

JALISCO CASE REPORT:

The Contest over Higher Education Policy between the State
Government and the University

Rollin Kent

May 2002

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



Dr. Kent is full professor of the Faculty of Administration at the University of Puebla. His areas of interest are the comparative analysis of higher education policy in Latin America and institutional change in Mexican universities. He is co-principal investigator of the AIHEPS Project.

© 2002 by The Alliance for International Higher Education Policy Studies, 239 Greene Street, Suite 300, New York, NY 10003.

About the AIHEPS Project

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

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

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

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

audience for these products. Products are written according to a mutually agreed upon framework that facilitates comparative analysis.

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

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

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

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



New York 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

In recent history Mexicans' perceptions of the ways that elected representatives and designated officials shape the aims, behavior and results of higher education institutions have undergone deep shifts and continue to do so. For several decades after the 1940s several generations of Mexicans put their trust in public universities, rather than in government policy, as those institutions represented at that time the struggle to develop a professional urban class that appreciated not only the social and economic benefits of graduating from a university but also the values of intellectual independence and hard won political autonomy vis-à-vis an authoritarian republic governed by one dominant party. But the profound social and ideological changes that swept through public universities in the 1970's and 1980's undermined that trust, and significant sectors of the middle and upper strata transferred their allegiance to the newly expanding private universities. The last decade of the 20th century has seen once again a change of direction in these positions, with public policy returning to center stage in an effort to regain public trust in its capacity to steer higher education toward widely espoused social and economic goals.

Faced with this very dynamic setting, we are asking what have been the outcomes of ten years of renewed government activity in higher education. Endeavoring to understand the links between policy and performance would seem especially important at this juncture in Mexican higher education, because in the midst of these changes little information is available on how public policy is actually influencing institutional behavior. This report examines policy dynamics in the state of Jalisco during the 1990s and asks what policy capacity has emerged at the state level, how state policy has interacted with federal programs, and what outcomes may be discerned in Jalisco's higher education system.

It should be noted that this paper was written after research and reporting on policy at the federal level was concluded and takes for granted numerous elements of the stage set by federal policy. It should be read in that light. A similar report has been written for the state of Guanajuato, which will allow us to do comparative analysis of the federal/state policy mix that is developing in the rapidly shifting landscape of Mexican higher education.

One important source of information for this report were interviews carried out in 2000 and 2001 with policymakers in the office of the Secretary of Education for the state of Jalisco and leaders in public institutions. We also use interviews with federal policy makers. We were extremely fortunate to encounter people who are very generous with their time in spite of being extremely busy. We also examined policy documents, Census reports and statistics as well as congressional websites and national and local newspapers.

A caveat about outcome data is in order. Information on higher education in Mexico is relatively rich and usually reliable when working with the inputs to educational activity. Documentary evidence of decisions and statistical sources on personnel, funding and enrollments are available, although the reliability of enrollment data for public universities must be critically examined, as we will have occasion to do further on. However, data on outcomes are not routinely produced by governments and institutions, a significant policy issue in itself. No analogous source to the *Report Card for Higher Education* by the National

Center for Public Policy and Higher Education in the United States exists in Mexico. A regrettable tradition that is adverse to disclosure survives among some institutional leaders, although much less so among government officials. Hence we have had to chase down a variety of sources for data on the five categories of performance indicators this study is utilizing: preparation, participation, affordability, completion and benefits. We examined census data for 1990 and 2000, surveys of family income and spending in 1992 and 1998, election results produced by the Federal Electoral Institute and various other institutional sources. For part of the data on student fees, we contacted institutional administrators by telephone. Often the available data did not permit clear comparisons across time and occasionally it did not allow us to use the same indicators as the *Report Card*. Therefore we have developed indicators that are heavily dependent on the type and quality of available data. They are debatable, and we see this as an issue for further research and discussion.

This report is built around the same structure used throughout our study, with three sections: a description of the policy environment, a section on changes in the “rules of the game”, and a concluding section on outcomes.

POLICY ENVIRONMENT

Historical trends in higher education

Jalisco is one of Mexico’s largest states and is situated on the West coast. With 6.3 million population in 2000 (up from 5.3 million in 1990) living in 124 municipalities spread out over 80,000 square kilometers (Cárdenas Jiménez 1995b), it enjoys a relatively high degree of industrialization and urbanization. Its economy represents 6% of national GDP and is the third largest economic entity in the country, after the Federal District and the state of Nuevo León. The capital city, Guadalajara, is the third largest metropolitan area in the country and hosts a good part of Mexico’s electrical and computer industry (the Guadalajara metropolitan area is sometimes referred to as Mexico’s Silicone Valley) as well as significant investment in chemical engineering and food processing. Nonetheless, 84% of the labor force is employed by small and mid-sized firms, most of which are not in the high tech or export markets (Solís 1999). Part of its agriculture is commercially run for export; the tequila industry is based in Jalisco and delivers significant earnings from its growing exports and is increasingly a globally financed concern; but at the same time a significant portion of the rural population ekes out a living through subsistence agriculture.

Throughout the 20th century, the higher education landscape in Jalisco was dominated by two institutions: the public University of Guadalajara (UdeG), established by the state congress in 1924 under the banner of the Mexican Revolution: free, public and nonreligious education; and the private Autonomous University of Guadalajara (UAG), founded in 1935 by local business and ecclesiastical elites. Interestingly, unlike most other public universities in Mexico, UdeG did not obtain autonomous status from the state legislature until 1992 and therefore throughout the 20th century its governance processes were closely intertwined with PRI politics. UdeG is today the second largest state university in the country with about

50,000 undergraduates and 120,000 preparatory (upper secondary)¹ students in campuses throughout the state. The Autonomous University of Guadalajara, became known for its U.S. accredited medical school (the university's website states that 8,000 physicians practicing in the U.S. today were trained at UAG) and its soccer team. It was also known as a bastion of conservatism, symbolizing opposition to the progressive political activism at the public university. Although these institutions epitomized the contrasting political and ideological positions that divided Jalisco's elites for many decades, they were actually quite similar in their academic and professional program offerings. Another important private institution, the Western Institute for Technical and Higher Studies (ITESO), founded in 1957, is part of the network of Jesuit universities (including the multi-campus Iberoamerican University) and also played an important role in educating the Jalisco elite in engineering and administration. Over the years each developed a strong ideological identity, UdeG defining itself as the public non-religious university of the middle and working classes and UAG and ITESO as institutions of the Jalisco elites.

Starting in the 1970's this setting went through a series of profound and rapid changes. The first was the hasty expansion of state universities in response to the rapidly growing onslaught of upper secondary school leavers that resulted from the deep demographic transition of the 1940's and 1950's². Enrollment expansion in this sector was also made possible by generous and unconditional federal funding in the 1970's, a policy which quickly transformed small and mid-sized provincial institutions serving the local elites into massive federally supported universities. As their traditional organizational cultures and forms of governance were beset by a newly politicized student body and hasty unplanned growth devoid of quality control, they rapidly evolved toward administrative muddle and new conflicts over mission and governance. UdeG was no stranger to this process of dislocation: higher education enrollments in Jalisco expanded from 4,000 in 1960 to 22,000 ten years later and 75,000 in 1980, with the public university absorbing the bulk of this growth (Kent 1992). This experience was to have lasting effects on the institution itself, as it did on many other state universities, limiting quality and institutional effectiveness.

The legacy of rapid, unplanned expansion in the 1970's constituted the backdrop against which federal policy was developed in the 1990's. Reconstructing academic organizations that had been dislocated by unruly transformations in previous decades (referred to as "massification" by policy makers) and recovering the deficit in academic quality would become the overarching objectives of "modernization" policy in the last decade of the 20th century (Kent, 1993).

¹ Preparatory schools attached to universities seem to be a singularly Mexican phenomenon in higher education, stemming from the early XXth century, when the federal government concerned itself mainly with primary and secondary education, leaving the universities to take charge of schooling for the 15-18 age group. Over the past four decades various additional federal and state systems of upper secondary education have emerged. With large "preparatoria" structures attached to state universities still in place (and growing, as in the case of UdeG) and virtually no state or federal capacity to set policy, upper secondary education in Mexico today poses complex and historically dense issues of regulation and coordination. For the first time in recent history these issues are posed as priorities by the Fox administration's National Plan for Education, 2001-2006 (SEP 2001).

² Burgeoning birthrates accompanied by declining mortality rates due to improved health systems accompanied the first push for industrialization and urbanization: the typical *development* syndrome of countries such as India, Nigeria, Phillipines and many in Latin America.

The second important change in the “old order” was the federal decision in the 1970’s to expand technical institutes, establishing them in mid-size cities throughout the country as a non-university alternative for lower income students. By the late 1980’s there were three federal Technical Institutes in Jalisco.

Lastly that decade and especially the following one were witness to very vigorous private sector growth, which has continued unabated throughout the 1990’s. There were 5 private establishments in Jalisco in 1990 and 27 at the end of the century³. Although UdeG retained its massive size, its monopoly status was eroded by system diversification. In recent years it has made continued attempts to regain it by creating new campuses throughout the state. Its prestige had also been damaged by the internal conflicts of the late 1980’s, resulting in a decision to restructure the university in 1993 (Kent 1998; Arechavala 1999; Acosta Silva 2000).

The main theme of political culture surrounding higher education in Jalisco for several decades was the traditional rivalry between pro-PRI and sometimes left wing UdeG and anti-PRI right wing UAG. The image of UdeG as the monopoly in public higher education was for many years legitimate in the eyes of elected officials, who did not believe they could or should influence higher education policy. This arrangement unravelled in the wake of the left wing mobilizations of the 1970’s and the UdeG’s crisis of the late eighties (Kent 1998), and the rapid emergence of private institutions, but most especially, after the election of Alberto Cárdenas in 1994 as Jalisco’s first non-PRI governor.

Nevertheless, UdeG remains a power center in and of itself. Its internally elected rector on occasion resorts to mobilizing students in the streets to demand a higher subsidy from the government, and university officials are often active in local politics. This is especially the case in the politics of higher education: UdeG’s leaders maintain that their institution follows an integrated strategy for higher education for the state of Jalisco, which should by rights should not be pursued by the the state government but by the university. In interviews, a former rector and the recently elected rector insisted that UdeG is not just a university but a statewide system of higher education and as such should it make the principal strategic decisions for developing higher education. In their view, the state government is a secondary player and should consult its higher education policy with UdeG.

Thus the rectorship is considered a political post. Its occupant must strike a complex political balance among the different constituencies of that massive university and must interact with political parties – especially the PRI and the center-left PRD – who perceive their alma mater⁴ as a recruiting ground and a legitimate playing field. The sheer size of UdeG makes it a political entity that is impossible to ignore: the 2.3 billion pesos in federal and state funds UdeG received in 2000 represent 74% of the budget of the capital city of Guadalajara with 6.3

³ Daniel Levy has aptly characterized private sector expansion in Latin American higher education as “elite flight” from boisterous state universities (Levy 1986). He also makes the useful distinction between “elite secular universities” and “demand absorbing” institutions (diploma mills) in the private sector. Both types have emerged in Jalisco’s private sector.

⁴ In contrast to PRI and PRD, politicians active in the PAN tend to come from other institutions, usually in the private sector but not always: ex-Governor Alberto Cárdenas is a graduate of a technical institute.

million inhabitants (Cárdenas Jiménez 2001). Financially and politically, UdeG is a force to be reckoned with.

The new relationship of state government to higher education in the 1990's

Paradoxically, over this diverse array of institutions – composed of a large autonomous public university, several federally supported technical institutes and a growing number of private establishments that basically operate in an unregulated market – the normally powerful governor of Jalisco has historically enjoyed minimal leverage.

In the past the Governor has had no authority over the federal technical institutes, a sector that is under the sway of the Under Secretary for Technical Education in Mexico City. As for the private institutions, their interest in the policies of the state government rapidly wanes once they have received authorization to operate in Jalisco, in the absence of procedures for continued governmental oversight and the lack of public funds for the private sector, with the ensuing lack of governmental influence in this area⁵.

The 1990's, however, brought changes to this pattern of non-involvement by the state government in higher education policy. The election of a PAN government for the 1994-2000 administration changed the whole political game, opening up avenues of policy which were previously shut or disregarded by PRI governments. Governor Cárdenas' general strategy (Cárdenas Jiménez 1995b) focused on strengthening Jalisco's role in international trade and boosting the high tech sector, while at the same time reducing poverty and strengthening the rule of law and democratic participation. Mr. Cárdenas placed education high on his list of priorities. His administration set out to integrate and coordinate the various sectors and levels of public education and to promote amendments to the state law of education raising compulsory schooling to 12 years including upper secondary school⁶. Public expenditure for education in Jalisco went from 2.5 billion pesos in 1995 to 11.4 billion in 2000 (in current pesos, unadjusted for inflation), taking up 50% of the state budget. During this period the average rate of schooling in the state went from 6.8 years to 7.3 years (Spinoza L. 2000).

The federal decision to decentralize basic education in 1992, which placed state governments under the obligation to actively manage this sector, coincided with the election of Mr. Cárdenas thus providing a clear platform for developing and expanding the scope of his secretary of education, Miguel Limón⁷. Throughout the 1990s the Jalisco government worked to develop an educational policy of its own. As the complex management process of integrating a state system of basic education took hold within public administration, it was only matter of time before policy makers took on higher education as well (Bazdresch 2001). Increased awareness of the need to become active in higher education policy was the natural

⁵ This inability to regulate higher education exemplifies Merilee Grindle's point about "strong societies with weak states" where the state is "engaged in contesting the right and capacity to make and implement authoritative decisions that structure economic and social interactions" (Migdal 1988; Grindle 1996)

⁶ After being amended in 1993, the federal law of education stipulates 9 years of compulsory school up to the secondary level.

⁷ It is not without significance that Mr. Limón continues in his post after the 2000 gubernatorial elections once again won by the PAN. This is the first time a state secretary of education in a non-PRI government retains his post in two administrations and augurs continuity in higher education policy for Jalisco.

outcome of the state's new role in the management of K-12 education (Mancera Corcuera 2000). As we shall see, the emergence of higher education as a legitimate area for state policy also coincided with the federal decision in 1996 to work more closely with the states in developing technical institutes and two year technical universities as well as state higher education planning commissions.

One factor in the changing political equilibria surrounding higher education policy was the effect of greater pluralism in the state legislature, where the PAN majority⁸ pushed the governor's agenda, and the education committee of the legislature (headed by two PRD deputies including an ex-rector of UdG) became more active and visible in discussing educational policy. For the first time in the congressional history of Jalisco, appropriations for UdeG subsidies became a matter of public debate and on occasion conflict.

Shortly after his election, Mr. Cárdenas' administration published an appraisal of Jalisco's social and economic situation, which mentioned two issues for higher education: the absence of higher and technical education programs for the low income population in the smaller cities outside Guadalajara, and the feeble efforts at innovation resulting from poor connections between higher education and firms. A seemingly minor but interesting fact about the structure of the policy document for the Cárdenas administration, revealing the intention of developing a more hands-on approach to higher education, is a separate chapter dedicated to higher education in addition to the section for basic education. This section on higher education (Cárdenas Jiménez 1995a) critically assesses the effects of the government's almost non-existent role in policy and the fragmented nature of higher education in the state:

In spite of being one of Mexico's most developed states, Jalisco has one of the most disjointed systems of higher education, with almost non-existent collaboration, integration and coordination among institutions. In addition, the growing demand for upper secondary and higher education is not being met. The paradox is that all this occurs in a context in which the state government funds more than 50% of public higher education in the state, including most of the normal schools and 48% of the subsidy for the University of Guadalajara, allocating almost one third of the state budget to this area. The influence of the state government over the development of higher education has been severely limited by the fact that the federal government sets policy for public higher education. . . . The University of Guadalajara operates with a very high degree of independence; the Technical Institutes follow federal policy; and although the private sector has significantly increased the number of institutions and enrollments over the last decade, the state government has been unable to guarantee quality, coherence and relevance in this area . . . This administration will enlist the cooperation of higher education institutions in reducing inequities and creating a state system guided by the goals of quality and relevance (Cárdenas Jiménez 1995b).

⁸ According to the web site of the Jalisco legislature, in 2000 PAN had 22 elected deputies in Congress, PRI 15 and other parties 4 (Jalisco); however, the national daily *La Jornada* states that by the end of the decade the PAN only had a plurality of 19 deputies out of a total of 30 (Frías Frías 2001)

The document went on to criticize the low levels of completion in higher education institutions, the rigid format of academic programs that do not permit student transfer or credit recognition by different institutions, and the limited number of offerings outside the capital city. The principal goals set out for higher education between 1994 and 2000 were as follows (ibid):

1. Establish a state council for higher education that would develop an integrated state-wide policy and promote greater diversity in institutional formats
2. Increase regional coverage, reduce inequity and improve upper secondary to tertiary going rates
3. Increase efficiency, lower dropout rates and improve completion
4. Improve quality and competitiveness of higher education programs through evaluation
5. Promote upgrading of professors
6. Support research and postgraduate programs based on criteria of excellence and relevance to local development
7. Encourage stronger ties between higher education and firms and local communities

Some of these goals were met and others were not. Some were partially achieved, although under a different guise. One outcome of state policy in Jalisco, generally stated, is an increase in the government's capacity to influence the rules of the game in higher education. This process is ongoing and is being politically negotiated, but there is no doubt that policy makers in Mr. Cárdenas' administration understood from the beginning the need to institutionalize new forms of governmental influence on the higher education system.

CHANGES IN RULES OF THE GAME

System Design

In this section we describe the arrangements for providing services to the citizens of the state of Jalisco and for integrating those services with other players in the political, economic, and social environment. To accomplish this, we depict the changes in the number and type of colleges and universities, the missions assigned to each, the characteristics and powers of agencies in the interface between government and institutions, the number capacity and diversity of academic programs, and the use that is made of the private sector. We also discuss attempts by state policy makers to influence system design and explore how changes in this area might have affected outcomes.

Undergraduate enrollments and establishments have evolved as shown in Table 1.

Table 1. Undergraduate education in Jalisco: Establishments and Enrollments, 1990-1999

	Number of establishments		Enrollments	
	1990	2000	1990	1999
Small private establishments ⁽²⁾	0	20	0	11,783
Private, consolidated universities ⁽²⁾	2	2	16,858	13,297
Private networked universities ⁽²⁾	4	7	3,341	10,034
<i>Subtotal Private</i>	6	29	20,199	35,114
UdeG (Guadalajara + 9 regional campuses in 1999)	1	1	76,208 ⁽¹⁾	47,798
Federal Technical Institutes	3	3	1,088	3,095
State Technical Institutes	0	5	0	385 ⁽³⁾
Technological University	0	1	0	516
Other public institutions ⁽⁴⁾	4	5	796	926
<i>Subtotal Public</i>	8	14 [23] ⁽⁵⁾	78,092	52,720
TOTAL	14	43 [52] ⁽⁵⁾	98,291	87,834

Sources: ANUIES, 1990 & 1999; Chavoya, 1997.

Notes:

(1) Undergraduate students, excluding preparatorias; the figure for 1990 is overblown, due to deficient information systems and to the incentive to exaggerate student numbers created by the link between federal subsidies and enrollments reported by the university to federal officials in the 1980s. The figure for 1999 is certain to be closer to the real headcount.

(2) Our unofficial typification of private establishments (Kent, 1992) separates them into: (a) small institutes offering 2 or undergraduate programs; (b) well established universities with a wide range of undergraduate and graduate programs (such as UAG and ITESO); (c) campuses belonging to larger networks (such as the Technical Institute of Monterrey, with campuses in several cities).

(3) Technical Institutes are planned to enroll about 1,500 students each at maximum capacity, which should be reached in a few years.

(4) Air Force Training College; CIESAS (federal center for anthropology research); Colegio de Jalisco (social science research, supported by Colegio de México and state government); CINVESTAV (federally supported, research in electronics and computing); CIATEJ (Center for Applied Research & Technology for agri- and food industries in Jalisco). Except for the AFTC, all centers have master's and doctoral programs.

(5) Counting each new regional UdeG campus as separate establishments.

There is a technical problem in determining the difference between real and fictional headcounts in UdeG (cf. Note 1 in the table 1). The enrollment figure for 1990 is blown out of proportion to reality. However, what seems to have occurred is that data produced by the university gained veracity as the decade of the 90's progressed (surely as a result of federal

policy to disassociate funding from the reporting of student numbers), and it is fair to assume that the figure for 1999 is more realistic and is only minimally greater than that of 1990. That is, we are assuming that subtracting 30,000 students from the 1990 figure is a safe bet, and therefore we conclude that in real terms UdeG undergraduate enrollments increased by a very small percentage throughout the decade.

Under the latter assumption, the Jalisco public sector grew by about 10%, and almost all of this growth was in the non university sector. The federal technical institutes increased their enrollments and the government created five new state-run technical institutes and one technical university. All of these new institutions were established in regions other than the city of Guadalajara, and as they are newly created they are set to continue growing. Since they were created in the late 1990's, they had not reached full enrollment by 1999. When they attain full enrollment around 2004, the number of students in the new technical institutions in Jalisco will approximate 10,000.

Private sector growth is clearly more dynamic. Enrollments grew by 74% , reaching 40% of total state enrollments in 1999. It is significant that a new subsector made up of small establishments with one or two undergraduate programs (and characterized by limited infrastructure and part-time academics with minor credentials) emerged and rapidly grew to 20 institutions and almost 12,000 students by 1999. The larger private universities expanded 15% to about 23,300 students over the same period. In this process, the traditional large private universities seemed to lose some market share to the new small establishments and the national networked institutions (Monterrey Technical Institute).

These developments have made a dent in UdeG's dominance of the public sector and of higher education generally. The public sector is today more diversified than ten years ago, and in this the government has been successful. Since it is most likely to continue its support for technical education and because federal policy will surely continue to limit enrollments at large universities, the trend for the foreseeable future is toward greater diversification in public education⁹.

An important tenet for higher education policy in the administration of Secretary of Education Limon was the need to diversify toward the technical professions and into short-cycle postsecondary offerings outside the Guadalajara metropolitan area, where the vast majority of higher education offerings are located. He created an office of Coordinator of Upper Secondary and Higher Education, which was instrumental in developing a state network of technical preparatory schools (upper secondary) and technical institutes at the tertiary level.

The decision in 1998 to establish five state Technical Institutes and two Technical Universities (only one of the latter had been created by 2000) was an important turning point. The four year undergraduate institutes are established jointly by federal and state governments at the latter's behest; they are initiated by federal start-up funding for construction, laboratories,

⁹ Daniel Levy points out that "accelerating pluralism" is the leading trait of most higher education systems in Latin America today, as they move away from dominant public sectors and centralized governance to a greatly diversified institutional scenario. This rapidly evolving situation poses new dilemmas for public policy (Levy, 2002).

equipment and infrastructure; however their current expenditures are supported by state government; they are governed by a board, and the Governor designates the directors. This is a case of federal and state policy alignment, where state policy uses a federally provided instrument to reach a local policy goal of shifting the highly concentrated geographical distribution of higher education to a more equitable array of offerings in the smaller cities.

UdeG's expansionist policy

But state and federal policy is not the only driving force behind system diversification. Since 1993 UdeG has created nine regional campuses throughout the state of Jalisco – two in cities where technical institutes already existed (ANUIES 2000) – and a larger number of *preparatoria* schools¹⁰.

Some historical background is required here to explain the political context. The early 1990's were a distressing period for UdeG: conflict among various political groups vying for control of this massive organization led to collapse in 1992, followed by reorganization and renewal. The winning faction defeated the historically strong student federation, pushed for regionalization of the university and convinced the state legislature to grant autonomy to UdeG. The university is today composed of several large campuses throughout the state, each with its own rector and university council. The General Rector governs the system from his offices in Guadalajara. The political faction that won the struggle over control of the university continues to be active in PRD and PRI politics locally and has governed UdeG since that time¹⁰ (Kent, 1998; Acosta, 2001).

The expansion of upper secondary schools by UdeG was in direct contravention of federal and state guidelines but defended by UdeG in terms of university autonomy and its need to regain public legitimacy after the upheaval of the early 1990s. Enrollments in *preparatorias* grew to the point where undergraduates today are in a relative minority at UdeG. State officials believe the university should no longer manage these schools, much less expand them, and they have offered to bring them under state management. The federal government concurred¹¹: in January 1998 the federal Secretary of Education made public an agreement reached the previous year with all the state secretaries of education to authorize funding exclusively for upper secondary schools not attached to state universities, thus capping enrollments in university *preparatorias* and backing state level initiatives for upper secondary education (SESIC, 1998). UdeG maintained its expansionist policy for preparatorias in defiance of state and federal policy, but paid a cost. When the state government refused to increase subsidies for preparatorias in January 2000, the rector threatened to take students into the streets to exert pressure on the government. In response, state officials reiterated the need to separate the preparatorias from UdeG. The rector refused (Velasco García 2001), and state legislators stepped in to broker a negotiation whereby UdeG would receive part of the solicited funds

¹⁰ The rector elected in 2001 is the brother of the rector who led the university out of the previous conflict.

¹¹ The separation of preparatorias from universities has been an unstated policy of the federal government for several years, but it is a controversial issue in many public universities (especially at UNAM) which unofficially regard these schools as convenient tools in the political arena. Because separation is such a quarrelsome issue, federal authorities seem to have gone for an implicit policy of capping preparatoria enrollments. Although most universities have complied, UdeG has continued to expand them in a direct challenge to federal and state policy.

over a period of five years and the government would desist for the time being on the preparatoria issue.

Regionalization of higher education is thus a politically charged issue in Jalisco. In an interview, the Coordinator of Upper Secondary and Higher Education expressed his concern over the continuing expansion of UdeG into communities throughout the state. In his view, the university's decisions to set up new campuses have not had the benefit of careful planning but rather are politically motivated¹². This has resulted in "cities that need higher education institutions and institutions that need cities" (sic). On the other hand, he conceded that since Jalisco needs to create more higher education institutions throughout the state, he had made a proposal to UdeG to grant full financial, academic and governance autonomy to each of the new regional campuses which would operate with separate boards and governance structures. The university had not responded to this proposal of breaking up UdeG at the time of this writing.

An UdeG official¹³ argued in an interview that since the university made the decision in 1993 to create a statewide network of campuses, the government really had no business setting up a "parallel" system of technical institutes without taking into consideration UdeG's previously conceived regionalization strategy. He derided the government's policy as supposedly following the World Bank's strategy to limit university education in favor of technical training. This viewpoint was corroborated in an interview with an ex-rector who expressed regret over the government's policy of creating technical institutes as a means not really intended to diversify higher education but to block UdeG's policy of expanding throughout the state.¹⁴

The growth of graduate programs

Diversification also occurs vertically, when institutions develop graduate studies or short-cycle postsecondary programs¹⁵. As seen in Table 2, graduate enrollments in Jalisco expanded by 130% throughout the decade. This considerable rate of increase can be explained mainly by the feeble presence of postgraduate studies hitherto. Expansion in graduate programs is a national phenomenon in Mexican higher education, by no means localized in Jalisco. It is a response to federal policy¹⁶ and to the changing professional marketplace, which is pushing in-

¹² Program innovation did not seem to guide UdeG's regionalization strategy. Examining undergraduate enrollment data for UdeG we find that the nine new campuses offered 8 programs in law, 7 programs in accounting and 6 programs in business administration. All of these offerings existed previously at the Guadalajara campus and they all belong to the traditional professions.

¹³ This person was elected rector in 2001 after our interview with him.

¹⁴ Douglass North has something to say about this: "[in many lesser developed countries] the opportunities for political and economic entrepreneurs are a mixed bag, but they overwhelmingly favor activities that promote redistributive rather than productive activity, that create monopolies rather than competitive conditions, and that restrict opportunities rather than promote them. . . . The organizations that develop in this institutional framework will become more efficient – but more efficient at making society even more unproductive and the basic institutional structure even less conducive to economic activity." (North 1996)

¹⁵ In the case of UdeG, vertical differentiation also works downward: the university has dedicated at least as much if not more energy to expanding the preparatoria network as to postgraduate studies.

¹⁶ Cf. the section by Wietse de Vries on federal policy, especially the programs for upgrading professors and for funding postgraduate programs by CONACYT.

service professionals back into higher education to upgrade their skills through masters and specialization programs (García de Fanelli, Kent, et al., 2002). The first response is mainly visible in public institutions – universities, research institutes¹⁷, Normal Schools, the National Pedagogic University, and some federal Technical Institutes – which receive federal funding for upgrading professors, improving masters studies and creating doctoral programs. The second response is a market phenomenon and is largely, but not exclusively, evident in the private sector. Whereas most of the newly created doctoral and research programs are based in public institutions, the bulk of the masters and specialization programs for retraining professionals have burgeoned in private establishments. The notion of separate types and markets for graduate studies in the public and private sector requires qualification, because clearly many public graduate offerings are also geared to in-service professionals (teachers and professors), and some private universities are doing some research and doctoral work of their own. Table 2 shows this expansion of the market for graduate studies: private enrollments grew by 216% over the 1990s and public enrollments by 100%. The vast majority of graduate offerings in Jalisco remain in the Guadalajara metropolitan area.

Table 2. Graduate Studies in Jalisco, 1990 - 1999

	Establishments		Enrollments	
	1990	1999	1990	1999
Small private establishments	0	7	0	505
Consolidated private universities	4	4	871	2,250
<i>Subtotal Private</i>	<i>4</i>	<i>11</i>	<i>871</i>	<i>2,755</i>
UdeG	1	5 ⁽²⁾	2,633 ⁽¹⁾	3,944 ⁽³⁾
Teacher training courses ⁽⁴⁾	0	11	0	1,321
<i>Subtotal Public</i>	<i>1</i>	<i>16</i>	<i>2,633</i>	<i>5,265</i>
Total	5	27	3,504	8,020

Sources: [ANUIES, 1990 #56; (ANUIES 2000)]

- (1) Headcounts in postgraduate studies include medical specialization courses, a normal part of medical training and therefore not truly a separate level of study as in other disciplines. In 1990, only 28% of graduate enrollments were in non-medical disciplines.
- (2) By 1999 UdeG had graduate programs in the Guadalajara metropolitan area plus 4 regional campuses, although the bulk of enrollments were in the capital city.
- (3) Of which 56% were in non-medical disciplines.

¹⁷ Such as CINVESTAV, Colegio de México, and the growing network of SEP-CONACYT centers for research and postgraduate studies.

- (4) Retraining and upgrading courses for elementary and secondary school teachers have proliferated under federal policy for quality improvement in basic education. These programs are set up within existing establishments, such as Normal Schools and local campuses of the federally supported National Pedagogic University.

One qualitative aspect of these developments deserves mention. Seen externally, the expansion of postgraduate studies is both the result of policy and of market forces, but from the perspective of the institutional fabric it expresses a new trend in Mexican higher education. Institutions now seem to recognize that to be called a “university” they must be stronger in graduate studies and research, implicitly casting doubt on the traditional notion of a predominantly undergraduate “professional” university, which has suffused the institutional identity of Mexican higher education since its inception. This trend may be inferred from the data on graduate enrollments in UdeG. In 1990 almost three fourths of postgraduate students were enrolled in medical specialization programs, compulsory training for medical students and hence not masters or doctoral studies in the strict sense; nine years later more than half of graduate enrollments were in the non-medical disciplines, signifying a new push into masters’ and PhD programs. Nevertheless, compared to total enrollments at the university, graduate studies still represented less than 10% in 1999. On the other hand, recent research suggests that effectively developing the academic infrastructure and culture required for successful graduate programs is not an easy task in universities with such a heavy professional culture (Kent, Alvarez, De Vries et al., 2002)

How to regulate the private sector?

In keeping with the very general stipulations of the federal Law for the Coordination of Higher Education, passed in 1978 and still valid today with no amendments, regulation of private higher education in Mexico proceeds through the authorization of specific undergraduate or graduate programs, rather than through accreditation at the institutional level¹⁸. Federal and state government officials have the authority to inspect and if necessary to close institutions. In fact this authority is very rarely exercised. This lax legal framework set the stage for the rapid expansion of private higher education in Mexico over the past 20 years, during which period very little has changed as far as official procedures are concerned. The only exception we could detect was an agreement reached by the federal Secretary of Education in 1997 with all state education officials to coordinate all requests for authorizing new private institutions and to put the final decision to authorize exclusively in the hands of the state secretaries. The rationale for this decision was that private establishments had been taking advantage of the lack of communication among the three different levels of bureaucracy (federal, state and public university) to shop around for program authorization; thus, there were cases of establishments whose authorization had been denied at the state level but accepted at the federal level (SEP

¹⁸ The federal Law for the Coordination of higher education establishes, in very general wording, three possible procedures for authorizing private institutions: through the federal Secretary of Education, the state government, and the state university. There is no legislation establishing accreditation. However, a national association of private institutions of higher education (FIMPES) has been carrying out voluntary accreditation in this sector since the mid 1990’s. More recently, at the end of the Zedillo administration the federal undersecretary for higher education and the rectors’ association collaborated to establish COPAES, an overarching accrediting institution for all higher education.

2000). Now, theoretically, authorizations for new private establishments would also have to follow guidelines set down by the State Planning Commissions.

The decision to coordinate authorizations for private establishments was welcomed by the Limón administration, as it had complained in the 1995 higher education plan that it lacked the capacity to regulate private sector growth because some private institutions fall under federal jurisdiction. From an interview with the Jalisco Coordinator for Higher Education, we infer that his main concerns are regarding the quality of the rapidly growing small establishments. He states that his office carries out inspections of institutions requesting authorization and has had occasion to close establishments that do not meet the mark.

Federal insistence on involving the state Higher Education Planning Commissions (COEPES) in private sector regulation was also appreciated by state officials. But as we shall see the Jalisco government has had difficulties in putting the commission on an operational footing.

Attempts to create a state higher education council

In his higher education planning statement, Mr. Cárdenas set out his intention to establish a State Council for Higher Education which would endeavor to improve articulation and coordination, to analyze and improve the functionality of the existing system design, plan for future expansion in coordinated fashion with all sectors of higher education, improve articulation and transfer among different levels of education, negotiate with federal officials to devolve the power to authorize recognition of new programs in the private sector, promote distance education through electronic delivery, and expand the funding base for higher education negotiating with the legislature to apply a portion of payroll taxes to this effect (Cárdenas Jiménez 1995).

The intention of setting up a state council for higher education was stated by the Cárdenas administration in 1995, one year before the federal government began to promote the creation of state planning commissions (COEPES) throughout the country. Part and parcel with greater federal advocacy of decentralization, state planning commissions for higher education are headed by the state secretary of education and are made up of representatives of the main institutions of higher education in the state. Their mission is to plan for enrollment expansion and approve new programs, in coordination with the federal Undersecretary for Educational Planning (SESIC 1998). The aim of diversifying higher education, avoiding further enrollments in saturated programs and promoting the growth of programs deemed to be relevant to state development needs stand out in their mission statement. Encouraged by federal officials, state planning commissions approved new criteria for student transfer among two- and four-year technical institutes. Most universities, however, did not enter into this agreement.

The COEPES are called upon to summon the principal institutions to work together in a collaborative planning mode. In some states this new mode of collaboration has been successful. However, in Jalisco, creating the COEPES was a protracted and difficult experience. Despite the Governor's intention in 1995 to create a state council for higher education, COEPES was not formally announced until January 2000 when it was created by executive order (Jalisco 2000b). When the commission was finally installed, it was not able to

move ahead with its official business, according to one interview, because of the UdeG representative filibustered the sessions, stating objections that autonomy freed UdeG from any constraint that might derive from statewide planning decisions. The planning committee did not initiate its actual operations upon until October of that year, apparently with the mediation of the rectors' association (ANUIES-COEPES 2000). Statewide collaboration, in the case of COEPES in Jalisco, is in its infancy, mostly as a result of opposition by the state university. Nevertheless, Arturo Payán, the state Coordinator for Higher Education, has specific plans for COEPES, including collaborating with municipal authorities to plan expansion: "Every mayor in Jalisco wants a higher education institution in his city, so we have to plan very carefully to avoid irrational expansion and to stay away from the politically based decisions of the past".

Mr. Payán has been successful in promoting another mode of collaboration. Following the decision to take upper secondary and higher education to all corners of the state, a council for distance education was established. In this venture, the state government has been able to recruit two private universities, UAG and the local campus of the Monterrey Technical Institute, which has ample experience in distance education. This council was not formally active at the time of this writing, but the decision to operate it had been taken and no obstacles were foreseen, as in the case of COEPES. Mr. Payán reported that distance education promoted by a collaboration between the state and private institutions of higher education for upper secondary schools will be foremost on his agenda.

The Jalisco Council for Science and Technology

Another interface agency that was installed in 2000 was the Jalisco Council for Science and Technology (COECYTJAL) based on the newly promulgated Law to promote science and technology in Jalisco by the legislature (Jalisco 2000a). According to Dr. Francisco Medina, Director of the Council, the idea of developing an R&D policy for Jalisco came not from the government but from an alliance of entrepreneurs, engineers and scientists who published a paper in the early 1990s on the future of the "new economy" in Jalisco. They were active in several initiatives to link universities and industry in enhancing entrepreneurial skills, equipping small firms with computing and internet capability, promoting exports and contracting for research with the academic sector. These initiatives were especially strong in two of Jalisco's private universities, the local campus of the Monterrey Technical Institute and ITESO, where support for small and mid-sized firms had been on their institutional agendas for some time. At UdeG, researchers in biomedical science, agriculture and environmental sciences were also very active in developing partnerships with local communities and firms. Additionally, the emerging "R&D alliance" capitalized on the recent development of the regional CONACYT council, part of a federally supported program set up in 1995 to extend decentralization to R&D policy, fund local research projects, support university-industry collaboration and produce information on R&D at the local level (CONACYT 2001). The Western region's CONACYT system, SIMORELOS, covers the states of Jalisco, Michoacán, Colima and Nayarit, and funded over 160 R&D proposals for a total of \$40.8 million pesos in 1997-1998 (federal funds), including complementary funding from an equal number of partners (agricultural cooperatives, tequila producers, scientific associations, educational and environmental agencies, municipal authorities and business associations (SIMorelos 2001).

Based on the local emerging capability in R&D policy, the alliance lobbied the state government and enlisted the collaboration of the legislature to pass the law at the end of the decade. The council's mission is to enhance and coordinate university-industry collaboration, disseminate information on R&D in Jalisco in relation to its export markets, and to work with engineering and science undergraduates in promoting careers in the sciences. In keeping with its focus on applied knowledge, it intends to promote evaluation criteria for graduate programs and research proposals based on relevance to regional development rather than the stricter CONACYT rules of internationally arbitrated scientific excellence. Production and dissemination of information on local R&D is also on its agenda.

Communication, Collaboration, Accountability

In this section, we refer to information availability and dissemination, use of information by elected or appointed officials in policy decisions and for assessing accountability, and incentives for collaboration across institutional, sector, and system boundaries. Several of the themes mentioned in the previous section on *system design* resonate with this section as well, and we will not reiterate those comments here.

Communication and collaboration were high on the list of priorities of the Cárdenas administration, as we have seen above. The results of its endeavors in this area are not clear cut, mainly as a result of the difficulties in setting up a state council for higher education.

One important initiative by the state secretary of education was to request an evaluation of education in Jalisco by a panel of international experts¹⁹. The study was negotiated in 1999, developed in 2000 and delivered in 2001 (Mallea 2001). The decision is in itself an interesting one, expressing a policy to open the educational system to external scrutiny and going against the grain of important interest groups in the system – especially the teacher's union and UdeG leadership – long accustomed to back room negotiations and the absence of accountability. Among other recommendations for higher education, the report suggests full decentralization of UdeG, the implementation of an information and accountability system, and a mechanism for credit transfer among institutions as well as the creation of a state council for higher education with funding capability. According to one state official, the report has not been widely disseminated and full circulation is still in the process of being negotiated. Nonetheless, the document was well received in the offices of the secretary of education and is reportedly an important reference for designing educational policy in the new administration (2000-2006).

Changes in collaboration, evaluation and accountability were promoted by federal policy makers in the following areas:

External audits by the federal government and state and federal legislatures.

During the Zedillo administration (1994-2000) the federal secretary of the treasury and the federal comptrollers office tightened rules for expenditure and accountability in all agencies

¹⁹ John Mallea, Vicky Colbert, Henry Ingle, Claude Pair and Ernesto Schiefelbein.

receiving federal funds. In this context, the federal Undersecretary for Higher Education promoted external audits at state universities, including UdeG (ANUIES 2001). Additionally, when UdeG mobilized students in the streets of Guadalajara in 2000 to demand a greater subsidy, Congress decided the time had come to carry out an external audit of UdeG's finances. This decision seemed inconceivable to the university, and PRD deputies came out in defense of UdeG, arguing that autonomy was under attack by illegitimate governmental interference. An agreement was finally reached, whereby the Federal congress audited UdeG on the grounds that it is a recipient of federal funds as well.

The use of information in decision making.

The federal administration created a Program for Administrative Normalization with the intention of developing information systems for universities. We were unable to confirm whether UdeG had participated in this program. However, from previous research (Kent 1998) we were aware that one of the decisions made by UdeG as it underwent restructuring in 1992-1993 was to introduce an information system for decision making. In any case, the competition for federal funds throughout the 1990s has compelled universities to improve their information systems. This development, however, has not advanced any further, and UdeG does little in terms of public disclosure.

Credit transfer.

Federal higher education authorities began in 1997 to advance the notion of credit transfer among public institutions, in response to the needs of the growing number of graduates from the two-year technical universities. Negotiations with state universities were unsuccessful, but an agreement was reached to accept credit transfer among technical universities and four-year technical institutes (both state and federal). This issue was on the Jalisco agenda for higher education and was on the list of recommendations released by the external evaluation team of education.

Academic credit for workplace experience.

Building on a federal program to grant basic education certificates to workers, the federal Secretary of Education made public a decision in 2000 to extend workplace certification to higher education (SEP 2000). This program was well received by the Jalisco education officials who are in the process of implementing the program locally. Data on the actual number of certificates awarded in higher education was unavailable.

External peer review of undergraduate programs.

As mentioned in the report on federal policy, the Interinstitutional Evaluation Committees for Higher Education were created in the early nineties to provide input for program improvement. The Committees act only in response to requests by department chairs and heads of *facultades*, who must first carry out a self-evaluation and deliver a report which is then corroborated by visiting evaluators. Recommendations are confidential and are not linked to federal funding decisions, in keeping with the Committees' mission of quality improvement. The Committees' website reports that by 2001 UdeG had requested peer review evaluations of 137

undergraduate programs (CIEES 2001)²⁰. Information on the follow-up to these recommendations was not requested (and is rarely disclosed).

Professional qualifying examinations for graduating students

The federal policy paper describes the program to apply qualifying examinations to students graduating from undergraduate professional programs. These exams are designed collaboratively by the National Center for Evaluation (CENEVAL) and professional associations. Not being compulsory, they are applied by institutional request and results are only made public if the institution decides to do so. At the writing of this report, no publicly disseminated data on exam results were available. However, ANUIES reports that by 1999 the following programs at UdeG were applying these exams: accountancy, business, medicine, pharmacy, veterinary medicine, dentistry, tourism and nursing. We could not establish whether the university had changed its policy on degree requirements by making these exams compulsory for all graduates of the aforementioned programs.

Fiscal Policy

In this section, we portray changes in educational operating support, capital funding, incentive funding, student assistance, and tax policy.

With the important exception of the 1995 financial crash which set educational spending back at least two years in terms of expenditures over GDP (Zedillo 1998), growing public expenditure for education was a federal priority throughout the 1990's. As mentioned previously, the Cárdenas administration in Jalisco also increased educational expenditures in the second part of that decade to a point where they represented half of the state budget. Table 3 provides an overview of state and federal funding for public higher education (excluding Normal Schools).

²⁰ UdeG offered 133 undergraduate programs in 1999 according to ANUIES.

Table 3. Public subsidies for higher education in Jalisco, 1994-2001
(thousands of current pesos unadjusted for inflation)

Institution / Funding Source	1990	1994⁽¹⁾	2000	2001
Universidad de Guadalajara				
Federal subsidy	109,876	324,089	1,217,110.6	1,317,078
State subsidy	97,034	295,282.2	1,276,534.1	1,429,719
Income from fees & services	na	na	na	518,579.8
Total	206,910	619,371.2	2,493,644.7	3,265,376.8
Federal Technical Institutes				
Federal subsidy	na	18,475.1	75,233.6	na
State subsidy	na	0	0	0
Total		18,475.1	75,233.6	
State Technical Institutes				
Federal subsidy	-	-	15,662.9	17,184 (est.)
State subsidy	-	-	15,662.9	17,184
Total			31,325.8	34,368
Technical Universities				
Federal subsidy	-	-	2,850	4,643
State subsidy	-	-	2,850	4,643
Total		-	5,700	9,286
Total state expenditures for higher education	97,034	295,282.2	1,295,047	1,452,975

Sources:(SPyC 2000); (COSNET 2001);(Secretaría de Educación 2000); (UdeG 2001)

Notes: 1990 data for federal technical institutes was not available; state TI and TU were created in 1998-2001

(1) 1994 figures do not include funds for research, performance grants for faculty, or institutional development projects

Given the fact that accumulated inflation for 1990-2000 was approximately 200%, public subsidies for higher education in Jalisco increased by a factor of 3 in constant pesos. In other words, in 1990 pesos UdeG's total income from subsidies increased from about \$207,000,000 to \$831,000,000, half of which came from the state government. In constant pesos, Jalisco increased its expenditures on higher education by 400% throughout the decade, a considerable feat in itself.

This assessment was not shared by the rector of UdeG, Victor González. Throughout the second half of the 1990s, Mr. González insisted in public statements that federal funding for UdeG was below that of other universities, that there was no published criteria for allocating funds and that Congress should amend the constitution to make federal subsidies to public universities compulsory (González Romero 1998). He pointed out that UdeG received less than half the per capita funding than other public universities. The issues of unclear funding criteria and inequities in the allocations made to different institutions were aired on several occasions in national meetings of ANUIES, the rectors' association. As mentioned above, they were also proclaimed in the streets of Guadalajara. The Federal Under Secretary for Higher Education recognized the importance of clear criteria and in 1998 developed a funding formula for all universities (personal communication by Dr. Daniel Reséndiz). When the proposal was floated in the rectors' conference, ANUIES took the matter in hand and worked to work out a counter proposal. But this crucial issue remained unresolved.

Growth of private expenditures on education

But total expenditures for higher education are higher if we include private spending. According to the daily newspaper *Reforma*, Mexican families have quadrupled spending on private education in the past five years (Vega, 2001). Quoting an academic researcher, it states that family expenditures on private education increased from 5 out of every 100 pesos spent in 1995 to 20 out of every 100 pesos in 2000. He states that private expenditures on education increased at a more rapid pace than public expenditures in the past five years. In 2001 private spending on education is equivalent to about 2% of GDP, twice that of expenditures by states and municipalities on education. If average growth in national educational expenditures over the past ten years came to 4.5%, a significant portion of this growth was due to private funding.

These figures could not be verified by our research for Jalisco, but there is no doubt a significant long term increase in private spending on education starting in the 1980's. In 2000 35,000 students were paying tuition and fees at private institutions, 150% more than ten years earlier.

In spite of this trend, throughout the 1990s no significant loan or scholarship programs for Mexican higher education were established. The only exception was the scholarship program for graduate programs accredited by CONACYT. A considerable proportion of students work part time (or full time) throughout their course of studies. Curriculum organization in Mexican higher education implicitly recognizes this long standing reality: undergraduate programs operate in two daily shifts, offering most courses in both simultaneously; without recognition by CONACYT, most graduate programs operate on evening schedules under the assumption

that their students are adults working full time. In 2001 President Fox announced the creation of a limited scholarship program for underprivileged students in upper secondary and higher education.

OUTCOMES

In this section, we present data and indicators on five categories of outcomes for higher education in Jalisco: preparation, completion, participation and choice, affordability and benefits.

PREPARATION:

Some results of reforms in elementary and secondary education throughout the 1990s are suggested by Table 4. The 15 to 19 age group corresponding to upper secondary school increased by 19% over the decade. In addition, the number of elementary school children going on to secondary (K-7 to 9) also increased as a result of changes stemming from the 1992 basic education reform program. Thus, upper secondary (or *preparatoria*) schools saw an important increment in enrollments. This is indicated by the 100% growth in the number of young people over 15 with upper secondary schooling. This is significant because that age group increased its attendance to upper secondary schools from a factor of 35% in 1990 to 67.5% in 2000 even as the age group grew by 19%.

However, upper secondary schools do not seem to have kept pace with reforms at previous levels of schooling. They took in ever more secondary school leavers but were not able to retain in a significantly greater proportion in 2000. So, even though the percentage of 18 year olds with upper secondary diplomas increased by 50%, the slow increase in the retention rate means that the larger numbers of students going to *preparatorias* are not necessarily receiving the benefit of a diploma needed for higher education. There are more upper secondary schools throughout the state but the figures suggest that they are lacking in quality and efficiency.

Table 4. Changes in Secondary and Upper Secondary Schooling in Jalisco

	1990	2000
Total Population: Jalisco	5,302,689	6,322,002
Individuals in the 15 to 19 age group	643,430	673,570
Individuals over 15 with Upper Secondary Schooling	226,106	454,744
Secondary to Upper Secondary Going Rate	56%	80%
Retention rate in upper secondary school	81.9%%	86.6%
Percentage of 18 yr olds with upper secondary diploma	9.8%	15.9%

Sources: (INEGI 1992); (INEGI 2001); (ANUIES 2000); (Fox 2001)

COMPLETION

Completion rates for higher education in Jalisco are a bit harder to calculate because of the poor data produced by UdeG in the late 1980's. There are significant discrepancies between data reported by the university to the rectors' association (ANUIES) and data reported by the Secretary of Education (SEP), which we were unable to explain. Neither source produces information by cohort but rather simply reports enrollment numbers by year.

Finally, the definition of a *graduating student* bears examination. Because the thesis requirement is still used in many institutions for the professional undergraduate diploma, many students finish their course credits and leave without a thesis and therefore without a diploma. Institutions have come to accept this widespread phenomenon and have a name for those people who "pass" without a diploma: *pasantes* (which we will call *leavers*). Institutions report the number of leavers and diploma holders separately. Now, the thesis requirement has come under fire in recent years, as the Under Secretary for Higher Education has pressed rectors to eliminate it. This, of course, allows more students to graduate with a diploma and the institution to report higher completion rates.

We have chosen to measure completion rates by comparing *leavers* and diploma holders with incoming students five years previously, as this is average length of time students need to finish their studies.

In all probability, the increases in the percentage of students receiving diplomas over leavers and in the number of diplomas awarded per 100 undergraduates are results of changes in the graduation requirement, eliminating the thesis in several programs. This cannot necessarily be dismissed as a mere statistical artifact, if a greater number of graduating students with legitimate diplomas is considered a good thing. However, these figures are silent on whether they indicate greater quality and efficiency in teaching and learning.

Table 5. Completion Rates in Higher Education

	1991 ⁽¹⁾	1999 ⁽²⁾
Percentage of "leavers" over incoming students 5 years earlier, as reported by two sources:		
a) ANUIES	87%	97%
b) SEP	65.5%	62.3%
Percentage of students receiving diplomas over "leavers" in the same year	34.9%	71%
N° of diplomas awarded per 100 undergraduates in the same year	3.3	10.4

Source: (ANUIES 1990); (ANUIES 2000)

(1) Complete figures for 1990 were unavailable; averages for 1989-1991 were used

(2) Since figures for 2000 were not available at the moment of this writing, averages for 1997-1999 were used.

PARTICIPATION AND CHOICE:

Between 1990 and 2001, higher education enrollments in Jalisco probably increased from around 70,000 to 87,834 students. In the same period the number of higher education establishments (including regional campuses of UdeG) went from 14 to 52 in most regions of the state. These establishments increased the number of employed professors from 7,522 to 14,716 (Fox 2001). By 2000 most small and mid-sized urban areas in the state had higher education programs of some kind, principally as a result of the policy of University of Guadalajara to extend campuses to all regions, often in competition with state sponsored technical institutes. Although more institutions existed in different regions, the range of choice remained basically limited to the professional undergraduate offerings of UdeG.

The pressure of students leaving upper secondary for higher education clearly increased quite dramatically. Nonetheless, higher education institutions were unable to keep pace with these demographic shifts, as is evident from Table 6. The enrollment rate of young people in the 20-24 age bracket grew only slightly as did the number of adults with higher education.

Table 6. Changes in Participation

	1990	2000
Upper secondary to higher education going rates ⁽¹⁾	45%	83.6%
higher education enrollment rate of population in 20-24 age bracket ⁽²⁾	(19.8%) 13%	15.3%
Adults with higher education	8.3%	11.1%

Sources: SEP 2001a; INEGI, 1992, 2001.

(1) 1st yr undergraduates / upper secondary leavers previous year.

(2) The figure in parenthesis uses inflated enrollments reported by UdeG. The second figure is based on an adjustment to 1990 enrollments. The figure for 2000 is more accurate but comparison with 1990 is tenuous.

AFFORDABILITY

According to Fox' First Presidential Report (September 1st, 2001) the percentage of current family expenditure on education has increased from 7.8 to 13.2 between 1989 and 2000 (Fox 2001). The first three deciles of the income distribution (lower income groups) doubled their effort to pay for education (at all levels) whereas middle income strata increased their effort between 25 and 30% and the highest income group (decile X) doubled the percentage of family investments in education during that period²¹.

²¹ The cost structure of educational expenditures varies by income group: poorer families keep their children in public schools but have been paying more for indirect costs (Bracho, 2000), whereas middle and upper income groups have moved their offspring to private establishments altogether, especially in higher education.

For higher education in Jalisco, we produced the following data:

**Table 7. Family Effort in Financing Higher Education:
Fees & Tuition in Jalisco as Percentage of Average Family Income, 1996 & 2000**

	1996			2000		
	Public ⁽²⁾	Private ⁽⁴⁾	Average Pub+Priv	Public ⁽³⁾	Private ⁽⁵⁾	Average Pub+Priv
Annual fees ⁽¹⁾ / yearly average family income: average effort	2%	22%	12%	0.9%	36%	18%
Annual fees / average yearly income deciles I - III: effort for lower income strata	6%	77%	42%	3.4%	143%	73%
Annual fees / average yearly income deciles IV - VI: effort for middle income strata	3%	37%	20%	1.5%	64%	33%
Annual fees / average yearly income deciles VII - IX: effort for upper middle income	2%	18%	10%	0.7%	30%	15%
Annual fees / average yearly income decile XI: effort for upper income stratum	0.5%	6%	3%	0.2%	9%	5%

(1) Includes tuition and fees but not indirect costs (transportation, books, meals)

(2) Data on tuition & fees for University of Guadalajara unavailable for 1996.

(3) Data on tuition & fees for University of Guadalajara in 2000 are incomplete; hence public sector costs are underestimated for both years.

(4) Data for the largest private establishment, the Autonomous University of Guadalajara were unavailable.

(5) Averages for the private sector disguise a very wide range of tuition costs, from US\$1,000 yearly to US\$15,000 yearly.

Data on family income are collected from a national sample. All data in current pesos
Sources: (ANUIES 2000); (INEGI 2000); telephone inquiries to individual institutions

The calculations in Table 7 must be taken as cautious approximations, for several reasons. First, data on family income and expenditure is only available at the national level, because the survey is made on the basis of a national sample. We used the national data family income for 1996 and 2000, the two years for which we had been able to compile reasonably complete data on tuition and fees. The considerable effort involved in compiling information on higher education costs in both the public and private sectors was in itself revealing of a public policy

issue: institutions do not publish this data as a matter of course and government does not oblige them to do so. Families and students (and researchers) must expend considerable effort to obtain this information²². It is provided to a student who is in the process of enrolling in an institution, but of course by that moment he or she has made the choice to attend that institution without the benefit of previously comparing costs at different institutions (or having done so with some effort and incomplete results). Finally, data for costs at UdeG was unavailable for 1996 and only incompletely so for 2000. Therefore, the calculation of family effort at public institutions is underestimated for both years.

Nevertheless, some tentative conclusions may be drawn:

- In only four years average family effort to pay for higher education in Jalisco increased by 50%
- The increase in effort was greatest for families in the lower and middle income strata whose children desired attendance at a private institution
- Attendance at more expensive private institutions is clearly not an option for people in the lowest category of income; however, given the wide gamut of tuition costs in the private sector, lower income students may to some extent find some private institutions affordable.
- In the absence of scholarship and loan programs, the public/private distinction between institutions is also a class distinction²³.

BENEFITS:

The category of benefits of higher education to society is a thorny one to define conceptually and empirically. We have chosen two indicators: educational attainment of the population, and voter participation.

Jalisco obtained relatively good results in raising educational participation of the population in primary, secondary and upper secondary education. But higher education attainment shows very minor gains. These results are consistent with previous arguments comparing the effects of educational reforms in Jalisco in K-9 education with the difficulties encountered in higher education.

²² The largest private institution, the Autonomous University of Guadalajara, would not disclose this information by telephone.

²³ Not all students attending public universities are from lower and middle income families; according to the former Under Secretary for Higher Education, data from other public universities shows that in the mid-1990s middle class composition of the student body grew as a result of entrance examinations, which seem to favor students graduating from private upper secondary schools.

Table 8. Changes in Educational Attainment and Participation in Higher Education

	Basic Education K-9		Upper Secondary		Higher Education	
	1990	2000	1990	2000	1990	2000
1. Educational attainment of adult population %	13.7	19.0	12.9	15.3	8.3	11.1
			1990		2000	
2. Enrollment in higher education per 1000 inhabitants			18.2 (13) *		14.3	

(*) Compensating for overblown 1990 enrollments at University of Guadalajara, the same calculation was made on the more realistic basis of 70,000 undergraduates.

It is clear from this data in Table 9 that voter participation increased very significantly in Jalisco in the 1990s. Between 1988 and 2000 over 1.2 million people registered and voted. This is not merely a demographic phenomenon, since the number of people reaching the voting age of 18 only increased by less than 7,000 during those years. Is this increased electoral participation related to the expansion of higher education or is it an effect of greater pluralism in Jalisco politics? We believe the latter to be the case: the prospect of electing a non-PRI governor in 1994 mobilized large numbers of a previously passive electorate, tired of PRI politics. On the other hand, the fact that Jalisco is a relatively industrialized and urbanized state with a reasonable percentage of adults having attended higher education is surely a contributing factor in this significant political shift.

Table 9. Voter participation and registration in three Presidential elections in Jalisco, 1988, 1994, 2000:

	1988	1994	2000
Percentage of registered voters participating in elections	47%	84%	69%
N° of adults registered to vote	2,514,777	2,885,694	3,797,599
N° of individuals reaching voting age (18)	130,817 ⁽¹⁾	--	137,514

Sources: (IFE 2001); (INEGI 2001); (INEGI 1992)

(1) This figure is from the 1990 Census.

CONCLUSIONS

This report has asked what policy capacity in higher education has emerged at the state level, how state policy has interacted with federal programs, and what outcomes may be discerned in Jalisco's higher education system.

In response to the first question, there are several conclusions. Clearly the Cárdenas administration regarded education as a priority issue and perceived it as an important investment in social and economic development. The funding data we have cited show a very significant financial effort on the part of the state government, even in the face of limitations on fiscal income resulting from Mexico's centralized taxation system that favors the federal government. Jalisco did not raise additional taxes to support education but capitalized on federal funding policy to establish new technical institutions. There was a meeting of the minds between state and federal policy makers.

Additionally, increased expenditures were clearly necessary to achieve a more general purpose. This goal consisted in legitimating an integral government policy for Jalisco's complex system of higher education: on the one hand, a public sector dominated by a very large and independent university with plans of its own for the state; and on the other a burgeoning private sector that operated freely under extremely lax regulation. The remarkable fact was that political leaders elected by popular vote found it necessary to justify their authority in setting higher education policy, which was contested by the state university.

The main instrument used by the state government in developing a higher education policy of its own in these circumstances was to diversify system design. When the Jalisco Coordinator for Upper Secondary and Higher Education created five state run technical institutes and one technical university in the space of three years, a new page was turned. These are small institutions and they are very young, so it is unreasonable to expect outcome data on participation to reflect their presence in the state of Jalisco. But is fair to say that newly elected government in 2000 will continue to strengthen them, not only because this administration kept Mr. Limón in the office of secretary of education but also because this new institutional sector provides leverage to the government in its continuing effort to establish a higher education policy of its own.

Nevertheless, coordination of the system as a whole is still very weak. The difficulties in setting up the state planning commission show that creating technical institutes is not enough and that some kind of agreement will have to be reached with UdeG for the planned development of regional campuses, a goal that is shared by both parties. Policy makers in Jalisco have not begun to use other tools of fiscal policy that are theoretically at their disposal, such as scholarships and loans or competitive bidding.

But in the meantime, the government worked to establish relationships with other actors. The creation of the state commission for science and technology is a case in point, where the government associates directly with entrepreneurs and scientists, not institutions of higher education. Interviews and documents show that policy makers in this area are clearly focussed on developing and strengthening the *innovation system* in Jalisco through synergies among academe, business and government. Here, too, the federal government plays a part through the

financial support for the regional division of CONACYT, and state policy makers view this as an opportunity to work collaboratively with the federal government (Jalisco 2000a; Nelson,1993).

Another instance is the recent initiative to provide distance education in collaboration with private universities. Collaboration is perceived by the government as an important tool.

The use of information and a greater stress on accountability also figure in the tools used by the Jalisco government. This is another example of federal-state collaboration, since federal policy makers are the original driving force behind evaluation and accountability in higher education. Disclosure on financial issues is also being demanded by the state legislature, where debates on the budget for higher education now require data on institutional behavior and outcomes. Nonetheless, information systems and accountability are in their infancy, and there is much work to be done in certain areas: the non-disclosure of information on tuition and fees in the private sector stands out as an important issue as well as the the development of outcome indicators of quality for institutions²⁴.

There is, then, a greater degree of regulation than previously but only partially so, because regulation is contested by UdeG as an encroachment university autonomy. On the other, it is clear that the market is a growing force in Jalisco higher education, but it acts on its own as the government's attributions for influencing private institutions are constitutionally feeble.

What are the educational and social outcomes of this complex process of institutional reform? In this study we ask how changes in the rules of the game lead to changes in institutional behavior and in the educational benefits for the population. As a result of the lack of outcome indicators on quality and relevance and because of the major shortcomings in data collection at UdeG in the early 1990s, the available data is difficult to work with. Certainly, educational attainment and participation are growing in Jalisco, especially at the elementary and secondary levels. It surely may be argued that this is a response to educational policy reforms by the state government. The reforms in K-9 education have produced a greater number of young people pushing for admission into higher education, and both the government and UdeG have responded by creating regional institutions.

What can be said about the outcomes in higher education? More upper secondary graduates are going on to higher education, and completion rates at this level seem positive, if the data on graduates is taken at face value. Yet the changes in the rate of enrollment of the 20-24 age group are unimpressive for Jalisco, in comparison to other industrialized and urbanized states in Mexico, such as Nuevo León and the Federal District (where enrollment rates are almost twice as high as in Jalisco). If public funding for higher education in Jalisco tripled throughout the 1990's, it is reasonable to inquire whether these results justify such an expenditure.

Private higher education is increasingly less affordable at the larger, more consolidated, universities; but smaller institutions in the private sector are keeping their tuition and fees lower to attract middle and lower middle class students. In Jalisco's open market for higher

²⁴ This issue is not only Jalisco's but a national question that is yet to be resolved.

education, the government is doing little to inform students on costs and quality. In the future this situation may evolve toward greater inequity.

Interesting data on changes in citizenship and participation in the democratic process may or may not be correlated with changes in higher education. In any case, a more highly educated society may be the supporting factor behind political mobilization.

Apart from requiring better data sources, we might also ask if the kind of outcomes we are trying to measure should be examined over a longer period of time, given the slow process of educational reforms generally.

Then again, this report must insist that an important dimension of these changes is the growing capacity of the Jalisco government to involve itself in higher education policy and its continuing attempt to steer it toward what it defines as the public interest. This is a significant development and should be regarded per se as an outcome.

REFERENCES

- Acosta Silva, Adrián, 2001, Estado, políticas y universidades en un período de transición, México: Fondo de Cultura Económica
- ANUIES (1990). Anuario Estadístico 1990. México D.F., Asociación Nacional de Universidades e Instituciones de Educación Superior.
- ANUIES (2000). Anuario Estadístico 1999. México, D.F., ANUIES.
- ANUIES (2000). Catálogo de Licenciatura, Asociación Nacional de Universidades e Instituciones de Educación Superior. 2001.
- ANUIES (2001). Acciones de transformación de las universidades públicas mexicanas, 1994-1999. México D. F., Asociación Nacional de Universidades e Instituciones de Educación Superior. 2001.
- ANUIES-COEPES (2000). Convenio marco de colaboración en materia de vinculación y apoyo académico. Guadalajara, Jalisco.
- Arechavala, Ricardo, y Solís, Pedro, 2000, La universidad pública ¿Tiene rumbo su desarrollo?, Guadalajara: UdeG/UAAs.
- Bazdresch, M. (2001). "La educación en Jalisco: entrevista con Miguel Agustín Limón." Sinéctica 18 (enero-junio): 3-10.
- Cárdenas Jiménez, A. (1995a). Educación Superior - Plan Estatal de Desarrollo: Jalisco 1995-2000. Guadalajara, COPLADE.
- Cárdenas Jiménez, A. (1995b). Plan Estatal de Desarrollo Compromiso entre Sociedad y Gobierno para el Desarrollo Sustentable de Jalisco, 1995 - 2001. Guadalajara, COPLADE.
- CIEES (2001). Instituciones atendidas. México D.F., Comités Interinstitucionales de Evaluación de la Educación Superior. 2001.
- CONACYT (2001). ¿Qué son los sistemas regionales de CONACYT?
- COSNET (2001). Subsidio Público Ordinario a Institutos Tecnológicos Estatales, 1994-2000. México D.F., Consejo Nacional de Educación Tecnológica.
- Fox, V. (2001). Primer Informe de Gobierno. Mexico D. F., Presidencia de la República.
- Frías Frías, C. (2001). "Piden partidos más recursos para la UdeG: Proponen a Cárdenas Jiménez otorgar \$119 millones anuales durante un sexenio". La Jornada. México, D.F.
- García de Fanelli, A., R. Kent, G. Alvarez, R. Ramírez (2002). Entre la academia y el mercado: posgrados en ciencias sociales y políticas públicas en Argentina y México. Mexico D.F., ANUIES.
- González Romero, V. M. (1998). "El Financiamiento Público de la Educación Superior". "La Universidad Pública del Siglo XXI; Calidad Académica, Autonomía y Democracia, Universidad Autónoma de Querétaro.
- Grindle, M. (1996). Challenging the State: Crisis and Innovation in Latin America and Africa. Cambridge, Cambridge University Press.
- IFE (2001). México Electoral: Estadísticas federales y locales 1970-2000, Banamex-Accival. 2001.
- INEGI (1992). XI Censo General Población y Vivienda: Códice 90, Instituto Nacional de Estadística, Geografía e Informática. 2001.
- INEGI (2000). Encuesta Nacional de Ingresos y Gastos de los Hogares, 1998, Instituto Nacional de Estadística, Geografía e Informática. 2001.

- INEGI (2001). XII Censo General Población y Vivienda 2000, Instituto Nacional de Estadística, Geografía e Informática. 2001.
- Jalisco, Cámara de Diputados de la LVI Legislatura, Poder Legislativo del Estado de Jalisco. 2001, <http://www.jalisco.gob.mx>.
- Jalisco, Gob. del Edo. (2000a). Ley de fomento a la ciencia y tecnología del Estado de Jalisco. Guadalajara, Periódico Oficial: El Estado de Jalisco. CCCXXXV.
- Jalisco, Gob. del Edo. (2000b). Reglamento interno del Consejo Estatal para la Planeación de la Educación Superior en el Estado de Jalisco. Guadalajara, Periódico Oficial, El Estado de Jalisco. CCCXXXIV.
- Kent, R. (1992). *Expansión y diferenciación del sistema de educación superior en México: 1960 a 1990*. México D.F., DIE-CINVESTAV.
- Kent, R. (1993) "Higher Education Policy in Mexico: From Unregulated Expansion to Evaluation", *Higher Education*, Kluwer Academic Publishers, 25(1): 68-78.
- 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., Alvarez, G., De Vries, W., González, M., Ramírez, R. (2002), *Cambio disciplinario y organizacional en unidades de investigación en ciencias sociales en México*, México: DIE-CINVESTAV / Plaza y Valdés.
- Levy, D. C. (1986). Higher Education and the State in Latin America: Private Challenges to Public Dominance. Chicago, University of Chicago Press.
- Levy, D. C. (2002). *Latin America's Tertiary Education: Accelerating Pluralism*, Fortaleza, Brazil, Seminar on Higher Education and Science and Technology in Latin America and the Caribbean: Responding to Expansion and Diversification, sponsored by the Inter-American Development Bank, March 8, <http://www.iadb.org>
- Mallea, J., V. Colbert, H. T, Inlge, C. Pair, E. Schiefelbein (2001). Educación Jalisco 2000: Una revisión internacional de sus políticas y prácticas. Guadalajara, Secretaría de Educación.
- Mancera Corcuera, C., y Vega García, Luis (2000). Oportunidades y retos del federalismo educativo: el camino recorrido 1992-2000. Memoria del Quehacer Educativo, 1995-2000. SEP. México, D.F., Secretaría de Educación Pública. I: 45-83.
- Migdal, J. (1988). Strong Societies and Weak States: State-Society Relations and State Capabilities in the Third World. Princeton, N.J., Princeton University Press.
- North, D. C. (1996). Institutions, Institutional Change and Economic Performance. Cambridge, UK, Cambridge University Press.
- Nelson, Richard R., ed., (1993), *National Innovation Systems: A Comparative Analysis*, New York: Oxford University Press, 541 pp.
- Secretaría de Educación (2000). Proyecto Presupuesto de Egresos del Gobierno del Estado de Jalisco, 2000 y 2001. Guadalajara, Jalisco, Gobierno del Estado de Jalisco.
- SEP (2000). Acuerdo 286. Normas y criterios para revalidación y equivalencia de estudios y acreditación de experiencia laboral. México D.F., Diario Oficial.
- SEP (2001a). Matrícula e indicadores de educación media superior por entidad federativa, Secretaría de Educación Pública. 2001.
- SEP (2001b). Programa Nacional de Educación, 2001-2006. México D.F., Secretaría de Educación Pública.
- SESIC (1998). Procedimientos par la conciliación de oferta y demanda de educación superior en las entidades de la federación. México D.F.

- SIMorelos (2001). Proyectos aprobados: convocatoria 1998, Sistema de Investigación Morelos. 2001.
- Solís, H., Cortés, Marco A., et al. (1999). Jalisco a futuro: construyendo el porvenir, 1999-2025. Guadalajara, Universidad de Guadalajara.
- Spinoza L., H. (2000). En Jalisco, juntos construimos el cambio. Jalisco, Organo Informativo del Gobierno del Estado. Guadalajara.
- Subsecretaría de Planeación y Coordinación (2000). Subsidios a universidades estatales. México D.F., SEP.
- UdeG (2001). Presupuesto de Ingresos y Egresos 2001, Dirección de Finanzas. 2001.
- Vega, M. (2001). "Gastan más en escuelas privadas", Reforma. México D.F.
- Velasco García, M. (2001). "El rector de la UdeG rechaza entregar al gobierno estatal el control de 110 preparatorias". La Crónica de Hoy. México D.F.
- Zedillo, E. (1998). Cuarto Informe de Gobierno. México D.F., Presidencia de la República.