjustment policies, with serious long-term implications. The consequent trends in (i) budget cuts, (ii) shifts in policies and (iii) other trends that highlight the increasing neglect of higher education are discussed here.

DECLINE IN BUDGET ALLOCATIONS

What are the recent trends in government expenditure on education that are believed to be associated with the adjustment policies? At the outset it should be noted that, since the adjustment reforms were only introduced in India in 1991, the experience is very short and data are available only for three or four years of adjustment period¹¹; and the limited available data are also subject to revisions, as some of the data are “revised”/“budget” estimates, and are not actual expenditures. Hence conclusions made here should be treated as tentative. It may also be

10. In the 1992 judgment on capitation fee colleges, the Supreme Court ruled that the capitation fee phenomenon is ‘patently unreasonable, unfair and unjust ... [it is] wholly abhorrent to the Indian culture and heritage.’ Specifically, it was also stated that private colleges ‘set up with Government permission’ could not charge fees higher than the fees charged in government colleges. In contrast, in the subsequent judgment in 1993, the Supreme Court *de facto* legalized the capitation fee phenomenon, by introducing differential fee system in private colleges, according to which half the places in these colleges are referred to as ‘free’ seats which should be made available to meritorious students at fees equivalent to fees in government colleges, and the remaining half the seats as ‘payment’ seats which could be made available to less meritorious students at high rates of fees (equivalent to or more than full costs), which could, in fact, be 20-50 times higher than the fees in government colleges. The two judgments of the Supreme Court were reproduced in *Journal of Higher Education* Vol.16 (1), Autumn 1992, pp.73-86; and Vol.16 (2), Spring 1993, pp. 303-28 respectively. See also Tilak (1995c).

noted that, even though adjustment policies *per se* were actually introduced in July 1991, the adjustment process indeed started earlier, with the introduction of corresponding budgetary reforms earlier in anticipation of the adoption of the adjustment policies. Hence comparisons are made here of budgetary allocations between 1989-90 and later years. Further, as all required data are not available in detail, some phenomena are explained with the help of specific data on higher education, and some with the data on the whole education sector. It can, however, be expected that such trends observed in the case of the entire education sector will hold good in the case of higher education alone.

Total public expenditures on education in current, and more specifically in real prices, are found to have declined in many countries during adjustment. The declines are more pronounced in terms of per student expenditures. The relative priority given to education in the development framework—expenditure on education as a percent of GNP, and as a percent of total government expenditure—has also been found to decline in a large number of countries. India is not an exception.

Share of public expenditure on education as a percentage of GNP is one of the most standard indicators of the priority a nation accords to education. Ever since the acceptance of the recommendation of the Kothari Commission, the Government of India has been repeatedly promising to allocate 6% of national income for education in India. From a level of 1.2% in 1950-51, it could barely touch a level of 4% by the turn of the century. According to UNESCO, this rate dropped to 3.2% in 1998-99 but rose significantly to 4.1% for the 1999-2000 fiscal year. Given these long-term and current trends, one would be skeptical about the government's promise to allocate 6% of national income during the ninth five year plan (1997-2002), unless questionable strategies of interpretation (e.g., Kolhatkar, 1989) are adopted (see Tilak, 1990b; 1999a). During the same period, the share of higher education in GNP has also declined sharply from 0.6% in 1989-90 to 0.35% in 1996-97. Along with these, the relative emphasis given to R&D also declined from 0.9% of GNP to a little less than 0.7% of GNP.

Government expenditure on education as a proportion of the total government expenditure might be a better gauge of the governmental efforts and intentions. And the share of education in the total budgets of the central and state

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11. For the same reason, empirical database for much of research on effects of adjustment in India available until recently (e.g., Ravallion and Subbarao, 1992; Prabhu, 1994, 1995; Gupta and Sarkar, 1994; Jalan and Subbarao, 1995; Parikh and Sudarshan, 1993; ILO, 1992; Upendranadh, 1994) refers actually to the pre-adjustment period.

governments have also declined. The share of education in the central government budget is small, and it declined further—from 3.5% in 1989-90 to 3.1% of the revenue budget in 1994-95. In the following years, there has been a steady increase. It increased to 4% in 1996-97 and by the 1999-2000 fiscal year education spending reached 12.7% (UNESCO, 2003). This increase may be due to increased level of external aid for education, flowing through central government. In fact, the growth in central government's allocation to education is described as "externally aided growth" (Tilak, 1999a). But, the relative share of education in the state governments' revenue budget also declined quite sharply from 25.4% in 1989-90 to 22% in 1996-97, and it is likely to have declined further to about 20% by the turn of the century. Thus the overall share of education in government expenditure declined from 14.2% to 13.3% in a short span of seven years. These trends are consistent with the experience of other adjusting countries.¹²

During the 1990s the total government expenditure on education in India declined very often in real prices, and/or a significant decline could be noted in the rate of growth of the expenditure. The annual rate of growth in total (central and state governments) expenditure on education during the 1990s was 4.1% compared to 8.6% in the 1980s and 5.6% during the four decades, 1950-51 to 1989-90 (Tilak, 1995b, p. 23). Such trends in expenditure levels can be noted both in case of central government expenditure and also the expenditure of the state governments. If we relate these trends to the increase in student numbers in the corresponding period, it becomes obvious that per student expenditures have declined more steeply during this period. The decline in the rate of growth in per student expenditures may be observed at all levels of education—elementary, secondary and higher. As Panchamukhi (2000, p. 839) observed, "a very large decrease in the rate of growth of per pupil expenditures on elementary education and a decline in the rate of growth in the case of university education, are indeed very disturbing trends, which deserve specific attention of the policy makers."

The central government budget for education seems to have been hard hit (see Tilak, 1999a). The budget allocations since 1989-90 have been either declining or stagnant in real prices. The budget allocation in 1997-98 (revised estimate) was less than that of 1989-90. The budget expenditures of the states also declined or remained stagnant during the early 1990s, i.e., until 1995-96.

12. See Noss (1991) and Unesco (1993).

During the process of adjustment, when government expenditure has to be reduced, it seems to be relatively easy to cut plan (development) expenditure rather than non-plan (maintenance) expenditure. Non-plan expenditure cannot be reduced significantly, since most of the non-plan expenditure consists of salary costs for existing staff. One may note the plan programs in education that were sacrificed in the recent past. As Bhagwati and Srinivasan (1993, p. 20) noted, in the case of other economic sectors in general, developmental expenditure appears to be taking the brunt of the effort to cut the budget deficit, and this could create difficulties down the road, affecting major development projects.

This is clear in case of higher education in particular. The share of higher education in the total education outlay in the eighth Five Year Plan was estimated to be a meager 7%, the lowest proportion in the last 40 years, compared to 14% (actual expenditure) in the seventh Plan (Table 3). Similarly, allocation for science and technology in the eighth Plan was 2.1%, compared to 2.3% in the seventh Plan. Plan expenditure sets directions for future development and links directly to the long-term health of the system, and hence cuts in plan expenditure would be costly in the long run.

Further, the capital budgets tend to be sacrificed in favor of recurrent budgets. Investment in buildings, physical furniture, and equipment, etc., might be traded off in favor of investment in additional teachers. Within the recurrent budgets, the real expenditures on education decline steeply, as education is a labor-intensive sector with a very high proportion of the education budgets being allocated for salaries of the teachers. But due to the pressures of the teachers' unions, etc., the teachers' wage bills tend to be sheltered. Even when fiscal retrenchment is effected, salaries of teachers and other staff cannot be cut, for various reasons; in fact, they may still go up. The wages of the teachers may increase in nominal terms because of the inflationary tendencies of the adjustment programs in current market prices at a rate much less than inflation. More and more colleges and universities may continue to be opened, as Table 4 indicates, but without even the rudimentary infrastructure—buildings, equipment and teachers.

Table 3. Expenditures of the Union Government

	% of Total Expenditure		% of GDP	
	1985-90	1991-97	1985-90	1991-97
Plan Expenditure	33.5	28.3	6.8	4.8
Development Expenditure	56.4	49.0	11.5	8.5
Capital Expenditure	30.1	22.7	6.1	4.0

Source: Narasimhulu (1998, p. 95).

Table 4. Expenditure on Education and Research and Development as percent of GNP			
Year	Education	Higher Education	R & D
1989-90	4.45	0.55	0.93
1990-91	4.90	0.49	0.85
1991-92	3.99	0.45	0.84
1992-93	4.70	0.44	0.83
1993-94	3.99	0.40	0.79
1994-95	3.87	0.39	0.73
1995-96	3.62	0.37	0.71
1996-97	3.62	0.35	0.68
1997-98RE	3.81	0.37	
1998-99BE	3.83	0.42	
Source: MHRD (c) and DST (1998)			

Further, the plan expenditure on higher education has declined in current prices from Rs.291 crores in 1989-90 to Rs.267 crores in 1992-93. In real prices, both plan and non-plan expenditure declined sharply until the mid-1990s and after a small increase in 1994-95, either declined again or at best remained stagnant at the same level. On the whole, the total expenditure on higher education in real prices in 1995-96 was less than in 1989-90. The expenditure of the central government in higher education in 1997-98 (revised estimate) is much below the 1989-90 level in real prices. While in 1989-90 higher education received 7.9% of the total plan expenditure on education, the corresponding share was just about 5% in 1996-97. In case of non-plan expenditure, the share of higher education came down to 11.2% in 1996-97 from 13.4% in 1989-90. On the whole, the share of higher education total expenditure declined from 12.3% in 1989-90 to below 10% in the real prices. As a result, the real rate of growth of central government's expenditure on higher education has been negative; during the pre-reform period (1985-90), the rate of growth was not high, nevertheless positive (see Panchamukhi, 2000, p. 840). These reductions in real expenditures, viewed along with increase in enrollments, shown in Table 5, suggest that decline is more severe in case of per student real expenditures on higher education. The per student expenditure on higher education declined in real terms from Rs.2506 in 1999-91 to Rs.1853 in 1996-97 (Table 6).

Table 5. Government Expenditure on Education as Percent of Total Government of Expenditure (Revenue Account)

Year	Centre	State	Total
1989-90	3.5	25.4	14.2
1990-91	3.3	24.7	14.0
1991-92	3.0	22.6	13.1
1992-93	3.1	22.7	13.2
1993-94	3.3	22.4	12.9
1994-95	3.1	22.2	13.0
1995-96	4.0	22.3	13.3
1996-97	4.0	22.0	13.3
1997-98RE	4.3	22.2	13.6
1998-99BE	5.0	21.7	13.8
1999-2000			

Table 6. Budget Expenditure on Education (Rs Crores)

Year	In Current Prices			In Constant (1980-81) Prices		
	Centre	State	Total	Centre	State	Total
Plan Expenditure						
1989-90	1340.2	2332.1	3672.3	658.8	1146.5	1805.3
1990-91	1333.0	1914.9	3247.9	590.9	848.9	1439.9
1991-92	1392.9	2354.0	3746.9	538.0	909.3	1447.3
1992-93	1691.0	2318.0	4009.0	602.3	825.6	1427.9
1993-94	2239.5	2941.6	5181.1	727.6	955.7	1683.2
1994-95	2490.0	4048.6	6538.7	734.9	1194.9	1929.7
1995-96	3771.4	4611.7	8383.1	1029.4	1258.8	2288.2
1996-97	4579.2	5726.2	10305.4	1177.2	1472.1	2649.3
1997-98RE	5418.4	6402.6	11821.0	1205.4	1424.4	2629.8
1998-99BE	6866.3	7022.3	13888.5	1400.4	1432.2	2832.6
Non Plan Expenditure						
1989-90	925.9	13352.0	14277.9	455.2	6563.9	7019.1
1990-91	1086.4	16156.9	17243.3	481.6	7162.7	7644.3
1991-92	1088.7	17758.2	18846.9	420.5	6859.3	7279.8
1992-93	1163.1	19858.2	21021.3	414.3	7073.0	7487.3
1993-94	1371.4	21727.2	23098.6	445.5	7058.7	7504.3
1994-95	1336.7	24730.8	26067.6	394.5	7298.8	7693.3
1995-96	1779.2	28015.9	29795.0	485.6	7646.9	8132.5
1996-97	1735.1	31856.0	33591.1	446.1	8189.6	8635.7
1997-98RE	2441.0	37668.6	40109.6	543.0	8380.1	8923.1
1998-99BE	3637.2	43330.8	46968.0	741.8	8837.5	9579.4
Total Expenditure						
1989-90	2266.1	15684.1	17950.2	1114.0	7710.3	8824.4
1990-91	2419.4	18071.8	20491.2	1072.6	8011.6	9084.2
1991-92	2481.6	20112.2	22593.8	958.5	7768.6	8727.1
1992-93	2854.1	22176.2	25030.3	1016.6	7898.6	8915.2
1993-94	3610.9	24668.8	28279.7	1173.1	8014.4	9187.5

1994-95	3826.8	28779.5	32606.2	1129.4	8493.6	9623.0
1995-96	5550.5	32627.6	38178.1	1515.0	8905.7	10420.7
1996-97	6314.3	37582.2	43896.5	1623.3	9661.7	11285.0
1997-98RE	7859.4	44071.2	51930.6	1748.5	9804.5	11553.0
1998-99BE	10503.4	50353.1	60856.5	2142.2	10269.8	12412.0
Annual Rate Growth (%)						
Plan Expenditure						
1990-91/89-90	-0.5	-17.9	-11.6	-10.3	-26.0	-20.2
1991-92/90-91	4.5	22.9	15.4	-9.0	7.1	0.5
1992-93/91-92	21.4	-1.5	7.0	11.9	-9.2	-1.3
1993-94/92-93	32.4	26.9	605.4	20.8	15.8	17.9
1994-95/93-94	11.2	37.6	15.3	1.0	25.0	14.6
1995-96/94-95	51.5	13.9	17.1	40.1	5.3	18.6
1996-97/95-96	21.4	24.2	15.0	14.4	16.9	15.8
1997-98/96-97	18.3	11.8	18.3	2.4	-3.2	-0.7
1998-99/97-98	26.7	9.7	17.2	16.2	0.6	7.7
1998-99/89-90*	22.1	16.5	18.9	11.1	5.9	8.6
Non Plan Expenditure						
1990-91/89-90	17.3	21.0	20.8	5.8	9.1	8.9
1991-92/90-91	0.2	9.9	9.3	-12.7	-4.2	-4.8
1992-93/91-92	6.8	11.8	11.5	-1.5	3.1	2.8
1993-94/92-93	17.9	9.4	9.9	7.5	-0.2	0.2
1994-95/93-94	-2.5	13.8	12.9	-11.5	3.4	2.5
1995-96/94-95	33.1	13.3	14.3	23.1	4.8	5.7
1996-97/95-96	-2.5	13.7	12.7	-8.1	7.1	6.2
1997-98/96-97	40.7	18.2	19.4	21.7	2.3	3.3
1998-99/97-98	49.0	15.0	17.1	36.6	5.5	7.4
1998-99/89-90*	14.9	13.1	13.3	4.7	3.1	3.2
Total Expenditure						
1990-91/89-90	6.8	15.2	14.2	-3.7	3.9	2.9
1991-92/90-91	2.6	11.3	10.3	-10.6	-3.0	-3.9
1992-93/91-92	15.0	10.3	10.8	6.1	1.7	2.2
1993-94/92-93	26.5	11.2	13.0	15.4	1.5	3.1
1994-95/93-94	6.0	16.7	15.3	-3.7	6.0	4.7
1995-96/94-95	45.0	13.4	17.1	34.1	4.9	8.3
1996-97/95-96	13.8	15.2	15.0	7.1	8.5	8.3
1997-98/96-97	24.5	17.3	18.3	7.7	1.5	2.4
1998-99/97-98	33.6	14.3	17.2	22.5	4.7	7.4
1998-99/89-90*	19.1	13.7	14.4	8.3	3.4	4.1
* based on semi-log regression equation. Source: Based on MHRD (a).						

The relative priority given to higher education in the total expenditure on education suffered severely during the 1990s. In 1989-90 the central government spent on higher education a little above one-fifth of its total revenue expenditure on education, which came down to 11% by 1996-97. The share of higher edu-

cation in the states' expenditure on education also declined, though the decline was not as steep as in the expenditure of the union government. It declined from 11% to 9% during the same period (Table 7). On the whole, the share of higher education in the total revenue expenditure of the center and the states on education declined from 12% in 1989-90 to 9.0% in 1996-97, and the share of higher education in GNP from 0.55% to 0.35%, as was shown in Table 2.

<i>Table 7. Percentage of Expenditure on Higher Education to Total Expenditure on Education</i>			
	Centre	State/UTs	Total
Total Expenditure			
1989-90	21.5	11.0	12.3
1990-91	19.7	10.2	11.3
1991-92	20.0	9.7	10.8
1992-93	17.7	9.9	10.8
1993-94	14.2	10.5	11.0
1994-95	17.9	9.9	10.8
1995-96	12.8	9.7	10.1
1996-97	11.3	9.5	9.8
1997-98RE	12.1	9.3	9.7
1998-99BE	21.3	9.0	11.1
<i>Source: MHRD (a).</i>			

One may note that two different proportions are relevant here: (a) share of education in total government expenditure and (b) share of higher education in total expenditure on education. A significant increase in (a) is important so that all sectors of education might benefit with increased levels of budgetary allocations. Given an increase in (a), even a decline in (b) may still mean greater resources for higher education, though the decline in the relative priority accorded to higher education as a percentage of total education expenditures may be grounds for worry. But we have already noted that the share of education in total government expenditure also declined, in addition to the decline in (b) shown in Table 5.¹³

13. When one speaks about intra-sectoral priorities, specifically the relative priority for higher education here, it has become normal to view it as if one is arguing in favor of increase in the share of higher education at the expense of, say, primary education. But there is no need to view 'education in a truncated fashion and set one sector against another' as UGC (1993, p.18) has stated. After all, every one agrees that 'while it is mandatory that the nation achieves universal elementary education and total literacy, at the same time it cannot afford to neglect and relegate to a neglected position our quest to achieve global standards in higher education' (UGC, 1993, p.18).

An important aspect is that, during the 1990s, central transfers to states were reduced severely, which resulted in budgetary cuts at the state level. In as many as 12 major states the share of education in the revenue budget in 1996-97 was less than the corresponding share in 1989-90 (Table 8). Even in most other states one finds significant decline between 1990-92 and 1993-95. Just two or three states could maintain the same levels, and just one (Asaam) managed to modestly increase its share during this period.

Table 8. Growth in Higher Education Institutions

	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
Universities	144	146	146	153	153	164	172	176	178	179	187
Institutions deemed to be universities	27	28	28	28	30	33	36	39	39	39	39
Institutions of national importance	10	10	10	10	13	10	11	11	11	11	11
Research institutions	48	48	49	49	49	55	65	64	65	65	71
Colleges											
Arts and Science	4670	4755	4862	5058	5334	5639	6089	6569	6759	7199	7494
Engineering & Technology	267	277	282	279	299	308	341	367	418	458	540
Medical	130	129	130	133	133	233	303	354	655	769	755
Teacher Training	485	485	485	538	557	584	586	633	697	848	818

In current prices, expenditure on higher education increased in several states, as shown in Table 9. These figures are not in real prices. But the increases do not seem to be adequate (a) to counterbalance the effect of inflation on the one hand, and (b) increase in enrollments on the other. As a result, per student expenditures in several states could be expected to have fallen steeply in many states during the 1990s.

A few more details on the expenditure of central government on higher education are worth noting. Budget allocations—both plan and non-plan—of the central government to UGC have continuously declined in real prices since 1990-91, year after year, though there were “ups” in between, in two years. On the whole, the plan allocation to the UGC in 1996-97 was less than the allocation made in 1990-91 (Table 10).

Table 9. Budget Expenditure on Higher Education (Rs Crores)

	In Current Prices			In Constant (1980-81) Prices			% of Total Expenditure on Education
	Centre	State	Total	Centre	State	Total	
Plan Expenditure							
1989-90	150.1	141.0	291.1	73.8	69.3	143.1	7.9
1990-91	128.6	116.4	245.0	57.0	51.6	108.6	7.5
1991-92	160.7	103.7	264.5	62.1	40.1	102.2	7.1
1992-93	149.6	117.8	267.4	53.3	42.0	95.2	6.7
1993-94	157.2	155.7	312.9	51.1	50.6	101.7	6.0
1994-95	309.7	215.2	524.9	91.4	63.5	154.9	8.0
1995-96	246.3	266.3	512.7	67.2	72.7	139.9	6.1
1996-97	234.2	283.5	517.8	60.2	72.9	133.1	5.0
1997-98RE	386.6	315.4	701.9	86.0	70.2	156.2	5.9
1998-99	412.7	391.4	804.1	84.2	79.8	164.0	5.8
Non Plan Expenditure							
1989-90	336.2	1582.6	1918.8	165.3	778.0	943.3	13.4
1990-91	346.9	1720.0	2066.9	153.8	762.5	916.3	12.0
1991-92	334.5	1844.4	2178.9	129.2	712.4	841.6	11.6
1992-93	355.3	2077.3	2432.6	126.5	739.9	866.4	11.6
1993-94	357.1	2433.6	2790.7	116.0	790.6	906.6	12.1
1994-95	374.5	2625.9	3000.4	110.5	775.0	885.5	11.5
1995-96	466.9	2891.8	3358.7	127.4	789.3	916.8	11.3
1996-97	482.3	3287.8	3770.1	124.0	845.2	969.2	11.2
1997-98	566.1	3779.0	4345.0	125.9	840.7	966.6	10.8
1998-99	1821.8	4145.3	5967.0	371.6	845.5	1217.0	12.7
Total Expenditure							
1989-90	486.3	1723.6	2209.9	239.1	847.3	1086.4	12.3
1990-91	475.5	1836.4	2311.9	210.8	814.1	1024.9	11.3
1991-92	495.2	1948.1	2443.4	191.3	752.5	943.8	10.8
1992-93	504.9	2195.1	2700.0	179.8	781.8	961.7	10.8
1993-94	514.3	2589.3	3103.6	167.1	841.2	1008.3	11.0
1994-95	684.2	2841.1	3525.3	201.9	838.5	1040.4	10.8
1995-96	713.2	3158.1	3871.3	194.7	862.0	1056.7	10.1
1996-97	716.5	3571.4	4287.9	184.2	918.1	1102.3	9.8
1997-98	952.7	4094.4	5047.1	211.9	910.9	1122.8	9.7
1998-99	2234.5	4536.7	6771.2	455.7	925.3	1381.0	11.1
Annual Rate Growth (%)							
Plan Expenditure							
1990-91/89-90	-14.3	-17.4	-15.8	-22.7	-25.6	-24.1	
1991-92/90-91	25.0	-10.9	8.0	8.9	-22.4	-5.9	
1992-93/91-92	-6.9	13.6	1.1	-14.2	4.7	-6.8	
1993-94/92-93	5.1	32.2	17.0	-4.2	20.6	6.7	
1994-95/93-94	97.0	38.2	67.8	79.0	25.6	52.4	
1995-96/94-95	-20.5	23.7	-2.3	-26.4	14.4	-9.7	
1996-97/95-96	-4.9	6.5	1.0	-10.4	0.3	-4.9	
1997-98/96-97	65.1	11.3	35.6	42.8	-3.7	17.3	

1998-99/97-98	6.8	24.1	14.6	-2.1	13.8	5.0	
1998-99/89-90*	13.5	15.6	14.5	3.2	5.2	4.1	
Non Plan Expenditure							
1990-91/89-90	3.2	8.7	7.7	-7.0	-2.0	-2.9	
1991-92/90-91	-3.6	7.2	5.4	-16.0	-6.6	-8.1	
1992-93/91-92	6.2	12.6	11.6	-2.1	3.9	2.9	
1993-94/92-93	0.5	17.2	14.7	-8.3	6.9	4.6	
1994-95/93-94	4.9	7.9	7.5	-4.7	-2.0	-2.3	
1995-96/94-95	24.7	10.1	11.9	15.3	1.9	3.5	
1996-97/95-96	3.3	13.7	12.2	-2.7	7.1	5.7	
1997-98/96-97	17.4	14.9	15.2	1.6	-0.5	-0.3	
1998-99/97-98	221.8	9.7	37.3	195.0	0.6	25.9	
1998-99/89-90*	13.8	11.6	12.3	3.5	1.5	2.2	
Total Expenditure							
1990-91/89-90	-2.2	6.5	4.6	-11.8	-3.9	-5.7	
1991-92/90-91	4.1	6.1	5.7	-9.3	-7.6	-7.9	
1992-93/91-92	2.0	12.7	10.5	-6.0	3.9	1.9	
1993-94/92-93	1.9	18.0	14.9	-7.1	7.6	4.8	
1994-95/93-94	33.0	9.7	13.6	20.9	-0.3	3.2	
1995-96/94-95	4.2	11.2	9.8	-3.6	2.8	1.6	
1996-97/95-96	0.5	13.1	10.8	-5.4	6.5	4.3	
1997-98/96-97	33.0	14.6	17.7	15.1	-0.8	1.9	
1998-99/97-98	134.5	10.8	34.2	115.0	1.6	23.0	
1998-99/89-90*	14.4	11.9	12.6	3.8	1.8	2.4	
Source: Based on MHRD (a).							

Table 10. Growth in Enrolment in Higher Education Institutions

Enrollment in thousands	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
Ph.D etc	31.4	27.8	32.5	31.2	30.7	30.7	36.6	41.3	40.5	40.0	45.8
MA/MSc/ Mcom BA/BSc/ BCom	3429.1	..	3640.0	3893.7	3944.7	4115.1	4274.1	4983.3	5352.3	5612.9	6484.3
BE/B.Arch/ BSc-Engg	205.3	..	241.4	230.5	263.1	270.0	290.9	317.1	328.4	343.1	312.7
MBBS	80.2	84.3	84.4	83.2	79.6	88.2	99.9	110.5	112.2	126.2	143.4
Bed/BT	91.0	92.7	92.2	97.3	100.0	101.9	108.5	122.1	116.0	113.3	114.2
Total	3837.0		4090.5	4335.9	4418.1	4605.9	4810.0	5574.3	5949.4	6235.5	7100.4
Annual Rate of Growth (%)	1989-90 /88-89	1990-91 /89-90	1991-92 /90-91	1992-93 /91-92	1993-94 /92-93	1994-95 /93-94	1995-96 /94-95	1996-97 /95-96	1997-98 /96-97	1998-99 /97-98	1998-99 /88-89*
Ph.D etc	-11.46	16.91	-4.00	-1.60	0.00	19.22	12.84	-1.94	-1.23	14.50	4.4
MA/MSc/ MCom/ BA/BSc/ BCom	..	..	6.97	1.31	4.32	3.86	16.59	7.40	4.87	15.52	7.3**

BE/B. Arch/BSc- Engg	..	..	-4.52	14.14	2.62	7.74	9.01	3.56	4.48	-8.86	4.8**
MBBS	5.11	0.12	-1.42	-4.33	10.80	13.27	10.61	1.54	12.48	13.63	5.8
Bed/BT	1.87	-0.54	5.53	2.77	1.90	6.48	12.53	-5.00	-2.33	0.79	2.9
Total	..	..	6.00	1.90	4.25	4.43	15.89	6.73	4.81	13.87	7.0**
*based on semi-log regression equation; **period from 1990-91 only. Source: Based on MHRD (e)											

The most serious casualty of all these cuts may be quality of education, as investment in those inputs that have stronger relationship with quality, such as textbooks and other teaching-learning material, is reduced. The axe falls heavily on the already petty amounts invested in teaching-learning materials, including classroom materials in primary schools, books and journals in the libraries, consumable material in the laboratories, and other quality improvement programs in secondary schools, colleges, and universities. There is reason to believe that provision of inputs of such kind will fall more than the overall budgets and this would cause greater damage to education development. As Fuller and Abte (1992, p. 4) confirm, efforts to increase recurrent spending on textbooks are “stymied at times by overall spending ceilings negotiated with IMF or World Bank economists.” Quality of education may deteriorate as the students per teacher ratio goes up (it already climbed to 43:1 in 1998), fewer books in libraries, etc. The internal efficiency of the system declines, contrary to claims of improved efficiency, because of budget restructuring and other adjustment policies.

Since salaries cannot be cut, salary budgets can be reduced only by leaving faculty positions vacant, a measure that many universities in India have had to resort. The Ministry of Finance has issued directives to that effect. Alternatively, temporary teachers are recruited or guest faculty are appointed. The budgets for libraries, laboratories and similar facilities are also very severely affected. Devaluation, and the accompanying price rises, have led to an enormous increase in costs for books and journals; as a result, many universities have had to inflict very serious cuts on library budgets. For example, only 67% of the number of journals subscribed to by the University of Delhi in 1990 could be renewed in 1991; and in 1992 only 55% of the journals subscribed to in 1991 could be continued. That is, in a short span of two years of reform, the number of journals subscribed to came down to 39%, from 2327 in 1990 to 863 in 1992 in the University (Ghosh, 1993, p. 1562). Similar if not worse trends could be noted at several other universities.

During the process of economic liberalization, investment priorities tend to switch from non-tradable goods and services to tradable ones. As a result, the priority shifts in favor of physical capital goods at the cost of intangible human capital formation. Within higher education, revenue generating courses would receive priority over less or no-revenue generating courses—those that are valuable otherwise, not only in social sciences and humanities, but also in physical and biological sciences. Short duration education and crash courses are preferred to long duration education programs and short-term training programs to long-term training. Shifts of focus favor trade-related disciplines like engineering and hotel management, as against social sciences and research. But instead of proper disciplines of study, the priority shifts in favor of cheap marketable skill-oriented courses, like the computer courses being offered by computer shops.

Budget allocations for research confirm this phenomenon. The central government's plan expenditure on research has come down from a low level of Rs.5.35 crores in 1989-90 to 4.6 crores in 1994-95. In real terms, it declined by 11% every year. Non-plan expenditure on research also declined in real terms. This is in case of research in general education. Research in technical education suffered more severely: even in current prices, the plan expenditure declined by 60% and non-plan expenditure by 82%. Obviously the decline in real prices is higher. This shift in allocation away from research activities could be largely attributed to the myopic conception that research is not as easily converted to income compared to areas like computers, fashion technology and hotel management.

Further, plan allocations to scholarships in higher education came down in real prices. After a steep decline in the beginning of the 1990s, the allocations in 1995-96 could at best equal the level of 1989-90. Non-plan allocations to scholarships were cut in current prices, and more drastically cut in real prices. The total expenditure on scholarships, which in fact form a very small proportion of the total expenditure on higher education, declined from about 0.5% of the total in 1996-97 to 0.32% in 1998-99.

On the whole, the basic pursuit of universities, that is, the advancement of learning, knowledge and scholarship, give place to objectives such as revenue generation. All universities compete with each other to run revenue yielding training programs and courses. Thus the fine distinction between higher education and training is being lost. Higher education has to perform the role of creation and dissemination of knowledge, while the purpose of training is to impart

job-relevant skills. Some of the recent shifts in emphasis in higher education and on disciplines of study in higher education institutions, in particular, suggest that this distinction is being ignored and higher education is being equated with training. The original purpose of higher education takes a back seat and even the principle of comparative advantage will not be preserved. As Bêteille (1995, pp. 403-04) summed up,

hotel management and computer science are no doubt important in their own right, but they do not belong to the core of the university as a repository of knowledge and a center of learning. Indeed, such practical and applied subjects can be more efficiently handled in specialized institutions outside the universities. ... The universities in India must continue to do what they were established to do—the advancement of learning—and what they are best capable of doing.

During the 1990s the real rates of growth in expenditure of the central as well as state governments on specialized human capital (Schultz, 1988), to wit, research and development, were much less than the rates of growth during the 1980s. All this has resulted in a decline in the production of scientific and technical manpower. According to a study by the National Institute of Science and Technology and Development Studies (Maliakan, 1994), since 1991 there has been a steady decline in the turnout of M.Sc., and Ph.D. graduates in sciences and engineering disciplines. Further, it is not only the human and financial inputs into human capital that are sacrificed, but the output of the human capital sector available to the domestic economy may also be affected, given the high levels of educated unemployment. With the liberalization of the economy, this might result in increased levels of brain drain—the outflow of educated manpower, specifically including scientific and technical manpower, on the one hand, and escalation of qualifications for jobs on the other (Lourie, 1987, p. 170). As a result, developing countries may have to face increased levels of brain drain, as “competition for quality graduates will remain fierce” (Task Force on Higher Education and Society, 2000, p. 94).

SHIFTS IN HIGHER EDUCATION POLICY

With primary education suffering severely as a result of structural adjustment reforms, and as a response to demand for “adjustment with a human face” (Cornia et al., 1987, 1988), the World Bank began launching “social safety net” programs (World Bank, 1990a) that deliberately protect primary education from budget cuts, and in fact might result in increased budgets for primary edu-

cation¹⁴—though some doubt the safety of social safety nets (e.g., Vivian, 1995). In fact, it is increasingly realized that basic education should be kept completely out of adjustment programs (e.g., Sanyal, 1992; Tilak, 1993a). As a consequence, primary education has been somewhat protected from budget cuts under adjustment,¹⁵ and the higher education sector suffers severely. The suffering of higher education increases further with the adoption of policies that involve reduction of public subsidies and increase in the role of private sector in higher education.

The short-term and long-term responses of the higher education system in India to the adjustment policies are indeed disturbing. While the major policy responses in regard to higher education are varied, a predominant type of response relates to the role of the state in financing higher education. The adjustment policies directly and indirectly contribute to restoration of the market mechanism in general, and privatization of education in particular—directly, as adjustment policies specifically include privatization or marketization, and indirectly, through reduction in the government subsidies. As public budgets for education shrink, privatization will be on the rise, with all its ill effects (see Tilak, 1991). Private enrollments and private investments will increase, but the increase will not offset the decrease in public investments, and as a result social investments in education will be sub-optimal, as we have already noted in regard to expenditure on research and development (in real prices).

These economic policies also lead to a polarization of the debate, so that otherwise weak arguments take on a strong voice. For instance, Rao (1992) argued for withdrawal of up to 50% of government subsidies in higher education. Dandekar (1991) pleaded strongly for a model that would require students to bear the full costs of higher education, with the role of the government reduced to the provision of minimal physical facilities. Though the UGC (1993) and the AICTE (1994) argued for committed state support for higher and tech-

14. In India, the social safety net program in education has been launched under the broad umbrella of the District Primary Education Program (DPEP) in several states.

15. Recent analyses suggest that contrary to massive claims by the government, public expenditure on primary education as a proportion of GDP had fallen from 1.68% in 1989-90 to 1.46% in 1996-97. Secondly, the share of elementary education in total expenditure on education has not improved significantly in the recent period. It has remained the same, between 45 and 50% for the last two decades. See Tilak (2000).

nical education in the country, their suggestions for increased fees and other methods of mobilizing private resources received more attention.

The changes in the policies, *inter alia*, with respect to (a) student fees, (b) student loan programs, (c) privatization, and (d) overall neglect of higher education system, seem to be a response to the adjustment policies, and they are briefly discussed here. They are not necessarily distinct. Mobilization of non-governmental resources for public higher education can also be seen as a form of privatization of higher education (Tilak, 1991). Explicit policies favoring privatization of education are a direct response to adjustment policies.

STUDENT FEES

An important outcome of the adjustment policies is the introduction of new means of cost recovery. Given the tendencies toward increased cost recovery, equity will also be affected. Cost recovery measures such as the introduction of student fees have been imposed even at the primary level in some developing countries, though recent discussions on cost recovery are confined to post-primary levels of education.¹⁶ Student fees and student loans are the two most vehemently argued means of cost recovery. Some even advocate full cost recovery, particularly at tertiary level of education. As cost recovery measures are introduced, and direct and indirect subsidies in education are subjected to cuts, access to education may be seriously restricted and inequities may increase in terms of lower enrollment rates for women and other socio-economic weaker sections.

The Government of India (1994) indicated that subsidization of higher and technical education has to be reduced. Reductions in state subsidies also necessitate a mobilization of resources through fees and other channels. An increase in student fees has been one of the most frequent and strong arguments made in this context. The World Bank (1986, 1994) has been strong and consistent in arguing the same. Very few people noted the fact that fee revenue in higher education in India already constitutes about 15% of the recurring costs of higher education, a proportion that compares favorably with other developing and developed countries, including the United States, and that it would be neither

16. This is not likely to continue to be confined to higher education. For example, the World Bank began arguing rather explicitly for introduction of fees and mobilization of private resources for primary education in developing countries in general (World Bank, 1995a, p. 132) and in India in particular (World Bank, 1995b, p. 120).

desirable nor feasible to aim at increasing this proportion significantly, unless equity considerations were to be sacrificed (Tilak, 1993b, 1997a).

The UGC (1993) and also the AICTE (1994) have also strongly advocated an increase in tuition fees and other charges.¹⁷ Quite a few universities and institutes of technology and management have already elevated their user charges steeply for admission, entrance examination, tuition, examination, hostel, and miscellaneous services like application forms and brochures. Application/registration fees for admission in many public, not to speak of private, institutions has been fixed at above Rs. 500 (about US\$10), which used to be available earlier for 1/50 to 1/10 of the same price, if not free of charge. As a result of such increases, of the 39 universities studied (Tilak and Rani, 2000), nearly half were generating more than 20% of their needed revenue from student fees (Table II). It is feared that all this in itself would prevent many from seeking admission in higher education.

The dual pricing mechanism in private institutions (e.g., capitation fee colleges) allows them to charge exorbitantly high fees (nearly equivalent to full cost pricing) from about half the students and reasonably high charges from the remaining half (Tilak, 1994). All these regressive policies will act as a deterrent on social demand for higher education, as the policies principally aim at squeezing as much money as possible from the students, irrespective of other considerations.

Table II. Expenditure per Student in Higher Education in 1980-81 Prices			
	Rs	Index	Annual Rate of Growth
1990-91	2505.56	100.0	..
1991-92	2176.71	86.9	-13.1
1992-93	2176.73	86.9	0.0
1993-94	2189.15	87.4	0.6
1994-95	2162.99	86.3	-1.2
1995-96	1895.66	75.7	-12.4
1996-97	1852.79	73.9	-2.3
1997-98 BE	1800.66	71.9	-2.8
1998-99 RE	1944.96	77.6	8.0
RE: Revised estimate; BE: Budget Estimate			

17. Though these committees have suggested to aim at *gradually* raising the fee and other non-governmental resources to recover about 20% of the costs, the said proportion is being attributed to fees only and is interpreted as a minimum level and not as a maximum level.

While those who advocate an increase in fees also argue for measures to protect financially weaker students, any such efforts (in the form of scholarships, etc.) are yet to be seen. Budget increases for scholarships and other student welfare schemes are least forthcoming during periods of declining overall budgets. The budgetary allocations to scholarships by the Government of India declined drastically during the reform period. In real (1980-81) prices, allocations for scholarships declined from Rs.5.7 crores in 1989-90 to Rs.4.4 crore in 1996-97. All this drastically affects the demand for higher education at a time when the demand for a more educated labor force is likely to increase significantly, and more importantly, the composition of the student body in the universities will change in favor of the rich.

STUDENT LOANS

The World Bank (1986, 1994) has been arguing for the development of a credit market in higher education to float student loan schemes so that higher education becomes self financing in the long run, and also to ensure that weaker social groups can be protected from the effects of privatization and high user charges. However, the World Bank's research (1994) has clearly shown that the student loan program has not been working satisfactorily in any developed or developing country, and has shown very high rates of non-recovery and default costs. The 1994-95 budget of the Government of India responded to this by providing concessions to educational loans. The AICTE (1994) recommended setting up an Educational Development Bank of India to float loans to needy students and also to institutions. Many commercial banks have already started offering loans to students.

In addition to the problems generally well known with respect to student loan programs in India (see Tilak, 1992b), monetary contractions and liberalization of the financial and capital markets with an attendant rise in interest rates, credit rationing, etc., will not provide an overall conducive environment for the revival or revitalization of student loan programs that will help the weaker sections. As Easton (1995) observed in case of the United States, "since borrowing and saving are easier for the more affluent, we can expect the 'education mortgage' approach to further undermine any commitment to access for low-income and some minority students." Obviously, this would be even more relevant for India. Hence, "it would be irresponsible not to emphasize the real

danger that the prospect of high debt may discourage vulnerable population groups from participating in higher education" (Baum, 1996, p. 35).

Tilak (1997a) has discussed at length the problems and consequences of loan programs. At least one point that must be noted is that the optimistic claims that student loan programs would ease the financial burden of the government considerably, and that in the long run higher education would become completely self financing, are not borne out by empirical evidence available from other countries and even India (see also Tilak, 1999c).

PRIVATIZATION

Many observers rightly feel the World Bank's economic reform policies and privatization to be synonymous. Privatization or a move towards privatization has become the most significant agenda of the Bank (Richardson and Haralz, 1995). The underlying philosophy of these policies is that anything related to the public sector is inefficient, and anything related to the private sector is, *ipso facto*, efficient and desirable. Accordingly, privatization is being pursued in all sectors of the economy, including higher education, as a means of improving efficiency and easing the financial stress. But overall efficiency of the system may indeed suffer and financial gains may not be sizeable. It "is likely to do very little for efficiency while actually deteriorating the government's budget in an in temporal sense" (Rodrik, 1990, p. 9421).

In the case of higher education in India, privatization takes several forms (Tilak, 1991). *Inter alia*, two forms are important: (a) privatization of the institutions through increased private financing, such as fees, and (b) privatization of the system through increased numbers of private institutions and a stagnant number and declining proportion of public institutions in the total. Both types of privatization seem to be gaining ground rapidly in India.

The Government of India (1993, p. 204) has observed that, "higher education needs to be extended in an equitable and cost effective manner mainly by large scale expansion of distance education and increased involvement of *voluntary and private agencies*" (emphasis added). It is interesting to note that it is only now, during the process of adjustment, that favorable reference to private agencies in higher education are made explicitly by the Government of India. None of the earlier reports on education, including the Education Commission

(1966), and the *National Policy on Education* 1968 or 1986, advocated in favor of increased role of private agencies in higher education.

The governments and private enterprise feel that this is the best time to push any argument in favor of privatization. As a result, even ethically dubious and constitutionally illegal institutions, e.g., the capitation fee colleges, receive approval and support (see Tilak, 1999b). There may be some forces with vested interests that try to exploit the situation characterized by adjustment policies, and the proliferation of the capitation fee colleges may be attributed to these forces. The private university bill introduced in the Parliament (Government of India, 1995b) gives further legitimization to the capitation fee phenomenon, as private universities envisaged in the Bill and the existing capitation fee colleges seem to be treated alike in several regards. Both rely extensively on fees; both are based on the principle of full-cost pricing; and the Bill does not prohibit profit making by private institutions.

Secondly, similar forces also help foster the growth of private education institutions that rely mostly not on private finances but on the finances from the public exchequer, which can be described as pseudo-private institutions (Tilak, 1991). Most such private institutions rely upon government finances to the extent of 95% of their recurring and even development expenditures. Even strong advocates of privatization might feel that privatization of education in this form with price controls and cost underwriting through state grants is a system worse than other forms of privatization (Ravishankar, 1989).¹⁸ Voluntary or non-governmental organizations that rely heavily on government funds also belong to this category.¹⁹ These institutions contribute to distortions in allocation of public resources by capturing a disproportionate share of the budgetary resources and leaving very little for state-run institutions.

In a sense, through aid mechanisms, private enrichment and public pauperization seem to take place in higher education. The role of the private institutions—both state supported and self financing—is extremely limited in the development of higher education in India, and in financing of higher education in particular, if the four decades of experience is any guide.

18. Quoted in Sen (1993, p. 182).

19. In this context, it may have to be noted that every new college recognized and affiliated to a university whether it receives state finances or not, not only cannot be subject to quality control and fair practices of management, but also that every such institution has a legitimate voice in running of the university system in the country.

NEGLECT OF HIGHER EDUCATION

Though it is not necessarily an important policy shift, another angle may be briefly noted in this context that reflects the overall neglect of higher education by the government and other public bodies. The neglect is clear from the absence of any discussion on higher education in important official documents. For example, in the recent past there has been no reference at all to higher education in the chapters on education in the *Economic Survey* (Government of India). The whole discussion, whether it is relating to quantitative or qualitative achievements or budget allocations, is concentrated on elementary education and literacy programs. While discussion on literacy and elementary education is important, higher education cannot be altogether ignored. More importantly, even the Five Year and Annual Plan documents of the Planning Commission provide no explicit information on allocations to higher education. At best *ex-post* expenditure levels are mentioned, but not *ex-ante* allocations (e.g., Planning Commission, 1992, 1999). Thirdly, it is quite surprising that even basic statistics like enrollments in higher education are not available for the recent period. Perhaps they are not being properly collected. Publications of the UGC that used to provide detailed information of this kind now only give *estimates* on enrollments from 1987-88 onwards.²⁰ In the absence of such vital statistical information, policy formulation on important issues and planning of education cannot be sound, and there is much room for serious blunders that would be dangerous to the society in the long run.

CONCLUDING OBSERVATIONS

Under structural adjustment, the education sector is subject to reforms like everything else. But, as Lipton (1995, p. 2) noted,

“educational reform” used to mean universal schooling, primary first, free at least to the poor; now it is coming to mean primarily financial stabilization and recovery of costs from users.

This statement sums up the whole approach towards educational reforms under adjustment in developing countries. In this paper, the effects of adjustment policies on higher education in India—specifically short-term trends

20. E.g., see the recent *Annual Reports* of the University Grants Commission.

in budget allocations for education, and reforms in education in the form of shifts in educational policies—are briefly analyzed. Many of these reforms are “finance-driven” and some are “competitiveness-driven” (see Carnoy, 1995). With the help of the limited data that is available for a short period, it has been shown that the adjustment policies tend to result in severe budget cuts or significant reduction in rates of growth in budget expenditure on higher education, and more importantly, these policies result in major shifts in policies relating to state financing of higher education in undesirable directions. It has also been seen that countries that have not adopted adjustment programs are likely to maintain relatively high levels of public spending on education, compared to countries that adopted such policies and programs.

However, it is possible that the cuts inflicted on the education budgets would have been more severe but for the adjustment policies, as these policies are a resort only under severe economic problems. As Bhagwati and Srinivasan (1993) argued, there was no option for the Government of India but to adopt stabilization and adjustment policies. In other words, one might argue that the severe economic difficulties forced the government to drastically cut its spending on education; that the adjustment policies helped in reducing the cuts; and “without some form of adjustment, the situation would have been worse” (Cornia et al., 1987).²¹ This is only a hypothesis, yet to be empirically verified. Further, while it may be tenable to argue that adjustment may not actually be the cause of the problem of declining budgets, adjustment also may not be the solution to the problem. What is clear is a strong association between adjustment policies and declining public budgets for higher education, and shifts in policies relating to financing of higher education.

An important contradiction in the adjustment policies relating to higher education is that while the success of adjustment programs that include globalization and international competition in markets require more and more highly skilled manpower, the policies are likely to have tremendous adverse effects on the growth of higher education that produces human capital in general and specialized human capital in particular (Tilak, 1997c). The underlying assumption that the success of adjustment programs does not require public investment in

21. For the same reason, Squire (1991, p.182) argues that any analysis of the effects of structural adjustment must compare the outcomes not with the pre-adjustment period, but with the outcomes that could be expected from alternative policies that would have been economically and politically feasible under the difficult economic conditions.

human capital, including specialized human capital, can be proved to be wrong and even suicidal. The demand for skilled manpower increases rapidly with the opening up of the economy and the entry of multinational firms, as shown by the experience of East Asian countries (World Bank, 1993) and even as the short Indian experience shows. In other words, globalization and adjustment programs reward countries that have highly-skilled human capital to exploit, and penalize those that do not have it (see Stewart, 1995). But as the state support for higher education declines, the supply of skilled manpower can be expected to fall, producing shortages of skilled manpower, thereby affecting the overall economic growth. Thus it is important to note the inter-relation between adjustment and higher education. Higher education may be an important determinant of success of economic reforms; in turn, the level of resources available for education may be linked to the success of the macroeconomic reforms, and lack of success may lead to further deterioration in spending on education.

The expansion of the private sector in production also increases the demand for skilled manpower, and given the stagnant or declining supply of such manpower, the private sector might lure the skilled manpower away from the public sector with attractive wages and incentives, thereby reducing the efficiency levels of the public sector further, as for example, happened in the case of India's airline industry.

Further, public investments in higher education should increase as globalization might also exacerbate the brain drain, leading to shortages of skilled manpower and thereby hampering domestic economic growth.

The approach to higher education has not been clear. The conflicting approaches and policies lead many to observe that higher education in India is at crossroads. During periods of economic austerity, including the present adjustment process, there is a danger that short-term compulsions will lead us to accept some questionable presumptions without any verification (Tilak, 1998a). One such presumption relates to the notion of expansion. There is a strong presumption that the higher education system in India has over-expanded and that it is necessary to contract the demand for it. While the enrollment in higher education is of the order of about 5,000,000, it should be noted that this represents only about 5% of the relevant age group. Looking at the enrollment ratios in developing and developed countries, it seems tenable to argue that a 20% enrollment ratio should be regarded as a threshold level ratio in higher education. In no developed country is the enrollment ratio less than 20% (see Tilak, 1998b). All this suggests that the present level of enrollment in higher education

in India can be described as sub-optimal and that there is need to expand it—not to contract it.

The policy measures that are being formulated and implemented with regard to fees in higher education, student loans, and privatization at large have significant potential to damage the equity, quality and quantity dimensions of higher education. These measures cannot solve the problems arising out of cuts in public budgets. In other words, adjustment measures along with the policy measures in education will result in sub-optimal investments in education, producing serious problems for the economy.

Higher education determines its (India's) economic and technological progress. [Therefore], the State or Government funding must continue to be an essential mandatory requirement for support to higher education. The Government/State must continue to accept the major responsibility for funding the essential maintenance and developmental requirements of the universities (UGC, 1993, p. 18 and p. 107).

The Tables on the following pages outline some of the changes in funding practices. While it is good to protect primary education from the adverse effects of adjustment, that alone is not sufficient; the whole education system, including higher education, in developing countries needs to be safeguarded from budget cuts. Further, critical reviews of alternative methods of funding higher education (e.g., Colclough, 1991; Tilak, 1997a) have shown that the most efficient and equitable way of financing higher education in developing countries continues to be state financing out of general and specific tax revenues. This will be true in the era of structural adjustment and liberalization, as well (see Brown, 1996).

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CHAPTER 9. FINANCING HIGHER EDUCATION IN THAILAND AND FUTURE CHALLENGES

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INTRODUCTION

Over the previous two decades the world has engineered a technological infrastructure that has allowed it to function as a single unit on a planetary scale (Castells, 1998). This phenomenon, referred to as *globalization*, is driven by a global economy that is largely reliant on computers, telecommunications, producer services and highly trained personnel for continued innovation and for maintenance (Slaughter, 1998, p. 50). The United Nations Development Program (UNDP) (1999) asserts that globalization has brought about a world of shrinking time and space and disappearing borders.

Schäfer (1993) contends that globalization results from complex local activities being exerted on a global scale in such a manner that these become significant and consequential. What results is a medley of interconnected capital markets extended across various geographical regions of the world. The manner in which these markets evolve determines the amount countries are able to save and invest, whether invested abroad or not (Castells, 1998). Globalization, now a permanent part of the social, economic, and cultural fabric of countries around the world, when fine-tuned to local and national needs serves to promote stability (Sadlak, 1998).

Globalization has resulted in large part because knowledge can be transmitted over long distances at amazing speeds. The more knowledge expands the more it can be used to build quality social programs and to strengthen the internal and external security of nations. As highlighted in a report issued by the Taskforce on Higher Education and Society (2000), an initiative of the World Bank and UNESCO, knowledge serves to propel economic growth and development forward. As concluded by The Task Force, higher education supports development by producing income growth, enlightened leaders, expanded choices, and relevant skills in a world that has become more reliant on a highly skilled and trained workforce. The Task Force points out that universities and other institutions of higher education provide countries with a knowledge base of scientists, engineers, operators of modern technology who can tackle a host of problems, including those related to illnesses, industrial expansion, and environmental protection. As such, knowledge producers, mainly institutions of higher education, are vitally important and are valued by governments and societies around the world. Universities especially are places where theories, ideas, and innovation are brought to life and further developed (Sadlak, 1998).

The decisions made by policy makers relative to higher education finance in the new millennium will have profound and lasting effects on a nation's ability to remain competitive in international marketplaces where not only physical commodities are traded, but intellectual ones as well. Globalization and higher education can no longer be considered as separate entities, but must be seen as vitally linked and dependent partners for moving the world forward into new and uncharted frontiers—well calculated ones. With a special focus on Thailand, this chapter provides policy makers with a foundation for understanding the complexities relative to globalization, higher education finance and nation building. In this context, a framework is presented that links the social, cultural and economic development of Thailand to a sustainable economic future. Such a future depends heavily upon the country's ability to build a sound technological and scientific infrastructure strengthened by K-12 and higher education reform and fully supported by sensible financial planning and decision making.

BACKGROUND

A basic dilemma occurs in both developed and underdeveloped countries when individuals and society demand increased access to all forms of tertiary education while at the same time constraints are being placed on public budgets (UNESCO, 1995). This situation is exemplified in Thailand, a country economically depressed following the Asian economic crisis of 1997, but one where the higher education system, like others around the world, is being asked to respond to an exploding enrollment demand reflecting the challenges brought about by global competitiveness and interdependence, rapid advances in technology and new or renewed needs for both social and cultural development.

In a precursor to the World Conference on Higher Education that was held in Paris in October of 1998, titled *Higher Education in the Twenty-first Century: Vision and Action*, the United Nations Educational, Scientific and Cultural Organization (UNESCO) (1995) issued a *Policy Paper for Change and Development in Higher Education*. In this paper UNESCO recognizes the value of relationships between higher education and society, especially those that have established partnerships between the economic sector, institutional and organizational setting, funding arrangements, and management. Such partnerships have been responsible for moving economic development and social, cultural, and political change forward in several independent and democratic countries. Higher education in these countries often becomes an agent for fostering national identity, for strengthening the development of local human resources and for contributing in positive ways to the reception and application of knowledge and technology. For this reason, UNESCO suggests attention should be directed toward establishing a comprehensive vision for moving the goals, tasks, and functioning of higher education forward in the developing world.

As a developing nation, Thailand has received various forms of aid from world organizations, i.e., Organization for Economic Cooperation and Development (OECD), UNESCO, the United States Agency for International Development (USAID or AID), and large private foundations (Coleman & Court, 1993). Beginning in the 1960s, much of this aid has been directly tied to projects and programs of social improvement, including education and health. As a result of external aid and an economy that was one of the strongest in the region before the 1997 economic crash, gross enrollment rates have increased significantly, literacy rates have risen, poverty levels have declined, and improvements in health care have been abundant (World Bank, 1999a).

HIGHER EDUCATION FINANCE IN THE CONTEXT OF ECONOMIC SUSTAINABILITY

In a world where expedient transport and modern information and communication systems have individually and collectively been able to bring people and nations closer together under the umbrella of a “village,” universities are quickly realizing how crucial their obligations to humanity really are (Wächter, Ollikainen, & Hasewood, 1999). Recognizing the importance of higher education in nation building, the World Bank has designated large portions of its available resources to loan initiatives targeted toward assisting developing countries to secure sustainable economic and social growth through investments in human capital.

Early theories developed by Schultz (1960) and Denison (1962, 1967) have argued that education equals economic growth, which in turn equals economic development, which further equals overall societal development and modernization. The contention is that investments in education serve to enhance productivity in the labor force, advance equality, boost technological innovation, and produce return rates equal to or higher than physical capital (Denison, 1962; Schultz, 1963; Becker 1964; Harbison and Myers, 1964).

Etzkowitz (1997) observes that following the Cold War in the United States, the once powerful entities of the military, the executive branch of the federal government and large corporations have lost much of their elite status to civilian sectors that are unilaterally responsible for driving the global economy. New models of innovation are resulting that developing countries potentially can benefit from in the new economy. Etzkowitz notes that in the developed world, public, private and academic institutions that were once wary of each other are now more willing to work together to achieve mutual goals. This new spirit of cooperation has led to an environment in which start-up firms, national and corporate laboratories, and universities are linking forces to promote innovation at various organizational and structural levels.

In attempting to formulate a long-term development strategy for Thailand, Siamwalla and Sobchokchai (1998) admit that it is difficult to conceive of one that does not have human resource development as a major component. Siamwalla and Sobchokchai contend that for Thais to attain a higher standard of living they must be able to achieve higher earning capability and the only way to bring this about is to enhance industry with technology. This will require that Thailand make substantial and concerted efforts to upgrade the technological competencies of its human resource pool. It is interesting to note here that

Sakellaris and Spilimbergo (1999) studied economic fluctuations of the accumulation of human capital in a wide range of countries and found evidence that a systematic relationship exists between business cycles and enrollment in higher education.

Goh and Hong (1997) attempted to quantify the contribution of factors such as GDP growth, balance of trade, total quality management, entrepreneurship and innovation, labor force, growth of labor force, availability of skilled labor, pupil-teacher ratio, and the rate of higher education enrollment to a country's competitiveness and found that variables that serve as proxies for human capital, such as pupil-teacher ratio and higher education (among others), are important and do contribute to a country's competitiveness. These findings are important considering the pace with which the demand for skilled and highly qualified workers has grown in most countries around the world.

Although researchers are now less likely to embrace education as an all-encompassing fix-all that will propel developing countries quickly forward toward economic equality on an international level, Forojalla (1993) points out that education, when combined with other supporting factors, appears to move development along in a positive direction. Forojalla recommends that developing countries adopt integrated policies that cause education and other factors to become interactive, for it is when these are combined that results positively impact productivity and/or attitudes.

Several signs now indicate that Thailand has passed the major hurdles of the economic crisis and is into an early stage of recovery. The International Monetary Fund (IMF) confirmed in 2000 that the balance of payments position had been stabilized, the exchange rate had recovered, and interest rates had begun to fall. Providing the sharpest signs of recovery were tradable goods on the supply side. Manufacturing production that had bottomed out during the middle of 1998 increased by September 1999 to exceed its pre-crisis peak. Many items, such as transportation equipment, construction materials, and even cement have been redirected as exports. Lower interest rates have served to stimulate private consumption.

However, even if international business investments in Thailand were to suddenly return and economic growth were to rapidly recover to pre-crash levels, a serious problem would still plague the nation. As reported by Pura (1994) in *The Wall Street Journal*, three years before the economic crash, Masayuki Kuzumi, director of the Japan External Trade Organization in Bangkok, complained of a serious shortage of engineers, technicians, and white-collar profes-

sionals. Kuzumi warned that only a few thousand students graduated in the technical sciences a year, while demand was more than three or four times that figure. Similarly, and included in the same report, Richard Han, president and chief executive officer of Hana Microelectronics, admitted that his company was considering investing outside of Thailand because “there are certain jobs we’re not getting because of the labor situation—we’re looking at China and Vietnam” (p. B4B). The report blames the situation on a lack of financial support for universities, which hampers their ability to produce science and technology graduates at the required level. Furthermore, the report states that highly skilled faculty were often raided by the higher-paying private-sector that desperately needed qualified employees.

Thailand's economic crisis was brought on in part because the capital-intensive high-technology phase of development evolved too rapidly. As a result, and as pointed out by Siamwalla and Sobchokchai (1998), wages increased at a pace that far exceeded the skill level of Thai workers, making labor intensive sectors less competitive in global marketplaces. Bello, Cunningham, and Poh (1998) blame the inadequate skills on the lack of official attention being directed toward secondary education, asserting that the nation's ability to move out of the Third World may well be contingent upon its willingness to embrace efforts to improve education at this level.

Phongpaichit and Baker (1998) reveal that, before the economic crisis, Thailand's demand for skilled and white-collar laborers grew faster than the demand for blue-collar laborers. For example, in 1991 there were only 3,800 engineers in all of Thailand whereas the demand was estimated to be 6,200 (Tan, 2000). Although several firms moved to Thailand in part for cheap labor, Phongpaichit and Baker report that once they were there, they required local executives, technicians, and managers. A workforce pool that was adequately trained to operate sophisticated equipment and manage the capital-intensive industrial sector simply did not exist. Hamilin (2000) contends that the challenge in many emerging countries is to develop a talent pool of specialists who are intellectually capable of performing highly skilled tasks. This challenge is a real one for Thailand and one that the country must work diligently to resolve if it is to remain competitive in the new millennium.

IMPORTANCE OF HIGHER EDUCATION TO SUSTAINABLE ECONOMIC AND SOCIAL GROWTH

The United Nations Educational Scientific and Cultural Organization (UNESCO) (1998) observed that in a world becoming more global and competitive in nature, the social and economic viability of communities, states, provinces and nations are increasingly dependent upon a strong system of higher education that is relevant and of high quality. From the perspective of UNESCO, the ability of these entities to meet their obligations to both advanced and continuing education may well determine not only a nation's legitimacy but also its very survival.

When large companies decide to move their operation overseas, Curry (2000) reports that education is a factor that determines location. Curry warns that nations can no longer rely solely upon population, geographic size, or national resources to determine their growth potential. Countries must look beyond these to more essential items, i.e., the education level of the populace and its access to information. These are the newest and most important indicators of a country's success, ones that Curry contends will determine whether or not a country flounders or succeeds in the global economy. Moreover, Curry explains that it is not enough to have access to information—the real money is in owning it (p. 129).

The Asian Development Bank (ADB) (2000) projects that before Thailand can compete internationally, it has to make marked achievements in industrial upgrading. For this to happen, the ADB has determined that Thailand must invest substantially in specialized education, research and development, and other knowledge-enhancing measures. In the assessment of the ADB, these are the investments that will allow the country to establish technology- and knowledge-intensive products and services, such as computers and electronics.

UNESCO (1998) claims that in a modern society there is a strong correlation between economic and social development. Living standards and life styles depend upon a broad basis of discovery, invention and application of scientific and social knowledge. Furthermore, UNESCO contends that the development and use of new information and communication technologies, a flourishing advanced employment sector and a stable political environment all contribute to a country's prosperity. A prerequisite to these is a quality higher education system, one that is widely available and in tune to the growth and

development of the economy and society. When this happens, the output of universities becomes a production good.

Vital to its mission and ability to remain viable as a partner for society, higher education must conduct research and this requires a commitment from teaching staff and organizational entities to set appropriate institutional goals and direct academic potential and material resources in that direction (UNESCO, 1995). In light of the increasing demands for technical research, policy makers in Thailand are striving for balance by promoting a two-pronged research agenda. One prong intends to enhance global competitiveness through technical and scientific research and the other seeks to promote national identity through research in the social sciences.

Several Thai policy makers believe that grounded research in the social sciences, when tuned to local relevance, can strengthen national identity (Witte, 2000). This concept, to be fully realized, would likely require a reexamination of the role that the social sciences play within the general context of the university, a recommendation that Thompson (2000) has promoted. Thompson believes that the social sciences and the humanities can serve to re-legitimize universities, but this will require a reconceptualization of economic arguments in a direction that links universities and economic competition. This should allow social development to evolve through the synergistic interaction of technological innovation and human values, resulting in what Castells (1998) predicts will become a new set of organizations and institutions that generate productivity, flexibility, solidarity, safety, participation and accountability (p. 2). Castells foresees this configuration leading to a situation where development becomes socially and environmentally sustainable (p. 2).

A framework for strategic human resource management has been developed by Bawa and Ali (1999) that holds potential in preparing organizations for the challenges of globalization. In the new millennium Bawa and Alit assert that invested partners must be willing to devote considerable energies to developing and maintaining a viable human resource base; one that is equipped with relevant, up-to-date competencies. The demands of the new millennium will increasingly require that developing countries work as partners with corporate and educational structures to upgrade human resource and business workforce competencies. Such efforts, as Bawa and Alit explain, can lead to a set of distinct competencies vital to economic recovery in South East Asia and elsewhere.

NATIONAL EDUCATION BUDGET

The development of higher education in Thailand is currently tied to the National Economic and Social Development Board (NESDB), a central planning agency that was established following recommendations by the World Bank in 1959. Since its inception, The Office of the NESBD (ONESDB) has initiated nine national economic plans, with the latest unveiled in 2001. These plans are not law, but they do represent an official policy framework once formally approved by the Cabinet. In conjunction with these five-year plans, the Office of the National Education Commission (ONEC) develops a National Education Development Plan (NEDP) that encompasses higher education. The Bureau of Budget Analysis for Education, under the direction of the Bureau of Budget (BOB) is charged with budget preparation, budget execution, and allotments to the Ministry of Education (MOE) and the Ministry of University Affairs (MUA).

According to data supplied by Thailand's Office of the National Education Commission (ONEC) (1998) and UNESCO (1999), the education sector has comprised the largest share of the Thai national budget since 1991. In the years between 1987 and 1997, government spending on education averaged 3.2% of the Gross Domestic Product (GDP) or 18.6% of the total government expenditure. In 1997, at the onset of the economic crisis, the total public expenditure on education amounted to 214,297 million *baht*, or 22% of the government's total budget and 4.1% of the GDP. In the year following the economic crisis, 1998, the government was forced to decrease expenditures for education to 201,707 million *baht* or approximately 3.5% of the GDP, but this still represents 25.2% of the total national expenditure. FY1999, Parliament appropriated 209,920 million *baht* to education or an amount that equals 25.4% of the total national budget. By 2000, expenditures on education amounted to 4.9% of Thailand's GDP.

Higher education in Thailand is mainly subsidized by the national budget. In the years before the crash, the growth of Thailand's economy allowed the Thai government to steadily increase its allocations to higher education. MUA's budget by the FY 1994 had grown to reach 21.8 billion *baht* and by FY 1997 it had increased to 38.8 billion *baht*. Following the economic crash, MUA's budget FY 1998 declined to just a little over its 1996 level or 32.9 billion *baht*. Here is how MUA's budget FY 1998 was distributed: salaries (34.4%), wages (0.6%), operating and supply costs (7.5%), utilities (2.1%), special projects (17.0%), other expenses (0.5%) and capital costs (37.8%). Mahidol University received that

largest allocated portion of the total budget (14.9%), followed by Chulalongkorn University (11.5%), and Chiang Mai University (7.3%).

Salaries as noted above consume just a little over one third of Thailand's total national budget for higher education. Total personnel for the FY 1998 consisted of 20,132 public university support staff; 17,068 public university academic staff; 12,166 public university non-academic staff; and 349 MUA staff. Of the total personnel employed in public universities, 5,941 (12%) hold doctoral degrees, 14,382 (28.9%) hold master's degrees, 18,561 (37.3%) hold bachelor's degrees and 10,882 (21.9%) hold qualifications lower than a bachelor's degree.

Assistant professors make up the largest portion of the academic staff in public universities (10,539 or 52.3%), followed by lecturers (5,349 or 26.6%), then associate professors (3,908 or 19.4%), and lastly professors (336 or 1.7%). Chulalongkorn University employed the largest number of academic staff (2,750), followed by Mahidol University (2,605), and then Chiang Mai University (1,954). The largest private university employers of staff are ranked here in descending order: Bangkok University (997), Assumption University (896), and Rangsit University (657).

GOVERNMENT EXPENDITURE

In a review of Thai financial allocations across levels of education, Cresswell (1999) found that higher education receives a proportion of the budget that is almost double its share of enrollment. The unit cost of secondary education, as an example, is six times less. According to Cresswell, in most developed countries the ratio of unit expenditure on higher education to secondary education is usually no greater than 3:1. To compound these high subsidies to higher education, Cresswell points out that the primary beneficiaries are high-income students and households. In Thailand, university students come from a wide-range of socioeconomic levels, whereas in most countries these students come disproportionately from the higher socioeconomic levels of society.

Cresswell (1999) also reviewed expenditure across budget categories. In a comparison to other higher education systems, the proportion of salary expense for higher education in Thailand appears to be low. However, Cresswell explains that lower-ranking faculty comprise a large share of the Thai university faculty. As noted earlier, less than 2% of faculty in Thai universities hold the highest rank of professor, whereas more than 50% hold the lowest rank, that of lecturer.

NEW FINANCIAL MECHANISMS

The Task Force (2000) warns that countries unwilling to improve human capital will inevitably fall behind and experience intellectual and economic marginalization and isolation (18). Cognizant of this, the leaders of Thailand's higher education system in conjunction with governmental agencies have devised a number of new financial mechanisms that hold the potential to increase both access to and the quality of education available to higher education students—which would lead to the production of improved human capital throughout the nation.

Educational Loans

There is an unassailable economic logic that supports the underlying premise of student loans (Ziderman, 1999). This logic is based on the proposition that increased educational qualifications improve earning power in the labor market and loans serve as a mechanism for lessening the financial burden of all students, poor and non-poor, until such time that the enhanced earnings brought about by increased education have come to fruition. Thailand's Cabinet established a national student loan scheme (SLS) that went into effect on March 31, 1996. The SLS resided under the Cabinet resolution until the Thai legislature adopted the Student Loans Scheme Act in March of 1998. The student loan scheme consists of a 10 billion *baht* (US \$222.2 million) endowment fund with 1.2 billion *baht* (US \$26.7 million) of this specifically designated toward helping economically disadvantaged students participate in education. Interest rates on student loans are as low as 1% with a grace period of two years.

Although still in its infancy, Thailand's SLS was reviewed by Ziderman (1999) for inclusion in the framework of an educational management and finance study prepared by UNESCO-Bangkok as part of an Asian Development Bank Sector Program Loan. Ziderman's review concluded that from a general perspective the loan scheme has been effective. At a more fundamental level, however, findings question whether the scheme adequately targets the poor and can be financially sustained.

Thailand's SLS is available to both secondary and tertiary students and as such is in sharp contrast to schemes found in most other countries. Ziderman (1999) found that SLSs have been instituted in over 50 countries throughout the world. In almost every case, the availability of loans is limited to students and

families who are enrolled in tertiary education. In these countries aid to disadvantaged secondary school students is administered through various types of scholarship and grant programs.

Ziderman (1999) recommends restructuring Thailand's SLS in a direction more in line with those of other countries. However, that would require that secondary school families share more of the educational costs. Policies makers thus far have not been willing to adopt Ziderman's recommendations but they may be forced to if quality employment opportunities are not available to prevent secondary school loan recipients from defaulting.

Hossain (1996) notes that when educational fees in Bangladesh and Guatemala were eliminated, and when vouchers were introduced in Columbia and Pakistan, the number of students that transitioned to the next level of education increased. Vouchers in these countries provide the only mechanism by which the can obtain a quality education. Although vouchers have not been adopted in Thailand, it is likely that they will continue to be examined as way of providing educational access to the poorest of the poor. The drawback in thinking that a voucher system can provide expansive educational access to the poor is that once enrollment capacities of private schools have been maximized the poor are forced to struggle along the best they can within inefficient education systems.

It seems that educational funding mechanisms are shifting worldwide in a direction that increasingly asks governments, students, their families, employers or third parties to share responsibility for covering many of the overall costs associated with higher education (Wagner, Smith, & Healy, 2000). In developing countries, where education provides the only opportunity for the poor to achieve upward mobility, the fear has arisen that student loans may deter the poor from pursuing higher education. Eicher (2000) tempers these fears by stating that the main inequality between students of rich and poor families is not that the latter cannot pay but they cannot pay now (p. 42).

Private Sector Support

UNESCO (1995) contends that because of current and projected difficulties related to public budgets globally, discussion should be expanded in a direction that would shift the burden of higher education expansion from the public to private sectors. Bloom, Craig, and Mitchell (2000) argue that public and private partnerships designed to provide and/or finance education are especially suited to tertiary education given its specialized nature. The World Bank

(1995) has pointed out that even though private institutions generally recruit students from advantaged socioeconomic backgrounds, this appears to add a healthy dose of competition among public institutions, and this is especially beneficial at higher levels of education because it promotes diversity.

The concept of privatization has gradually evolved in Thailand over many years. According to Komolmos (1998), during the Economic and Social Development Plans I and VI, the Thai government made efforts to reduce its role related to economic matters while at the same time attempting to reform the administration and management of public enterprises. As viewed by Komolmos, the private sector has since played an increasingly important role in solving problems related to state enterprises. In 1988, the National Commission on Private Higher Education (NCPE) proposed adopting a subsidy plan designed to encourage private sector participation in national education. Additionally, the NCPE proposed increasing the number of private technical schools, contending that these were more effective in producing skilled laborers. The Thai cabinet in 1989 accepted these proposals and approved them as part of the Privatization Project. At the same time, the cabinet requested that the Ministry of Education make adjustments to manpower planning so that the curricula and the goals of the human resource development policy were aligned.

A privatization policy designed to enhance the economic stability of Thailand was included in the Seventh National Educational Development Plan (1992-1996). As noted by Komolmos (1998), the policy included a deregulatory provision that was more favorable to the development of private sector institutions at all levels by both local and foreign entities. Under the Eighth National Development Plan (1996-2000) the government continued its support of private education and several applications were approved for the establishment of tertiary institutions. Once Thailand's economic situation is stabilized, it is anticipated that a number of international universities will be established in the country. As explained by Komolmos, the globalization and internationalization of private education in Thailand will serve to enhance and sustain economic growth and to increase cross-cultural understanding.

The Ministry of University Affairs in Thailand has served to coordinate efforts between the Thai government and private institutions of higher education since 1997 (UNESCO, 1999). The Private University Committee, under the Office of the Permanent Secretary, serves to formulate policy. A council at an institutional level is charged with organizing the administrative structure and general functioning agenda. To coordinate greater cooperation between gov-

ernment agencies and private institutions of higher education individual private institutions have unified to form the Association of Private Higher Education Institutions in Thailand.

Private higher education in Thailand under the Ministry of University Affairs has experienced rapid growth in recent years due to increased social demand. However, and as noted by UNESCO (1999), private institutions of higher education are heavily reliant on tuition fees that are substantially higher than public institutions. Thus, UNESCO has recommended that the Thai government should work with the private sector to generate additional funds to support private institutions in an effort to lessen the financial burden on government for education. Follow up on this recommendation appears to be essential, considering the scarce financial resources available to the Thai government. Gill and Gill (2000) point out that the privatization of higher education holds potential by offering an alternative mechanism for maintaining quality and efficient resources.

After examining the cost recovery and private contributions to higher education in Thailand, Cresswell (1999) recommends that wherever feasible, new mechanisms should be instituted for assuring both. Cresswell notes that in many developed and in some developing countries subsidy rates range from one-third to two-thirds of the programmatic costs of higher education. Non-programmatic costs associated with Thai higher education, i.e., room, board, incidentals, should be lowered or eliminated, Cresswell concludes. Admittedly, for this to be feasible, tuition rates would have to be substantially increased. Gill and Gill (2000) have cautioned against raising educational related cost in poor and developing countries because these acts are not without social consequences; mainly, the gap between poor and rich will be widened as access is denied to those who cannot afford the increase. To offset this through scholarships and other mechanisms is very expensive.

Autonomy

A newly adopted Thai policy intends to transform state universities into autonomous public institutions. Bowornwathana (2000) has identified two obstacles that stand in the way. First, the government has been ambiguous in outlining what support universities will receive after autonomy has been realized. Second, government and university officials have experienced difficulty in explaining to university personnel how the new system will work.

As assessed by the World Bank (1995), autonomy can lead to educational quality if all of the necessary factors are in place. Quality rises when institutions constructively utilize instructional inputs that are directly aligned to vital interests and conditions within the institution and community, a process that enables educators to demonstrate their accountability to stakeholders in a very apparent manner. The World Bank observes that resource allocation within an autonomous institution can efficiently address local conditions because awareness is fully connected from within and outside the institution.

STIMULATION OF RESEARCH AND DEVELOPMENT

Industrialized nations contribute to the majority of the world's scientific research because financial support has been available and forthcoming (Altbach, 1980). More and more universities in these nations are becoming the direct producers of goods and services that benefit end users (Sutz, 1997). Universities are quickly responding to the new global economy by revising their social functions from teaching and research alone to include a knowledge infrastructure that is not separate from, but inclusive of, industry. Etzkowitz and Leydesdorff (1997) explain that universities and industry have become more willing to work in unison with each other. At the same time, governments have begun to reevaluate their relations with both institutions. Governments in traditionally democratic countries have increased their support and involvement to these two institutions, while governments in former socialist countries are working to lessen their control over them. No matter what position governments have taken or will take, the real revelation here is that science policy is becoming directly tied to policies of economic development. (Etzkowitz & Webster, 1998). These new relationships between academia-industry-government have been labeled by Etzkowitz and Leydesdorff (1997) as a triple helix.

The "triple helix" that is referred to has been responsible for bringing about a new emphasis on research and development (R&D). Considering that R&D has become vitally important to the economic viability of developed and underdeveloped countries around the world, Reigado (1997) recommends the introduction of three subsystems of economic planning into development planning: the economic system itself; the scientific and technological system; and the education system. Reigado contends that universities' role in the development process of nations includes the attraction and stimulation of enterprises

(p. 155) and this requires internal management to articulate how institutional innovation is to drive the entrepreneurial environment and how the concept of development itself is to be interpreted.

ISSUES OF EQUITY

There is a general perception in developing countries that private education benefits only the rich, and efforts to promote it will adversely effect education of the poor by drawing on already scarce resources (Tooley, 1999). When analyzed holistically a different picture begins to emerge. Data collected by the World Bank (1995) suggests that public spending at primary levels of education generally favors the poor. Affluent students generally benefit a great deal from public spending on education as a whole due to heavy subsidies provided to the upper-secondary and higher education levels. The number of poor students at this level is nominal. Higher education students tend to come from wealthy families and the disparity is intensified because the subsidy per student in higher education is greater than that for basic education.

It is in the best interest of governments throughout the world to ensure equal access to further education to that talented individuals can fulfill their potentialities (Bloom, Craig, & Mitchell, 2000). Jayaweera (1997) asserts that when higher education is not available or accessible to society, or cannot be accessed for various reasons, students are unable to attain upward educational mobility and the concomitant social and economic rewards remain out of reach. To test this assertion, Jayaweera conducted a comparative study to determine to what extent higher education has facilitated or impeded the economic and social empowerment of women in Asia. Findings suggest that the economic and social empowerment which students are able to acquire as participants in higher education enterprise is affected when the external economic environment, labor markets, social structures, and the social construction of gender (p. 260) become directly interfaced with education.

After analyzing data from the 1990 national census, Knodel (1997) determined that the Thai gender gap in educational attainment, which has traditionally favored boys over girls, has been closed at all levels. Additionally, Knodel, using nationally representative surveys, reviewed responses to generalized questions that focused on attitudes associated with schooling boys and girls and determined that the preference of educating sons over daughters has

declined, although sons are still somewhat favored. Furthermore, Knodel concluded through a series of focus group discussions that although gender inequality is no longer the problem it had been in the past, the socioeconomic level of families continue to influence the chance that Thai children have for achieving higher levels of education.

PROMISING PROJECTS AND PROGRAMS

Thailand's MUA has recently adopted several projects and programs that hold promise in strengthening higher education at some very significant and grass roots levels. One such project aims to support endeavors within Thai universities to develop more graduate degree programs. This project holds potential in allowing universities to strengthen their doctoral curriculums and instruction. To strengthen the program's chances of success, the Thai government pledged \$144 million to establish approximately 150 doctoral programs between the years 2000 and 2004. MUA noted that there were currently 44 collaborative doctoral programs and there is optimism that foreign collaboration will be forthcoming.

Thai higher education, and the greater economy, for some time now have been working to take advantage of a phenomenon that has been referred to as reverse brain drain. The *Reverse Brain Drain Project* has been established in the hopes of persuading key professionals to return from abroad to help with technologically-oriented and other development projects. MUA notes that the Association of Thai Professionals in America and Canada (ATPAC) is actively supporting the program by encouraging Thai professionals to become involved in joint research projects, teaching activities, and advisory tasks. Likewise, the Association of Thai Professionals in Japan (ATPIJ) and the Association of Thai Professionals in Europe (ATPER) are helping in similar ways.

MUA has been successful in persuading the World Bank and the Asian Development Bank (ADB) to fund a science and engineering project designed to upgrade laboratories and to increase faculty and student knowledge and skills in the areas of technology and industry. The Thai government contributed \$62.5 million to this project and the World Bank loan of \$143 million provided funds for the rest of the project. The ADB loan was sought to strengthen postgraduate education and research and development. Allocations from the loan are being

used to increase the number of M.Sc. and Ph.D. research publications. This project is being implemented in two phases.

Other programs and projects that have been proposed or instituted under the auspices of MUA include a faculty development program that seeks to intensify faculty development by providing scholarships, short-term training, postgraduate fellowships and stipends for collaborative international endeavors. One project has developed virtual instruction technology to a level where 18 out of 30 targeted campuses nationwide are now equipped with a VDO conferencing system. Another project has recently sought governmental support to accelerate the production of graduates in 16 areas of acute shortages. This project which is also seeking collaboration from the private sector hopes to be increase production to a level that meets national requirements by the year 2005.

Other projects worthy of note include one designed to develop more cooperative links between university and industry; a Thai university administrator-shadowing (TUAS) program; a project that will provide a revolving fund of approximately \$11.1 million to enable private colleges and universities to embark upon new construction; a revolving fund for private university faculty development in the amount of approximately \$22.2 million; and a project that promotes links between Thai and Australian universities.

CONCLUSION

The decisions that policy makers will have to make early in the new millennium relative to educational finance in Thailand are not all that clear. Research has provided some direction, but the dilemma that is mentioned at the beginning of this chapter presents a real challenge. Demand in Thailand for greater access to all forms of tertiary education is exploding at a time when strains have been placed on public budgets.

Policy makers have but a few options before them as they attempt to transform Thailand's educational system into a mechanism for sustainable economic growth. They can heed the advice of researchers who advocate strengthening basic education at the expense of higher education, but even if such a plan were gradually implemented, over time higher education would be severely weakened. The result would likely be devastating for Thailand because the pool of highly skilled and trained knowledge workers needed to maintain a strong and viable economic and social infrastructure would be further diminished. This

chapter presented evidence that international corporations, industry, and other entities would continue to look elsewhere when deciding to invest their operations overseas, a fact that should not be dismissed. Furthermore, the benefits of strengthening basic education are realized over time, perhaps as long as 10 to 12 years. Should Thailand decide to wait that long, the country may find itself falling further and further behind other countries in the region and the world with little chance of catching up. Tallman and Wang (1992) have suggested that the adoption of a basic education approach for developing human capital is appropriate to economies in early stages of development and Thailand, even in its present economic state, is well beyond this stage.

Policy makers could implement the opposite policy by directing more resources toward higher education at the expense of basic education, but this seems no more promising than the first option. Higher education requires a reasonably strong basic education system in order to remain regenerative. Beyond this, basic education has great value to society, much of which can be measured in economic terms and much that cannot. Basic education can strengthen a nation's social cohesion and cultural identity, serve to promote character development, and promote better living skills and household management, along with a host of other documented quality of life benefits that are too extensive to include here.

Remaining on the table is the option of maintaining subsidies at current levels in the hope that this will somehow raise the economic and social conditions of Thailand to a level that will enable it to become a viable competitor within the new global knowledge economy. Here again, this option is filled with great risks in that economic and social conditions would remain strained, making full economic stability and recovery less likely.

Should one of the foregoing options be adopted and fail, Thailand will slide further and further behind its neighbors, making recovery even more difficult, if not impossible. This could throw Thailand into an uncontrollable spiral of economic decline, social unrest, and civil disobedience. Marginally at stake are Thailand's own democratic principles and its long-standing peaceful relationships with its neighbors. Beyond the periphery of this scenario are ramifications that could affect the whole of Asia—one that could see the region and perhaps the entire world thrown into uncontrollable chaos.

An option not yet considered, but one that deserves thorough and careful consideration by policy makers, is to provide greater financial subsidies to strengthening the high-end of higher education—the research and development

(R&D) end. Such subsidies would most likely have to be made at some initial cost to both basic education and lower levels of higher education, but as this chapter has argued, there is sufficient evidence to suggest that the return would offset any inequities that might occur over the long run. The benefits to the Thai economy and society would be manifested rather quickly, certainly faster than the gestation period required of basic education under that option. Such a plan, if implemented on a grand scale (anything less would probably not generate the required effects), would likely require substantial financial support, perhaps a sum of resources greater than those currently available to the Thai government. To bring such a plan to full fruition would require that government, industry, and universities come together in the unified triple-helix that Etzkowitz and Leydesdorff (1997) have proposed.

Working within the triple-helix model, universities could take a more proactive stance in addressing some of Thailand's more immediate problems and then turn their attention to developing longer-term strategies for solving other problems. As outlined previously in this chapter, Thailand desperately needs to produce more graduates in the areas of science and information and communications technologies. Generating these graduates will not be possible unless universities are able to reverse the migration of students to other countries. Extremely limiting as well has been the migration of highly skilled faculty over to industry. Initiatives already designed to address these two areas must be strengthened and new ones created.

One option that holds promise for reversing Thailand's brain drain is to encourage the establishment of more international universities and/or extension programs within the nation. The opportunity also exists to form distance education and flexible learning partnerships with overseas universities that would target instruction to master's and doctoral level students. Partnerships with foreign universities could also be established to import, for short duration, qualified foreign Ph.D.-level professors. The English language skills of students would need to be strengthened for these initiatives to be successful. Increasing salaries for Ph.D.-level staff to a level equal to or greater than industry scales would likely keep most of these individuals in the academy. Strengthening the high end of higher education will not be possible without these or similar steps because, in an analogy to money—it takes knowledge to create knowledge.

At the same time Thai universities are working to generate and funnel more knowledge workers into sectors vital to economy growth and stability, they will surely want to address ways in which to regenerate existing R&D

components of their institutions. New R&D components will also need to be constructed that are geared toward strengthening economic viability both at home and overseas. In formulating these plans, universities will surely want to turn to the People's Republic of China for guidance in formulating designs for forward thinking industry-university enterprise ventures and enterprise zones spread proportionately across the country. These entrepreneurial kinds of activities hold great potential for assisting Thailand to move toward real economic and social stability.

In its *Policy Paper for Change and Development in Higher Education*, UNESCO (1995) suggested that universities around the world re-designate their missions and become more pro-active. This advice not only makes sense for Thai institutions, it is essential if the country's universities are to create new information and communication technologies that will contribute in substantial ways to advancing the employment sector and strengthening the greater human resource system. Universities cannot embark upon this path alone. What will be required is a new activism, one that extends to include a pro-active higher education system, a pro-active government and a pro-active industrial sector, for it is only by merging these entities into a triple-helix formation that enough influence, power, and financial strength can be generated to move the development of Thailand beyond its current financial instability and forward to sustainable economic growth.

Acknowledgment

The authors wish to thank Dr. Amaury Nora of the University of Houston for reviewing earlier drafts of this manuscript.

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