

GUANAJUATO CASE STUDY

Rosalba Ramírez

January 2002

About the AIHEPS Project

The alliance for international higher education policy studies (AIHEPS), is a collaboration between the University of New York and the Center of Investigation and Advanced studies (CINVESTAV) in Mexico City, this project was funded by the Ford Foundation in September of 1999 to conduct a policy investigation in Mexico and the United States in a period of three years with two primary objectives: (1) to improve the comparative understanding of how the changes in policies of higher education alter the nature of the services provided by it. And how these policies alter the conditions under which these services are provided; and (2) to serve as a vehicle to train a small group of young people in the politics of both nations. The project is also directed to build the capabilities of the University of New York and the CINVESTAV to conduct more political studies so that the information will be available to the appropriate political audience.

The following questions reflect some of the directions the investigations related to the project have followed:

- The higher education systems operate in very different political environments and are measured by attributes such as constitutional status, federal/state influence, political culture and executive powers. Are there aspects of the political environment that seem to be associated with particular performance models? Are there any particular combinations in the political environment that seem to ease or limit the ability of the state to adapt to the changes in the external environment?
- Starting from different points, the states seem to be changing their system designs, their collaboration agreements, communication and responsibility and their fiscal policies to incorporate a larger emphasis in the market mechanisms. How have these changes influenced the performance as measured by conceptual highlighters in the National Center for Public Policies and Higher Education of the United

States and with comparable highlighters in Mexico? Can the aspects of this performance be traced to a specific configuration of these policies?

- The federal governments can represent a definite role in a national system of higher education (like in Mexico), or the role of the change agent, consumer defense or investigation builder (like in the United States). How are federal roles changing? To what point are these federal roles compliments to those represented by the states? Are there discernible differences in the patterns of the performance model that can be reasonably related to the different policies while these are defined and implemented at the federal level?

The project of AIHEPS has produced several products, which will be available in Spanish and English on our web page:

<http://www.nyu.edu/iesp/aiheps/>. The links to these products will also be available through the National Center for Public Policies and Higher Education and through several sites that are regularly visited for this type of products by the Mexican audience. These products are described on page 7 of this report.

A proposal is pending to add the finishing touches, add Canada in the national profiles and expand from four to twelve the number of state profiles or provinces built around the model. The profiles, individually and collectively, will expand our understanding of the links between the politic environments, policies and achievements of higher education in the United States, Mexico and Canada. Including Canada will focus the attention on the variety of federal involvement in the systems of higher education and will provide the contrast between a completely “public” system and the systems with both public and private institutions involved. It will also make possible some comparisons of the policies in different systems of higher education to improve access and opportunity, including provisions for natives/aborigines.

New York State University
239 Greene Street, Suite 300
New York, NY 10003
(phone) 212.998.5515
(fax) 212.995.4041
www.nyu.edu/iesp/aiheps

Richard C. Richardson
New York University
Richard.richardson@nyu.edu

Rollin Kent
Mexico
rkent@palenque.gemtel.com.mx

Introduction

The purpose of this document is to explore the policy decisions of the federal and state governments that contributed to the formation of higher education in Guanajuato during the last decade. In the nineties the policies with which Mexican higher education operated changed substantially. A process of construction of new state capabilities started which tried to influence the performance of institutions through the establishment of rules oriented towards educational objectives.

In the modernization of the Mexican state, the federal government tried to redefine the traditional relationships with public universities, relationship riddled by tension and

political negotiations until then. Through several programs the redefinition of policies was launched, especially with public universities; at the same time, it promoted new mechanisms of coordination and co-responsibility with state governments and institutions in the educational goals.

With the National Agreement for the Modernizing of Basic Education (1992) the decentralization towards the states of basic educational services started. The federal vision was to return to the states the rights and responsibilities in the matter of education. The perspective of the system was to reword its relationship with the states, because decentralization involved other areas, but also the possibility of modernizing the management of the resources of a gigantic and complex system of basic education that served more than 16 million students in 113 thousand schools with approximately 650 thousand teachers grouped in the National Union of Educational Workers (SNTE), one of the largest in Latin America.

This process of decentralizing gave way to a new model of intergovernmental relations in the process of creating policies. It mobilized several local forces and motivated the growing participation of state governments in decision-making and elaboration of new educational policies. Public Education at different levels used to be almost solely the responsibility of the federal government, even its financial support. Participation of state governments was limited to granting subsidies to public universities, in variable proportions depending on the state. Private institutions depended totally on income from student fees and, in some cases, donations. Traditionally this sector hasn't had access to public resources, some federal as well as state programs have started to modify this, not yet fully and generally through a competitive assignment process.

In the nineties the education field went through important changes. The players involved in policies multiplied; a new model of intergovernmental relations came up; state governments had a growing participation rate in priority definition, policy design and coordination of the institution group. Some states showed advance in the creation of state systems of higher education. Others started working in legitimizing decisions on

educational policy before main local players. In both cases this implied building state abilities to interact with federal programs.

In this new context of intergovernmental relation the expansion and differentiation of state higher education was promoted. The private sector considerably expanded its participation in educational services; institutional models came up, innovative in terms of organization structure, government, mission, educational offer and funding sources. Interest was renewed in linking education and investigation jobs with activity in the production fields. Demand for information on public institutions' performance grew, including educational ones. Themes such as transparency and accountability to society were incorporated into the scheme of obligations of institutions.

This document tries to explore how the new policies motivated the generation of state abilities to regulate higher education, but at the same time introduced important changes in the education system. For comparison purposes, this document maintains the same structure of other AIHEPS project reports: a first section describing the meaningful environment of policies in Guanajuato, another section centered on policy changes that gave shape to higher education in the nineties and the last section explores the discernible results of these policies on the performance of institutions.

An important point that has to be made is that when we speak of the “higher education system” we are really using a rhetorical resource to refer to the group of institutions that offer services at this level. There isn't such thing as that system, only institutional sectors with diverse characteristics and scarce relationships amongst them: independent universities, federal and state technologic institutes, technologic universities, investigation centers, all of them public, and a very different sector of private institutions. This fragmented institutional configuration that we identify as a “system” is what has started to change in Guanajuato. In the nineties the state government started systematic efforts to promote the participation of the group of educational institutions around a state system of higher education project.

General Environment of Policies

In a recent document made by ANUIES (ANUIES, 2000#118), Guanajuato occupied the last place at the federal level in higher education coverage in 1998, with a 7.5% of the relevant age group (20-24 years) registered at this level. The national average was 16.8%. States like Tamaulipas, Nuevo León, Nayarit and Mexico City registered levels of 25 to 40%. The end efficiency in high school level education was 51.1%, compared to a 58.9% national average.

In the seventies, illiteracy in Guanajuato covered two fifths of the population 15 years and older; a 40% of the population was dispersed in rural zones without basic social services; 2% of the relevant age group (20-24 years) was able to get higher level education; the record of college degrees was less than 3,400 students, lower than the current state number of graduate students; 9 out of 10 students were registered in public institutions; only 5 students were attending postgraduate studies in the whole state in 1970.

According to information reported by the census of 1990 and 2000, the presence of population 15 years or older rose statewide at different educational levels: those with incomplete grade school level went from 383 thousand to 645 thousand (17-22%); those who had completed grade school went from 255 thousand to 498 thousand (11-17%); those who had high school level education went from 206 to 337 thousand, and those with higher education went from 106 thousand to 192 thousand. In 1999 Guanajuato advanced against illiteracy. The population of 15 years or older that didn't know how to read or write represented 12.5%. The average school grade level rose in the state: from 5.8 years in 1994 to 6.7 in 1999.

In 1990, for the first time, a marginalization index for the different states was elaborated. Guanajuato was amongst the states with high marginalization level. Five years later it

had advanced to middle marginalization level¹. Beside other measures of social policy, attention to staying behind in education and improvement of these services at different levels were priorities sustained by state policies. Especially in high marginalization level municipalities. Guanajuato is an entity of large contrasts, with some highly developed areas and others with high levels of poverty. A little bit more than half of the current state population is concentrated in a few cities that form the “Industrial Corridor of the **BAJIO**”, place where the manufacture and commercial centers with the highest level of development for the states’ finance is located. In León, the largest city in the state, one fourth of the population is located (1.1 million people) and two fifths of laboring people. Another aspect of the state is its migration rate, especially to the United States. 11.9% of migrants registered in the country are from Guanajuato.

The changes experimented in education in Guanajuato couldn’t be explained without two important aspects of the environment that gave impulse and support to the building of state capabilities during the nineties: the decentralization policy promoted from the federal government in different aspects of its things to do, as part of the process of state modernization, and a new configuration of political forces en the national and local scenes.

The decentralization of education started in the beginning of the nineties, with the transfer of resources, services and responsibilities of basic education to the states. The way in which the decentralization policy was received and reinforced by state governments implied a process of restructuring of functions and responsible organization of the sector in each state, but the most important thing is that it started a growing movement of participation of local players and governments in the definitions of priorities for education.

¹ This index was first created in 1990 by the National Council of Population (CONAPO). It’s a public organism that processes many census statistics with diagnostic and prospective purposes. The state marginalization index is based on individuals’ life conditions and it takes into account different variables: basic formational education, economic conditions and housing. It was elaborated a second time for 1995 and is in the process of elaboration for 2000. According to this index different grades of marginalization were established: very high, high, middle, low, and very low.

The deepening of the process of decentralization promoted from federal government was an important priority of state government during the nineties. As we shall see later on, the creation of de-centralized organisms of state governments to attend diverse demands and execute government policies was the constant in that period. The way this process went had the new politic climate in the country and state as a background. During the eighties the composition of forces in the policies of local congress had changed; municipal presidents of different political parties to the PRI were more common each time; with Baja California, the country registered the first state government of opposition (PAN, 1989).

In Guanajuato the decade of the nineties started out with the rise of the PAN to power in the state government. This political force has governed since then. Traditionally it has had great influence in the municipalities with most economic development in the state. Carlos Medina Plascencia was the first PAN state government president in Guanajuato (1991-1994) and also the first municipal government president in León (1989-1990)². Since his experience in this municipality, the one with more population and economic activity, Medina Plascencia promoted a new model of political process in public administration based on a new work and service method, in citizen participation and in the establishment of effective channels to attend to a diversity of demands and make decisions. He based the idea of a good government in the efficiency of municipal policy and new values related to public office work. Later he took this model and experience to his position as state governor. This contributed to the creation of important state capabilities to administer and promote government action. He generated a friendly climate for agreement between local players in respect to effective rules in diverse environments, including education. This general vision of public office work will be held with some variables in the following PAN party governments: Vicente Fox (1995-1999), Ramón Martín Huerta (August 1999-2000, as interim to finish the government period of

² Medina Plascencia was named interim governor by the then president Carlos Salinas de Gortari. In that period, The PRI had won election but the process was discredited because of the campaign behavior of its candidate. Salinas, as a reconciliation gesture with the PAN, named Medina Plascencia and not Vicente Fox who had really been the PAN candidate who had lost in the run for state governor. Maybe that's why the legitimacy of Medina Plascencia's government was questioned, even by some sectors of the PAN itself. See [Rodriguez, 1999#133] and [Cabrero Mendoza, 1996#117]

Vicente Fox who was campaigning for president of the country at the time, he won in 2000), and Juan Carlos Romero Hicks (2000-to date).

IMPULSANDO development through a decentralizing policy: from the state

During the first half of the nineties four important decentralized organisms were created in Guanajuato: The College of scientific and Technologic Studies of Guanajuato (CECYTEG, 1992) to offer high school level services; the Institute of Training for Guanajuato State Work (ICATEG, 1993) and the first two technologic universities, the North Guanajuato (UTNG, 1994) and León (1995).

In 1996 the “Agreement for the Federalization of Basic Education” between federal and state governments is formalized. At the same time, the governor Vicente Fox traced the main actions of education policy during his time as state governor.

- In the Secretary of Education of Guanajuato (SEG) the Coordination of High School and Higher level Education was created with which the functions of said organism was restructured and space was opened for activities in high school and higher education in the government agency responsible for education.
- For the planning activities a Council of Planning, Evaluation and Impulse of Formation for Work, High School and Higher Level Education in the state was (COPLEVIM) created. With this organism a structure in the government is formalize that will cover the activities of three important organisms of intermediation, of a decentralized character: one linked to job training, another to high school level education (CEPPEMS) and a third to higher education (COEPES).

It created new decentralized organisms of state government to attend priority areas in the field of education. These were:

- The Interuniversity Center of Knowledge (CIC), oriented to facilitate non-formal training and education to the public and private sectors and to certify labor competency
- The Advanced System of High School and Higher Level Education (SABES), to impulse in its first stage the formation of high school level through Video High School (VIBA) and two years later for higher education with the creation of the Interactive and Distance University of Guanajuato (UNIDEG)
- The Council of Science and Technology of Guanajuato (CONCYTEG), important organism responsible for motivating and strengthening scientific and technologic activity in Guanajuato
- The Technologic Institute of Higher Education of Irapuato (ITESI) to tend to the demand of higher education in a new zone
- The scholarship program “BKMil”(BKOne thousand) –later institutionalized and expanded in the Institute of Financing and Information for Education (EDUCAFIN)- oriented to support youngsters from rural zones and to motivate them to continue their studies at the high school and higher education level

In the following years there continued to be advances in the education field. The Institute of Permanent Education (IEO, 1998) was created, oriented towards basic education for youth and adults to correct the problem of remnants.

In the higher education level the number of programs offered by the University of Guanajuato was expanded considerably, the main recipient of students by the state and two new decentralized institutions were created to tend to the demand in the southern part of the state: The Technologic Institute of Southern Guanajuato (ITSUR) and the Technologic University of Southwest Guanajuato (UTSOE), both in 1998.

Education was a main theme in the policy agenda of state government. It tried to expand educational coverage and promote quality in a gradual way; in high school level education, with the creation of an important net of educational options extended

throughout the state, and in school and distance modalities; in the higher education level, with the creation of new institutions and coordinating agencies.

Policy Changes

System Design

During the first half of the 1990s the priority in the educational field was centered on expanding coverage at different levels and promoting educational access opportunities. We can't speak about achievements in higher education without considering the effort made in previous levels to expand educational opportunities and promote flow towards higher levels (the rate of access to higher education in 2000 was of 9.5% of the relevant age group 20-24 and 86.2% in respect to the graduates from the previous level. There are continuity lines in state policies that show gradual advances in different fields. With Medina Plascencia (1991-1994) there was a lot of impulse given to high school level education with the creation of the College of Scientific and Technologic Knowledge of the State of Guanajuato (CECYTEG), decentralized organism dependent on state government, and therefore, of its policies.

The CECYTEG offers technologic high school to a net that covers 22 municipalities, a lot of them which didn't have such educational services. At the high school level there are other institutions that tend to the demand: The National College of Professional Technical Education (CONALEP), the Technological Industrial and Service High School Centers (CBTIS), and Technological Industrial and Service Studies Centers (CETIS)³

To tend to the demand that wasn't reached by said institutions, the government of Vicente Fox (1995-1999) created years later an option based on distance education, The Advanced System of High School and Higher Education (SABES). This decentralized organism started activities in 1996 with the Video High School (VIBA) and later, in

³ CONALEP was created by the federal government in 1978. In October of 1999 it turned into a decentralized state organism. The CBTIS and CETIS form part of a federal structure of technologic institutions.

1998, with the Interactive and Distance University of the State of Guanajuato (UNIDEG). The Video High School is a service offered in an extensive net of centers in the state. It started with 2,663 students attended in 83 centers of 30 state municipalities, mainly in rural and suburban zones. In 1998 they were 11,200 students attended in 139 communities and 37 municipalities.

With these actions state government tried to expand coverage at the high school level and tried to do it under a vision of equity, taking services to far communities to offer the youngsters of low income the opportunity to continue studying and, at the same time, deter student migration to other municipalities and states. The policies in high school level education have been fundamental in the impulse towards higher education. According to the numbers in the census, in 1990 the population between 18 and 24 years that had a high school diploma or equivalent represented 10.9% (59,395) and in 2000 the 16.6% (104,067).

In the higher education levels, the interest of state government was centered on expanding coverage and expanding technological formation around two axis: pertinence of the programs and equity in opportunities to individuals and regions. To expand the public offer of higher education there were five new decentralized institutions, created as of 1994: two Technological Superior Institutions (one in Irapuato and the other is Southern Guanajuato) and three Technological Universities (the one in North Guanajuato, the one in León and the Southwestern Guanajuato one). The creation of these institutions is relevant of the profound changes in policies of Mexican higher education. They are the product of federal politics of decentralization but also of the politic will of state governments to rejuvenate its possibilities. Its' mission, forms of financing, offer and links with the environment introduce fundamental changes in the policies with which higher education operated. Before speaking about the characteristics of these institutions in Guanajuato, we will take a quick look at higher education panorama in the beginning of the nineties.

Public institutions that traditionally tended to higher education in the state were: The University of Guanajuato (UG) and three technologic federal institutions: The Agronomy and Fish No.33 of Celaya (ITA), the one in León (ITL) and the one in Celaya (ITC). In 1990 the university tended to 31.6% of the bachelor registry and the three federal institutes to 22.4%.

**Table 1. Bachelor Studies in Guanajuato:
Establishments and Registry, 1990-1999(1)**

	Number of Institutions		Registry	
	1990	1999	1990	1999
Small private establishments (2)	8	19	2,105	5,620
Private Consolidated Universities (2)	0	0	0	0
Private Universities established in a network(2)	5	11	6,116	11,263
<i>Private Subtotal</i>	<i>13</i>	<i>30</i>	<i>8,221</i> <i>46%</i>	<i>16,883</i> <i>50%</i>
University of Guanajuato	1	1	5,664	6,889
Federal Technologic Institutions	3	3	4,018	6,932
State Technologic Institutions	0	2	0	1,063
Technologic Universities	0	3	0	1,778
Other public institutions	0	2	0	33
<i>Public Subtotal</i>	<i>4</i>	<i>11</i>	<i>9,682</i> <i>54%</i>	<i>16,695</i> <i>50%</i>
TOTAL	17	41	17,903	33,578

Fuentes: ANUIES, Statistic Yearbooks 1990 and 1999; SEP, Information

Provided by the Coordination Departments of Technologic Universities and of Decentralized Technologic Institutes.

(1) Doesn't include normal education information.

- (2) This non-official classification of private establishments separates them into: small institutes which offer one or two bachelor programs, well established universities that offer a wide variety of bachelor and post-graduate programs, and institutions with a campus that belong to extensive networks, like the Superior Studies of Monterrey Institute which counts with a campus in more than 25 cities.

The great majority of institutions, public as well as private are found in the main cities of the state: León, Irapuato, Celaya, Salamanca, and Guanajuato. The municipalities that these cities belong to house half of the state population, and a third of the population of 20-24 year-olds.

The private sector, tended to 46% of the bachelor registry; five institutions of a university character received 34.2% and eight small establishments 11.8%. By then the private sector tended to 46% of the undergraduate registry; five institutions of a university character received 34.2% and eight small establishments received 11.8%. By then there were very important interstate networks of campus like the ITESM, established in Irapuato and León, The Ibero-American University, with a campus in León. A very particular sector of a network of regional institutions started to be more noticeable: The University of León, the one for the Bajío and the Quetzalcóatl one, that had campus in 2 or 3 cities of the state in the second half of the nineties. The educational offer of the private sector expanded considerably, from 90 programs that were offered in 1990 to 166 in 1999. However, this was a diversified offer, mainly centered in administrative careers of high demand and low investment.

In 1990 almost all of the public institutions offered postgraduate education, except one federal technologic institute. Of the 13 private institutions that existed, only two offered courses at this level. There was an important center of investigation dedicated to scientific investigation that also offered postgraduate education: The Center of Investigation and Advanced Studies (CINVESTAV), located in Irapuato. It's a public decentralized organism of the federal government that has many units established in

different parts of the country. Years later another similar institution will be added to postgraduate activity, The Center of Investigation in Mathematics (CIMAT).

Table 2. Graduate studies in Guanajuato, 1990-1999

	Establishments		Registry	
	1990	1999	1990	1999
Small private establishments	1	10	182	780
Private universities established in a net	1	5	29	718
<i>Subtotal Private</i>	2	15	211	1,498
University of Guanajuato	1	1	954	1,917
Federal Technologic Universities	2	3	56	401
Other Public Institutions	1	3	24	114
<i>Subtotal Public</i>	4	7	1,034	2,432
Total	6	22	1,245	3,930

Source: ANUIES, Statistic Yearbooks 1990 and 1999.

The participation of the private sector significantly grew in postgraduate education: From two programs that were offered in 1990 it expanded to 61 in 1999, but basically following the patterns of registry observed at the undergraduate level. Few institutions offer programs in different areas. A noticeable characteristic of the private sector except in counted occasions, is that the institutions are not dedicated to investigation or postgraduate work with this orientation. They are institutions supported by their own income, its great majority proceeding from student payments. They don't count on public support for this activity. Federal and Guanajuato policies start introducing small changes in this area.

The University of Guanajuato has special importance in local history, it is the oldest educational institution in the state, with 268 years of existence. It has formed many generations in diverse areas. For a long time it was the main platform of educational attention in the state. Currently it offers 54 undergraduate programs and 46 postgraduate programs in 24 schools, faculties and institutes located in the cities of Celaya, Guanajuato, Irapuato, León, Salamanca and Salvatierra, with a unit of recent creation. It also offers high school studies in 10 school distributed in the state. During the nineties the university established the policy of no-growth in high school.

The University of Guanajuato (UG) became autonomous in the regulation reform of 1994, during the regency of Juan Carlos Romero Hicks. The UG was autonomous in its administration and operation but not in the election of its authorities. With the reform important changes are introduced: The dean of the university is elected by people from the university, not the governor the way it used to be; the school board was formed, that followed the instance of caring for the property and the use of the institutions resources; school oriented organs were created by area with the purpose of promoting academic life and there was a process of restructuring in internal regulation. The University Council is the main governing organ in the university, likewise other public universities in the country. According to the interviewed, one of the important results of the reform process is that a climate of institutional peace favorable to academic activity was assured. There hasn't been ideology exacerbation in internal politic forces to impede the advance of the institution, "and this is generalized to other public institutions, it is an environment in the state".

The UG, as well as many universities in the country, has traditionally been the house of investigation. It is nationally and internationally renowned for its investigation in the areas of biology, chemistry, physics, applied statistics and engineering. It has 12 graduate programs in the registry of graduate excellence programs of CONACYT. These are postgraduate programs oriented toward investigation, with the doctorate as its basic reference. It services half of the postgraduate registry in the state. It has 85 investigators

in the National System of Investigators (SIN) which places it in the 7th national place according to the number of members registered in the system.

Aside from all the mentioned activities, the UG has a legal frame that gives it the right to incorporate private institutions that offer similar programs to its own. Under this prerogative, the UG has approximately 100 private institutions of high school and higher education incorporated to its regime. This information is important because of the impact it will have for the private institutions incorporated to the UG, the fact that the university participates in the agreements of the COEPES to regulate the educational offer as we will see subsequently.

The Technologic Institutes (the Agronomy and Fish one, the one in León and the one in Celaya) form part of a centralized federal and highly sectioned structure. That's where the direction of its policies and resources comes from. At the highest level the Sub-secretary of Education and Technologic Investigation (SEIT) is located, then the general deans offices. The ITA depends on the General Direction of Technologic Agronomy and Fish Institutes (DGETA) and the ones in León and Celaya on the General Direction of Technologic Institutes (DGIT). The latter is one of the heaviest structures of the SEIT, it is in charge of the activities of slightly more than 80 institutes in the whole country. It has delegated some of its activities, but the processes of central decisions (authorization for academic placements and resources for operation and infrastructure) still depend on this department. There is an assessment organ of the SEIT for the whole technologic sector of the country, The Council of the National System of Technologic Education (COSNET) that functions according to the directions of the SEIT⁴.

⁴ Since its creation in 1979 the COSNET has developed diverse activities to promote the institutions of the technologic sector; support for investigation, promotion for postgraduate programs of the technologic system, formation of masters and doctors of science, links with the productive sector, evaluation of all academic activities –of professors, students, income, outcome, institutional performance, etcetera. It attends a gigantic federal system construed by 198 Centers of Formation for Work; 429 schools of technologic industrial education at the High School level and 82 technologic federal institutes, 21 agronomy and fish technologic schools, 6 institutes of sea at the higher level and 31 at the high school level. The ITES are also included in the COSNET activities.

The ITA offers three programs of undergraduate and one of postgraduate education in the agronomy and fish area. The IT of Celaya (ITC) offers 8 undergraduate programs since 1999 and has expanded its offer of postgraduate programs. Currently it has six in the areas of chemical engineering, biochemistry, mechanics, electronics, management and computers. Since its creation in the middle of the XX century, the ITC has been the main receptor of students in the city of Celaya and one of the important makers of highly specialized professionals in the region. The IT of León (ITL) offers programs of electromechanical, industrial and computer systems engineering aside from two programs in management and computers. It only offers one postgraduate program. Even though the city of León concentrates the greatest number of higher-level education institutes in the state, the ITL is the main public receptor of students. It doesn't develop investigation.

The ITC has showed a clear vocation for investigation. It has promoted the adding of its postgraduate programs to the registry of the CONACYT. However, its organizational structures are radically different to those of the universities and not always favorable to the development of investigation. The job of the federal technologic schools is centered on teaching and professional formation. Very few enter the postgraduate level, and even less do investigation. The ITC is one of the few that does it. Its field is applied investigation. It has a masters and doctorate in chemical engineering in the registry, and a masters in mechanical engineering conditioned according to the categories of the CONACYT registry.

Amongst the criteria of belonging to the registry there is a difficult one to comply with by the federal technologic schools: to have 50% of its investigators in the SIN. There is a labor policy that frames the possibility of academic work in this sector. The teaching force is authorized by the coordinating agencies of the federal government, by the DGIT, based on teaching criteria, classroom hours, and scarcely investigation. In its great majority, the faculty of the federal technological schools are base personnel, definitive, and dedicated almost full time to teaching. There may be personnel temporarily dedicated to the development of an investigation project, if that's the way the annual job plan was written, which requires certain negotiation with federal agencies. There are no

conditions favorable to investigation in the medium and long term planned for in the structural design of the federal system. What is there is leadership and diverse institutional capacities to propose options, take decisions and plan the development of the institutions.

In the field of investigation, the University of Guanajuato, as well as the federal technologic school of Celaya receive resources from the National Council of Science and Technology (CONACYT) and the Council of Science and Technology of the State of Guanajuato (CONCYTEG) in support for investigation projects and infrastructure. The centers of investigation located in the state depend on federal resources, direct subsidy through the SEP or support for specific projects through CONACYT. These centers enjoy autonomy in their activities.

⁴ Since its creation in 1979 the COSNET has developed diverse activities to promote the institutions of the technologic sector; support for investigation, promotion for postgraduate programs of the technologic system, formation of masters and doctors of science, links with the productive sector, evaluation of all academic activities –of professors, students, income, outcome, institutional performance, etcetera. It attends a gigantic federal system construed by 198 Centers of Formation for Work; 429 schools of technologic industrial education at the High School level and 82 technologic federal institutes, 21 agronomy and fish technologic schools, 6 institutes of sea at the higher level and 31 at the high school level. The ITES are also included in the COSNET activities.

On the other hand the group of public institutions dedicated exclusively to investigation and postgraduate programs: the Center of Investigation and Advanced Studies (CINVESTAV) Irapuato Unit, the Center of Investigation in Mathematics (CIMAT), and the Center of Optic Investigation (CIO). The last two form part of the system denominated SEP-CONACYT, created in the beginning of the nineties to promote the decentralization of scientific and technologic activity in the country. It is a system managed by the National Council of Science and Technology (CONACYT), Mexican

agency dependent on the federal government whose mission is to promote and fortify investigation. In this system support is given to those institutions of investigation that have showed growth potential and consolidation in specific fields of basic and applied investigation. These institutions constitute a very important promotion platform for higher education and science and technology development in Guanajuato. They are institutions that contribute highly qualified human resources that radiate benefits to the activity of nearby institutions.

The new decentralized institutions: innovators in state higher education

In the beginning of the nineties the creation of new models and educational options is promoted to tend to higher education demand. They are decentralized institutions of state governments fundamentally oriented towards technologic formation whose support will be the product of shared financial schemes between the federal and state governments.

Equity in opportunities, pertinence of the programs and links with the social sectors are values that surround the mission of the new state public institutions. They are found at the limits of urban settlements, generally in municipalities not serviced by other institutions of higher education. The exception is the Technologic University of León (UTL), nestled in the city of León, where 12 of the 41 institutions that offer undergraduate programs in the state are located 5 and 77% of the registry at this level.

ITES as well as UT have defined a group of municipalities that constitute their zone of influence in which they work systematically on aspects of coverage and links. If we trace each of these zones in state geography it is possible to clearly visualize the government effort to take services to zones where there weren't any and to extend the benefits to social sectors of low income. The new institutions realize a systematic job of promotion of income to higher education, promotion campaigns to cover demand in the municipalities of their zone of influence.

The Superior or State Technological Institutes offer studies at the undergraduate level, in many cases similar to those imparted in federal technologic institution. The supervision of the offered programs is in charge of the Coordination of Decentralized Technological Institutes (CITD), intermediate agency between the federal government and state institutions, housed under the federal structure in the Sub-secretary of Education and Technological Investigation (SEIT), one of the two large structures of the SEP for higher education. Technological universities offer studies at the technical higher level, known as level 5, with a duration of two years after undergraduate studies. The programs that they offer are also under the supervision of the federal government, by means of the General Coordination of Technological Universities (CGUT), that serves a function similar to that of CITD only within the organizational structure of another great sub-secretariat of the SEP, that of Higher Education and Scientific Investigation (SESIC).

NOTE FOR TRANSLATOR: Begin at paragraph 5 pg. 9 of original document, end at pg. 21 at Fiscal Policy, insert missing tables as marked in document.

Fiscal Policy for Educational Funding

In this section, we will describe the changes of the rules of resource allocations for higher education and programs that support students. In Guanajuato, the public institutions are supported in different ways. In the early nineties, practically the only investment made by the state government in higher education was the subsidy granted to universities. Thirty two percent (32%) of the university budget came from the state government. This has increased slightly throughout the decade to thirty four percent (34%).

In the mid-nineties, two technical universities were created and opened for the first time funded initially by the federal government and later partly by the state. Since then, the participation of the state government in financing higher education grew in an important way. Between, 1990-1995, an increase of 269% was registered in the state subsidy to universities. These two new state institutions, as mentioned above were funded by the federal and state government in a 50-50 basis to cover current costs once the first stage of the infrastructure and equipment installation was finished. During the first stage, the federal government contributed 100%.

The Federal technical institutes do not receive subsidy from the state government. Its maintenance depends in its entirety on federal funds. Private universities do not receive public subsidy either, with exception from CONCYTEG and the CONACYT resources under the new plans to support scientific and technological activities.

**** TABLE ****

In an effort, for a greater participation of the state government in higher education funding, the state government has introduced new guidelines of financial allocation to educational institutions. The government has began to assign extraordinary resources to support priority matters of higher education. The UG was granted 50 million pesos beyond their current expenditures to develop projects of formation of professors, research and extension.

Also, it began to participate with funding concurrently with the federal government. An example of it is the fund created by the federal and state governments to take care of the

necessities of infrastructure of the federal technical institute of Celaya. Every level of government contributed 20 million of Pesos.

The achievement by the ITC reveals deep changes in the rules of the game with which the government operates regarding to federal institutions. As it was already mentioned, the federal technologic institutes experienced major delays in the maintenance and equipping of their facilities. These were left outside of the peso for peso program, because this corresponds to the established financing agreement of the decentralized institutions or for the states.

Also, they were left outside the FOMES resources, because this program was reoriented toward public universities. The COSNET, an agency dedicated to take care of such necessities, provides very small grants that are insufficient amounts compared to the existing needs. To this difficult panorama, another limitation was added, where the federal technical institutes are not authorized to generate their own income by means of selling their services that is impeded by a legal framework. Recently they began to look for ways to get out of this normative restriction. The UG can acquire federal resources through the “Institutional Programs of Integral promotion (PIFI). The forms of intervention of the federal government in the public universities and their implications in the institutional performance are treated in detail in the document on policies of the federal government. We will only establish that in opinion of diverse state officials. The PIFIs plan has generated greater acceptance than the prior federal programs oriented to the university sector. From their perspective, it seems more suitable for them to support universities, because before that all the programs were seen like competing bags for the money and not an option to develop a planning process for the institution. A great deal was invested in infrastructure and questions were raised: why and how did it serve the institution? The allocation of resources from the PIFIs tries to correct this. A generalized perception between the directors of technical institutes –not only in Guanajuato- is that a different treatment is given to this sector respect to other public sectors. They have the label of being federal, but facing the increasing educational decentralization and to the greater attention and commitment of the governments to stimulate the new state institutions. This sector was left behind from the policies of both levels of government.

They were not receiving sufficient resources from the federal government for infrastructure and when they went to the state government looking for support under the basis of local necessities, they got answers like: “ask the federation (federal government) for the resources that you need, since you are federally funded institution”. However, this has began to change. When promoting the concurrent funding to take care of the ITC, the governor Juan Carlos Romero recognizes the maintenance delays and other problems must be taken care jointly with the federal government and in some cases with additional contributions from the institutions. With this change in the allocation policy, the federal government started admitting federal technical institutes as part of the set of institutions to which it pretends to integrate, coordinate and orient towards the constitution of a state system. The difference in the treatment seems to have other participants, from interviews to civil servants of the state and federal government, we can notice opinions about the unequal allocation of resources among public institutions. In order to argue with respect to the cost per student in each subsystem, appointments and hiring in each organizational structure, the differences in wages paid by institutions for similar activities, grants provided to support for the actualization of professors, research, and other entitlements. Although, the main source of differences come from the policies for higher education from the federal government agencies (SESIC and SEIT) that generate non-predicted consequences that begin to have visibility in the state environment. For example, the wage differences limit the possibilities of hiring qualified personnel. The good institutional performance and the advance toward the development of a state system depends on suitable conditions and some of the problems to resolve this point are the normative frames from the state and federal governments and other political topics.

The support to students is a priority for multiple actors

Another change in the rules of the game is the increasing interest of some municipal governments to stimulate the access to higher education in their regions. Their work are based on regional schemes and generally with limited resources. The ITSUR for example, has an agreement with the Fund of Support for the Development of the Region. The institution is committed to give attention to the demand of ten municipalities and promotes that young students enter into higher education. The ITSUR receives resources

for that reason and it administers them to grant scholarships to young people of limited resources. It provides scholarships to approximately 50 students with high academic achievements per year. The ITSUR grants consist of two thousand pesos per month for ten months during a year. They are handled as “regional educational credits”. This program has been functioning since 1998. The scholarships are offered based on the following criteria: economic need is the lowest of qualification to be nominated by the municipal president and to have demonstrated to be an excellent student during previous years. The municipal government also established an agreement with the state government for strengthening the infrastructure of the ITSUR. It is a program like peso for peso, but between the state and municipal governments.

Another incentive to increase the enrollment in higher education of the state emerges through the just created National Program of Scholarships for Higher Education (PRONABES). This is the first program of national level scholarships for Higher education. The scholarship program that proceeded was granted through the Program of Education, Health and Nourishment (PROGRESA) and was only for the medium level. This program was also designed between the state and federal government, with contributions “peso for peso”. In its first year, Guanajuato is one of the states that had a major participation in funding scholarships: The state government contributed 20 millions of pesos and the federal government a similar amount. These allowed the state to grant 3.800 scholarships in 2001.

When the PRONABES was created, Guanajuato already had important programs of scholarships to support students. In 1996 was created the “BKMil” scholarship program, of which the present governor was its president. This program was directed to disadvantaged students from rural zones and municipalities. They wanted the students to become established in their communities. Each student was assigned a community project, a tutor in the community and an academic project. This program was absorbed by the Institute of Financing and Information for Education (EDUCAFIN), created in 1999.

Something that call to the attention was the interest of the new public institutions (ITES and Uts) in supporting students through different options: diverse options of scholarships: of transportation, nutritional - in the dining rooms of the institution -, state scholarship, municipal scholarship, institutional scholarship –of fellowship- and credit scholarships

among others. Through these options the institutions set out to attract greater number of students from low economic levels and at the same time bring down the desertion for economic reasons.

Besides the scholarship incentives, the cost of studying in public institutions is low. In normal conditions a student who enters to study a degree pays from \$2,000 to 2,900 pesos (210 to 305 dlls.) per year in the state and federal technical institutes, as well as in the Technological University of Leon; in the University of Guanajuato and the Technological University of the Southwest of Guanajuato students pay an average of \$1,500 (158 dlls.). The Technological University of the North of Guanajuato and the Farming Technological Institute costs even less. In contrast, the cost in private institutions vary from \$ 5.000 to 71.000 (526 to 7.474 dlls.) The highest cost corresponds to the University of the Valley of Mexico and to the ITESM. In 1999, the internal product brute (PIB) per capita was of approximately \$29.000 (3.053 dlls.) under the national average (\$43,367). We do not have the GIP per capita per municipality that would be very useful to show the contrast of income in the state. From other sources, we know that 60% of the population working in the state has an income of up to two minimum wages (<http://www.inegi.gob.mx>). As opposed to this panorama of income, the subject of cost of the higher education is a crucial variable for certain sectors of the population, and for the policies with their objective to extend the coverage of the services.

In the field of science and technology the CONCYTEG assigns resources according with certain priorities: supports groups and emergent projects of research that are of interest to the state; it supports specific degrees of study with development potential offering them resources similar to the one that offers the CONACYT to its degrees of excellence. The objective is to reinforce these programs so that they can be part of the register that promotes the execution of projects of investigation oriented under schemes of participation between the state government and the private sector. Also, it supports projects of research with state resources.

The allocation of resources to projects of research seeks to assure the equality in the access to resources to public and private institutions, with base in the pertinence and quality of the projects. The access to public resources of private institutions to public resources is not a result of changes in the policies of the CONCYTEG, as it happened in

the CONACYT, but a rule established from the beginning. Behind the policies of the state organization there is a reflection upon the limitations that the private sector has to develop a self-funding research. There is also, a vision about what is important for the development of the state and the importance that has the collaboration in the accomplishment of projects, over distinction of public or private. According to information given by the director of the CONCYTEG, two private institutions have agreed to provide resources: the Latin American University, with a project to study how companies learn technology and how they are updated, and the Technological Institute of Superior Studies of Monterrey (ITESM), with a project of software in alliance with Microsoft to form engineers that specialize in technology.

Another source of resources to support research occurs through the creation of mixed funds with CONACYT. The relative proportions of shared commitment in principle are shared but the CONCYTEG promotes flexible criteria that can vary in the case of states with slower economies.

This combination of state regulation and market policies of the CONCYTEG has a more ample frame of deep transformation of the CONACYT [Rojas, 2001 #128].

It would have as main principles as follows:

- To produce knowledge oriented to the solution of technological, operative and competitiveness problems of the productive sector.
- To change the forms of financing the tasks of investigation in science and technology
- To multiply the resources through the creation of funds by sectors with different areas of government
- To look for new resources of financing in the states creating a mix fund with contributions of the CONACYT, the state governments and private initiative (to promote the creation of state counsel, at the moment only 15 of 31 states have established them
- To create a normative frame for promoting and encouraging private investment in science and technology by granting fiscal incentives for the technological cost of companies, with special funds to create a partnerships of research centers.
- To stimulate international technical cooperation by inviting to develop joint projects so that Mexico can develop centers of engineering or develop projects

As we can see some of the politics of CONCYTEG are in agreement with the new line of the CONACYT. The question, however, is about the place that basic research will occupy in the frame of the new policies. Under this renovation, there is no reference to the type of support that will be offered to this field, of which depends one of the political axes of CONCYTEG, the one oriented to support groups of research and degree programs for access to federal resources. A great subject of the fiscal policy is the financial capacity of the state governments to increase the different programs. A few months ago, the governors of the country met with the president Vicente Fox to raise the necessity of a federal fiscal reform, a new distributive property that increases the tributary powers of the states and municipalities “to not be waiting for resources from the Federation”. They proposed among others things “to modify the law on Fiscal Coordination and that the fund of participation increase gradually”, “that the tax to the aggregate value (IVA) be a 100% return [Guerrero, #130; Ruiz, #129].

The policy on decentralization also was a way to rationalize the use of resources during economic crisis and apply diverse measures of adjustment to the public costs. The federal government promoted the generation of alternatives of financing with a greater participation of the state governments, private sector, the productive sector and the institutes in the provision of educational services. This policy’s defined criteria and mechanisms for the competitive allocation of extraordinary resources, impelled the search of their own income by the educational institutions; but at the same time, it has been an important support of the policy of decentralization with a financial capacity that is being reached.

In this scene, one can ask what is the capacity of the state governments to face financial demands in the decentralization process. It leads to the debate of fiscal reform and the new correlation of the political forces in the country, but also to the subject of state capacity that needs to be built and fortified to deepen the process of decentralization and advance towards the constitution of a state system of higher education.

Results

PREPARATION:

By the end of the nineties Guanajuato registered the lowest rate of access to higher education: only 7.5% of people between 20-24 years old were enrolled in this level as

opposed to a national average. The House of Representatives approved on November 13, 2001 the modification to article 163 of the Law of Tax to the Rent. The intention of such modification was to grant 30% of fiscal credit to all the companies that participate in activities of promoting research and development of national technology. [Lelo de Larrea, 2001 #121] of 16.8%. At the beginning of the decade, the rate was of the 4.9%. (In 2000 was 9.5%). In contrast, the rate of access to a degree is around 85%, slightly under the national average of 87.2%. Guanajuato gave an important leap to expand the access to the baccalaureate education that changed from the 43 to 76% in attention to the demand. The percentage of population 18 year olds or older with a secondary and higher education diploma was doubled.

*** TABLE ***

* First entrance to a baccalaureate graduated from high school the previous year.

** Data taken from the First inform of the government of Vicente Fox, September 2001.

*** Data taken from “Models of Flows 1, Foundation Javier Barros Sierras:

sources INEGI; ANUIES, statistical Anuarios; ANUIES (2000), Higher education for the XXI century.

Strategic lines of development. A proposal of the ANUIES; V. Fox, First Presidential Report, Statistical Annex.

The effort to elevate the coverage in middle education has not been matched with the terminal efficiency. Even though, this rate grew from 49.7% to 58.4%, and its near the present national average (58.9%). It seem that here is where the government policies need to be more effective, to assure that the effects of the important expansion reach the higher education level.

There is no information on the level of preparation of the students. The evaluation of students after they leave school is done in many ways and particular criteria in each

⁷ On November 13 2001, the House of Representatives approved the ammendement of article 163 of the Tax on Rent Law. The purpose of this ammendment was to grant 30% of fiscal credit to all buisnesses that participate in activities supporting the research and development of national technology. See (Lelo de Larrea, 2001 #121)

institution and it is not of public dominion. Some institutions apply entrance examinations as part of their policies of admission. In some cases the application and evaluation of the results is a responsibility of the CENEVAL, at the request of the institutions. COSNET applies entrance examinations to the applicants of institutes of the technological sector that is a requirement in this system, although the results do not determine the entrance, its indicative of the profile of the students who enter.

Some institutions have begun to establish the entrance examinations as a requirement. Advances have been made in this sense but there is not a systematic exercise available in the educational institutions of Guanajuato. The CENEVAL offers several types of entrance examinations: to high school, baccalaureate, and master degree, known as National Examinations of Entrance (EXANI). It is not obligatory, individuals and institutions request it. The results have diverse uses: in some cases it determines the entrance and in others it is an important element but not definitive in the selection process, is also use by institutions or foundations for granting scholarships, or it is only informative. In 1998, 8,401 examinations were applied in Guanajuato to enter high school (EXANI I), 2,143 for (EXANI II), and 742 for masters degree (EXANI III). In the case of the EXANI II, that is where the data by institution was reported, 71% of the applied examinations correspond to three technological universities in the state and 12% to the Iberoamericana University, which is a private institution.

The evaluation of learning is a daily task in the institutions, but its instruments, criteria and results are less known than the entrance evaluation. Other examinations that the CENEVAL offers are the General Examinations to the Graduate of baccalaureate (EGEL), established in 1994. It is also a voluntary test. The EGEL examinations increased from 14 to 3,061 between 1994 and 2000. There are 17 careers that have an EGEL examination: administration, agricultural industry, agronomy, computer science, accounting, law, chemistry, pharmacy, nursing, civil engineer, electrical engineer, medicine, veterinary, dentistry, psychology and others. The field with more applied examinations was accounting, then administration, psychology and dentistry. The data is interesting. In accounting, there is a saturation of professionals in the market and in such circumstances the credentials are not enough. So, it may be necessary for the professionals to show their abilities and acquired knowledge through their own initiative

or because it is required by the employer and it would be interesting to know about it. In the opinion of a civil employee of CENEVAL, The University of Guanajuato has not been inclined to this type of external evaluation, although the interest varies between schools and careers (in 1998 99 examinations were applied). Technical institutes on the other hand, have avoided that its students present the EGEL. There are few cases of students that have presented it and this has been by strictly personal interest. Although there is a systematic exercise of the evaluation of students and professionals promoted by educational institutes. The external evaluation is acquiring an increasing importance in these institutions and in the case of the EGEL, in the companies. The demand of information and accountability place in the center of the debate to question the performance of the institutions and one very important is the success reached in the preparation of the students.

COMPLETION:

One of the first problems that we faced when approaching the subject of the terminal efficiency is the difficulty to establish guides with adequate data. The following table offers some calculations that approximate us to the data of interest. As we mentioned before, there is no individual register about the advances and performance of the students throughout their scholastic lives. Lack of information based on specific segments prevents to know: how many students finish each generation; the time that takes them to finish all of their courses and obtain a certificate; sectors, institutions and careers with higher indicators of retention, and graduation; generational tendencies to continue higher studies, among other aspects. According with the data presented, there is a slight decrease in the percentage of terminal efficiency of baccalaureate degree and an increase in other indicators. The data needs to be taken with care, since they do not correspond to generational trajectories and do not allow us to know the great variations in the efficiency between state institutions and among careers.

We wanted to make a different exercise to explore changes in the efficiency of the state educational system during the decade. Beginning from the indicators of absorption and graduation reported by educational level of 1990 and 2000 in the First Government Report Vicente Fox (Sept 1, 2001), we drew up the hypothetical trajectory of a generation under the following assumptions: first, the mention indicators stay constant during the

time that the educational period of the individuals until their graduation with a baccalaureate degree; second it is the same group of students that continue to ascent to higher educations. We made the calculations based on these assumptions and obtained that each 100 individuals that entered to primary education in 1990 three would get a degree; each 100 that entered to primary education in 2000, 15 would graduate with a baccalaureate degree.

** TABLE **

PARTICIPATION AND ELECTION:

The participation in Guanajuato is closely tied to the subject of equality. The policies sought to attend the problems of education by expanding the covertures to all the state. Two routes, private and public, stimulated the expansion of the educational service. There was no state regulation in the expansion of the private sector. Its growth was left to the forces of the market, although recently they began to promote policies of regulation of the educational supply that also concerns this sector. The geographic location and the supply of programs were in response to the patterns of concentration of the demand. They were based in main cities of the state, with little diversified programs, which generally were offered at places of high demand and low investment, with emphasis in the administrative areas along with other few fields such as engineering. In the public sector the expansion of the coverage was oriented by the principle of social fairness. It had the intention to elevate the level of education of the population. In the middle and higher levels there was an important extension of the services. In the first case, thorough the creation and strengthening of the different decentralized institutions that broadened the coverage by opening headquarters, with special attention to the marginalized zones (The university of Guanajuato had a policy of no growth in this level). A system of distance education was created to offer services in high school and bachelor degrees. With the video-high school levels, the rate of absorption in this level was expanded considerably in this level (the rate of absorption went from 43. 1 to 75. 7% between 1990 and 2000). The services of higher education were expanded with the creation of new institutions. The objectives sought were several such as: to expand the opportunities of access to higher

education, to promote the development of the regions by the creation of new institutions and to discourage migration. The programs were new in areas that were scarcely served by other institutions and with a specific vision to link its activities to the development of the region. The enrollment at the new institutions did not emphasize numbers, but it represented the accomplishments of the policies to offer the educational opportunity to young people of marginalized communities. In the opinion of the people that were interviewed, it is necessary to take into account the objective of the new public institutions for higher education and value its participation in terms of its social and economic contribution. For them, it is not the same to speak of coverage in zones where the economic demand and resources are concentrated and where access to higher education is not an obstacle to defeat in marginalized zones. The evaluation of the results must take into account the social impact that caused the access to higher education of the young people as individuals and communities. The work of the new institutions is linked to the capacities that are generated in the middle level (high school) that is where its demand flows. The coordination of efforts between different levels and institutions require to be strengthened. The CONALEP is recognized like the natural antecedent for level 5, as one of the technological universities. Some universities have signed agreements with the CONALEP institution so that its students are channeled toward them. Nevertheless, one of the obstacles to assure this flow is that in the CONALEP the formation is of terminal character, and does not promote its students to continue their education, as it happens in other institutions that offer studies of higher level. Thus, to enter a technological university, the students of that subsystem must take and pass six additional courses that are equivalent to introductory courses. This factor discourages entrance and at the same time it raises the necessity to review the form that different options and educational levels articulate, and the degrees of flexibility that they have to establish to effectively bridge them.

COST

The diversification that experienced higher education in terms of participation of the institutions offering different levels and programs extended the options for students, although not necessarily its possibilities of election. Families from lower economic level

in Guanajuato represent around three fourth of the population and the access to private education is unreachable. For this level, the cost of education in the private sector represents an 80-90% of their total income. In contrast, for the middle high and higher economic levels, the election of an institution and career is more open, since the investment in private education represents from 7-25% of their total income. For the middle social class represents 40-50% of their income.

There is an important participation of the private sector in higher education, which was established in the municipalities for greater development. This sector works based on cost-benefit, since it depends on its own resources. Private institutions do not receive public financing, except for the one that CONCYTEG grants in support to projects of research considered prominent and important for the state. The private sector attends a great part of the demand for higher education, although the priority of the government is to spend with fairness seems to require the impulse of state regulations. There are places with high and very high-marginalized zones in the state where young people who are not able to enter private institutions under the present conditions.

Guanajuato: Percentage that represents the quotas and knowledge in the average family income, 1996 y 2000

**** TABLE ****

The levels of average income are in a situation of greater changes during elections associated to the costs of higher education. Between 1996 and 2000, there was a decrease in the cost of private education at all the economic levels. With this data we do not know if such decrease is related to competition among higher education institutions that establish their quotas of numbers.

In this socio-educational panorama of Guanajuato, we wondered to what extent the market dominates the discussions on the processes of reform of the state and higher education. The state must change its paper of supplier and to leave institutions to be lead by the market. It is possible to give the dynamics to higher education with a sector regulated by the market and another sector regulated by the state? How to relate the principle of equity to market rules? What types of incentives are more effective to stimulate a better performance of the institutions? Wolff y de Moura (2001) point out

several incentives that were put in practice in Chile to finance higher education: direct support to the most important institutions; direct loans to students; additional resources to the universities to attract the best students and competitive allocation of resources for research.

BENEFITS:

The raising of the profile of the social-educational needs of the population of Guanajuato has been one of the main priorities of the state government. Nevertheless, the effort to surpass conditions of social marginalization that is so accentuated in diverse regions of the state has implied the simultaneously caring of great necessities in the different educational levels from the task of alphabetizing to higher education. A decade is a very little time for the results to be reflected in a significant way in the state indicators, especially when some advances depend on the achievements of the policies of the previous levels. Some advances in the decade are registered: in each of the study levels the proportion of adult education is higher. Higher or superior education enrollment increased relative to every 1.000 inhabitants.

** TABLE **

The other type of benefit of higher education has been in the development of the state. These develops from the interaction processes that the new institutions of higher education maintain with diverse sectors of the society: industry, social organizations and businesses, state and municipal government, companies depending from the state, communities, among others. Through internships (“professional residencies” in the case of technical institutes) the institutions support the formation of its students in real work and at the same time they enable them for his subsequent labor insertion. The companies tend to hire students that made their internship once they have a certificate. The challenge nevertheless is in maintaining the vitality of the model once the necessities of human resources have been covered in the diverse sectors. It is on a testing capacity of the new educational institutions to adapt its frames of education to new demands under flexible institutional schemes. This entails the contributions of the educational institutions to the

external sectors by providing an ample range of services that affect the development of the state: qualification of human resources, improvement of the processes of public management, elaboration of banks of information on systematic activities of the government, update of human resources in diverse fields of its labor activity, specialization of human resources to take care of requirements of specific sectors. The benefit of this process has an impact on the development of the institutions, as much as in the formative process derived from the continuous monitoring of the model as in the possibilities of improvement that the financial resources allows them. The ITSUR for example participates in a project of development of software and receives in return a percentage of royalties for the products that the company sells with which it has the entitlement agreement, the resources that receive are used to stimulate the students and to improve the educational infrastructure of the institution.

The investigation projects that different institutions develop, some in direct association with the companies, also generate benefits to the state. In opinion of the interviewed people, the important thing is to identify the specific impact of the projects in the development of the state. There are some examples that can be cited: a project of maintenance of thermo electrical power stations that saves energy because it makes maintenance based in thermo-economy. Another project is the development of a precision sowing machine. Technically it has the same characteristics that the machine of its nearest competitor, but at half the cost. In Guanajuato, the factory manufactures 400 machines a year. Another project includes the benefits to the footwear industry. It resolved the problems in the importation of components for the sole of the shoes (a spot appeared and made it lose its quality) and the support given by the CONCYTEG to research has encouraged companies to participate in the development of technology.

The ITESI, the ITSUR, the ITESI and the ITSUR are involved in the progress of the software industry, training personal who works in local public administration and generates development for very specific needs such as: automation of blacksmith for houses, building for INFONAVIT (government institution dedicated to build public housing all over the country) and construction of solar furnaces for chili pepper drying as one of the local productive activities.

The benefits of the education also are evident in the wages (Wolff 2001). A recent survey concerning urban employment in the main cities of the country show us an interesting results about the level of income of working population with higher education. In the case of Guanajuato, the survey was applied in Leon, the city of greater economic development and population concentration. The data registered an increase in the proportion of population with an income higher than 10 minimum wages. This result maybe associated to larger extent to the appreciation/demand of higher education in the labor force.

Occupied population with higher education according to level of income

Leon, Guanajuato

Level of income	1990	2000
Up to two minimum wages	19.1	3
More than 2 up to 3 minimum wages	14	12.3
More than 3 up to 5 minimum wages	27.2	27.8
More than 5 up to 10 minimum wages	25.3	30.2
More than 10 minimum wages	5.8	18.4
It does not receive income	2.3	1.4
It did not specific income	6.2	5.6
Occupied population with higher education	25,700	55,186
Percentage that represent in the total occupied population	7.6%	12.2%

Source: INEGI, National Survey of Urban Use.

The survey was applied in the main cities of the country.

Conclusions

In the nineties, Guanajuato generated important state capacities to advance towards the constitution of a state system of higher education. The process was gaining legitimacy among the main local actors. The initiative of decentralization of the federal government was intensified at the state level. New rules of education were established at this time, and priorities were maintained throughout the decade such as: expansion of the coverage of education, equity in the opportunities of access to education and quality in the services. The government policies were oriented to attend the most urgent demands in the different levels and to generate capacities to coordinate the set of institutions and to involve them in a state project of higher education. The great challenge has been to elevate the level of education of the population. Guanajuato is one of the states with a low level of education and great social contrast.

The state government promoted the development of education, working in several fronts: it restructured the functions of the secretary of education in Guanajuato (SEG) to attend the basic education services, but also to open a space of attention in the educational levels

of high school and higher education, until then absent in the organic structure of the public administration of the state. It created one organizational structure oriented to plan, evaluate and drive the education that was the platform of action of two important decentralized organisms (CEPPEMS and COEPES) whose activities of intermediation between the government and the educational institutions has been important in the design and implementation of the policies. Also, it created decentralized institutions under the state government to attend the demand in different educational levels. It gave strength to the high school level through traditional schemes and continuing education by bringing this service to all the remote corners of the state. To attend the demand of higher education, the state left the private education to the market forces and at the same time it impelled the creation of decentralized institutions with the support of the federal government.

The presence in the state of these new models introduced important changes in the rules of higher education such as new programs in the existing options, more flexible curricular designs according to local necessities, financing and government forms who involved different actor from the local level as well as a different relation between the state and federal government, studies of feasibility to create a new educational supply and process to obtain an accountability as an regular activity. The entitlement had a central paper in the model of new institutions. There was a change in the vision of higher education. The institutions would not be only training of professionals also these would generate knowledge and technological development. Also in the state, the capacity of science and technology was strengthened through the CONCYTEG.

The coordination of the system had a great advance. The COEPES had a great participation between the institutions and the government. In this institution, the main subjects about higher education has been discussed and agreements have been reached on critical subjects like the regulation of the educative supply in the state and the criteria to evaluate –and later to accredit- the quality of the programs. Important advances had been obtained in the local articulation of the policies.

The educational cover was extended in the middle level and in the higher education. An objective of the educational policies is to elevate the quality of the services and to increase the efficiency terminal.

In Guanajuato, The higher education has obtained important advances, however, in the intergovernmental relations, it present some tensions and disagreements between different normative frames and political objectives that affects the institutional answers and the advanced of the set of institutions around the educational priorities of the state. Some of this insubstantiality has been mentioned throughout the text.

Bibliographical References

- Acosta Silva, A. (2000). La ANUIES y el proceso de traducción de la agenda de políticas de educación superior, 1950-2000. *Revista de la educación superior*, XXIX(núm. 116, octubre-diciembre), pendiente.
- ANUIES. (2000) La educación superior en el siglo XXI. Líneas estratégicas de desarrollo. Una propuesta de la ANUIES.
- ANUIES. (2000). La Universidad de Guanajuato estableció en Pénjamo un Centro de Vinculación Comunidad-Universidad. *Confluencia*(año 8, núm. 90), 7.
- ANUIES. (2001, Junio). Propuesta de la ANUIES en relación con la Ley de Fiscalización Superior de la Federación. *Confluencia*, ANUIES.
- Badillo, M. (2001, 26 de abril de 2001). Guanajuato: Plantean ley de información. *El Universal*.
- Balcazar, S. (2000, 27 de noviembre de 2000). Pide gobernador no desaparecer fondo. *El Universal*, pp. A13.
- Cabrero Mendoza, E. (1996). La nueva gestión municipal en México. Análisis de experiencias innovadoras en gobiernos locales. México: Miguel Angel Porrúa y Centro de Investigación y Desarrollo Económico.
- CONACYT. Sistema de instituciones Sep-Conacyt . México: Conacyt.
- CONCyTEG .(1998). Plan de Ciencia y Tecnología del Estado de Guanajuato 1998-2020. Guanajuato, México: CONCyTEG.
- Cox, C. (1993). Políticas de Educación Superior: categorías para su análisis. In H. Courard (Ed.), *Políticas Comparadas de Educación Superior en América Latina* (pp. 285-340): FLACSO.
- Escobedo, J. F. (2001). Ley de información acabará con la discrecionalidad. *El Universal* (12 de Noviembre).
- Fox Quezada, V. Guanajuato, Tierra de Oportunidades, Tierra de Realidades. Resumen Ejecutivo 1995-1999. Guanajuato, México: Gobierno de Guanajuato. Coordinación General de Comunicación Social.
- Gago Hugueta, A. (1992). Ejes de la reforma: calidad y pertinencia. *Universidad Futura*, 4 (verano 1992),
- Grindle, M. (1996). *Challenging the State: Crisis and Innovation in Latin America and Africa*. Cambridge: Cambridge University Press.
- Guerrero, C., López, M., y Frutos, I. Acuerdan gobernadores su propuesta "federalista". *El Universal* (11 de agosto de 2001).
- Kent, R. (1996a). Higher education reform in México: The evolving agenda in the 90's. Paper presented at the Seminar on Higher Education Reform in Latin America, Washington D.C.
- Kent, R. (1998). *Institutional Reform in Mexican Higher Education: Conflict and Renewal in Three Public Universities* . Washington, D.C.: Inter-American Development Bank.

Kent, R., D. Sylvie, Vries Wietse de. (1996b). La política financiera del gobierno federal hacia las universidades públicas en México en los años '90. *Revista Paraguaya de Sociología* (núm, 97, año 33), 47-69.

Kent, R., Vries, W. d., Didou, S., y Ramírez, R. (1998). El financiamiento público de la educación superior en México: La evolución de los modelos de asignación financiera en una generación, Tres décadas de políticas del Estado en la educación superior (pp. 207-292). México: ANUIES.

Lelo de Larrea, A. (2001). Deducibles, donativos para investigación. *El Universal* (14 de Noviembre).

López Zárate, R. (1997). El financiamiento a la educación superior. México: ANUIES.

Mancera Corcuera, C. V. G., Luis. (2000). Oportunidades y retos del federalismo educativo: el camino recorrido 1992 - 2000, *Memoria del Quehacer Educativo 1995 - 2000* (Vol. I, pp. 45-83). México D.F.: SEP.

Martín Huerta, R. (2000a). Guanajuato, un Estado de éxito. *Memoria de la Administración Estatal 1995-2000*. Guanajuato: Talleres Gráficos del Gobierno del Estado de Guanajuato.

Martín Huerta, R. (2000b). Quinto Informe de Gobierno. Juntos, Sociedad y Gobierno Construimos un Estado de Exito. Guanajuato, México.

Martínez Rizo, F. (1993). La descentralización de la educación superior. *Universidad Futura*, 4 (11, primavera 1993), 39-51.

North, D. C. (1996). *Institutions, Institutional Change and Economic Performance* (8th ed.). Cambridge, UK: Cambridge University Press.

OCDE. (1997). Examen de la política educativa de México. Informe de los examinadores México.

Ojeda Rodríguez, C. (2000, Agosto). En 1999 la U de Gto alcanzó el máximo histórico del 98% en eficiencia terminal. *Confluencia*, 8, 15.

Ramos Pérez, J. (2001, 26 de julio). Rechaza ANUIES auditorías externas. *El Universal*.

Reséndiz Núñez, D. (2000a). *Futuros de la educación superior en México*, México, Siglo XXI Editores.

Reséndiz Núñez, D. (2000b). Gestión de la educación superior en el período 1995-2000. En SEP (Ed.), *Memoria del Quehacer Educativo: 1995-2000* (Vol. 1, pp. 399-445). México D.F.: Secretaría de Educación Pública.

Rodríguez, V. E. (1999). *La descentralización en México. De la reforma municipal a Solidaridad y el Nuevo Federalismo* (2a. ed.). México: Fondo de Cultura Económica.

Rojas, Y., y Meneses, M. (2001). Transformarán al CONACYT. *Investigación y Desarrollo*, Año 9, no. 95.

Romero Hicks, J. C. Primer Informe de Gobierno. Gobierno del Estado de Guanajuato. Guanajuato, México: Talleres Gráficos del Gobierno del Estado de Guanajuato.

Ruíz Larraguivel, E. (1993). Las Universidades Tecnológicas en la política federal. *Universidad Futura*, 4 (11, primavera 1993), 28-38.

Ruiz, J. L., y Rodríguez, Y. Compromiso pleno con el federalismo: Fox. *El Universal* (2 de agosto de 2001).

SEP. (2001). Informe de actividades (CITD) : SEP, SEIT.

SEP. (1998). *Organismos Descentralizados de los Gobiernos de los Estados con Participación Federal* (Vol. 1). México: SEP.

SEP. (1999). Procedimientos para la Conciliación de Oferta y Demanda de Educación Superior de las Entidades de la Federación. : SEP.

SEP-CGUT (2000b). Universidades Tecnológicas. México, D.F.: SEP.

SEP-CGUT (2000c). Universidades Tecnológicas. Mandos Medios para la Industria. México: Noriega Editores.

SEP-COSNET (2000a). Educación e Investigación Tecnológicas. México: SEP.

Técnica, C. (2001). Propuesta de Ley de Federal de Acceso a la Información Pública. El Universal(12 de Octubre de 2001).

Wolff, L., & de Moura Castro, C. (2001) Public or Private Education for Latin America? That is the (False) Question . Washington, D.C.: Inter-American Development Bank.

Páginas electrónicas consultadas:

<http://www.ieeg.org.mx>.

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

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

<http://www.anuies.mx>

<http://www.congresogto.mx>

<http://www.ceneval.edu.mx>

Siglas

ANMEB (National Agreement for the Modernization of the Basic Education)

ANUIES. (National association of Universities and institution of Superior Education)

CAM. (Center of Actualization of the Teacher Cadre of Guanajuato)

CECYTEG. (College of Scientific and Technologic Studies of the State of Guanajuato (decentralized of the state)

CEPPEMS. (State Commission for the Planning and Programming of the Middle Education)

CGUT. (General Coordination of technological Universities)

CIATEC. (Center of Research and Technological assistance in Leather and Footwear)

CIC. (Interuniversity Center of the Knowledge)

CIMAT. (Research Center in Mathematics)

CINIDEG. (Coordination of research Centers of the State of Guanajuato)

CIO. (Research Center in Optical)

CITD. (Coordination of Decentralized Technological Institutes)

COEPES. (State Commission for the Planning of the higher education)

COFOCE. (Commission of Promotion de Foment al Commerce Exterior)

CONACYT. (National Board of science and technology)

CONALEP. (National College of Technical Professional Education)
CONAPO. (National Board of population)
CONCYTEG. (Board of Science and Technology of Guanajuato)
COPLEVIM. (Board for the Planning, Evaluation, and Impulse of the Formation for the work, the Middle Education and the higher Education in the State)
COSNET. (Board of the National System of Technological Education)
DGETA. (General Direction of Technological Agricultural Education)
DGIT. (General Direction of technological Institutes)
EDUCAFIN. (Institute of Financing and Information for the Education)
ICATEG. (Institute of training for the work of the State of Guanajuato (decentralized from the state))
IEP. (Institute of Permanent Education of the State of Guanajuato)
IGC. (Guanajuato Institute for the Quality A.C. (private))
INEGI. (National Institute of Statistic, Geography and Computer Science)
INIFAP. (National Institute of Forest, Agricultural and Cattle Research)
ISEPEG. (Superior Institute of Pedagogy Studies of the State of Guanajuato)
ISETA. (Superior Institute of Farming Technological Education No. 33)
IT. (Technological Institutes (Federal))
ITA. (Farming Technological Institute No. 33 of Celaya (Federal))
ITC. (Technological Institute of Celaya (Federal))
ITES. (Technological Institutes of Higher Education (Decentralized or Estate Government))
ITESI. (Technological Institute of Higher Education of Irapuato (Decentralized or Estate Government))
ITESM. (Technological Institute of Higher Education of Monterrey)
ITF. (Technological Institute Federal)
ITL. (Technological Institute of Leon (Federal))
ITSUR. (Technological Institute of the South of Guanajuato (decentralized or estate government))
ODEs. (Decentralized Organism of the State Government)
PACIME. (Program of Support to the Science in Mexico, CONACYT)
PAN. (Party National Action)
PREES. (State Program of Higher Education)
PROGRESA. (Program of Education, Healt and Culture (Federal))
PROINEG. (Promoter of Educational Infrastructure)
PRONABES. (National Program of Scholarships for Higher Education (Federal Program))
REDNACECYT. (National Red of Boarder of Science and Technology)
REVOE. (Recognition of Official Validation of Studies)
SABES. (Advanced System of High School Level and Higher Education)
SEG. (Secretary of Education of Guanajuato)
SEP. (Secretary of Public Education (Federal))

SNTE. (National Union of Workers of the Education)

UNIDEG. (Interactive University and Distance Education of Guanajuato)

UTL. (Technological University of León (Decentralized or Government State)

UTNG. (Technological University of the Guanajuato, State (Decentralized or Government Estate)

UTSOE. (Technological University of the Southwest of Guanajuato (Decentralized or Government Estate)

VIBA. (Video-High School System)