

FEDERAL POLICIES IN MEXICAN HIGHER EDUCATION

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Organizational Performance and Policy Decisions in the U.S. and Mexico



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About the AIHEPS Project

The Alliance for International Higher Education Policy Studies (AIHEPS), a collaboration between New York University and the Centro de Investigacion y Estudios Avanzados (CINVESTAV) in Mexico City, was funded in September 1999 by The Ford Foundation to conduct policy research in Mexico and the United States over a three-year period with two primary objectives: (1) to improve comparative understanding of how changes in higher education policies (rules of the game) alter the nature of higher education services produced as well as the conditions under which they are provided; and (2) to serve as a vehicle for training a small cadre of younger policy scholars in both nations. The project is also aimed at building capacity at New York University and CINVESTAV for conducting further policy studies, and making the information available to appropriate policy audiences.

The following questions reflect some of the lines of inquiry the project has pursued:

- Higher education systems operate in very different policy environments as measured by such attributes as constitutional status, federal/state influence, political culture, and executive powers. Are there aspects of the policy environment that seem to be associated with particular performance patterns? Have states attempted to alter their policy environments? Are there particular combinations within policy environments that seem either to facilitate or constrain the capacity of a state to adapt to changes in the external environment?
- Starting from quite different points, states appear to be changing their system designs, their arrangements for collaboration, communication and accountability, and their fiscal policies to incorporate greater emphasis on market mechanisms. How have these changes influenced performance as measured by the indicators conceptualized by the National Center for Public Policy and Higher Education in the U.S. and comparable indicators in Mexican settings? Can aspects of performance be traced to particular configurations of these “rules of the game?”
- Federal governments may play the defining role in a national system of higher education (as in Mexico), or the role of change agent, consumer advocate, and research contractor (as in the U.S.). How are federal roles changing? To what extent are federal roles complementary to those enacted by states? Are there discernible differences in system performance patterns that can reasonably be related to differences in the “rules of the game” as these are defined and implemented at the federal level?

The AIHEPS project has produced the following products, all of which are or soon will be available in Spanish and English on our web site: <http://www.nyu.edu/iesp/aiheps/>. Links to these products are also available through the National Center for Public Policy and Higher Education (National Center) and through several sites that are regularly visited by the Mexican audience for these products. Products are written according to a mutually agreed upon framework that facilitates comparative analysis.

- Case reports for the states of Guanajuato, Jalisco, New Jersey, and New Mexico.
- Federal reports for the U.S. and Mexico.
- This conceptual overview describing the model for understanding linkages between policy and performance as developed to this stage of the project as well as graphic and textual representations of the remaining work.
- A summary report of the younger scholars who have been involved with the project and their contributions.¹

The following products are planned for the third year of the project and will be available on the web site.

- A synthesis report for the U.S. that incorporates insights from the federal report, and the two state reports. The intent here is to suggest propositions about the linkages between policy and performance that can be inferred from the data collected in the U.S. studies. This report will provide a “jumping off” point for the discussion involving policy leaders to be held in Jersey City, New Jersey, on June 21, 2002.
- A similar synthesis report for Mexico that serves as the “jumping off” point for the policy discussion to be held in Guanajuato in April 2002 (tentative).
- A policy paper reporting the conclusions from the U.S. meeting written in a format designed for wide distribution to a policy audience. The National Center will assist in the development and distribution of this paper.
- A policy paper reporting the conclusions from the Mexico meeting designed for wide distribution in that nation.
- A synthesis report that incorporates the results of the cross-national analysis of data from the two countries by the project co-directors.
- A revised report of the grounded model for understanding how policy can constructively contribute to the attainment of public priorities.

A proposal is pending to refine the model, add Canada to the national profiles, and increase from four to twelve the number of state and provincial profiles constructed around the model. Profiles will individually and collectively expand our understanding of the linkages between policy environments, rules of the game, and higher education performance in the U.S., Mexico and Canada. The addition of Canada will focus attention on the variation in federal involvement in higher education systems and provide a contrast between a system that is entirely “public” and systems that are mixed between public and private institutions. It will also make possible some comparison of the policies within different higher education systems for improving access and opportunity, including provisions for indigenous/aboriginal peoples.



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Introduction

This chapter explores how new rules of the game, introduced in the 1990s, brought about changes both within the higher education system and in the state capacity to regulate this system. In our conceptual framework we assume that, by changing the rules of the game, government policies bring about alterations in institutional performance. At the same time, altering the rules of the game may change the capacity of the state itself to effectively regulate higher education.

Our point of departure is that by the end of the 1980s, very few rules were in place and state capacity was limited. As such, the major shift in the 1990s consisted in moving from a situation where interactions between higher education and government were characterized by continuous negotiation under conditions of quasi-permanent conflict, to a context in which the game became played under relatively stable and legitimate rules, formally associated with a discourse of quality and efficiency of educational services.

Before the 1990s, the federal government enjoyed minimal capacity to develop policies because *rules seeking to affect educational goals* were virtually marginal in the game as it existed at that point. Taking the argument to the extreme, higher education policy during the 1990s created rules where there were none. This may seem too drastic, since there are always rules of some kind – written or unwritten, political or financial – in the interaction between government and publicly funded higher education. However, it is a fairly exact statement if we assume that *rules of the game* apply to educational goals and values rather than to merely the Hobbesian give and take that prevailed in Mexican public higher education during the 1980s.

There were, however, several operating principles of a more political type: one was that the system needed to grow, with access being the overriding goal. A second one was that universities needed full-time professors. A third that the federal government should be the central organizer of the system, that education should be public (and laic and free), and that it should be funded completely by public revenues. On the other hand, institutions should have autonomy to govern themselves and define programs and their content, whereas governmental intervention should be avoided as far as possible. Several of these rules –or rather creeds, as they were not written, but nevertheless acted upon by all parties – entered in crisis in the

1980s, though some remained powerful during the reforms in the 1990s. These rules had to be superseded by new ones, of a more educational content, to change both the workings of the system and the role of the federal government.

Therefore, in order to explain fully the policy making for higher education in the 1990s in Mexico, one has to take into account the emergence of new state capacities to affect higher education behavior. In effect, it could be said that one goal of reform was to regain state capacity. This is not to say, however, that such shifts in policy were actually effective in realizing educational goals, which is part of a different argument about performance and outcomes.

This paper begins by setting the stage, or the policy context, in the 1980s. Following this, it describes the main policy initiatives for higher education in the 1990s and the changing relationship between government and higher education. It finally attempts to link these developments to some observations on results and outcomes.

Policy environment

In 2000, the Mexican system of higher education comprised nearly 1,600 institutions, attended by two million students and employing 160,000 faculty. Around 1,100 institutions are private, most of which are very small. In spite of their large number, private education institutions cover only 30% of undergraduate enrollments.

Although the system has expanded enormously since the 1970s, it comprises only 18% of the relevant age group (20-24 years) at undergraduate level. Graduate studies make up a very small part of total enrollments: 87% of students are undergraduate, 9% are registered in teacher training programs, and 4% in graduate studies (ANUIES, 2000).

The system is made up of several sub-sectors, each with its own logic. First, there is a radical distinction between what is public and private: private institutions are really private, and do not receive public monies, except for competitive research funding which is actually used by very few private universities given their limited research activity. They depend almost entirely on tuition fees. Few private universities have endowments. Federal law formally prohibits for-profit institutions.

Although formally regulated by the Undersecretary of Higher Education (SESIC), supervision is lax. Legislation with regard to formal acknowledgement of new institutions is very general, allowing private institutions to be recognized by either the federal or state governments or the state university¹, and inspection or quality control is rare. Generally, private higher education in Mexico operates under a “quick recognition” mode (Wolff & de Moura Castro), which goes a long way in explaining the rapid rise of this sector in recent years (Kent & Ramírez, 1999).

At the same time, public institutions depend almost entirely on government funds provided through the Secretary of Education (SEP), and students pay only a small amount of costs, with tuition fees generally representing less than 10% of the institutional budget. By 1999, the public sector had several types of institutions, with distinct legal status:

- State universities: created by state congressional charter and autonomous under federal law, i.e. self-governing, enjoying freedom of thought and expression, and responsible for academic programs. Nonetheless, since the 1970s, state universities have been funded mainly by the federal government.²
- Federal Technical Institutes: four year undergraduate institutes created and funded by the federal Undersecretary for Technical Education, who names the Directors of all 80. They exist all over the country and have been around since the 1950s, but got their big push in the 1970s. In 1991 the Undersecretary decided to stop the creation of federal establishments and started to decentralize the existing ones.
- State Technical Institutes: four year undergraduate institutes established jointly by Federal and State governments at the latter’s behest. They are initially co-funded by both levels of government, with the federal contribution going to construction, laboratories, equipment and infrastructure generally. However, the state government

¹ The term in official parlance in Mexico is “official recognition” and is applied to individual programs, not institutions. Although until 2000 no widespread system of accreditation was in existence, the Federation of Private Institutions of Higher Education (FIMPES), an independent organization, has evolved from a lobbying association to developing an accreditation system for its members. There are no data to establish whether FIMPES is doing a better job as an arbiter of institutional quality than as an interest group (Moura Castro & Wolff, 2001).

² This paradox can be explained by two factors: one, the fact that the centralized tax structure has historically favored the federal over the state governments, whose income is relatively limited; and, two, the federal policy throughout the 1970s and 1980s of expanding opportunities in public higher education without relinquishing control over universities and technical institutes.

funds their current expenditures, they are governed by a board and the Governor appoints Directors.

- Technical Universities: institutions offering two-year associate programs. They are also created and funded jointly by the Federal and State governments, and governed by a board that includes representatives from the private enterprise.

Although formally most institutions are state institutions in 2000, the Mexican system is highly centralized. During the 1970s and 80s, funding became increasingly concentrated in the federal government. The main initiatives to reshape the system since the 1980s have also been federal ones. Only very recently have some state governments started to develop local policies. Another federal agency of importance is CONACYT, which formulates policies for research and graduate programs.

The Mexican system has several peculiarities: only 30% of faculty is full-time, and most were hired with only an undergraduate degree. Research is concentrated in a few universities, primarily public ones. Most enrollments are concentrated in the traditional professions, such as law, medicine, accountancy and civil engineering. Then again, these overall figures differ greatly within parts of the system and between the different states, indicating huge differences between formally equal institutions. As an example, some public universities have over 50,000 undergraduate students, others less than 5,000. In some, over 60% of faculty is full-time, in others just 10%. Graduate studies and scientific research are important in five or six of the major public universities, and nearly nonexistent in others. Technical institutes have more full-time professors than public universities, around 70%. As such, the Mexican system is highly centralized, but at the same time highly diverse and unequal (contrary to European systems), which partly indicates both the omnipresence of the federal government and its weakness when it comes to effectively regulating the system.

During the 1990s, the system grew and expanded, new institutions and programs were created, and the government tried to reform the system with new rules of the game. This chapter analyzes what priorities were lined out, what strategies the federal government followed to bring about change, and what the outcomes seem to be. As to this last point, we will look at some overall tendencies, whereas most of the answers about real change will come from our state cases.

Policy context

In our research protocol we have argued that comparative analysis requires linking specific policies for higher education to the evolving institutional framework surrounding the interactions among governments, higher education organizations and consumers. Underlying this conceptual decision is the belief that the structure, process and culture, which shape the rules of the game, constitute a terrain with specific opportunities or constraints for the policy process in higher education in a given national setting. Though our purpose is definitely not to compare political systems or cultures, our comparative analysis must nevertheless wrestle with the ways in which different national and state contexts mold the interaction between government and higher education. Our answer to this dilemma is to use concepts such as *rules of the game* and *state capacity*, in the understanding that they apply to any national or state context and that as such they allow us to think about very different higher education systems comparatively.

A couple of examples might clarify this argument. One could say that a given policy program in one governmental context might have a different texture and follow a different process than the nominally equivalent policy in another national government. An instance of this contrast could be the different paths taken by higher education evaluation in a highly centralized “statist” system such as France and a decentralized country like the US: evaluation means quite different things in these two countries. Taking this one step further, one could say that sometimes it is precisely a shift in the nature of government and public administration that drives policy in higher education. For example, it is clear from recent history that the profound shifts in British higher education are intimately linked to the forceful changes driven through British public administration by Tory governments in the 1980s and 1990s (Williams, 1997). Another example of higher education policy following on the heels of public sector reform could be the profound restructuring of Chilean higher education by the neo-liberal revolution in government during the military regime in the 1980s.

Even so, it remains an empirical question how public sector reform relates to effective changes in subsequent layers or sectors of society. In some countries, public administration underwent profound restructuring, without affecting the basic rules of the game for some

sectors. In others, traditional state structures enacted radically new policies to reform parts of society (Toonen & Raadschelders, 1997).

To avoid any further abstract talk about relating *national context* with the conditions under which policies for higher education turn out to be effective (or not), we are using Douglass North's (1990) definition of institutions: "Rules of the game in society [are] humanly devised constraints that shape human interaction . . . and structure incentives in exchange, whether political, social or economic." How do changes in the rules of the game for higher education in two different countries lead to effective changes in organizational performance?

A related claim is that effectiveness of these rules is associated with the *capacities of states* to design and implement policy, following Grindle's definition of capacity building: "Capacity building through institutional reform involves the development of legal systems, policy regimes, mechanisms of accountability, regulatory frameworks, and monitoring systems that transmit information about and structure the performance of markets, government and public officials." (Grindle, 1997, 18)

A key term here for describing the Mexican case is the *development of state capacities*. Two basic questions that derive from North's and Grindle's observations are: what rules existed by the end of the 1990s, as compared to the 1980s, and what state capacity was in place by the end of the 1990s, as compared to the 1980s.

Government and higher education in the 1980s

Writing about developing capacities for good government, Grindle (1997, 3) recalls an apt quote from the deceased Brazilian intellectual, Guilherme Merquior, that captures the dilemma for government in many developing countries today: "The truth is that [in Brazil] we have simultaneously too much state and too little state". *Too much state* means that "for many decades interventionist and often intrusive state-led development strategies combined with centralized political control resulted in stagnant economies and authoritarian, corrupt political regimes." *Too little state* implies that "paradoxically these intrusive governments showed little effective capacity to formulate policy, implement it, and perform routine administrative functions."

This paradox aptly applies to the Mexican state in the late 1980s as it struggled with prolonged economic crisis and an emergent political crisis derived from decades of centralist but increasingly ineffective one-party rule. During the 1970s, the federal government opted to increase funding in order to improve access, while at the same time it abstained from formulating policies to alter universities performance, in order to heal the wounds of 1968. As a result, enrollments in public universities grew rapidly, as did faculty numbers and bureaucracy. But at the same time, public universities became extremely autonomous.

At the start of the 1980s, it was becoming clear that this expansion was creating several problems: faculty was improvised, as institutions started to hire their own undergraduates as full-time professors in order to accommodate growing numbers of students. University bureaucracy became anarchic, when presidents hired a growing number of administrative personnel without clear administrative rules. Internal political confrontations became rampant, when some universities adopted rules of “one man, one vote” to elect deans and presidents (Brunner, 1991). Added to this was the financial crisis of 1982, which caused a sudden decline of public funding for education.

Although federal officers and universities recognized some of the problems and some proposals were made to remedy the situation, little to nothing really happened. The federal government was more worried about the economic situation and not very willing to intervene in autonomous institutions for political reasons, whereas universities or their rectors had few or no incentives to change directions, and opposed any initiative from the government as an attack against autonomy. Federal government was looked upon as too much state (in political terms) and too little (in financial support). Autonomy was used as a shield to avoid any type of government intervention, putting in doubt the legitimacy of the federal government to set the rules for universities.

As such, during the 1980s, the public sector of the system was not guided by federal policies, but neither did it respond to the market. That is, public institutions were driven by internal dynamics. In the case of public universities, this translated into extreme institutional autonomy. In the case of the technical institutes –which function within a highly centralized bureaucratic system and have no formal autonomy- perhaps one should define the situation as one of *sectorial autonomy*: as a group, these institutions were shielded from both governmental regulation and from market demands. Balkanization of public administration

was a consequence of political decisions taken to protect different interest groups in higher education and today have consequences for policy (OECD, 1996).

Even so, some changes in the rules took place in the 1980s: the National System for Researchers (SNI) was created in 1984 as an emergent program to retain highly ranked scientists in times of crisis. Its creation meant the introduction of faculty productivity evaluation in the hands of an external agency, the CONACYT, thus introducing new rules of the game for at least part of the actors. A second shift was the government's decision around 1985 that it was no longer willing or able to increase funding to match student numbers. A third change consisted in the introduction of certain controls over faculty numbers and salaries by the end of the 1980s, stating that the government would only pay for those faculty members hired with their consent, and submitting academic salaries to national pacts accorded with government controlled unions. Though these measures changed the rules of the game, it should be pointed out that they originated from financial considerations, and not so much from concerns about educational goals.

Changes by the end of the decade

It was in this context fraught with conflict and economic crisis that a new set of policies for modernizing higher education was developed by the Mexican federal government during the decade following 1989, a decade of increased government activism toward higher education. It is fair to say that this new set of policies represents the most consistent and prolonged effort to reform higher education by the Mexican federal government at least since the 1970s, if ever. But it was faced also with severe constraints, inherited from the 1980s.

The factors that pushed for these changes in educational policy³ were rooted in profound shifts in the broader national setting of state reform. First, there was a clear need to bring higher education into line with the economic and social goals of *modernization*, that is economic liberalization, technological development and institutional reform required by the adjustment to a new global economy⁴. Second, it was widely recognized that the rapid and

³ It is important to point out that reforms in higher education were part of broad policy reforms in K-12 education and social policy generally.

⁴ Mexico joined the General Agreement on Trade and Tariffs in 1986, went through IMF adjustments throughout the 1980's, and signed NAFTA in 1993 as well as other trade agreements with the European Union further on. Downsizing and privatization of the public sector were crucial consequences of these decisions.

unregulated expansion of public universities in the 1970s and early 1980s had led to improvisation in the academic profession, low standards, inefficient institutional management and very visible crises (Kent, 1993).

A consensus emerged toward the end of the “lost decade” of the 1980s that the government had been unsuccessful in attempts to regulate and establish basic rules for public higher education and that the newly expanding private universities were a response to *public sector failure* in higher education, where low quality and relevance, insufficient funding and poor management had reached a crisis point. Two highly placed federal officials and one state official we interviewed associated these problems with other issues pertaining to a general incapacity in government to set priorities and establish basic rules for institutional behavior in a context they explicitly described using the words “disorder” and even “chaos”.⁵

This conclusion is supported by previous research done for the Comparative Higher Education Policy Project for Latin America⁶. Schwartzman (1993) expressed it as follows:

“Most disputes over higher education policy in Latin America are not actually about policy alternatives but about the more basic problem of *who can do what*. These disputes over the rules of the game often take center stage, obstructing the development of entrepreneurial competence and basic administrative capacity in universities that operate under more or less continuous conflict.”

Thus, up to the late 1980s, the only stable albeit implicit rule was that most rules could be refashioned under pressure. The Mexican government (as in Argentina, Brazil, Colombia, and other countries) was unable to articulate goals around the public interest and to implement policy for higher education because it lacked the capacity to go beyond the basic dispute over the legitimacy of its decisions.

At that time, university rectors for the most part rejected this judgment and blamed their problems on plummeting funding levels. However, to other observers – even within the

⁵ Carlos Mancera, federal Under Secretary for Planning for most of the 1990’s; Antonio Gago, former federal Under Secretary for Higher Education and currently Director of the National Center for Evaluation, which develops entrance examinations for higher education institutions; and Arturo Payán, coordinator for technical education in Jalisco.

universities – a large measure of the responsibility for the crisis lay in the poor institutional management. There seemed to be sufficient evidence of inefficiency, conflict and poor quality so that the federal government was able to prevail over the rectors to establish a critical diagnosis and set up a new agenda for the 1990s. Government documents and public debate cited the following critical issues in Mexican higher education (Gago, 1989; Salinas, 1989; Fuentes, 1989):

- The inexistence of clear funding criteria
- Inadequate information systems in institutions and government
- The absence of accountability systems
- Unclear standards for new program approval
- Absence of evaluation for program improvement
- Recurrent conflict in public universities over designation of rectors and internal funding allotments⁷
- The technical institutes, the other important public sector, were not known for innovation and dynamic links with industry but rather for inert and bureaucratic behavior and knee-jerk compliance with central authority and
- The only significant governmental actors were the two Undersecretaries for Higher -- responsible for autonomous universities – and Technical Education – in charge of technical institutes. At times the President intervened when special favors were dispensed or difficult conflicts necessitated mediation. State governments were not part of the game, although some public universities did receive part of their funding from the state government and some state governors tried to influence political processes in public universities. The federal and state legislatures and the courts played no part in higher education

⁶ A seven-year research project coordinated by José Joaquín Brunner with support from the Ford Foundation. The project produced the first comparative studies of Latin American higher education policy covering Argentina, Brazil, Chile, Colombia and Mexico.

⁷ Deep conflicts paralyzed the state universities of Puebla, Sonora and Guadalajara in the late 80s. These institutions later underwent significant organizational reforms, in response to the new policy environment of the 1990s. Lesser but nonetheless significant strife affected various other state universities in the same period. UNAM, for its part, has been in conflict off and on since the late 1980s, but the National University has consistently resisted reform. (Kent, 1998a)

This diagnosis finally prevailed and provided the basis for various programs intended to “modernize” higher education. Supported by assertions from interviewed officials and documentary evidence, it is fair to say in hindsight that the incapacity of state and federal government to influence organizational behavior in higher education with a view to achieving broader educational goals was a major issue in the late 1980s.

Rules of the game in the 1990s

The basic policy initiatives developed throughout the 1990s may be seen as having molded a new type of connection by federal and state governments with higher education. Taken as a whole, governmental action effected changes in the following major areas of policy:

- System design and coordination
- Organizational development, planning and information systems
- Quality evaluation and control
- Funding, incentives and salaries

We will discuss each of these areas in the sections below.

System design and coordination

Diversification

It is clear that public higher education in Mexico has undergone important shifts in this area. Up to 1990, basically two types of institutions – universities and technical institutes – existed, and both of them followed quite similar forms of academic structure: both offered 4-year programs at the undergraduate (*licenciatura*) level. Although the technical institutes were created to prepare engineers, several had added programs in accounting, administration or law to attract more students. At the same time, universities offered engineering programs, training in fact more engineers than the technical sector. Although both sectors had different government structures, their educational practices were very similar. Additionally, all public institutions of higher education were mainly federally funded (except for partial state funding for some universities) and policy originated in the federal government.

The private sector had started to expand in the 1980s and totaled 17% of enrollments by 1990. Though inspired by public sector failure, it did not substantially alter program offerings: private institutions also offered 4-year *licenciatura* programs, mainly concentrated in administration, law and accountancy. By 1990, over 50% of enrollments was concentrated in these traditional professions.

Today, there are 58 new four-year technical institutes and 38 new two-year technical universities managed and partially funded by the states. In the private sector, there are 420 new universities and colleges. Additionally, 26 new federally funded research and postgraduate centers were created. It is to be expected that this mode of institutional diversification will have positive equity effects since all new technical institutes and universities have been placed in cities that previously lacked public higher education and charge nominal fees. However, most of these institutions have been established so recently that such effects are not yet visible.

Horizontal diversification: programs and institutions

Diversification did not seem to be a crucial issue at the beginning of the 1990s. Starting in 1989, government documents stressed that quality should prevail over quantity, and that an important part of the problems was due to rapid enrollment expansion during the previous two decades. The stated priority was to improve the existing institutions and programs, rather than to continue to expand and create new options.

However, soon it became clear that access remained a crucial issue and that public universities had reached their capacity. In 1991, the federal government invited a team of international experts from the International Council for Educational Development (ICED), headed by Philip Coombs. Its report stressed the need to diversify the system in order to respond demand while discouraging public universities from further growth (ICED, 1993). This was followed up by an external evaluation by the Organization for Economic Cooperation and Development (OECD) in 1996 that stressed that higher education served only a small number of the relevant age group. The federal government incorporated the results from this evaluation, as well as the recommended strategies, even after the 1995-2000 Program for Education Development had been published by the Zedillo administration. Important issues mentioned in the OECD recommendations include the increase of access,

with the recommendation to diversify technical education, to increase educational programs' pertinence, and to diversify educational options.

In response to these recommendations, the federal government put more emphasis on technical and vocational education. In the National Plan for Education 1995-2000, access appears as first priority, while at the same time it states that Technical Institutes should increase their share of overall enrollments from 17% to 25% (PDE, 1996). A new type of institution, the Technical University, was created, offering two-year programs. Public universities were encouraged to offer 2-year programs, reforming *licenciatura* programs into two cycles. Universities were also asked to create new options and to better balance enrollment distribution between areas of knowledge.

So, during the second half of the 1990s, the federal policy to absorb the continuing demand in higher education consisted in an increase in the technical sector in two ways. The first would be the growth of existing federal technical institutes. The second would be the creation of new technical models: the higher technical institutes, also known as the state technical institutes, and the technical universities. The former would offer undergraduate programs, in many cases very similar to those offered by the federal institutes, since the federal government would supervise these programs. The latter would offer a 2-year technical (associate) option, or level ISCED-5. The federal government would also supervise these universities.

It is of interest to note the characteristics of these two types of institutions:

- They are state-decentralized organizations. Their creation is determined in conjunction with state authorities. They depend on state governments, although they also have technical and academic assistance from the federal secretary of education.
- Their funding comes from both federal and state governments (in some cases, even municipal funds have been promoted). The state government must allocate the land to be used and the federal government finances the construction of the facilities and basic equipment. For operational costs, the federal government contributes 50% of the total cost, while the other half must be provided by the state. In some cases, this funding process is further subdivided so that the municipal government must meet 25 percent

of the costs. Through these institutional educational models, new financing alternatives were opened with greater participation from state and municipal governments, as well as greater co-responsibility in providing services between government levels.

- To address access, these institutions were to be built where no other higher education services existed.
- Efforts would be made to ensure that academic programs were pertinent and related to the region's needs, with coordination with the private sector as a primary goal. Before a new institution was opened or a new program created, feasibility studies would be made, and the state's willingness to fund the new program would be negotiated. It should be noted that initiatives for the creation of new institutions and programs have come from both federal and state governments.
- Both types of institutions would have a board of directors where federal, state, and municipal government officials, as well as administrators and private sector representatives would participate in decision-making.
- The central objective of these policies was to reduce the number of applicants to the traditional fields, while addressing the problem of dropout and non-completion rates.

The following table shows institutional diversification during the 1990's.

	1990	2000
Public Higher Education Institutions		
Federal Universities a/	3	3
State Universities	34	34
Public Universities with solidary support b/	6	9
Other Higher Education Institutions c/	33	33
Federal Technical Institutes	94	111
State Technical Institutes		80
Technical Universities		38
SEP-CONACYT Centers d/	3	26
Teachers' Colleges	215	215
Private Higher Education Institutions.		
Universities, Institutes, Schools, and Colleges.	214	633
Teachers' Colleges	120	137

NOTES:

a/ UNAM, UAM, Univ. Pedagógica Nacional.

b/ 2 to 4-year Regional and county institutions: CESUES; UNICACH; U. Del Mar; U. De Occidente; U.T. Mixteca; U. De la Chontalpa. Three more were incorporated at the end of 2000.

c/ 33 Public institutions like COLMEX, Chapingo, CIDE, INBA, INAH, EMBA, State Institutes for Education Science, etc.

d/ Research and graduate centers financed by federal and state governments.

SOURCES:

<http://www.sep.gob.mx>

SEP, SESIC. Aspectos Financieros del Sistema Universitario de Educación Superior, Septiembre de 2000. ANUIES. Anuario Estadístico 1990. Licenciatura. ANUIES. Anuario Estadístico 1999. Población escolar de Licenciatura en Universidades e Institutos Tecnológicos. SEP, SEIT. Directorio de los Institutos Tecnológicos Descentralizados. CONACYT, Actividades Científicas y Tecnológicas, 1999.

As the number of institutions grew, so did the number of programs offered: in 1990, the ANUIES registered 4,038 undergraduate programs and 1,686 graduate programs. By 1999, there were 6,188 undergraduate programs and 3,470 graduate programs (ANUIES, 2000).

The government's intention was that new higher education choices incorporate, besides quality, pertinence with the social and economic development of each state. The main changes and trends regarding horizontal diversification of the higher education systemic design were:

- To keep the number of public universities unchanged and their enrollment levels under control (the biggest universities were encouraged not to grow, while the smaller ones could expand);
- The creation of 80 new 4-year technical institutes (IT), upon proposals by state governments and co-financed by the federal government. Starting in 1991, no more federal ones were created, and the existing ones were gradually decentralized;
- The creation of 36 new 2-year technical universities (UT) by state governments and co-financed by the federal government;
- The creation of SEP-CONACYT Centers – research, technology design, and graduate centers – in 28 states;
- The authorization of new private institutions of higher education⁸.

It is evident that institutional diversification is directly related to new forms of systemic coordination. It is significant that all public higher education institutions created during the 1990s were the result of agreements between the federal and state governments. This approach represents a fundamental deviation from the traditional pattern in decision-making where, for decades, the creation of new public institutions of higher education was decided by the federal government only.

⁸ Federal law attributes the power to authorize private institutions to the federal government, the state government, or to public autonomous institutions. However, starting in 1998, the federal government agreed with the states that this function would rest mainly with state authorities as long as the federal government is kept informed.

Vertical Differentiation

Whereas the creation of new institutions and programs introduced horizontal differentiation (though it remains to be seen to what extent this really produced differentiation, as students still are concentrated in few areas), *vertical* diversification also took place. The 2-year associate degree was introduced with the creation of technical universities. Even though the number of programs at these institutions is small and enrollments limited compared to the rest of the system, it will undoubtedly continue to grow. It also represents a change in the professional landscape of Mexican higher education.

Another area has been the diversification and growth of graduate programs. The following table shows the growth in graduate enrollments in Mexico during the 1990's.

GRADUATE ENROLLMENTS BY LEVELS, 1980-1998

YEAR	Master	Doctorate	Total *
1980	18 064	1 308	25 503
1990	26 946	1 344	43 965
1991	27 139	1 440	44 946
1992	28 332	1 631	47 539
1993	31 190	2 151	50 781
1994	34 203	3 094	54 910
1995	42 342	4 513	65 615
1996	49 356	5 184	75 392
1997	59 913	6 158	87 696
1998	76 746	7 518	107 149

* Includes students of specialized programs.

Source: <http://www.anuies.mx/estadisnew/posniv.htm>, 21/09/05

During the 1990s, the number of students enrolled in graduate programs grew by 143%. It is important to mention that a major part of this growth happened in the private sector: in 1988, private institutions accounted for 21% of the total number of graduate students, while by 1998 they comprised 35% of the total.

There are several reasons for the growth in graduate programs, and one of them is definitely federal policy. A major priority in the 1990s has been to upgrade the preparation of higher education professors as a way to improve quality. Through several successive programs, the most recent one being the Program for Faculty Improvement (PROMEP), the federal government allocated funds to public institutions in order to encourage their existing faculty to obtain a graduate degree. These programs widened the grants' scheme operated by the CONACYT for graduate studies, in place since the 1980s, but increased in scope in the 1990s.

Apart from grants for graduate studies, several incentive schemes were operated. One such program had been developed by the CONACYT since 1984 to promote scientific activity among Mexican academics through salary incentives linked to publication productivity and a doctoral degree. This program, the National System for Researchers (SNI), helped to encourage the completion of doctoral degrees to the point that today, higher education institutions and funding agencies use the number of doctoral degrees within a faculty group as an indicator to allocate funds for research and graduate programs.

Additionally, in 1990, the federal government created an incentive scheme for teachers, operated by the Federal Treasury Department (SHCP), with evaluation carried out at the institutions, and with grants ranging from 1-14 minimum wages for full-time faculty. Graduate degrees are highly rewarded. PROMEP introduced other incentives such as payments for infrastructure for professors with a graduate degree.

In summary, policies in the 1990s encouraged changes in the type of establishments, the number of programs, and the levels of study. The main trend has been to get away from the undergraduate degrees in the traditional professions that have been the most important part of Mexican higher education since its historical origins.

Private sector

Even though the government created new public institutions, the most dynamic sector of growth in the 1990s was the private one. State and federal governments created some 100 new technical institutes and technical universities, but during the same decade over 400 private institutions opened. The share of the private sector in undergraduate enrollments grew from 17% in 1990 to 30% in 2000.

The same trend is visible at the graduate level, where private participation in enrollments grew from 19% in 1990 to 35% in 1999 (SEP, 1999). These data contrast with those of the public technical sector: by 1999, technical institutes included 16% of overall enrollments at the undergraduate level, up 2% since 1990, and the technical universities served 2% (SEP, 2000).

The dynamics of the private sector are also evident in faculty hiring. During the 1980s, 9 out of 10 new faculty members were hired by the public sector. In the 1990s, faculty numbers grew by 53,000, of which 27,000 were hired by the private sector and 26,000 by the public institutions.

Although recently some initiatives have emerged to regulate the private sector (such as the federal-state coordination for approval processes through the State Planning Councils), during the 1990s virtually no policies were formulated for this sector. Developments were left to the market. Even so, some of the more consolidated, private universities became more active in the political arena, sometimes claiming public funding. The Federation of Private Universities (FIMPES) started its own process of institutional accreditation, taking the example of the Southern Association of Colleges and Schools. They also have a growing say in the COEPES, although depending on local circumstances (in some states, over 50% of students is already enrolled in the private sector, in others less than 10%).

System Coordination

One important effect of these actions was an increase in the number of the relevant actors, as well as levels and branches of government involved in decision-making. During the 1980s, the main interlocutors for federal officials had been the highly autonomous university rectors, the

labor unions, or the very subordinate directors of the technical institutes. Coordination involved a very small number of actors and basically followed implicit political rules.

One factor that led to increasing complications for coordination consisted of the changes within government itself: the political shifts of the 1990s introduced a situation where several state governments, Congress, and finally the presidency became dominated by other parties than the PRI. Through these changes, state governors and congresses became new actors, sometimes opposing the federal executive branch. The challenge consisted in increasing coordination capacity of the system in a landscape where communication channels and policy negotiations had diversified and involved a greater number of stakeholders: institutions, state governments, local congresses, state science and technology councils, business people, social organizations, and families.

Another need for coordination arose from the dynamics that surrounded diversification. Whereas in previous decades there was an explosive and anarchic growth of student and faculty numbers, in the 1990s an explosive and anarchic growth of institutions and programs occurred. Public and private universities rapidly increased their program offerings, some public universities (or their officials) started to create private institutions incorporated to the public ones they served, as did several state officials working at the local offices of the SEP. Candidates for governor on occasions toured the countryside offering communities the establishment of technical universities and institutes, or additional public university campuses in order to respond to local demand and guarantee prosperity. Existing universities – public and private – started to branch out across their states or the country. Whereas enrollments grew by 420,000 (40%), the number of institutions doubled (from 776 to 1533). By the end of the 1980s, most states had one public university, two or three technical institutes, and perhaps a dozen private ones. In most, the public university served over 80% of enrollments. By the end of the decade, several states had over 100 institutions, and in some the private sector already enrolled over 50% of students.

The federal answer to this can be seen as an attempt to improve coordination as well as a way to regain control over a rapidly expanding system (with increasing costs). By 1997, the state councils for planning (COEPES) were reactivated. These entities were part of the Higher Education Permanent Planning System (SINAPPES) created in 1978 as an ambitious model of national planning for higher education. This structure included several levels: a National

Council for Higher Education Planning (CONPES), regional councils (CORPES), and state councils (COEPES), with the institutions themselves at the bottom of the hierarchy. The COEPES had existed since then, but due to their inactivity, they had practically been forgotten. The ones that had been created ceased operating during the 1980s, while in other states they were never put in place.

Their reactivation was needed to have a coordinating entity for the emerging notion of state higher education systems and one that could include representatives from all the sectors involved in higher education⁹. The COEPES reactivation was seen as the best option (SEP, 1999). Their main activities would be:

- To generate strategic directions to solve the most pressing state higher education problems
- To set guidelines, and when appropriate, to validate proposed new academic programs and new educational models
- To elaborate, disseminate and evaluate state policies on higher education
- To stimulate coordinated actions and projects aimed at the development of the state's higher education system

Before the reactivation of the COEPES, the states education secretaries had made progress on an important organizational change: the creation of Higher and Upper Secondary Education Coordinating offices. With this decision, the state government acknowledged its responsibility in the day-to-day education activities on both levels, which greatly contributed to the design of state policies. Even though the first push toward decentralization came from the federal government, Carlos Mancera, former planning secretary for SEP, mentioned “neither policy was dictated unilaterally from the center, nor were the operative models decided independently by the states.”

The main objective by the end of the 1990s was to control diversification by assigning part of the responsibility to state governments: federal government would only fund programs in the public sector if they were approved by the COEPES, and state governments had to pay

⁹ The National Association of Universities and Institutions of Higher Education (ANUIES) could not take on this role even though it has been the most important representative of higher education institutions.

50% of their costs. By the same token, new offerings by the private sector had to be approved by COEPES for official recognition.

In most states, the COEPES are composed of the presidents of the main universities and colleges, and state officials. State legislatures now have a role in the approval of funding for these institutions; and they also play a political role in mediating uneasy interaction between university rectors and state governors when each belongs to different political parties, such as in Jalisco¹⁰. Some governors have created state commissions for science and technology with a view to developing university-industry relationships. In some instances, private institutions of higher education have had recourse to the courts in suits against state government's non-approval of authorization for new programs.

As a result, the federal government is no longer the only interlocutor for higher education institutions and state governments have a growing role, thus reversing a trend set in the 1970s when the federal government became the principal funding agency and policy maker for all public higher education, virtually turning state universities into federal establishments. This transfer of responsibilities and services to the states has had an important impact in local dynamics. It has mobilized local forces and encouraged the states' growing participation in decision-making and the design of educational policy.

The transfer introduced gradual changes in the state's attention towards the education sector. During the first part of the 1990s, state governments centered their activity around the administration of basic education services, when these duties were devolved from the federal government. There was practically no participation of state government in higher education policy making. The state government only participated as a sponsor by assigning their regular subsidy to public institutions, most of which were autonomous. Other public institutions in the states were the federal technical institutes, dependent on a highly centralized system with funding provided solely by the federal government.

What passed as the equivalent of a state higher education system in the 1980s was a group of diverse institutions with little connection between them or with the local conditions: public universities funded mainly by the federal government, federal technical institutes, and

¹⁰ This was clearly not an issue when only the PRI staffed federal and state agencies as well as university rectors and institute directors offices. Democratization and multi-party politics in the 1990s is an important part of the backdrop in higher education politics today.

private institutions of varied quality unregulated by the government, as well as a few public institutions dedicated to graduate studies and research.

At the end of the 1990s, the educational landscape had changed significantly. There was progress in the creation of state higher education systems; new institutional models – in their organization, governance, mission, and variety of educational programs – were created; there was diversification of not only the number of available programs, but also in the number of entities involved in the creation of higher education policy; there was an increasing connection between education, research and private sector activities; and institutional performance attracted more attention from more stakeholders. As part of larger social processes, there was an increase in demands for information about all – not only educational – public institutions’ performance, and accountability started to be one of the duties of public institutions.

Other changes occurred during the 1990s. Although rectors remain key actors whose power has generally grown within their organizations *vis-à-vis* university councils, their margin for action was highly constrained by new federal requirements for fiscal accounting, for program approval and for hiring faculty¹¹. Additionally, senior academics, research scientists and department heads have an increasing say in applying for federal funds for upgrading professors and research projects (De Vries, 2000; De Vries & Alvarez, 1998; Gil, 2000).

Science and technology policies were also modernized and included in this decentralization movement. The National Council on Science and Technology (CONACYT), responsible for science and technology policy, started implementing policies oriented to encourage research and scientific development within each state, as part of a larger Program for Science Support in Mexico (PACIME). This program guided CONACYT’s actions throughout the 1990s. Some of its main goals were:

- To assist graduate programs and the creation of a listing of high quality graduate programs (excellence graduate programs)
- To create regional research systems

¹¹ By the end of the 1990s, Congress started to audit the use of special funds by the universities. According to new federal guidelines, only programs approved by the COEPES were eligible for public funding and only faculty hired with the consent of the federal government would be paid for.

- To create the SEP-CONACYT system
- To promote the creation of state centers for science and technology

Although new ways were developed to coordinate the system, some problems remained unresolved. The OECD evaluation in 1995 observed crucial coordination problems at the federal level, where SEIT and SESIC each follow their own policies, with little or no communication between them. They suggested a fusion into one undersecretary for higher education. The SEP did not follow up on that recommendation in the following years. Although the issue popped up again in 2001, with the change of government, no steps were taken to reorganize the federal bureaucracy.

Shifts in the authority structure and the unbearable lightness of the legal framework

It is important to point out that the changes mentioned above were carried out without a single reform to the federal legal framework for public higher education. The “Law for the Coordination of Higher Education” has remained unchanged since its promulgation in 1982. There were certainly changes along the way in the formal procedures published by the federal Secretary of Education, but none of them required legislative action. The documentary evidence for the numerous decisions made throughout the past decade consists mainly of memos issued by the two Undersecretaries for Higher Education, and there are not very many of them either. The only exception to this was the promulgation of the “Law for the Development of Research and Technology” by the federal Congress in 1999, but this document had little effect on the basic operations of higher education. Some states have started to develop state laws for higher education but with different levels of progress.

For the most part, policy was developed by federal officials and then negotiated with the rectors’ association. Since ANUIES receives a significant subsidy from the federal government and the Undersecretary for Higher Education usually has influence over the designation of ANUIES’ general secretary, the association is not truly an independent body representing the rectors, but rather a mediating organization for consultation¹². This interaction

¹² ANUIES is a “dependent interest group” that often serves as a springboard for its officials: Fox’s Secretary of Education designated the former head of ANUIES to the post of Undersecretary for Higher Education, Dr. Julio Rubio.

is an important component of the political game surrounding higher education policy in Mexico, especially for the university sector.

With regard to technical institutes, since the federal Undersecretary for Technical Education has authority to designate Directors and allocate funds, very little leeway is left to Directors. There is an important unresolved issue here that our interviews detected: technical institutes seem to labor under heavy handed central control in all matters of personnel, funding and planning. Policy reforms in this sector seem to have assumed that federal management of more than 80 technical institutes all over the country was a rational platform for operations and did nothing to loosen control or foster management at the institutional level. In their interviews, directors are cautious in voicing their opinions on this, a symbolic act by itself. But the problem was evident from interviews at technical institutes in Guanajuato and Jalisco and from observation in the office of the federal Undersecretary, where directors stand in line to talk to the undersecretary directly in order to resolve all sorts of management problems, most of which should reasonably be dealt with locally.

One broad but significant outcome of the changes in the 1990s is that the federal government has increased its influence over decisions made by rectors and directors, especially in matters of funding and budgeting. Conflict within universities and with the government has been brought under control. Rectors rarely develop their own programs for their universities but rather implement federal programs in response to the “fiscal carrot”.

Fiscal policy has been used principally to increase government influence. At the same time, university autonomy has been constrained, and entrepreneurial energies at the institutional level may find few channels for expression when they do not coincide with federal guidelines.

Other levels of government have increased their influence over policy as well. Therefore, it does not seem to be a zero-sum game, where a gain in influence at one level of government would imply a loss at another level. We interpret this outcome as a significant change in system coordination, where decisions made at the state level begin to make a difference¹³.

¹³ Apparently they will matter even more in the future. The Undersecretary for Higher Education in the Fox administration recently announced that only state governments, with federal support, will create new institutions. Additionally, the announcement of a scholarship fund for needy students came with the proviso that all federally funded scholarships will be allocated at the state level as well.

However, it is important to point out that several agencies set up during the 1990s lack a legal basis: they are *ad hoc* agencies. Furthermore, the federal government introduced several policies without changes in the legal framework, and as such these policies are not legally mandatory for autonomous or private universities. There is no legal obligation to provide information, to participate in FOMES or PROMEP, to carry out evaluations, and no penalties exist if the wrong information is provided (except in fiscal terms, which is a matter of SHCP). As a consequence, the whole policy framework of the 1990s has depended mostly on incentives to carry out federal initiatives.

Communication, collaboration and accountability

Information on the system was nearly inexistent at the end of the 1980s. Though institutions reported student numbers to the ANUIES and the SEP, most of them simply estimated – and inflated – these numbers. Data on faculty numbers were also highly unreliable, as accounting considers the number of contracts, not the number of persons, a problem that persists in 2000¹⁴. Data on other inputs – infrastructure, funding – were either nonexistent or surrounded by secrecy. No information existed regarding outcomes or results.

The use of information became more important in decision making in the 1990s, but transparency is not complete. Funding criteria seem to vary from one institution to another, and from year to year, a source of continuous complaints by rectors. Federal officials floated a proposal for a funding formula using performance indicators in the late 1990s, but it did not prosper¹⁵. We could find no evidence of their use in funding allocations for undergraduate education, whether in the university sector or the technical institutes (Kent, De Vries, Didou, Ramírez, 1998). Rather than specify desired outcomes, policy makers in Mexico have sought new ways to manage and control inputs.

This is not the case for CONACYT funds for approved graduate programs: in order to be eligible for scholarships and development funds, graduate programs must meet a series of publicly known standards pertaining to research productivity and PhD completion by academic staff.

¹⁴ Faculty members in Mexico can combine several contracts –even several full-time assignments- at different institutions, which means that the number of persons working in higher education is unknown.

Therefore, at this stage in our research, from the available data, we have not been able to discern with sufficient precision whether greater federal influence translates into better performance of institutions in the fulfillment of policy goals. This is especially the case in matters of quality, since outcome measures in this area are in their initial stages.¹⁶

Organizational development, planning and information systems

Back in 1991, when special project funding was set up (cf. funding policies), two federal priorities for allocating these funds indicated the need to effect “administrative and normative reforms” and “development of institutional information systems” (CONPES, 1991). Although relatively few proposals were received for these priorities at first, federal officials constantly insisted on these reforms and later added a third priority: budget control systems. According to a recent report released by the rectors’ association (ANUIES, 2001), thirty-four universities now operate under an Institutional Development Program; under the National Program for Administrative Normalization (PRONAD) developed by the federal Secretary of Education, criteria for information systems and performance indicators have been communicated to higher education institutions. Nine universities have undergone significant organizational restructuring, and twelve have reformed the *facultad* system¹⁷ into US-style departmental organization; twenty one universities have installed budget control and accountability systems, and most (sic) universities now must be audited externally on an annual basis.

Technical institutes, on the other hand, were called upon to streamline course offerings, implement new programs and develop department-type structures. Since these institutions are not autonomous, this was done by federal *fiat* between 1994 and 1996 and all institutes were required to implement these changes.

We have no clear indicators of the effects of these organizational developments, but we do know that they are compatible with federal priorities mentioned in an interview with the ex-

¹⁵ Two political factors seemed to have put the funding formula on the back burner: ANUIES offered to develop a counter proposal, which languished in committee meetings; and in April 1999 students at UNAM went on strike against the Rector’s proposal to raise fees.

¹⁶ This also may be about to change: the Fox administration is now pushing to establish program accreditation, and an accreditation commission has been set up. For accreditation to operate, a common set of performance indicators will surely be required. At the same time, the new administration is asking the institutions to come up with information about outcomes or results.

¹⁷ *Facultad* is the Spanish translation of the French *Faculté*, meaning the traditional form of academic organization based on individual professions, which operate independently of each other within universities.

Undersecretary for Educational Planning in Mexico City, who stressed that there is today a much higher degree of control and information over federal expenditures for education than was the case a decade ago. Nonetheless, because information systems are not totally operative and when they are university officials do not part easily with this data, we lack the means to verify their impact, as there is no constitutional obligation to disseminate information in Mexican public administration¹⁸. When examining official policy documents for the Salinas (1989-94) and Zedillo (1995-2000) administrations, one can see that educational goals are set out in general terms without fixing quantitative targets. It is true that these documents were released before information systems had been developed, but our research into funding models does not allow us to state that resources are being allocated on the basis of desirable outcomes. Rather, it seems to be the case that mid-level federal officials are in constant interaction with rectors, pressing them to adopt management and information system reforms and in some cases make funding recommendations to the Undersecretary on the basis of these one-on-one contacts¹⁹.

The unresolved issues here are lack of transparency and uneven application of information inputs to funding decisions. One conclusion seems to be clear, however: the federal government today exerts much more stringent control over funding, budgeting, management and program approval than a decade ago. But what does that say about outcomes in quality improvement?

Quality evaluation and control

Before the 1990s, the term *evaluation* was basically unknown in Mexican higher education. When it was used, it usually applied to a professor's evaluation of student performance in a given course. Never had it been applied at the institutional or systemic levels. When the educational policy document of the Salinas administration stressed quality improvement as the main goal and evaluation as the principal means to that end (Salinas, 1989), the response of university rectors and unions was vociferous opposition (not so with the Directors of

¹⁸ However, there is growing pressure in public opinion to make this happen: on Oct. 16, 2001, the national daily REFORMA published a front page article criticizing the Secretary of Education under the Zedillo administration for not making public the scores by Mexican children on tests carried out by the International Association for the Evaluation of Educational Achievement in 1995. In response, the current Secretary of Education promised to disseminate evaluation outcomes in Mexican public education.

Technical Institutes, who usually follow orders from up above). The initial tension over evaluation was symbolic of the struggle over new rules in the regulation of higher education.

Nonetheless, in 1990 institutional self-evaluation was established for public institutions. The application of evaluation schemes grew quickly in several different areas: academic programs, faculty, and students. Several organizations contributed to this process: the institutions themselves, the National Council for Evaluation (CONAEVA), the Inter-institutional Committees for Higher Education Evaluation (CIEES), the CONACYT with its list of graduate programs of excellence, the SNI, the National Council of Technical Education (COSNET) in charge of consulting with the technical institutes, and the National Center for Evaluation (CENEVAL) with the application of entrance and graduation exams.

Several types of evaluation were introduced in the 1990s:

- Institutional self-evaluation. This was established in 1990 and based on a form with performance indicators designed by the federal government. Universities and technical institutes had to fill out the form and send it to the SEIT or SESIC and the CONAEVA. At the introduction of the program, federal officials announced plans to tie funding to these reports, which was fiercely and successfully opposed by the rectors. Reports are not public and no consequences seem to be attached to them. The CONAEVA – made up of officials from SESIC and ANUIES – was phased out in 1993. By the end of the 1990s, government officials admitted that this process was not working, though universities still send an annual report.
- Institutional evaluation and accreditation by FIMPES. Part of the private sector (some 80 institutions, among them the most important ones) started their own evaluation program, emulating the SACS²⁰ model of institutional accreditation, in which some private universities had been participating for some time on their own. Although federal officials announced that this exercise was worthwhile, and some start-up money was provided, the program lacks official status and accreditation outcomes have no

¹⁹ Interview with Eugenio Cetina, Director for Higher Education in the Undersecretary's office.

²⁰ Southern Association of Colleges and Schools in the U.S.

consequences for policy: private institutions not accredited by FIMPES are allowed to operate just the same.

- Program evaluation by the CIEES. Since 1990, 9 committees were set up to effect external evaluations by peer committees: seven are organized by areas of knowledge, one reviews institutional administration and one extension and outreach. Each committee set up a framework to review programs in their area (so criteria differ between committees). From the start, it was pointed out that these committees were not going to accredit programs, only to make recommendations. Participation is not mandatory. However, by the end of the 1990s, the government started to condition access to special funding to participation in CIEES. By 2000, CIEES had evaluated some 1,800 programs, out of a total of 9,500. Most evaluated programs belong to the public sector. Results of this process are not clear, however, as reports are secret.
- Graduate program evaluation by the CONACYT. At the beginning of the 1990s, CONACYT started a program to evaluate and accredit graduate programs. After evaluation, programs receive qualifications ranging from consolidated, in consolidation, emergent, to rejected. Only the first three categories qualify for CONACYT funding, mainly consisting in student grants and some resources for infrastructure. Originally, external evaluation was based on input and performance indicators, but after 1996 external peer review was incorporated as part of the evaluation procedures. Apart from receiving funds by CONACYT and certain prestige, no other consequences are tied to this scheme; that is, it is not mandatory and graduate programs are free to function without this evaluation. However, while a notable increase in graduate programs occurred during the 1990s, the number of programs admitted by CONACYT did not increase substantially. The pool of programs of excellence included 424 programs in 1991, around 40% of graduate programs. In 1995, 614 programs had been admitted. By 1999, graduate offerings had expanded to 2,411 programs, of which 468 were part of the CONACYT pool.
- Faculty evaluation. Evaluation of faculty productivity became a central issue in the 1990s. The SNI continued its scheme set up in 1984, but included more researchers. The federal government launched a new program in 1990, aimed at teachers. General guidelines are published not by the SEP but by the SHCP, though allowing for local

rules. Local influences played a crucial role: still in 1999, in some institutions rectors assigned grants discretionally to faculty and amounts varied in spite of national guidelines. Additional evaluation of faculty was introduced *de facto* by PROMEP, as full-time faculty members can submit their curriculum to the SESIC to qualify for the “PROMEP profile”²¹. By the end of the 1990s, the SESIC established that only faculty with the desired profile could qualify for participation in special funding programs.

- Student evaluation by CENEVAL. This organization was a government start-up and now operates as an independent organization. CENEVAL introduced entrance exams for high school and higher education. It contracts out with any institution which desires to implement entrance exams and delivers the results without making them public, as part of the agreement with institutions. CENEVAL also developed qualifying exams by profession for graduates of higher education after 1995. These exams are not mandatory and an institution may or may not adopt them.
- Some professional associations had started to develop “accreditation” programs by the end of the 1990s. However, these associations have not been recognized by the government, and their evaluations have no formal consequences.

In 2000, the federal government created by decree the Council for Higher Education Accreditation (COPAES), in which the CIEES and FIMPES participate. The purpose of COPAES is to review and recognize agencies that will accredit higher education programs. The agencies allowed to do so will have to be independent from the government and the institutions. In 2001, the federal government announced that program accreditation will be one of the cornerstones of federal policies towards 2006. For graduate programs, a new program was announced that would allow for the participation of professionally oriented masters programs in addition to the research oriented graduate programs participating in CONACYT.

Although a great number of processes were introduced with impressive speed, evaluation does not seem to have met the goals set out at the beginning of the decade, when evaluation was

²¹ The PROMEP profile states that full-time faculty members should have “a balanced dedication to teaching, research, tutoring and academic decision-making”. Faculty has to submit proof of these activities to the SESIC, which evaluates these documents. Recognition implies access to special funds and some monies for infrastructure.

deemed as the linchpin for higher education reform. In hindsight, several factors contributed to this (de Vries, 1999):

- Though the government originally proposed that funding should be tied somehow to evidence on performance, in practice university presidents managed to oppose any such linking. There is no evidence by the end of the decade that allocation of public funding considered evaluation outcomes. As such, there are no consequences tied to evaluation outcomes, and the data do not seem to be used in decision-making.
- Evaluation remained surrounded by secrecy, so there is no evidence showing improvements. Some exercises are carried out mainly to distribute grants (e.g. productivity grants to faculty), without providing information on quality or improvement over time. On the whole, performance indicators used in evaluations are limited to inputs, providing no data on outcomes or results. The qualifying exams by the CENEVAL are the exception, but the public does not have access to data which would allow for comparisons over time.
- Evaluation is not mandatory, which means that some participated and others did not. Thus, information exists for only a part of the system.
- A complicated relationship between special funding and evaluation emerged during the 1990s. As most institutions were not very willing to evaluate voluntarily, the federal government tried to persuade institutions to participate by providing incentives. This meant that participation in special funds became conditioned upon participation in evaluations, but at the same time evaluation outcomes would have no relation to the allocation of these funds. In practice, this meant that public state universities had incentives to participate, though mainly in order to comply with the rules, while at the same time other institutions had no compelling reason to enter the scheme.
- Evaluation agencies were set up by the government, and have no independent status. Though no links were established between funding and evaluation outcomes, evaluations were carried out by agencies dependent on those who allocate funding, which caused suspicion from the outset.

The return of centralized planning?

In 1996 the federal government launched a new Program for the Improvement of Faculty (PROMEP). Although the PROMEP started as a special fund to provide grants for existing faculty to improve their qualifications, after 1997 the SESIC asked academic units at the state universities to come up with development plans. In these plans, academic units not only have to state how faculty will develop towards 2006, but must also indicate plans for their facilities, infrastructure, student numbers, and program offerings. These plans had to be submitted to the federal government for approval. At the same time, PROMEP stated criteria programs should meet by 2006, considering the percentage of full-time professors, number of professors with graduate degrees, or the number of students per full-time faculty. This planning exercise was entirely focused on inputs.

In 2001, this planning exercise was broadened when public state universities were asked to present institutional development plans to the SESIC in order to be able to participate in special federal funds. The 2001 exercise includes several indicators, some of which consider outcomes such as graduation rates.

On the whole, there has been increasing control over public institutions. However, most actions have focused on controlling and planning inputs, and almost no information exists about outcomes or improvement. Control mechanisms operate mostly by way of accountancy (checking if funds are used in the proper way, which leads universities to hire accountants) than by accountability (in how far educational goals are met). One unresolved issue is that evaluation up till now has not been able to inform on the present state of the system.

Fiscal policy

Funding programs have been key policy instruments in the 1990s. By the end of the 1980s, the main source of funding for public universities and technical institutes were direct federal lump-sum subsidies, which usually resulted from yearly political negotiations with rectors. Funding for special projects, scholarships or good performance was non-existent. Few universities charged fees or tuition, nor were they in the habit of selling services to the business community. Federal officials did not require institutions to produce performance data

or indicators. Being totally dependent on one outside source of income, universities were faced with a tough dilemma when macroeconomic adjustment policies after 1984 led the federal government to cut spending in all areas. Real income for public higher education had decreased by about 30% by the end of the decade. Since very few institutions had the entrepreneurial capabilities to develop new sources of income, stagnation and conflict became the norm (Martínez, 1994).

In the 1990s, these negotiations were complicated by a number of extra factors. First, at the start of the decade, the government launched special funding programs and started to use these funds as a tool for reform. Second, since the opposition came to dominate Federal Congress and several state governments in the 1990s, public debates have started over issues that were traditionally decided upon behind closed doors by the executive branch. Accordingly, the number of participants has grown and discussion has become more intense. And third, budget growth alternated with financial crises on several occasions in the 1990s, leading to tensions between the goals proclaimed and the funding to support them. Since then federal officials have pushed through the following changes in funding:

- Although direct operational subsidies (for salaries, administration, maintenance, etc.) have not been found to follow a formula based on performance (Kent et al., 1998), these allocations have been increasingly geared to the federally approved number of employees at each institution. They have also been used, according to federal officials, to encourage a decrease in enrollments at very large universities and to increase them at very small institutions, although the results in this aspect are not clear.
- Special funds for development projects were made available to institutions through a review process that examines the viability of project proposals. Most of these funds have gone into installing and upgrading computing infrastructure, Internet capability, libraries, laboratories, and in some cases development of new programs.
- Although the base value of academic salaries was not significantly increased throughout the decade, individual performance grants were made available to full-time professors through a peer review process designed and managed at the institutional level (thus generating a range of standards for academic performance). Researchers may compete for performance grants from the National System of Researchers (SNI).

These grants are renewable on an annual basis (or tri-annually for SNI) and do not accrue to pension funds, thus lowering the overall cost to the federal government. For a significant portion of full-time professors and researchers, non-salary income now comprises between 30% and 50% of the total. Grants to professors are allocated by the federal Secretary of the Treasury (not the Undersecretary for Higher Education), and SNI grants are allocated by CONACYT. Rectors are bypassed in both instances, although in the case of productivity grants they often wield influence in the local review process for professors.

- Universities were asked to raise fees and tuition. No updated data are available, but on average fees and tuition were raised from nominal values (often insufficient to cover the administrative cost of charging them) to somewhere between US\$150 to US\$2,000 a year.²²
- The National Science Council (CONACYT) increased project funding through competitive peer review and created funds for postgraduate programs focusing on training scientists. Funds were also made available to induce Mexican scientists living abroad to relocate to Mexican universities. However, CONACYT has not been successful in inducing industry to increase private funding for research in any significant way.

Generally, there has been a shift toward more differentiated sources of funding and increased competition. This has led to a growing need for information on trends and costs, and to questions being asked about how much should be paid for a growing system of higher education, by whom, and how. The strike that took place during 1999 over tuition fees at the UNAM – Mexico’s biggest public university – proved that these questions are far from resolved. In effect, the debate appears to repeat itself each year without resolving the basic problems that have persisted for decades.

One critical issue is the centralization of funding. State universities receive funds from state governments, but state contributions make up a small part: on average 20%. Only

²² Since this issue has always been politically very sensitive, it was interesting to learn that almost all state universities were able to raise fees without political turmoil. The important exception is UNAM, which to the present has found it politically impossible.

recently, with some states governed by opposition parties and through policies of decentralization, have some state authorities started to develop local policies for higher education. Decentralization of the Technical Institutes, which implies co-financing by state governments, is recent. At the same time, all special funds created in the 1990s are federal.

A second issue is the amount of funding. Compared to other OECD countries, Mexican expenditure in higher education is below average: 4,519 US\$ a year per student in the public sector compared to OECD country mean of 8,601 US\$ (data for 1998, OECD, 2000) This seems to justify the continuous complaints from the institutions. The implications are serious: as salary payments consume over 80% of institutional budgets, lower public contributions translate into lower salaries. Whereas a North American full-time professor in a public university earned around 44,500 US\$ a year, his Mexican colleague received about 12,000 (OECD, 1996). 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. In 1993, Mexico spent six times more for a student in higher education than for a student in basic education, while this ratio was 2.5:1 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. This tendency to give more attention to basic education continued throughout the 1990s: by 1999, public expenditure per student in basic education had increased by 14.6% compared to 1994, 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. By 1999, education consumed 47.1% of expenditure for social development²³, 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). However, this tendency seems to be coming to an end: government goals are to expand enrollments and improve quality in higher education in the present decade.

²³ Social expenditure includes education, health, housing, assistance funds for the poor.

Country	Expenditure per student, US\$			Annual salary teachers
	Basic	Upper secondary	Higher education	
Japan	5202	5917	10157	41201
USA	5718	7230	17466	32713
Germany	3490	6149	9466	38640
Spain	3180	4274	5166	32144
Ireland	2567	3866	8134	36151
Mexico	935	1726	4519	14708
Argentina	1224	1575	11552	15773
Paraguay	482	690	19271	ND
OECD average	3851	5274	8601	28519

Source: Education at a Glance; OECD Indicators, 2000 Edition.

A crucial question, however, is how does one expand and maintain quality with a budget that is clearly reaching its limits? 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 GDP, but education takes up 25% of the federal budget.

Government income is only 15 percent of GDP, the lowest in the OECD, and with little possibility of growth due to structural problems in tax collection. A significant feature of both the national economy and the federal budget is instability, with abrupt rises and declines. Per capita Gross Domestic Product grew from 9,300 pesos in 1970 to 13,300 in 1980 (constant pesos, 1993), but ten years later, in 1990, it was still practically at the 1980 level. 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 in 1995, followed by a gradual recovery towards 2000.

As a consequence, public expenditure on education is both too much and too little: education takes up to 25% percent of government budget, yet it is too little in terms of public expenditure per student, or in order to maintain decent salaries and high levels of research in comparison with developed countries.

The logic of funding

As the OECD (1996) clearly stated in a report on Mexican higher education, funding does not depend on explicit criteria. There are, however, some *de facto* criteria.

A first thing to note is that distribution among sectors of higher education has remained stable, even though priorities and enrollment numbers have changed through the last three decades. 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 the technical sector lagged behind, distribution remained fairly unaltered. In turn, in the 1990s, the technical institutes expanded more than the university sector, without major shifts in budget distribution. As a result, there are differences in expenditure per student according to distinct public sectors: for all tertiary education, expenditure/student is 4,264 US\$, but for university level it is 4,158, for others (non-university) it is 5,471 US\$ (data for 1993 in PPPs, CERI-OECD, Education at a glance, 1996)

Funding of higher education up to 1989 comprised mainly of two streams: subsidies by the federal government and subsidies by the state governments. Federal universities such as the UNAM and UAM, and the Technical Institutes, receive 100% from the federal government, whereas no fixed criteria apply for state universities: some receive 50/50, others 90/10.

When the two federal universities are compared to the rest of the public universities, one can observe their special treatment: 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. This is a source of constant complaints by the state universities. At the end of the 1990s, the SESIC sought to balance expenditure between public universities, by incrementing the amounts allocated to state universities. In 2001, however, Federal Congress decided to assign an additional 40 million US\$ to the UNAM, reverting to the trend of previous years.

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 budget is dedicated to these activities, as opposed to state universities who spend most of their budget on undergraduate teaching.

As stated before, distribution of subsidies within the public sector does not depend on explicit criteria. However, three myths 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 SEP-SESIC. A third myth states that subsidies are basically assigned according to the preceding year, corrected for inflation. These proved to be myths when we reviewed data (Kent et al, 1998). They remained powerful however throughout the 1990s: discussions on possible funding formulae are always surrounded by arguments stating that simple criteria, such as enrollments or faculty numbers, would provoke perverse tendencies within the system.

Another widely accepted explanation is that amounts relate to politics. During the 1970s, increments in enrollments were stressed as important objectives. Expansion was the main theme. Growth of enrollments was accompanied by a growing economy. Subsidies to universities augmented rapidly, and several universities started to inflate their enrollments, some by up to 100%. Even so, no real relation existed between enrollments reported and subsidies. By 1985, subsidy per student varied between 7,000 and 70,000 pesos, in otherwise comparable institutions and programs (Martínez Rizo, 1999). 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 10%. But even after calculating full time equivalents, amounts turn out radically distinct. Finally, not even a simple annual increment applies for the sector. Considering 1982 as a basis, some institutions had tripled their subsidies by 1994, whereas others hardly reached their 1982 level (Kent et al, 1998).

Politics had and have their play: as Levy (1977) pointed out for the 1970s, politically strong institutions managed to increment their subsidies through pressure and manifestations, where others could not. In several occasions in the 1970s and 1980s, political confrontations or outright conflict lead to diminishing state subsidies, but with growing federal subsidies to compensate. This produced a growing centralization of the system, where state universities became increasingly reliant on federal funds, some up to 90% or 100%. This partly changed with the economic crisis of 1982, which led to a drastic cut in subsidies. But even so, downsizing did not affect all universities in the same way. Some were severely curbed for political reasons, while others received a more favorable treatment.

These differences in treatment had important consequences, several of which continue well into the 1990s. The already diversified public sector grew even more differentiated, due to unequal amounts of funding and differences in abilities to obtain public funding.

Diversification of funding

Whereas lump sum funding through regular subsidies continued to be the principal form of allocation, additional special programs were introduced in the 1990s.

FOMES (Fund for the Modernization of Higher Education) was created in 1990, and in 1991 the first guidelines were agreed. During the first years, institutions had to present institutional development plans within these 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. Relative performance was never clear, however, and in the years following 1993, these evaluations practically disappeared.

A turning point occurred with the introduction of PROMEP (Program for the Improvement of Faculty) in 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 (towards 2006), and started to establish development plans with academic units. These plans not only stipulate the number of faculty that is going to study, but also total faculty numbers, program offering, enrollments and infrastructure (computing, laboratories, physical plant, libraries). Though PROMEP provided some funds for these additional aspects, from 1997 infrastructure for academic units was funded by FOMES, through projects presented by academic leaders from the units, subject to peer evaluation at the SESIC. These changes reflect a learning process at the SESIC, taking into account complaints that money handed out to university presidents did not always reach academic units. But it also gave way to a form of centralized planning, as the SESIC started to evaluate development plans drawn up by academic units and to assign funds directly to faculty members.

Growing coincidence occurred also between PROMEP and the program for faculty productivity grants (ESDEPED), implemented since 1990. Originally, under guidelines of the Secretary of Treasure, this program offered 1 to 2.5 times the minimum wage to each full-time

professor, additional to salaries, with explicit observations that these payments are not part of regular salaries. In 1996, the amounts were increased to 14 times minimum salaries after 1997, and more emphasis was put on the PROMEP profile as a requirement. Additionally, PROMEP offers one-time grants to professors that comply with their profile, after an evaluation of each academic by the officials of PROMEP.

Even though these special funds make up only a small part of overall funding (some 10%), they play an important role: changes occur at the margins (Wolff & de Moura Castro, 2001). Considering that up to 90% of regular subsidy funding goes directly to payrolls, these special programs represent fresh funds for other matters: capital to invest or to use for political reasons. It should be noted however that the impacts of these special funds have been different throughout the sector: in some institutions they are marginal, in others they represent up to 30% of the budget. At the same time, their impact changes nearly every year: they may represent 30% one year, less than 10% during the next, all depending on the success of each university in the yearly competition.

Then again, the logic of application of these special funds has some peculiarities. FOMES was applied to public state universities throughout the 1990s, but the UNAM was excluded from the start, whereas the Technical Institutes and Universities entered the programs at the beginning of the 1990s, but were excluded after 1996, for no clear reason. By the same token, PROMEP applies to the state universities, not to the federal ones (UNAM, UAM), and the Technical Institutes follow different rules. The private sector is excluded from all public funds.

So, by the end of the 1990s, funding mechanisms had changed in several ways compared to previous decades. Some changes are notable: in the 1990s, the federal government started to plan inputs and to reduce some inequalities between institutions. The basic logic is to allow for increases in funding dependent on development plans in the form of contracts between academic units and SESIC based on desirable indicators such as the number of faculty per student, the number of full-time professors, the proportion of faculty with graduate qualifications, etc.

Federal policies and their impact

Preparation

Mexico is among the OECD countries with the fewest students prepared for tertiary education. According to OECD data, only 20% of the adult population has completed upper secondary education. Between 1990 and 2000, enrollments in upper secondary education increased from 2,100 thousand to 2,892 thousand (Informe presidencial, 2001). Intake from secondary school leavers improved from 61 to 81% during the decade. Drop out rates, however, remained stable at 17%, as did completion: 60% to 59%. Only 20% of 18 years old have an upper secondary diploma (ANUIES, 2000).

Concepto	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	e/
MATRICULA SISTEMA ESCOLARIZADO ^{3/} (Millones de alumnos)	21.5	25.3	25.1	25.2	25.4	25.8	26.4	26.9	27.6	28.1	28.6	29.2	29.7	###	
PROMEDIO DE ESCOLARIDAD (Años)	4.6	5.4	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.6	7.7	
INDICE DE ANALFABETISMO (%)	17.0	14.7	12.1	11.8	11.5	11.2	10.9	10.6	10.3	10.0	9.8	9.6	9.5	9.1	
ABSORCION															
Básica															
Secundaria	82.0	84.4	82.3	82.9	83.8	85.8	87.7	87.0	86.7	87.8	90.0	91.0	91.8	92.7	
Media Superior															
Profesional Técnico	9.1	16.7	14.4	17.2	17.2	16.7	16.9	15.5	15.4	16.3	14.7	12.3	12.3	13.7	
Bachillerato ^{4/}	68.8	64.0	61.0	62.2	63.7	65.8	71.1	74.1	78.9	78.1	79.8	80.7	81.0	80.0	
Superior															
Normal Licenciatura	14.7	10.8	5.3	6.0	7.8	9.0	10.5	11.7	13.2	11.4	10.1	9.4	7.5	7.2	
Licenciatura	88.6	77.4	64.4	71.1	60.6	81.0	84.9	68.8	74.5	76.2	76.4	77.7	79.7	80.0	
EFICIENCIA TERMINAL															
Básica															
Primaria ^{5/}	n.d.	63.9	70.1	71.6	72.9	74.2	77.7	80.0	82.8	84.9	85.8	84.7	86.5	87.9	
Secundaria	75.5	75.7	73.9	75.3	76.4	77.5	76.2	75.8	74.8	73.8	76.1	75.1	76.1	77.5	
Media Superior															
Profesional Técnico	45.6	40.5	37.8	40.4	41.0	35.3	36.2	45.5	42.2	40.0	39.8	41.3	43.7	51.7	
Bachillerato	68.9	65.2	60.1	59.8	60.3	59.8	60.2	58.1	57.3	58.9	58.1	58.6	58.9	58.4	
GASTO EN EDUCACION/PIB (%)															

Nacional	4.9	4.1	4.0	4.3	4.7	5.3	5.4	4.9	5.8	5.8	6.0	6.1	6.1	6.2
Público	4.6	3.8	3.7	4.1	4.4	5.0	5.2	4.7	4.8	4.8	4.8	4.9	4.9	5.0
- Federal	3.7	3.2	3.0	3.4	3.8	4.3	4.6	4.2	4.0	4.0	4.1	4.1	4.1	4.2
- Estatal	0.8	0.6	0.7	0.6	0.6	0.6	0.6	0.5	0.8	0.8	0.7	0.8	0.8	0.8
- Municipal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Privado	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	1.0	1.0	1.1	1.2	1.2	1.2
GASTO EN EDUCACION														
POR ALUMNO														
(Miles de pesos)														
Nacional	0.102	0.774	1.2	1.6	2.1	2.6	2.9	3.4	5.4	6.5	8.0	9.6	11.1	12.4
Público	0.106	0.778	1.2	1.7	2.2	2.7	3.0	3.5	4.9	6.0	7.3	8.8	10.2	11.5
- Preescolar	0.008	0.054	0.6	0.9	1.2	1.7	1.8	2.2	3.5	4.4	5.6	6.8	7.6	8.6
- Primaria	0.006	0.035	0.5	0.8	1.1	1.5	1.7	2.3	3.2	3.9	5.0	6.2	6.9	7.8
- Secundaria	0.010	0.067	1.0	1.4	2.0	2.4	3.1	3.5	4.7	6.3	8.0	9.4	10.6	12.0
- Profesional Técnico	0.043	0.161	1.7	2.1	2.8	3.4	3.3	4.4	5.9	6.8	7.9	9.5	10.7	12.2
- Bachillerato	0.024	0.195	2.2	3.0	2.9	4.2	5.7	6.6	8.3	9.8	11.5	13.6	15.3	17.4
- Superior	0.089	0.295	4.6	6.2	8.8	10.7	12.7	15.6	18.8	21.3	26.3	28.5	34.1	39.2

1/ Las cifras se refieren a los ciclos escolares en que inicia el año en cuestión, es decir para el año 1980, se refiere al ciclo escolar 1980-1981, y así sucesivamente. Los datos de gasto se refieren a años naturales enero-diciembre. Para el ciclo escolar 2000-2001 las cifras son estimadas, debido a la periodicidad que se maneja para Capacitación para el Trabajo.

2/ Es la relación porcentual del número total de analfabetos entre la población de 15 años y más. Información al 31 de diciembre de cada año.

3/ La absorción es la relación porcentual entre el nuevo ingreso a primer grado de un nivel educativo, en un ciclo escolar dado, y el egreso del último grado del nivel educativo inmediato inferior del ciclo escolar pasado.

4/ Es la relación porcentual entre los egresados de un nivel educativo dado y el número de estudiantes de nuevo ingreso que se incorporaron al primer grado de ese nivel educativo "n" años antes. Para el ciclo 2000-2001 este indicador es estimado.

5/ Para 1999 y 2000, los porcentajes se ajustaron de acuerdo al Producto Interno Bruto proporcionado por el Instituto Nacional de Estadística, Geografía e Informática y por actualización de las cifras en los gastos estatal y particular. La suma de los parciales puede no coincidir con el total debido al redondeo de las cifras.

6/ Considera el gasto nacional ejercido por alumno en el sistema escolarizado.

7/ Excluye del cálculo al control particular en gasto y matrícula. Incluye el gasto federal por alumno, atendido en el control federal y federalizado, es decir, los transferidos al control estatal desde el 18 de mayo de 1992. A partir del ciclo escolar 1998-1999, se refiere a cifras estimadas.

n.d. No disponible.

e/ Cifras estimadas.

Fuente: Secretaría de Educación Pública.

The level of preparation of students, or any improvement over time, is not clear. As to the preparation of primary and secondary school students in mathematics and science, Mexico placed last among 40 countries according to tests by the I... Ceneval applies entrance exams for higher education, but no data exist to make comparisons over time, and not all institutions participate with CENEVAL. Graduation exams are very recent.

Retention and graduation rates show several trends during the 1990s. On the whole, they seem to improve, but data should be viewed with care: the only information provided considers completion and graduation compared to student intake five years before, not data on student cohorts. In the 1990s, as graduation rates became more important, most institutions started to graduate students who had left in preceding years, thus inflating graduation rates. Overall, for higher education, completion rates are around 60%, graduation rates around 40% (ANUIES)

There are, according to data by ANUIES, huge differences between states on indicators such as graduation and intake rates: the graduation rate was 39% in 1998 overall, but ranged from 91% to 15%. Intake by states varied from 91% to 32%

Participation

By the end of the 1990s, 87% of upper secondary leavers entered higher education (80% *licenciatura*, 7% teacher training colleges), up from 70% (64% *licenciatura*, 6% teacher training colleges) in 1990. But 1990 had been an all time low: in 1980 88.6% went to *licenciatura*, 14.7% to Teacher Training Colleges. In 1985, 88% continued on to tertiary education (Informe presidencial, 2001).

Access improved from 15 to 18% of the relevant age group, but important differences remained between the several states: 38.1% of the age group participates in the Federal District, while on the other extreme only 7.5% enrolls in the state of Guanajuato (ANUIES, 2000).

Affordability

Data on costs are scarce, but the existing ones combined with common logic indicate that higher education has become more expensive for all income groups. Private expenditure on education in general grew from 0.3 to 1.2 in the 1990s.

If we consider that public institutions started to raise tuition from nominal fees to around 1500 US\$ per year (which is almost equivalent to a minimum yearly income), and that most of the expansion of the system was absorbed by private institutions, it is clear that not only prices went up, but that low-income groups have had increasing difficulties with access. The fact that higher education has kept growing suggests that low-income groups were very marginally accessing higher education from the outset.

Data on funding also indicate that increases have come through the federal government – particularly in the first half of the 1990 – but that state and municipal participation has not changed. Increases in the latter half of the 1990s have been due to private expenditure.

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ⁱ Since inception of the project, ten younger scholars have contributed to the research.