ECONOMIC DEVELOPMENT IN MONTERREY: COMPETING IDEAS AND
STRATEGIES IN MEXICO

by

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ABSTRACT

Modern Mexico has been ruled by a regime whose fundamental assumption comprised the "Revolutionary Creed" and a theory of economic development by import-substitution industrialization. In this context, the relationship between the Federal government and the Monterrey industrial elite was permeated, even at times of cooperation, by mutual disdain and suspicion. Since the mid-1980s, however, the relationship between the northern elite and the federal government has been changing, increasingly becoming an alliance to transform the political, social and economic structures of the country.

This dissertation provides an explanation for the rapprochement between the Monterrey industrial elite and the federal government since the 1980s. I argue that the emerging alliance between the most autonomous business elite in Mexico and the federal government results from two factors: the ideological convergence of the Monterrey industrialists and the technocrats in power, and the elite's achievement in overcoming the economic crisis of the 1980s through the implementation of an alternative strategy of economic growth.

The Monterrey strategy of economic growth consists of a twofold approach: a short-term strategy that entails a favorable reduction of debt and the restructuring of the firm through the elimination of unproductive businesses; and a long-term strategy that involves a transformation of the process of production through the implementation of programs aimed at increasing productivity and competitiveness of the firm, and at reorienting production to satisfy the demands of the market rather than the designs of the firm. This long-term strategy is based on a vision of how the economy should work, and is introduced at the microeconomic level through a reorganization of industrial relations—requiring a multi-skilled labor force dedicated to quality and service, a more flexible production process, an emphasis on technological innovation, and a network of subcontractors.

The Monterrey industrial elite was able to implement this alternative strategy of development because the Monterrey region already possessed the preconditions required for its implementation. These preconditions, embodied in the social foundations of Monterrey's society, are an outcome of the culture of the region which has been shaped over the years by the Monterrey industrial elite through the institutionalization of its ideology. The elite used religion and other social institutions—such as parochial schools, recreational clubs, firm unions—to protect society from the influence of the "Revolutionary Creed."

Thesis Supervisor: Dr. Myron Weiner
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This study is the result of field research I conducted in Monterrey, Nuevo León, between February and July 1990 and in Central Mexico in August 1990. Over the course of the research and writing of this dissertation, I accumulated many debts to friends, teachers, family members and even strangers.

I would like to express my deepest gratitude to all the people of Monterrey who were kind enough to share their views and experiences with me. This dissertation, however, would not have seen the light were it not for the support I received from Lic. Fernando Canales Clariond. Mr. Canales went out of his way to open the doors of the Monterrey elite for me and in making me welcome in his city. His interest in the project and encouragement were especially valuable during the field research. Without his assistance, many entrepreneurs and managers would not have granted me interviews and shared information with me as candidly as they did. I thank him for taking the time to discuss different parts of the argument at length and for setting up many of the key interviews and plant visits that I undertook while in Monterrey. I am grateful also to Ing. Alfonso Romo Garza of Pulsar Internacional, Ing. Luis Milán of Alfa, Ing. Francisco J. Garza and Ing. Carlos Segovia of VITRO, for granting me interviews and allowing me to visit plants of their holdings in Monterrey and in Central Mexico. I am thankful to Lic. Mariano Montero, director of CAINTRA, for helping me set some interviews and for allowing me access to valuable data. And, I thank Lic. Benito Cabello Zul, director of ADMIC, and the many microentrepreneurs I met through him for opening my eyes to the fascinating world of subcontractors and micro-producers. Finally, I would like to thank Gerardo Puertas Gómes and Catalina Barrenechea for their friendship and for making my stay in Monterrey more pleasant.
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Many elements other than intellectual interest and perseverance go into the writing of a dissertation. I would like to thank my family for the emotional support and encouragement they provided me through the ordeals of the doctorate. In particular, I would like to thank my father for his financial assistance; my mother for her emotional support during
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Through the research and writing of this dissertation many people shared their ideas with me. In the end, however, I am solely responsible for the final analysis and interpretation of the data. Any errors or omissions are my own, and the opinions and interpretations should not reflect negatively on my interviewees.

When I was seeking a dissertation topic, one professor suggested that the dissertation is a search into one’s identity. For a long time, I could not see the connection between this thesis on industrialization in Northern Mexico and myself. It is only now that I can see the
connection: much of my interest in politics, ideology and in the importance of history is derived from the lives and deeds of my grandparents. It is to them, with great admiration and love, that I dedicate my dissertation and I thank them for providing me with a rich and varied heritage. To Dr. Antonio Palacios Martos, and to the memories of Doña Josefa Galera de Palacios and Gral. Rafael E. Melgar.

Chapter 1: Inconceivable reality: the new alliance between the Monterrey elite and the Mexican national regime.

Contemporary Mexico is undergoing counterrevolutionary change. The regime that emerged from the Revolution of 1910 ruled the nation through a one-party democracy,1 deriving its legitimacy from the legacy of the Revolution, its alliance with peasants and workers, and its successful implementation of a model of economic growth based on import-substitution industrialization. According to the official rhetoric, the Revolution is still in power, but Mexico is undergoing rapid change. The economic collapse of the 1980s disturbed the revolutionary consensus and called into question the legitimacy of the regime. What was once merely an academic consideration of alternative models of development became an open debate among cabinet members at the early stages of the economic crisis. By the mid-1980s, the dispute over the most appropriate path of economic and political development permeated all layers of society. Through this period of uncertainty the technocrats rose to power.2 The debate came to a head in the 1988 elections—the most

1.- The Mexican political system does not easily fall into the category of “democracy” but neither is it a “dictatorship.” Since the Revolution, Mexico has not been subject to military or dictatorial rule. Since 1917, Mexico has had the constitutional and institutional appearance of a multi-party democracy. It holds regular elections for executive and legislative authorities at the federal, state and local level. Yet Mexico has been characterized as a one-party or single-party democracy, for despite the legal existence of different political parties covering a wide ideological spectrum, all significant political positions are monopolized by one party, the Partido Revolucionario Institucional (P.R.I.). Furthermore, the power and loci of decision-making is de facto embedded in the Presidency. The degree of independence of the legislative and judicial powers vis-a-vis the executive is less than in actual democracies. Thus, the Mexican political system can be more appropriately defined as a “soft” or moderate authoritarian regime, characterized by an inclusionary system given to cooptation and incorporation of dissenting groups, and an institutional system governed by civilians.

2.- For an analysis of the rise of technocrats to power Cf.: Sylvia Maxfield, Governing Capital: International Finance and Mexican Politics. (Ithaca N.Y.: Cornell University Press, 1990) and Miguel
contested in Mexican modern history. With Carlos Salinas de Gortari, the counterrevolution ascended to power.

The current ideology of the ruling elite is based on neo-liberalism. The institutionalization of this ideology requires a different set of alliances than the ones maintained during the ascendancy of the "Revolutionary Creed."³ In the past, in order to prosper and survive, the regime called for an alliance between the developmental state and the organized working class and peasantry. Under the emerging regime, the required alliance links a smaller state with the private sector and the international financial community. Key constitutional articles are being amended without shaking the political system;⁴ enemies of the past are becoming crucial allies for the future of the regime.⁵ In this new context, in which the unthinkable is becoming reality, Mexico is being transformed.

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3.- Frank Brandenburg coined the phrase in his remarkable study of post-revolutionary Mexico, The Making of Modern Mexico. (Englewood Cliffs, N.J.: Prentice Hall Inc., 1964). The "Revolutionary Creed" catches the almost religious essence of the "National Project of the Revolution." The project is based on the premises of "sufragio efectivo, no reelección" and "libertad y tierra," and is embedded in the Constitution of 1917, especially in articles 3 (Free and secular education), 27 (Land reform), 123 (Worker's rights) and 130 (Strict separation of Church and State).
4.- For most of this century, key constitutional articles have been sacred to the Mexican: articles 3, 27, 123 and 130. Except for article 130 (separation of Church and State) which was the result of the Leyes de Reforma (1857), the other three articles were Revolutionary gains. It had been believed that an attack on any of these articles was likely to bring down the regime, however, President Salinas has proven it otherwise. In less than four years, President Salinas has reformed these articles, especially article 27, by permitting the sale of ejidos to agri-business and article 130 by giving political rights to priests and nuns, allowing them (de jure since this de facto was already the case) to run parochial schools, and negotiating the reestablishment of diplomatic relations with the Vatican.
5.- The enemies of the past include: the private sector, the international financial community and the Church.
In the new alliance the economically puissant Monterrey industrial elite is a key ally of and a major source of inspiration for the Salinas administration. Within the private sector, the Monterrey industrial elite had traditionally distinguished itself by its vehement antagonism towards the revolutionary regime. This dissertation provides an explanation for the rapprochement between the Monterrey industrial elite and the federal government since the late 1980s. It is my argument that the emerging alliance between the most autonomous business elite in Mexico and the federal government results from two factors: the ideological convergence of the Monterrey industrialists and the technocrats in power, and the northern elite’s achievement in overcoming the economic crisis of the 1980s through the implementation of an alternative strategy of economic growth.

The ongoing transformation of the Mexican regime is perhaps, after the Revolution of 1910, the most dramatic event in modern Mexican history. Many scholars have been studying this phenomenon from the perspective of a transition to democracy; others have concentrated on the metamorphosis of the ruling elite. Increasingly, scholars are turning

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6.- In a recent Special Advertising Section on Monterrey which appeared in Business Week (December 23, 1991, pp. 20C-20M), President Salinas de Gortari was quoted as saying: “In Nuevo León, we are already living in the days symbolizing new times of growth, of sustained expansion, of international projection.” This statement is just one of the many the President has made praising Monterrey and its economic success.


to the analysis of the politics of the private sector, a topic that until recently was ignored. Given the fluidity of the regime, some studies are speculative; whereas, others are rapidly becoming dated.

In order to avoid some of the difficulties of studying a regime in flux, I have chosen to examine this transformation by studying the ideology and economic strategy of the Monterrey elite and its relationship with the Mexican state. In terms of its ideology and basic structure, Monterrey has not changed significantly over the past decade. On the other hand, the Mexican regime has been undergoing a period of fundamental redefinition, producing conditions which make it difficult to analyze and interpret continuing change.

By looking at the transformation of the regime through the eyes of the Monterrey elite, the convergence of the Mexican regime towards the ideology and strategies of the northern elite becomes apparent.

No studies have yet been published about the increasing influence of Monterrey in Mexico City or about the astounding recovery of the northern industrialists from financial disarray. Most studies on the Monterrey region are written either by Marxist scholars as case studies of bourgeois exploitation of the proletariat or by local writers eager to praise


9.- The study of the private sector has not been a major concern of Mexicanists. However, as a result of the nationalization of the banks in 1982, and the “dispute over the Nation” some scholars began to analyze the private sector. Some of the titles include: El Poder Empresarial en México, Tomo I. Salvador Cordero, Rafael Santín y Ricardo Tirado. (México D.F.: Terra Nova, 1983) which is written from a Marxist perspective; Empresarios de México: Aspectos Históricos, Económicos e Ideológicos. Edmundo Jacobo, Matilde Luna y Ricardo Tirado. Comp. (Guadalajara, Jal.: Universidad de Guadalajara, 1988); Private Sector in Contemporary Mexico. Sylvia Maxfield and Ricardo Anzaldúa Montoya, eds. (San Diego, CA.: Center for US-Mexican Studies, UCSD. 1987). Monograph Series 20.

the powerful elite. Others are historical descriptions of the industrialization of the region. In general, the literature on the region is scarce and weak. This dissertation will thus contribute to the development of much needed scholarship on Monterrey. It will also fill a gap in the Mexican and Latin American literature on business-government relations. Indeed, except for a few studies on the more active and autonomous business groups of Antioquia, Colombia and São Paulo, Brazil, little attention has been paid to this subject in the Latin American field, despite the increasing role of the private sector in Latin American economies. By analyzing the ideology of the Monterrey elite and its relevance for the selection of a model of economic growth, moreover, this dissertation opens up an area of inquiry which has remained largely unstudied in post-Revolutionary Mexico: the ideology of economic development. By explaining the social foundations of the Monterrey model of economic growth, in other words, I hope to correct an imbalance in the Latin American field dominated by the literature on the state. This attempt to analyze and understand the social foundation of the model of development returns to the approaches developed by Barrington Moore and Albert O. Hirschman. Finally, my study of Monterrey’s strategy of economic growth will contribute to the discussion on economic


growth in the context of the structural transformation of industrial production and of the international economic system.

**Research design and Methodology:**

Despite the economic weight and political influence of the Monterrey industrial elite in Mexico, few academic studies have been published on these northern industrialists. Most academic studies of the Monterrey elite center on the initial stages of industrialization and the evolution of the elite and its industries until the 1940s. The lack of a substantial literature on the Monterrey elite does not simply result from a lack of interest by academics in the topic but, more importantly, from the elite’s extreme protection of its privacy. Secrecy is an important characteristic of the elite; hence, many reports are confidential and, when possible, rules are passed on by word of mouth. Even after some holdings went public, the elite restricted the availability of information on its businesses. Researchers, especially Mexican scholars, have often been frustrated by the hermeticism of the elite. Only recently has the elite begun to open its doors to a few European and North American scholars.

In doing my field research, I benefitted greatly from the recent desire of the elite to be better understood by outsiders. However, as a woman and, more importantly, as a native of Mexico City, the doors of the Monterrey industrialists would have been closed to me were it not for two important points: 1) I was introduced to the industrialists by a respected member of the elite, Fernando Canales Clariond, who has known me since 1986, when I worked for the blue-ribbon Bilateral Commission on U.S.-Mexican Relations of which he

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15. In most of my interviews with members of the industrial elite (heads of corporations and top managers), I was often greeted by the question “Where are you from?” My answer was often followed by the exclamation “¡Ah! Chilanga [a derogatory term for the people from Mexico City], we hate Chilangos here.”
was a commissioner; and 2) I was a graduate student at the Massachusetts Institute of Technology, the alma mater of key members of the elite.

In the long run, two liabilities--being a woman and a native of Mexico City--turned out to be minor advantages in my research. Some interviewees acted paternalistically and, because they thought I was naive, provided me with detailed information that they would probably not have given to a male researcher. As a native of Mexico City and having done preliminary field research in the Federal District, I had a point of comparison between the northern industrialists and their Mexico City counterparts, and between the culture of Central Mexico and that of the Monterrey region.

This dissertation is based on field research I conducted in Monterrey, Nuevo León, between February and July of 1990, and in Central Mexico in August of 1990. The initial questions that guided my research were: How and why was Monterrey able to overcome the economic crisis before the rest of the country began to grow again? What was different about Monterrey? Was a new model of development being implemented in Monterrey? What was the ideology of development of the Monterrey industrial elite?

In order to answer the questions about the strategy of the Monterrey elite in overcoming the economic crisis, I interviewed seven chairs of corporations of the elite’s leading holdings, including three members of the Grupo de los Diez--the ten CEOs from the top Monterrey holdings who meet on a regular basis with the President to discuss macroeconomic policies. I conducted sixteen interviews with other top managers and members of the industrial elite and twenty interviews with mid-level managers. Each interview consisted of a brief presentation of the topic of the dissertation and of the questions I was interested in asking, such as: how had Monterrey overcome the crisis? what had managers done to overcome the economic crisis and grow? what was the industrial organization of their factories? how did they integrate acquired businesses into
their holdings? what kind of union did they have and what type of relationship did they have with it? what kind of relationship did they have with research centers and universities? with the federal government and the local government? what did they think of the economic policies of the federal government? what was their ideology and what was its source? The interviews were open-ended and lasted on average two hours.

In order to verify some of the claims about the industrial structure of their plants, I interviewed twelve academics, mostly engineers, who had first-hand knowledge of the functioning of the local industries, their level of technological sophistication, the level of flexibility (use of flexible machinery, flexibility in adapting production), the type of industrial organization, their level of productivity and efficiency, and the success of their quality circles and their Just-in-time production.

More importantly, I visited several plants in Monterrey to confirm claims about the level of technology, the level of flexible specialization, the level of shop floor participation in the decision-making process, and the type of industrial organization. In choosing the plants to study, I decided to concentrate on the holdings of the Monterrey industrial elite. In this sense, the dissertation presents a bias, for it ignores the industries of the medium-size industrialists. The selection of firms of the elite is, however, justified by the fact that I was primarily interested in elucidating how Monterrey overcame the economic crisis and what Monterrey's ideology of development was. The small and medium-size firms that survived the crisis often did so by following the elite's blueprint. In selecting the firms for study, I followed these criteria: 1) if possible, I had to visit two firms of the same holding; 2) if possible, the firm had to have an equivalent in Central Mexico, as I was interested in testing the hypothesis that all things being equal, the people of Monterrey are more productive than the workers of Central Mexico; 3) some of the firms had to belong to the original
Monterrey group (i.e., Alfa, VITRO, CYDSA and VISA) and others to groups that had become powerful over the past twenty years.

Hence, from Grupo Industrial Alfa I visited: the steel plant “Aceros Planos” of HYLSA in Monterrey and a similar plant in Xoxtla, Puebla; and the food processing plant Alimentos Libay in Monterrey and Alimentos México in Xalostoc, México. From VITRO, I visited Vidrieria Monterrey and its counterpart on the outskirts of Mexico City, Vidrieria los Reyes. Given the uniqueness of VITRO’s capital goods producing plant, I visited Fábrica de Máquinas (FAMA) in Monterrey. From VISA, I visited Cervecería Cuauhtémoc, the original factory of the Garza-Sada family. I did not visit the brewery in Mexico City, for I was more interested in seeing the SCyF model at work in the brewery than in making a comparison with Central Mexico. Moreover, I found most opposition to my research in VISA, where managers often told me that they did not know why they should trust me with information and what they could gain from this type of research.

From IMSA, I visited the original plant of the holding, Industrias Monterrey, and the recent acquisitions Acumex and Cuprum. Acumex and its counterpart in San Francisco Popotla in Tlaxcala, Acumuladores del Centro, produce batteries for cars and for industry. Cuprum has three different plants in Monterrey, producing sheet metal for industry, and has a subsidiary in Naucalpán, México. From Grupo PROEZA, I visited METALSA Monterrey, which is reputed to have the most successful quality control program in the entire region. From the newest holding, Pulsar Internacional, I visited the cigarette factories, Cigarrera la Moderna, in Monterrey and in San Luis Potosí; the carpet factories, Luxor, in the outskirts of Monterrey and in Texcoco, México; and Aluprint in San Luis Potosí, a factory that produces packaging materials for consumer goods. This study covers a considerable percentage of the spectrum of production of the Monterrey firms. However, I do not claim
that this study is statistically significant. It provides, rather, an impressionistic map of the firms of the Monterrey elite.

Each visit to a plant consisted of formal interviews with the director of the plant, the director of engineering and the director of human resources. After the interviews, I proceeded to learn the production process and visit the plant. At the shop floor level, I looked for signs of flexible production and Just-in-time production. I looked at the levels of inventories and the signs of quality programs, and talked to workers on the shop floor about their jobs, their relationship with management, and their participation in firm activities.

Since I was always accompanied by a manager during my visits to the plant, I also talked with workers at the headquarters of the National Federation of Independent Unions (FNSI), and interviewed the general coordinator of the federation. Moreover, in my visits to the recreational and welfare clubs of the holdings, I talked informally with workers about their feelings toward management, unions, quality programs and the new industrial organization of the firms.

Through the firm research, I discovered that sub-contracting certain parts of the production process was an aspect of the organization of production in some industries. I wondered who these sub-contractors were and how they had come to link themselves to these large firms. During an interview with one manager, I became aware of a program sponsored by the elite to turn members of the informal sector into sub-contractors. I therefore pursued more information about this program, known as Asesoría Dinámica para la Microempresa (ADMIC).

Studying the world of the microentrepreneur, and in particular evaluating the size of the informal sector and its contribution to the economy, is a rather complicated task. Given the limitations of this study, I decided not to attempt to measure the size of the pool of potential
entrepreneurs, but instead to understand what ADMIC was all about, how it helped people out, who the beneficiaries of the program were and what they were able to achieve through ADMIC. I was able to interview the founder and president of ADMIC, David Garza Lagüera, and the general director of the program, Benito Cabello Zul. Mr. Cabello not only granted me several interviews, but more importantly facilitated my research by granting me full access to his institution, allowing me to interview members of his staff, introducing me to several microentrepreneurs, and inviting me to join one of his assistants in his rounds to visit microentrepreneurs. In these visits to microentrepreneurs, I was sometimes left alone to conduct a formal interview, and at other times, I was introduced to them as a new member of the staff.

In its attempts not to fall behind the private sector in relation to the informal sector, in 1986 the governor of Nuevo León inaugurated a program similar to ADMIC but run by the government. I attempted to study this program known as FOMICRO, but was granted only one interview by a member of the staff.

Through the field research, it became clear that the Monterrey industrial elite was not implementing an existing model of development, but rather a set of strategies aimed at restoring the financial health of its holdings and turning them into competitive firms by international standards. At first, I accepted the view upheld by some industrialists that these measures were just a set of pragmatic ideas to overcome the economic crisis. However, once I uncovered the extent of the social ties among members of the elite, the relationships between holdings and the Tecnológico de Monterrey, and the holdings and the local chamber of industry (CAINTRA), I decided these measures constituted a strategy of economic growth. Hence, I defined the Monterrey strategy of economic growth as the set of measures that are being implemented by the Monterrey industrial elite to restructure its debt, and transform the structure of production from supply-production to demand-
production through the introduction of quality programs, the “flexibilization” of production, the sub-contracting of parts of the production process. Supply-production was the structure of production dominant under ISI in which industrialists supplied the market with mass-produced goods without taking into account the desires of the consumer. Demand-production is the new type of industrial production based on the demands of consumers and often based on flexible specialization to facilitate the adaptation to a changing market.

In the dissertation, I argue that the Monterrey industrial elite was able to implement its strategy of economic growth because the social preconditions required for the successful implementation of the model were already in place. I contend that these social preconditions (skilled and responsible labor force, trust and cooperation, low levels of turnover, etc.) are the result of a culture that emphasizes hard work, education, loyalty, family unity and moral values. Culture is here a loosely defined but coherent set of beliefs, practices and institutions that shape the social grid. In order to understand and define Monterrey’s culture, I analyzed the local press, monitored radio and local television programs. I attended social and cultural events where I interacted with members of the elite, I had informal talks with priests and Protestant ministers, and with private school teachers. I walked around middle-class neighborhoods, wealthy suburbs and shantytowns. I ate lunch in factories, recreational clubs and holding headquarters.

In all my interviews, I looked for those small but telling details such as pictures, religious images, book titles, graduation rings, etc. In this regard, my former experience doing research in Mexico City became extremely useful in noticing the differences. For example, a large percentage of my interviewers had crucifixes or pictures of the Pope in their offices, and I was quite surprised to find a picture of President Juárez in the office of a
union leader, for it was the only picture of a Liberal leader that I saw in six months of field research.

The argument that the Monterrey industrial elite shaped the culture of the region through the institutionalization of its ideology became clear to me after my interviews with industrialists, managers, and local sociologists about the role of religion in Monterrey. But it was not until I studied in detail the recreational clubs for the working class and analyzed the content and messages of the internal publications of the holdings that I found enough evidence to support this claim.

Throughout my research I tried to obtain data to support the claims of the elite. Data on the level of education of the working class, wages and benefits, levels of turnover, and levels of productivity were shared with me by some industrialists. However, in all cases the information was only for me to see, and not to be included in the dissertation. In other instances, I attempted to find statistical evidence to support some of my claims about the role of the Monterrey in Mexican economy, the level of participation of the informal sector in the economy, the number of microentrepreneurs that participate in the economy (whether formally or informally), and the productivity of the Regiomontano worker compared to that of other Mexican workers. Most of these data were either nonexistent or unreliable; even the data produced by the Instituto Nacional de Estadísticas, Geografía e Informática was quite useless, as data in different publications contradicted each other and more importantly as the parameters of variables changed over the years, making comparisons impossible. For most of the evidence on the level of participation of the Monterrey holdings in the economy and on their level of productivity, I relied on published studies and on data produced by CAINTRA. Finally, to exemplify the difficulties of obtaining data

16.- Regiomontano is the name given to the inhabitant of the city of Monterrey, in the northeastern state of Nuevo León in Mexico.
in Monterrey, I would relate the troubles I had in acquiring the annual reports of the holdings that participate in the stock exchange. After several attempts to see issues of the annual reports of the holdings in Monterrey, and being told systematically that the reports were confidential, I had to go to Mexico City where a stock-broker made all the reports available to me.

In the remainder of this chapter, I will sketch the argument of this dissertation. First I will depict the complexities of the relationship between the Monterrey industrial elite and the federal government. I argue that the recent alliance between the Monterrey elite and the federal government is the result of ideological and economic considerations, and in the second and third parts of this chapter, discuss the ideology of the Monterrey elite and its model of economic growth.

I.- The Rapprochement between the Monterrey industrial elite and the federal government:

Over time, the relationship between the Monterrey industrial elite and the federal government has been an intricate one. Yet, most descriptions of the interaction between the Monterrey elite and the Mexican regime have consisted of Manichean oversimplifications, pitting the reactionary and selfish elite against the revolutionary regime, or the autonomous hard-working entrepreneurs against the pro-communist government. In more academic portrayals, the relationship between the Monterrey elite and the federal government is defined as conflictual, and the Regiomontano entrepreneurs are depicted as independent, politically conservative adherents to neo-classical economics. They are the “peripheral-autonomous entrepreneurs” described by Flavia Derossi in her study on The Mexican

17.- These descriptions of the Monterrey elite and the federal government appear in articles and cartoons in newspapers and magazines. Mexico City’s papers have tended to describe Monterrey as the greedy entrepreneur; whereas Monterrey’s papers (especially El Norte) depict the federal government as the “bad guy.”
Entrepreneur (1971). Unlike their dependent counterparts, Derossi claims, the Monterrey entrepreneurs did not need to have close ties to the federal government to create their industries; through time, they have relied on their own capital and on the market rather than on government’s favors for the prosperity of their businesses. Although this view is closer to reality than the caricatures presented by either side, Derossi grants greater autonomy to the Monterrey elite than it actually has had. Indeed, despite the Monterrey elite’s advocacy of laissez-faire economics and their criticisms of the developmental policies of the state, the industrial elite has been a beneficiary of government largesse from the Porfiriato onward. The Monterrey elite has depended on the government for incentives for investment and for maintaining a favorable structure of the market. Hence, since the 1890s, the Monterrey industrial elite has negotiated with the government the establishment of tax incentives, trade barriers and the protection of monopolistic and oligopolistic arrangements. Even after the Revolution, the federal government has accepted the demands of the industrial elite, for it has benefitted politically from the existence of a thriving private sector.

Undermining the Porfirián alliance:

During the Porfiriato (1876-1910), the Regiomontano industrial-financiers worked in close cooperation with the local and federal governments not only to ensure fiscal policies to stimulate investment in new industries, but more importantly, to establish a set of monopolies and oligopolies that guaranteed a captive market and hence rendered profitable their industrial ventures. The Porfirián government was eager to modernize the nation and thus enacted legislation to attract foreign and domestic investment in industry and infrastructure. Whereas Mexico City’s investors were mostly foreigners, Monterrey provided a local group of entrepreneurs who became dominant among the founding fathers of Mexico’s private sector. Throughout this period, the Monterrey industrial-financiers and the federal
government enjoyed a close relation based on a mutual commitment to a set of ideological beliefs about the best way to rule the country.\textsuperscript{18}

The Revolution of 1910 undermined the foundations of the relationship. The Revolution removed from power the economic and social elite that had ruled the country for thirty years. The new regime relied on a different set of alliances to maintain its legitimacy, the reaffirmation of which became its key political concern. As Newell and Rubio indicate in \textit{Mexico’s Dilemma},\textsuperscript{19} the history of the Mexican political system can best be characterized as a history of “the pursuit of legitimacy [which is] based on the ongoing definition of the ‘consensus’ that emerged from the constitutional assemblies of 1915 and 1916.”\textsuperscript{20} The Revolutionary consensus granted more political weight to the political forces constituted by the Revolutionary family, organized labor, and the peasantry than to the business elite. This distribution of political power was institutionalized in the structure of the Mexican political system. The private sector was the only social group that was excluded from a formal integration into the new regime.

But unlike other revolutions of the period, the Mexican regime required a domestic business class to launch its economic development program. Indeed, the modernization of the nation was a goal the Revolutionary regime shared with the Porfiriato. But whereas for General Porfirio Díaz economic development should result from foreign investment, trade, and a market economy, for the revolutionaries, fair development could only come through a mixed economy in which the state took a significant developmental role. The existing private sector was important for the new regime not only because it provided a source of

\textsuperscript{18} For an analysis of the relationship between the Monterrey industrial-financiers and the Porfirián regime, see the studies of Mauro, Saragoza, and of Vizcaya (n. 12 supra); and Stephen Haber, \textit{Industry and Underdevelopment: The Industrialization of Mexico 1890-1940}. (Stanford: Stanford University Press, 1989).


\textsuperscript{20} Newell and Rubio, p. 1.
domestic entrepreneurs, but perhaps more importantly because the business elite had valuable connections with international financial institutions. Hence, members of the business elite became central actors in the renegotiation of the Mexican debt after the Revolution and in the restructuring of the economy—and in the foundation of the central bank, Banco de México. Despite their ideological contempt for the new regime, the industrialists and financiers of the Porfirian era participated in the reordering of the economy. By helping the revolutionary regime, the economic elite obtained important concessions from the government, such as the maintenance of tax exemptions and monopoly arrangements that protected the industrialists from domestic and foreign competition. Through this interaction, the economic elite established an important avenue of influence in the central bank and in the Ministry of Finance. The economic elite was thus able to obtain an unofficial role in Mexican politics and thereby regain some political leverage. Moreover, this implicit alliance between the private sector and a segment of the financial bureaucracy opened the door for the future infiltration of the economic elite to power.21

This side of the story is most often excluded from descriptions of the inner workings of the Mexican political system. The exclusion of the private sector is justified by references to the gentlemen’s agreement reached between President Miguel Alemán (1946-52) and the private sector in which the government agreed to let the business elite pursue its economic interest as long as it did not interfere in politics. The gentlemen’s agreement consisted of a set of tacit rules which specified that: 1) businessmen were not legitimate actors of the political system; 2) they could not participate in party politics; but, 3) they could intervene

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21.- For a discussion of the modernization goals of the Porfirian and the Revolutionary regimes (from 1890 to 1940), see Haber. For a fascinating discussion of the connections between the private sector and the economic branches of the government from the 1930s to 1982, see Sylvia Maxfield, Governing Capital. (Ithaca, N.Y.: Cornell University Press, 1990).
in the formulation of economic policy; and 4) they could participate, in a hidden way, in the selection of political candidates and cabinet members. For three decades, this agreement ruled government-business relations in Mexico. Behind the scenes, the private sector and the regime consulted each other and negotiated on economic policies, but in public the private sector was a quiet bystander.

Throughout this period (1946-70), the Monterrey industrial elite maintained positive relations with the federal government. The northern industrialists were generally satisfied with the state’s macroeconomic policies. The industrial elite flourished and expanded beyond Nuevo Léon’s borders, opening subsidiaries throughout the country. The presence of the Monterrey elite in Central Mexico in the 1960s was facilitated by the tax incentives provided by President Gustavo Díaz Ordaz (1964-70), who had an interest in developing his native state of Puebla. It was during this period that Volkswagen and HYLSA, for example, opened their doors across the Mexico-Puebla interstate from each other. But this amicable relation came to an end in the 1970s when, as in the past, ideological differences pitted the Regiomontano entrepreneurs against the federal government.

**Mutual mistrust and contempt:**

The main clashes between the Monterrey elite and the federal government have come at times when the regime reaffirms its attachment to the “Revolutionary Creed.” As early as 1929, the Monterrey industrial financiers had distinguished themselves from Mexico City’s business elite by their assertiveness and their belligerence towards the Revolutionary regime. As a result of the negotiation of the Labor Code in the late 1920s, the Monterrey

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22.- Through this period, the leading holdings of Monterrey opened subsidiaries in the Valle de México, Guadalajara, and Coahuila.
23.- For a description of the conflict between the Monterrey elite and the Echeverría administration from Monterrey’s perspective, Cf. José Fuentes Mares, *Monterrey: Una Ciudad y sus Capitanes.*
elite founded the Confederación Patronal de la República Mexicana\textsuperscript{24} (COPARMEX) with the aim of protecting business interests. The negotiations over the Labor Code set a tone of mistrust and contempt that dominated business-government relations until the pro-business administration of President Alemán.\textsuperscript{25}

The conflict between the Monterrey industrial elite and the federal government was especially fierce during the presidency of Lázaro Cárdenas (1934-40). The northern elite opposed Cárdenas' implementation of the Constitution of 1917 and deeply resented his intervention in a labor conflict at Vidriera Monterrey. The animosity against the President blinded the Monterrey entrepreneurs to the fact that the Cárdenas presidency was in fact beneficial to industrialists. Indeed, eager to industrialize the nation, the government established great incentives for potential industrialists in the context of an import-substitution model of industrialization. The Monterrey industrial elite—the oldest domestic industrial group—lost its unique status as a new group of industrialists developed around Mexico City. But through its economic prosperity, its assertiveness and its challenges to the federal government, the Monterrey elite maintained its leadership within the Mexican private sector—a leadership that was shared with the financial elite.\textsuperscript{26}

As described above, the conflict between the northern industrial elite and the federal government was tamed over the next few decades by the succession of more pro-business administrations and by the economic miracle of the 1950s and 1960s. However, by the late 1960s the regime began to experience successive economic and political crises. The student movement of 1968 highlighted the growing discontent of the new middle-class that

\textsuperscript{24.-} Employers Confederation of the Mexican Republic.
\textsuperscript{25.-} For a detailed discussion of the Monterrey elite's participation in the negotiations on the Labor Code and the way the Revolution transformed the relation between Monterrey and Mexico City see Saragoza's \textit{The Monterrey Elite and the Mexican State, 1880-1940}.
\textsuperscript{26.-} For a discussion of the benefits that the private sector received as a result of the Cárdenas presidency see Haber, and Nora Hamilton, \textit{The Limits of State Autonomy}. (Princeton N.J.: Princeton University Press, 1982), in particular chapter 6 and Appendix B.
had benefitted from the economic miracle but demanded democracy. The authoritarian response of the regime quieted many protesters but radicalized others who joined the ranks of leftist guerrillas in the early 1970s. Moreover, the use of force in suppressing the student movement shook the legitimacy of the regime. It is within this context that President Echeverría, one of the alleged instigators of the repression of 1968, ascended to power.

Luis Echeverría (1970-76) sought to restore the legitimacy of the regime by implementing a program of Desarrollo Compartido y Apertura Política (Shared Development and Political Opening). Desarrollo Compartido entailed a departure from Desarrollo Estabilizador (Stabilizing Development), a policy that stressed tight monetary and fiscal policies. The new policy called for a more active role of the state in development. The Echeverría administration carried on major development projects in infrastructure and heavy industry, and financed huge social programs of public housing, social security and public health. The programs were financed by large public deficits, foreign borrowing through the state owned development bank, Nacional Financiera, and through taxation.\textsuperscript{27} The private sector did not support the government’s development plan, and divisions appeared even within the Echeverría administration.\textsuperscript{28} The President’s leftist


Taxation was the least important component of the government’s income in the 1970’s. Levying taxes has traditionally been a problem for the Mexican government. However, the Echeverría administration imposed new taxes and attempted to enforce the collection of taxes. As usual, the “captive tax-payers” were the most affected by the measures, businessmen and financiers protested taxation and easily avoided paying them.

\textsuperscript{28} The Minister of Finance at the time, Hugo B. Margáin, was fired in 1973 for opposing President Echeverría’s public spending. In the days following his dismissal, wealthy Mexicans placed some of their money abroad. For a discussion of the conflict between Hugo Margáin and the President and its aftermaths Cf.: Maxfield, pp. 118-121.
rhetoric further exacerbated the private sector's discontent.\textsuperscript{29} The business elite, and in particular the Monterrey elite, believed that the government was out to destroy free enterprise and that only through political action would the private sector be able to defend private property in Mexico.

The political malaise between the private sector and the regime augmented between 1973 and 1976, as guerrilla groups were quite active in the major cities and in the states of Guerrero and Oaxaca. Throughout this period, several businessmen, including the father-in-law of the President, were kidnapped. The botched kidnapping and subsequent assassination of the leader of the Monterrey industrial elite, Don Eugenio Garza Sada, further radicalized the Monterrey elite. The gentlemen's agreement of the past was cancelled; the elite was at war with the federal and state governments.\textsuperscript{30}

In response to President Echeverría's policies, the private sector halted investment and engaged in capital flight, further destabilizing the economy. Moreover, in 1975 the business elite established the Consejo Coordinador Empresarial (CCE) with the aim of defending business interests, free enterprise and private property in Mexico. The Monterrey elite became a dominant voice within the CCE, which included members of the financial and industrial elite. And the Employers Confederation (COPARMEX) replaced its

\textsuperscript{29} A clear division can be seen between the first half of Echeverría's sexenio and the second half. Indeed, from 1973, the President became a left-wing ideologue advocating wealth distribution and land reform at home and the establishment of a new international economic order abroad. President Echeverría intended to become the leader of the Third World. He supported Tercermundismo and even proposed at the United Nations the Charter on Economic Rights and Duties of Nations in 1975.

\textsuperscript{30} The Monterrey elite was also in conflict with the government of the state of Nuevo León. The pro-business governor Eduardo Elizondo (1967-72) resigned his post over a conflict with the President. He was replaced by a supporter of President Echeverría, Pedro Zorilla. The new governor was scorned and ignored by the elite.

moderate president with Andrés Marcelo Sada, a member of the Monterrey elite and one of its ideologues.

**Cycles of antagonism and cooperation:**

Over the next decade, the relationship between the private sector and the federal government, and in particular between the Monterrey elite and the regime, underwent a widening swing between cooperation and antagonism. Each time, the cycles of antagonism would be brought about by the radicalization of the government’s rhetoric and by the impending doom of the economy. The recurrent economic crises had a significant impact on the politics of the private sector.

The conflict between the private sector and the regime reinforced existing divisions within the business class. Indeed, small- and medium-sized industrialists have tended to support the regime, for they see the government’s protectionist policies as essential to their survival. These industrialists are represented by the business organizations CANACINTRA and CONCAMIN. On the other hand, the large-sized industrialists, the powerful financiers and bankers have opposed the regime’s economic policy and demanded a liberalization of the economy. This second group is represented by COPARMEX, CCE, some regional CANACINTRAs and CONCANCACOs, and until 1982, the Asociación de Banqueros de México (ABM). The Regiomontano industrial-financiers are founding members and leaders of these organizations. The increasing expression of support or

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31.- CANACINTRA: Cámara Nacional de la Industria de la Transformación (National Chamber of Consumer Goods Industries); CONCAMIN: Confederación Nacional de Cámaras de la Industria (National Confederation of Industrial Chambers).

32.- CONCANACO: Confederación de Cámaras Nacionales de Comercio (National Confederation of Chambers of Commerce); ABM: Mexico’s Bankers Association.
condemnation of government policies by the private sector has externalized the divisions within the private sector and the antagonism of its elite towards the regime.\footnote{For an analysis of the divisions within the private sector and an analysis of the different business organizations, see Camp, Entrepreneur and Politics in Twentieth-Century Mexico, in particular chapter 7: "Private-Sector Interest Groups."} The participation of the private sector in national politics has not been limited to the voicing of opinions through business organizations. Many businessmen have joined political parties—either the right-wing party Acción Nacional (PAN) or the Partido Revolucionario Institucional (PRI)—and some have run for office. This type of political activism has been strong in Monterrey where key members of the industrial elite have run for mayor, federal deputy, senator, and even governor.\footnote{Some of the members of the Monterrey industrial elite who have run for office include: Alberto Santos de Hoyo (former PRI Federal deputy), Fernando Canales Clariond (former PAN Federal Deputy and former PAN candidate for governor in 1985), Mauricio Fernandez Garza (Mayor of Garza García, N.L.—a suburb of Monterrey and the wealthiest municipio in the country); Benjamín Clariond Reyes-Retana (former PRI Federal deputy); and Rogelio Sada Zambrano (former PAN candidate for governor in 1991).} Currently, four of the ten most powerful industrialists of Monterrey are active members of the PRI and one is a leading activist of the PAN.\footnote{Of the so called Grupo de los Diez which includes the presidents or general directors of the ten most powerful holdings of Monterrey and who meet on a regular basis with the President of the Republic for consultations of economic policy, four are active within the PRI: Alberto Santos de Hoyo (GAMESA), Eugenio Clariond Reyes-Retana (IMSA), Humberto Lobo (PROTEXSA), Lorenzo Zambrano (CEMEX); and one is a member of the PAN: Andrés Marcelo Sada (CYDSA).} This involvement in politics is not just the result of the failed policies of President Echeverría; the López Portillo administration and the economic collapse of 1982 contributed greatly to the politicization of the Regiomontano entrepreneurs and to their belief that they had to participate in politics in order to safeguard their interests.

The sexenio of José López Portillo (1976-82) captured the complexities of the relationship between the regime and the private sector, and in particular between the federal government and the Monterrey elite. As a presidential candidate, José López Porlillo had accused the Regiomontano industrialists of treason and "kukluxklanism." The economy
was in shambles and the Monterrey elite had launched a rhetorical attack against the regime and an economic one by halting investment and speeding up its capital transfers to North American and Swiss bank accounts. Soon after he became president, however, López Portillo introduced his *Alianza para la Producción* (Alliance for Production) program which called for business participation in economic development. Simultaneously, the administration was blessed with the discovery of important oil reserves in the Southwest of Mexico. Less than a year after signing a letter of intent, Mexico was leaving the IMF stabilization plan. The future seemed glorious. The Monterrey elite accepted the President’s view that Mexico had to get used to opulence. The bitter words of the past were rapidly replaced by praise when the president of Grupo Industrial Alfa, the most powerful holding of the country at the time, welcomed President López Portillo to Monterrey with the sentence “con otro como López Portillo ya la hicimos.”

The story of Mexico’s debt crisis is well known and will not be repeated here. Most of the development of the oil boom was financed through foreign borrowing. According to Sylvia Maxfield, ten Mexican conglomerates contracted 34% of the private sector external debt. The leading Monterrey holdings, Grupo Industrial Alfa, Valores Industriales S.A. (VISA) and Grupo VITRO accounted for 20% of the total private borrowing.

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36.- Meaning, with another administration that implements policies like this one, we (the Regiomontano industrial financiers) will make it.

37.- For an account of the economic crisis of the 1970s and early 1980s see Newell and Rubio’s *Mexico’s Dilemma*, which provides a detailed analysis of the government’s economic policies at the time. For an account of the political history, see Judith Adler Hellman, *Mexico in Crisis*. (New York: Holmes and Meier, 1983); for a short account from the perspective of the Minister of Finance who renegotiated the debt in 1982 see Jesús Silva-Herzog, *Beyond the Crisis* (Stanford, CA.: Americas Program Visiting Lecturer Series, 1987).


39.- Maxfield, p. 104.
Monterrey entrepreneurs attempted to expand into all sectors of the economy, from steel to hotels and even flower stores. Nothing was out of reach for the Northern industrialists. But by 1981, the mirage of prosperity came to an end. In the summer, Alfa was heading to bankruptcy, unable to meet the payments of the interest of its $2.3 billion debt. In order to prevent an economic catastrophe, the López Portillo administration bailed Alfa out with a 12 billion peso (about $51 million dollars) loan from BANOBREAS. The crisis at Alfa signaled the beginning of Mexico’s debt crisis. Throughout the year, investment was replaced by accelerated capital flight; euphoria by gloom.40

Within the administration a battle for the future of the nation ensued between the monetarists at the Secretaría de Hacienda y Crédito Público (Finance Ministry) and the structuralists at the Secretaría de Programación y Presupuesto (Budget Ministry).41 In the short-run, the structuralists won out. Following their advice, the President decided to nationalize the banks in order to halt capital flight and stabilize the economy. President López Portillo announced the measure in his last State of the Union address on September 1, 1982—only three months before Miguel de la Madrid was invested as president.42

The nationalization of the banks met with the fierce opposition of the business elite. Attempts to overturn the President’s constitutional amendment were unsuccessful. The


41.- Between 1977 and 1978, the conflict occurred between the monetarist Minister of Finance (SHCP) Rodolfo Moctezuma Cid and the structuralist Minister of Budget (SPP) Carlos Tello. Despite the resignation of both ministers, the tension within the cabinet was never resolved and it emerged again during President López Portillo selection of his successor between the then Minister of Finance David Ibarra and the Minister of Budget Miguel de la Madrid. For a fascinating account of this tension Cf.: Maxfield, Governing Capital. For an account from the perspective of one of the players see Rolando Cordera y Carlos Tello, México: La Disputa por la Nación. (México D.F.: Siglo XXI, 1981).

42.- For an account of the decision-making process to nationalize the banks Cf. Carlos Tello, La Nacionalización de la Banca en México. (México D.F.: Siglo XXI, 1984). The so-called nationalization was actually an étatisation (or a take-over of the banks by the State); only Mexican banks were affected by the measure.
Monterrey industrial elite was doubly hurt: their banks were nationalized just as their industries were going bankrupt. The antagonism of the past was back, but this time the northern industrialists did not seem to have any voice against their enemy.

The rapid swings in the Monterrey-Mexico City relation during the López Portillo administration had an important impact in shaping the Monterrey industrial elite’s attitude toward and relationship with the federal government. Recovering an approach developed during the Echeverría administration, the Monterrey elite entered politics in full force. The elite took to the streets two major banners: the transition to democracy and the implementation of a laissez-faire economy.

The breakdown of the regime:

Questions of democratization and economic strategies dominated Mexican political life throughout the 1980s. With the debt crisis, the regime had seen a sharp decline in its legitimacy. The fraudulent mid-term elections of July 1985 and the inefficiency of the government in dealing with the Mexico City earthquake of September 1985 roused Mexican civil society. The call for democracy became a central political issue. Discontent with the government’s inability to overcome the economic crisis reinforced the belief that the only way out of economic shambles was through democratic reforms. In southern and central Mexico the support for democratization came from the left; in northern Mexico it came from the right. In the first half of President de la Madrid’s sexenio (1982-88), a few PAN candidates were elected mayors of important northern cities. In order to recover some legitimacy, the government was willing to recognize a few victories of Acción Nacional but

43.- When the banks were nationalized, the government took over the debt of the bankers. The former bankers did not complain about the “socialization” of their debt. See Carlos F. Diaz-Alejandro, “Latin American debt: I don’t think we are in Kansas anymore,” in Brookings Papers on Economic Activity, William C. Brainard and George L. Kerry, eds. Brookings Institution, Washington, D.C.: 1984 (2): 378.

not those of the left-wing parties. By the fall of 1983, however, the PRI launched a
campaign of "incorporation, inclusion and cooptation" and electoral fraud to prevent any
opposition gains. In 1985, a member of the Monterrey industrial elite, Fernando Canales
Clariond, ran for governor on the PAN platform. On election day, there was fraud ranging
from elimination of ballots to multiple voting by PRI supporters. The electoral fraud met
with angry protest, civil disobedience and mild repression. The experience of Nuevo León
was repeated a year later in the state of Chihuahua. As the legitimacy of the regime
continued to decline, the number of businessmen enlisted in the ranks of Acción Nacional
rose. The presence of entrepreneurs in the party became more obvious as they acquired
positions of power within the party and stressed the demand for the installation of an
economic model based on laissez-faire. Not all entrepreneurs joined Acción Nacional;
many believed that the only way to transform the system was from inside and hence
became active members of the PRI, running for office and supporting the government.

Through most of the de la Madrid administration (1982-88) the relationship between
Monterrey and Mexico City was rather distant. Initially, the government "abandoned" the
industrial elite to its debacle. The industrialists received little federal guidance and support
in overcoming their debt crises. But the Regiomontanos implemented structural reforms in
their holdings and searched for a new model of growth based on competitiveness and

46.- For an account of the elections in Chihuahua in 1983 and 1986, see Krauze’s *Por una Democracia sin
Adjetivos.* Krauze provides a wonderful analysis of the strategies of the PRI to coopt, intimidate or attract
voters and of the mistakes of the PAN in the selection of their candidates and their campaigns.
47.- The rise of northern entrepreneurs to the leadership of Acción Nacional resulted in the emergence of the
neo-panista movement within the party and the reemergence of the old debate between those who think
PAN should be a secular party and emphasize laissez-faire and those who think it should be a Catholic
party. For an elaboration of the evolution of Acción Nacional in the 1980s, Cf. Melgar, "Mexico in the
productivity to overcome the crisis.\textsuperscript{48} It was not until 1985 that the federal government implemented a program known as FICORCA\textsuperscript{49} to help the private sector repay its debt. In order to heal some of the elite’s discontent with the 1985 elections, the President resumed a series of bi-monthly consultations with the Grupo de los Diez, a group formed by the top ten industrial leaders of Monterrey.\textsuperscript{50} This direct rapport between the President and the Monterrey industrialists forged an avenue through which the elite influenced economic policy and the President requested a decline in the elite’s open support for Acción Nacional. This relationship set the basis for the current alliance between the increasingly powerful Monterrey elite and the Salinas administration.

The 1980s saw a transformation of Mexico’s electoral map. A deep schism appeared within the PRI between those who wanted democracy to maintain an economic model based on the “Revolutionary Creed” and those who wanted to keep the authoritarian political system in order to implement neo-classical economic reforms. The first group formed the Corriente Democrática,\textsuperscript{51} headed by Cuauhtémoc Cárdenas and Porfirio Muñoz Ledo, and the second gathered around the technocrats in power. The third alternative was Acción Nacional, which called for democracy in order to implement a laissez-faire economic model. The stakes were enormous and the 1988 elections subsequently became the most contested in Mexican history. Electoral fraud was once again the winner. The PAN candidate came in third place after the “Revolutionary Creed” candidate, Cuauhtémoc

\textsuperscript{48} For an analysis of the strategy followed by the Monterrey industrial elite in the 1980s, see chapter 4 of this dissertation.

\textsuperscript{49} FICORCA: Fideicomiso para la Cobertura de Riesgos Cambiarios which took over the obligation to pay the foreign exchange debts of national enterprises.

\textsuperscript{50} The Grupo de los Diez includes: Bernardo Garza Sada (ALFA), Eugenio Garza Lagtiera (VISA), Adrián Sada (VITRO), Andrés Marcelo Sada (CYDSA), Eugenio Clariond Reyes-Retana (IMSA), Alberto Santos de Hoyos (GAMESA), Lorenzo Zambrano (CEMEX), Humberto Lobo (PROTEXA), Gregorio Ramirez (Grupo Industrial Ramirez), and Jorge Garza of AXA.

Cárdenas, who nearly defeated the authoritarian for economic reform, Carlos Salinas de Gortari. These elections had a profound impact on the Monterrey elite.

The new alliance:

In theory, the Mexican revolutionary regime is still in power. Why, then, has the Monterrey industrial elite become an ally of the regime? Why is the Monterrey elite a source of legitimacy for the Salinas administration? This unlikely alliance between the Monterrey industrial elite and the federal government is the result of the ideological convergence of the Monterrey industrialists and the technocrats in power and the simultaneous success of the northern elite in overcoming the economic crisis of the 1980s through the implementation of an alternative strategy of economic growth.

The political and economic disarray of the 1980s opened the way for the technocrats to rise to power through the back door. As indicated earlier, in 1982 the structuralists won the battle, but despite the nationalization of the banks and the electoral support for Cárdenas, they did not win the war. President de la Madrid brought the technocrats to the bastion of the structuralists by naming Carlos Salinas de Gortari as Secretario de Programación y Presupuesto. During the de la Madrid administration, the United States-

52.- After the July 6, 1988 elections only one thing was clear: the Mexican regime had perfected the art of electoral fraud. For weeks before the elections, the government had advertised widely that the elections would be clean and modern because Mexico had acquired a computer system (like the one used in the United States) to count the votes and get returns within a day. However, as the results began to show major returns for Cuauhtémoc Cárdenas the computer system "broke down." It took a week to count the votes, but before the results were in, Carlos Salinas and Ronald Reagan had already declared the PRI the winner of the Presidential election. The official results gave 50.4% of the votes to C. Salinas, 34% to C. Cárdenas and 17% to M. Clouthier. To date no one knows the real returns of the elections. For a discussion of the impossibility of the official results Cf.: Radiografía del Fraude: Análisis de los datos oficiales del 6 de Julio, José Barberán, Cuauhtémoc Cárdenas, Adriana López Monjardin, Jorge Zavala. (México D.F.: Nuestro Tiempo, 1988).

53.- For an account of the rise of the technocrats to power see Centeno’s dissertation. Historian Lorenzo Meyer of the Colegio de México and historian Héctor Aguilar Camín have also written several articles making comparisons between the current technocrats and the científicos of the Porfirián era.
educated technocrats made their way to the centers of power. The existence of an agreement with the International Monetary Fund only facilitated their rise. For leading members of the Monterrey elite, the election of Carlos Salinas was a major victory; at last, the federal government would be headed by someone who shared their economic beliefs. For the President, an alliance with the Monterrey elite became a valuable political tool as the elite would provide a source of legitimacy for his economic policies. Indeed, President Salinas’ program of privatization and liberalization of the economy would meet with opposition from traditional allies of the regime. The Monterrey elite, on the other hand, demanded the implementation of such programs. Moreover, the virtues of a different model of economic growth based on productivity and competitiveness could be exalted through the example of Monterrey. The region had regained the path to prosperity before the rest of the country. By 1990, Monterrey had recovered its place at the vanguard of Mexico’s industry.

As the Salinas administration implemented its economic policies, the Monterrey industrial elite dropped its demands for democracy. The unwillingness of the business elite

54. From the 1940s until the early 1980s, an UNAM education was if not a requirement at least a major aid in establishing a political career. Under the de la Madrid administration (1982-88), however, holding a post-graduate degree from an American university became an important element in one’s political career. This trend has been further accentuated during the Salinas administration in which most cabinet members hold not only master’s degrees but Ph.D.s from some of the finest U.S. institutions. The minister of Finance, for example, has created a new camarilla of men educated first at the Instituto Tecnológico Autónomo de México (ITAM) and who then received the Ph. D. from the economics department at MIT. In most cases, the MIT graduates have followed Dr. Aspe’s steps by choosing Professor Rudiger Dornbusch as their advisor. For an analysis of the role of an UNAM education in political recruitment see: Peter H. Smith, Labyrinths of Power: Political Recruitment in Twentieth-Century Mexico. (Princeton, N.J.: Princeton University Press, 1979).

55. The Monterrey elite was divided over the presidential election. Some members of the elite supported the PAN candidate Manuel Clouthier. Clouthier, a businessman and land-owner from the northwestern state of Sinaloa, had been head of the COPARMEX and of the CCE, and had close ties with members of the Monterrey elite. The PRI candidate, on the other hand, could claim roots in Nuevo León as his father Raúl Salinas Lozano is a well respected national politician from Agualeguas, Nuevo León. After the elections, most Regiomontanos closed ranks behind the paisano, especially after it became apparent that the alternative was not Clouthier but Cárdenas.
to pressure the government to establish a competitive democratic system was greatly enhanced by the fear of the elite that competitive free elections would bring to power a left-wing government. Leading members of the Monterrey elite comfortably changed their rhetoric by arguing that in order to transform the Mexican economic system a "Chilean model" was required. "We need authoritarianism to keep the leftist forces in check while we set the basis for a free economy," declared the director of one of Monterrey's most powerful holdings and member of the PRI. "In any event," he continued, "the political reform has set the balance straight, the PRI doesn't have to give away its seats to the opposition."

The Salinas administration has established direct channels of communication with the Monterrey industrial elite. The President and his economic cabinet members meet on a regular basis with the Grupo de los Diez. The President has even asked some of the entrepreneurs to draft proposals for economic reform, from privatization of the countryside to a national industrial policy for steel. These consultations have reaffirmed the ties between the elite and the current administration. Moreover, the Monterrey elite has been one of the main beneficiaries of President Salinas' policies, acquiring some of the best banks and industries that have been privatized. Not since the Porfiriat has the Monterrey

56.- Confidential interview, Monterrey, N.L., March 1990. The businessman is here referring to the electoral reform of the Salinas administration which redefined for the third time in the past ten years the distribution of seats in the Chamber of Deputies.

To many, the political reform is a sign of democratization of the regime. However, I believe that these are just cosmetic changes to appease the domestic and international demands for democracy. For a elaboration of my argument see: Lourdes Melgar "Mexico in the 1980s: The Paradox of Political Liberalization", Master's thesis, (Massachusetts Institute of Technology, June 1988).

57.- One entrepreneur showed me a confidential report he wrote for President Salinas in early 1989 on how to reform the constitutional article 27 (on land reform) so that businessmen could acquire ejidos and enter the agricultural business. An executive at HYLSA showed me a draft of a proposal for a national industrial policy for steel written by his staff for the Ministry of Finance (SHCP). Other proposals include a proposal on technological development, a proposal on the reorganization of the informal sector, and proposals for local development.
elite had such close and seemingly reinforcing alliance with the federal government. It is not surprising then that the Monterrey elite has publicly praised the Salinas administration for its tough stand on unions, crime and the economy, and has ignored the recurrent violations of the Constitution and the dramatic rise in human rights abuses.58

II - The ideology of the Monterrey industrial elite: theory and practice.

The Monterrey industrial elite distinguishes itself by its adherence to a particular ideology. The adherence to this common set of beliefs, however, does not in itself guarantee economic success and prosperity. Given the desire of the ruling technocrats to emulate this prosperity, it seems more important to explain how Monterrey developed and implemented its ideology, rather than comparing and contrasting it with the ideology of the regime. Why over time have there been serious discrepancies between the rhetoric of the ideology and its implementation? How has this ideology shaped the culture of Monterrey? How have this ideology and the unique culture of the city set the basis for the successful implementation of an alternative model of economic growth? I will address these questions in the dissertation.

58.- According to reports published by Amnesty International and Americas Watch, human rights violations have risen over the past three years, since Carlos Salinas became presidential candidate. But numbers are not the only thing that have changed under President Salinas. Indeed, whereas in the past the main targets for repression were campesinos and extreme leftists (often involved in guerrilla movements), now the middle-class and intellectuals have become major targets. Every political dissenter is a potential target. The newspaper La Jornada is filled with daily accounts of tortured or murdered teachers, lawyers and journalists. People linked to Cuauhtémoc Cárdenas are favored targets. As early as July 1988, two Cárdenas aides were assassinated apparently to prevent them from fulfilling their duties at the Comisión Federal Electoral on election day. In 1990, one of Cárdenas’ sons was kidnapped for a few hours, beaten up and instructed to tell his father to stay out of politics. In the summer of 1990, two Mexican scholars, Adolfo Aguilar Zínser and Jorge G. Castañeda, whose writings are respected in the United States and in Europe were threatened with torture and death if they continued to criticize the regime. Aguilar Zínser had previously been abducted in 1984, and taken to a torture chamber where he was forced to listen as a man was being tortured. Upon his release, he was informed that the next time it would be his turn. In 1990, he was threatened again. In addition to Aguilar Zínser and Castañeda, historian Lorenzo Meyer is also said to be listed as “enemy of the President” by the Dirección de Comunicaciones Sociales de la Presidencia. For more details on these cases see La Jornada for the month of July 1990 and Proceso, 2 de Julio de 1990, No. 713: 8-15.
Monterrey’s distinctiveness has deep historical roots. Since its founding the city has accumulated distinguishing features which include an isolated colonial experience, the lack of feudalism, the transformation of its geo-political position, the formation of a tight economic elite, and the development of a regional identity. All these factors have shaped the ideology of the region which is self-reliant, individualist, federalist and distinctly Liberal. Since the Revolution, the elite has increasingly refined the ideology, adding to it certain Catholic attributes. The intellectual source of the current ideology can be traced to the political economy of Adam Smith and David Ricardo and the social teachings of the Catholic Church—in particular the 19th century papal encyclical *Rerum Novarum.* The self-reliance and federalism come from the historical experience of the region which has been characterized by a continuous rejection of Mexico City’s centralism.

This ideology is antithetical to that of the Revolutionary regime. Indeed, the ideology that emerged from the Revolution of 1910 is secular and nationalistic, and holds that state intervention is indispensable to economic growth. More importantly, the ideology of the Revolution was institutionalized through the Constitution of 1917 and the structure of the political system. As long as the regime upheld its ideology, the Monterrey ideology was in continuous conflict with the regime and its institutions. This explains the virulent

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The Monterrey industrial elite does not seem to see a contradiction between its belief in *laissez faire* and its adherence to *Rerum Novarum,* despite the fact that Catholic political economy (if one may call it that) is presented as a humanistic alternative to capitalism and Marxism. The issue of the social responsibility of the entrepreneur has been a point of contention within the Mexican private sector. Most businessmen disagree with the ideology of social responsibility and believe that only large firms can afford to adhere to such an ideology. It is then not surprising that most of the supporters of the doctrine of social responsibility are in Monterrey. Moreover, when defining its ideology, the Monterrey industrial elite is eager to point out the Catholic influence comes primarily from *Rerum Novarum* rather than from Vatican II.
antagonism between Monterrey and the administrations of President Cárdenas (1934-40) and President Echeverría (1970-76).

At times of ideological relaxation, however, Monterrey was able to reach an accommodation with the regime. This occurred for two reasons. First, the industrial elite was not always faithful to its ideology. Indeed, since its inception the Monterrey elite has exhibited important discrepancies between its ideological rhetoric and reality. For instance, despite its reiterated belief in laissez-faire economics the elite has often lobbied for protectionist and monopolist policies and has greatly benefitted from government largesse. Second, the militancy of the Monterrey elite at the national level was softened by its ability to preserve power at the regional level.

Monterrey is essentially an industrial city; it has a culture that is distinct from that of the rest of Mexico. The Regionales value hard work, entrepreneurship, and loyalty to the firm. Through education, social clubs and non-political unions, the Monterrey industrial elite has been able to transmit these values to a working class which rejects Marxist rhetoric and insists in being referred to as “operarios” (operators) rather than “obrero” or “trabajador” (worker), terms they consider pejorative and loaded. Significant achievements in the institutionalization of the elite’s ideology came during the period of amicable relations with the government between 1946 and 1970. The success of the elite in shaping the culture of the region and transmitting its values to the working-class created a barrier against the left-wing wave of the 1970s, which had a marginal impact on Monterrey’s society. On the other hand, the economic crisis of the 1980s shook some of the defining features of the Regionales industrial society. Loyalty to the firm was to some extent replaced by loyalty to the trade, as life-long employment was no longer a given. And, for the first time in Monterrey’s industrial history, turnover and labor shortages appeared as the
demand for skilled labor increased. But despite these minor changes, the fundamental nature of Monterrey’s culture remained the same.

Monterrey’s ideology and culture provided the intellectual and social bases for the implementation of an alternative strategy of economic growth in the 1980s. This strategy calls for a profound transformation of the mode of production: from mass-production to flexible specialization; from a supply market to a demand market. The aim of this new strategy is to increase the productivity and competitiveness of Monterrey firms. Thus far, the Monterrey industrial elite has been extremely successful in overcoming the economic crisis and preparing its industries to compete in an open economy and under a free-trade agreement with the United States and Canada. Many have seen the Monterrey experience as a solution to the nation’s problems.

However, I will argue that the experience of Monterrey is unique: Monterrey could not have implemented this strategy if it did not have the culture and social structure it possesses. And consequently, Mexico cannot rapidly implement this strategy, because it lacks the culture and social structure that supported the economic transformation of Monterrey.

III.- Monterrey’s alternative strategy of economic growth:

Despite the ideological convergence, the current rapprochement between the Monterrey industrial elite and the federal government would not have taken place were it not for the astonishing recovery of the Monterrey economy. In less than a decade, leading holdings of the Monterrey region have recovered their financial health—paying dividends to stockholders and even expanding their operations abroad. With 3.8% of the population, the Monterrey region produced 12% of Mexico’s gross industrial product and 15% of the
exports in 1989. The local economy has continued to grow over the past two years at rates superior to those of the rest of the country. The recent prosperity of Monterrey cannot be attributed to the policies of the federal government: the recovery and the current rates of growth are the result of the shrewd financial restructuring of holdings and the implementation of a new strategy of economic growth based on pragmatism, new conceptualizations of technological progress, and the difficult lessons of the past.

In order to understand the origins and substance of the Monterrey strategy of economic growth, it is important to review the conventional models of development. In the 1940s and 1950s, the accepted view in the United States was that if only the national income of developing countries could be raised, benefits in the social and political realm would follow more or less automatically. Latin American development economists and policy makers advanced contending theories of growth. Yet, they all shared the belief that industrialization through mass production was the engine of growth, and that the state had to take an active role in expanding the domestic market. At the theoretical level, Keynesianism had legitimized state intervention in the economy. The view that the terms of trade were structurally set against the primary goods-producing countries of the periphery

60.- Data provided by the Cámara de la Industria de la Transformación de Nuevo León (CAINTRA), 1990. The data do not quite reflect the importance of the Monterrey holdings which have subsidiaries throughout the country, and in some cases abroad.

ruled out strategies of export-led growth.\textsuperscript{62} Hence, theorists advanced import-substitution industrialization (ISI) as the best strategy for development in Latin America. The Mexican government had been following this strategy before it was spelled out by economists and intellectuals, for it was the only one congruent with the Revolutionary view of the role of the state in promoting economic development.

The near bankruptcy of major Latin American countries in the 1980s, including Mexico, has brought ISI under harsh criticism. Import-substitution industrialization was incomplete. To produce manufactured goods, capital goods had to be imported, thus burdening the balance of payment account and creating bottlenecks to industrial growth. Manufactured goods had a limited national demand and were not competitive in the world market. In practice, ISI resulted in an unequal distribution of income, exacerbating social tensions and leading to the imposition of bureaucratic-authoritarian regimes in South America.\textsuperscript{63}

Despite its major shortcomings, some successes of ISI cannot be denied; during the 1960s and 1970s, countries such as Brazil and Mexico experienced “economic miracles” with recurrent rates of growth of over 6% annually. Growth resulted from: 1) an extension of the domestic market due to the growth of the middle class; 2) substantial progress towards the creation of intermediate-capital goods industries; and 3) the

\textsuperscript{62} This view was first advanced by Raúl Prebisch and the ECLA school and latter elaborated by dependency theorists. Economic Commission for Latin America, \textit{The Economic Development of Latin America and its Principle Problems}. (Lake Success, N.Y.: United Nations, 1950).


implementation of policies that allowed the country to temporarily overcome certain bottlenecks such as capital shortage. Both Mexico and Brazil adopted a strategy of indebted industrialization allowing them to join the ranks of the Newly Industrialized Countries (NICs). Yet, this strategy eventually led to the economic collapse of these countries, exposing a serious limitation of ISI derived from the unavoidable connection between the domestic economy and the world market. By the late 1980s, even its ardent proponents had turned their backs on ISI. All eyes were laid on the startling growth of the four tigers of the East.

The common view incorrectly holds that the economic success of countries such as Taiwan is solely based on the implementation of a strategy of export-led growth. Hence, economists such as Chenery and Krugér have written extensively on the advantages of export-led growth for developing countries. This strategy has not gone unchallenged as critics contend that export-led growth 1) creates “branch-plant societies”; 2) results in an unequal distribution of gains from trade and investments; and 3) produces “shallow development.” Economists such as Lewis argue that the rate of growth of international trade is entering a slow-down cycle, thus limiting the market for the products of developing countries. Under these conditions, export-led growth does not appear as a better alternative to ISI.

A close look at the development strategy of countries such as Taiwan or South Korea shows that their success is not due to the virtues of free trade, but actually derives from the

64.- For a discussion of Brazil and Mexico’s indebted industrialization see Jeff Frieden, “Third World Indebted Industrialization,” International Organization, 35, 3, Summer 1981.
65.- I.e., Taiwan, South Korea, Singapore and Hong Kong.
66.- Export-led growth is characterized by the export of non-traditional products such as processed primary products, semi manufactured and manufactured goods in substitution for the traditional export of primary products.
fact that these countries followed a different track to development and developed firms using flexible technology which can rapidly adapt to the instabilities of the international market.\footnote{For a detailed explanation of the basis of Taiwan’s success, see Alice H. Amstred, “The State and Taiwan’s Economic Development” in Bringing the State Back In, Peter Evans et al., eds. (Cambridge: Cambridge University Press, 1985): 78-106. On South Korea, see: Alice H. Amstred, Asia’s Next Giant: South Korea and Late Industrialization. (New York and Oxford: Oxford University Press, 1989); Larry L. Wade and Byong-sik Kim, The Economic Development of South Korea, (New York and London: Praeger Publishers, 1978).}

The success of Taiwan challenges a key assumption of development economics and its neo-classical alternative of export-led growth: that economic development can only come about through mass-production industrialization.\footnote{This assumption has been challenged at the theoretical level by Piore and Sabel, who argue that flexible specialization is an alternative to mass-production industrialization. Cf. Michael J. Piore and Charles F. Sabel, The Second Industrial Divide. (New York: Basic Books, 1984). At the empirical level, other countries and regions challenge the basic assumption that economic progress is a linear process and that inevitably development comes through mass-production industrialization. Some of these regions include Denmark, Emilia-Romagna in Italy, Baden-Württemberg in Germany.} By undermining this fundamental assumption of the logic of technological progress, this case opens new vistas to consider alternative paths of development that might be more adequate for developing countries. Although there has not yet been a reformulation of theories of economic development for Latin America, in practice people are searching for new models of growth. The emerging strategies in Argentina, Brazil and Mexico reflect the actual awareness of the existence of other options. These options are not just based on the success stories of Taiwan and Korea, but also on the understanding of Japan’s strategy and of the accomplishments of some regional districts in Europe, especially in Germany and Italy.

The simultaneous breakdown of old politico-ideological constraints and the emergence of new conceptualizations of technological progress have given Mexican elites new intellectual resources and opportunities to rethink development. Until the emergence of the debt crisis, the accepted view held that the State had to be the leading agent of economic
development. The Salinas administration, however, has implemented policies aimed at sharply reducing its role—such as privatizing the economy and opening it to international trade and foreign direct investment.

These policies are iconoclastic in the context of the ideology of the Mexican revolution, and some have therefore drawn important parallels between the current technocrats and the "científicos" of the Porfirian era. Now as then, the administration is apparently committed to economic liberalism, but not so much to its political component, democracy. Although advocating export-led growth administered by the private sector and foreign investors, the administration is maintaining the corporatist structure that allows it to control workers through official unions. Moreover, it has managed the economy through a "pact" between the private sector, the government and workers' organizations which freezes prices and wages. This state of affairs represents a contradiction between a long-term neo-classical design and the political necessity of addressing existing problems.

The Monterrey industrial elite agrees with the Salinas administration that key macro-economic policies such as privatization and liberalization of the economy are essential to economic recovery. However, the northern entrepreneurs have seized the opportunity provided by the debt crisis and the "abandonment" by Mexico City to develop an alternative strategy of economic growth. This strategy, which has been successfully implemented in Monterrey, is based on pragmatism, on the negative lessons of the past, and on the experiences of prosperous regions of Europe and Japan. In selecting its strategy, the elite paid particular attention to the Japanese industrial structure and the success stories of Emilia Romagna. As early as the early the 1970s, the Regiomontanos had looked to the Japanese

71.- The "pact" refers to the Pacto Económico de Solidaridad (Pacto) implemented in the last months of the de la Madrid administration which became the Pacto de Estabilidad y Crecimiento Económico (PECE) under President Salinas. The "Pacto" is renegotiated every nine to twelve months. Businessmen and workers complain that they are unable to raise prices or get higher wages despite the fact that the government often "breaks the pact" by raising the prices of electricity, oil, public transportation, taxes, etc.
industrial experience as a source of inspiration. Through the 1980s, the elite established exchange programs with Japanese firms and developed ties with the Japanese Union of Scientists and Engineers. In addition to the elite’s continuing contact with North American businessmen, industrialists and academics, the Regiomontano entrepreneurs maintained and developed their professional contacts in France, Germany, Italy and Spain. For the elite, it became a duty to read the latest literature on industrial restructuring and to participate in as many international industrial fairs and conferences as possible.

The initial strategy of the Monterrey industrial elite to overcome the economic crisis consisted of returning to the basics and renegotiating the debt. Its long-term strategy is far more complex. It is divided into stages and involves the entire economy of the region. Some entrepreneurs and engineers in Monterrey argue that it is not a strategy, but rather a set of pragmatic ideas—unplanned as a group—that work in synergy. There is more to this approach than pragmatism; there is a strategy based on a vision of how the economy should work and of a future where firms are productive and competitive by international standards. In this view, firms have the flexibility to adapt to the market, skilled workers can perform different tasks, and a network of sub-contractors supplies the industries. The strategy emphasizes the need to implement changes at the micro-economic level, and is comprehensive in its attempt to connect the different layers of production. The dissertation will show how all the elements of the strategy are being created in Monterrey.

Used to dealing with its northern neighbor and foreseeing the macro-economic structure of the 1990s, the Monterrey elite implemented a new approach to production: productivity and competitiveness through “Quality.” With the implementation of the “Quality” program, the Regiomontano businessmen turned from supply-production to demand-production. New emphasis on the requirements of the market and the clients has forced the entrepreneurs to become more flexible and efficient in their production processes. Hence,
flexible specialization, "Just-in Time" production and "quality" have become the tools to maintain a competitive edge. The transformation of the production process has reinforced some distinguishing characteristics of the Monterrey industrial region: it further increased the training of the skilled labor force; it accelerated the success of a 1979 program to transform the informal sector into a source of sub-contractors for the industries of the region; and it encouraged firms to invest in technology and in research and development.

The strategy has had the advantage of increasing the interdependence between the different sectors and levels of the Monterrey economy. This integration has been achieved in Monterrey because of the predominance of industrial complexes and the cooperation and trust that permeates business relations. The region has the peculiarity of an industrial structure that precludes competition among the local entrepreneurs, for there is usually only one industry of each type.

For the leading holdings and for the Monterrey economy in general, the results of this strategy have been outstanding. The holdings are growing again, paying dividends to stockholders and investing in more projects. Economic recovery has provided the Monterrey elite with the capital required to acquire some of the ventures being privatized by the government.

But the strategy is not without failings. It emphasizes existing disparities and reinforces the inability of outsiders to integrate themselves into the chain of economic success. The duality of labor, for example, is accentuated. A skilled worker who can perform many tasks is in great demand. An unskilled worker has little chance of employment. The new strategy has reinforced the past alliance between the Regiomontano worker and his employer. The emphasis on participation has replaced the traditional paternalism by a supposed equality between the employer and the employee. This
transformation has further marginalized the group of *Regiomontanos* who live in poverty and have no other alternative than to exist at the margins of an increasingly wealthy society.

The Monterrey development strategy is not without its hazards either. Contradictions in the government's economic policies are incubating a new crisis. The *Pacto de Estabilidad y Crecimiento Económico* (PECE) has frozen wages to the point where a person can earn twice as much by washing four cars in the street than by performing eight hours of harsh labor.\(^{72}\) Hence, many workers are choosing to join the ranks of the informal sector and, for the first time in its industrial history, Monterrey is experiencing high rates of turnover. The problem is especially severe now that the companies are implementing quality programs. As a result of the "Pacto," profits are falling and jeopardizing investments. The situation is a mirror of the government's desire to open the economy to foreign trade while controlling the economy through a pact. It is creating uneasiness in the business and labor sectors and is endangering the achievements of the past years.

The PECE is not the only government policy that is undermining Monterrey's development strategy. A new tax policy, aimed at tapping the revenues of small producers, is driving many sub-contractors back into the informal sector, since they are unable to fulfill all the requirements to exist as small shops and pay taxes. The tax law makes it illegal for firms to buy from sub-contractors unless they first prove they are registered with the Secretaría de Hacienda y Crédito Público. It seems ironic that government policies are undermining the very economy that President Salinas takes as an example of the future he envisions for Mexico.

\(^{72}\)- Harsh working conditions in Monterrey can mean working at a glass oven or a steel foundry while enduring summer temperatures of over 100°F.
The idea of extending the Monterrey strategy to the rest of Mexico is an appealing one. However, there are major differences between Monterrey and other industrial regions that could limit the transference of the strategy. Monterrey has the advantage of being an industrial city with a skilled working class and non-political labor unions. In other regions, the level of education of the working class is much lower than in Monterrey and no other region has a century of industrial experience, hence limiting the potential success of a generalized quality program. Moreover, the implementation of the Monterrey strategy requires important negotiations with union leaders. In some cases, the leaders of unions linked to the CTM\textsuperscript{73} might be willing to be associated with the entrepreneurs in this venture, but in others, the leaders might oppose and sabotage any attempt to introduce quality programs. Other factors that could affect the implementation of the Monterrey strategy include the distinct levels of economic development, the degree of economic integration, and the culture of the region. No other region in Mexico fulfills all the preconditions for successful implementation of this strategy as Monterrey does, and no other region has the industrial history and experience of Monterrey. These factors have made a difference in Monterrey and, hence, are likely to make a difference in the contemporary efforts to transform the rest of the Mexican economy.

In this chapter, I have presented an outline of the argument that I will develop through the dissertation. In Chapter 2, I provide a history of the evolution of the relationship between the Monterrey elite and the federal government with an emphasis on the dissimilarities between Monterrey’s process of industrialization and that of the rest of the country. In Chapter 3, I analyze the ideological and cultural foundations of Monterrey’s

\textsuperscript{73} The CTM (Confederación de Trabajadores de México) is the largest union in México and is part of the corporatist structure that controls peasants, workers and bureaucrats through the three branches of the P.R.I.
society and argue that this ideology provided the grounds for the successful implementation of Monterrey's strategy of economic growth in the 1980s. In Chapter 4, I study the Regiomontano's strategy to overcome the economic crisis and grow. In Chapters 5 and 6, I elaborate on two important elements of the strategy of economic growth: technological development, which has been greatly ignored in most Latin American countries; and the transformation of the informal sector into potential sub-contractors for local industries. In the concluding chapter, I look at some of the implications of the signing of a North American free trade agreement for the Monterrey industrial elite and its strategy of economic growth.
Chapter 2: The origins of the Monterrey industrial elite.

Since its founding, the city of Monterrey, in the northeastern state of Nuevo León, has been a singular place. Monterrey has a history, an ideology and an initial path of economic development that are distinct from those of Central Mexico. From the official perspective, Monterrey has filled dark pages of Mexico’s political history. But at the economic level, this city has been the cornerstone of Mexican industrial development. Hence, through Mexico’s modern history, the people of Monterrey have been depicted by some as the economic leaders of the country and by others as reactionaries. The contradictory images can be reconciled through the analysis of Monterrey’s economic and political history. A historical overview of Monterrey’s development provides the elements for an explanation of the transformation of the relationship between the Monterrey elite and the federal government in the late 1980s, as well as a basis to elucidate the underlying assumptions of the new strategy of economic growth.

Mexicans often refer to Monterrey as the “Sultana del Norte.” The image derived from this term subsumes the myths and realities of the industrial capital of Mexico. The name conveys simultaneously the images of ruler, power¹, fortune teller² and distinctiveness that are associated with this northern city.

The name perpetuates myths about the city that are based on partial truths. Monterrey is the ruler of northern Mexico, for no other city commands its political and economic power.

¹.- The term “Sultana” is the feminine version of “sultan” which is derived from the Arabic word sultân, ruler, and the Aramaic shultânâ, “power,” from šēlet, to have power.
².- The image of the fortune teller is rendered by the garb of the sultana. This is not an academic interpretation or definition of the term, but rather a popular association. The sultana is an exotic woman from the Middle-East who has special parapsychological powers. I am inclined to believe that this popular image was derived from the fact that many Regiomontanos are of Semitic descent --whether it is Sephardic from the settlers of the Colonial period, or Palestinian-Lebanese from the migrations of the 1920s and 1930s-- and that Semites have often been associated with fortune telling (Tarot, coffee reading, palm reading, etc.) in Mexico. The notion of fortune teller applies to Monterrey because the economic health of the city usually foretells the future of the Mexican economy as a whole.
The region’s industrial success has provided its elite with a wealth of economic and political power, and its industrialists have become the leaders of the national business elite. The region has come to represent the vision of economic prosperity that the Salinas administration envisions for Mexico. Yet, the achievements of the northeastern region set it apart from the rest of the country, which often views it with suspicion and contempt.

Many explanations have been advanced for the industrial success of Monterrey. Most can be summed up in a myth about its inhabitants’ alleged superiority. In this Manichean view of the world, Monterrey is superior to the rest of Mexico because, unlike other Mexicans who are lazy, irresponsible and uneducated, the people of Monterrey are driven, hard-working, dedicated and responsible. The difference in character can supposedly be traced to the ethnic origins of the Regiomontanos: whereas the people from Central Mexico are mestizos, the people of Monterrey have little or no Indian blood to infuse their psyches with a sense of exploitation and submission. This explanation is, fortunately, empirically invalid. Until the 1800’s most Regiomontanos were of Spanish descent, but since Independence there have been several waves of migration from Central and Southern Mexico to Monterrey that have altered the racial composition of the region.

Another explanation rests on the proposition that, given the harsh climatic conditions and the lack of entertainment, the Regiomontanos had no other option but to become hard-working people. As the chairman of a Monterrey holding states:

There is nothing else to do in Monterrey than work. Here, we cannot just sit in a hammock, stretch a hand and pick a banana whenever we are hungry. The burning summers and freezing winters force us to keep our minds and bodies from the intemperate weather through hard work. Here, no one can afford to be poor.3

In short, the Regiomontanos became workaholic to avoid their reality. This argument not only reflects on the lack of cultural life in Monterrey, but also on the misperceptions of life

3.- Confidential statement of the chairman of one of Monterrey’s leading holdings, Spring 1990.
in the tropics. The life of an agricultural worker or a miner of Central or Southern Mexico is just as demanding or more so than that of a Regiomontano worker. For example, the agricultural worker cannot afford to work a mere forty hour week, and does not receive the benefits\(^4\) of the urban worker.

The most prevalent explanation sets the racial and climatic factors in the background, surrounds them with an aura of social harmony, and emphasizes the greatness, cleverness and vision of the Garza-Sada dynasty, the family that brought glory to Monterrey. Pages have been written about the vision, tenacity, sobriety, humanism and dedication of the founders of the “Monterrey group.”\(^5\) The contributions of the Garza-Sada family to the development and achievements of the Monterrey region cannot, in fairness, be understated. However, the focus on a small group of individuals veils the deep layers of the process that transformed a small isolated town into the industrial center of the country.

The reverse side of this story grounds the explanation of the success of Monterrey’s industrial elite on the exploitation of the working class through paternalistic management practices and the control of labor. These accounts, provided by local as well as international social scientists, often follow a Marxist approach.\(^6\) Some of these explanations portray the Monterrey business elite as a greedy, reactionary group that, like sheep in a herd,\(^7\) follows the American imperialist against the Mexican national interest.

\(^4\) By benefits I mean the social benefits that urban workers receive such as housing, social security, subsidized groceries, etc.

\(^5\) All the leading regional magazines have included articles about the greatness of the Garza-Sada family, and articles on the founders of the dynasty and their offspring appear in the local press (El Norte and El Porvenir); specialized business and economic magazines of national distribution have feature stories on the different members of the family. Perhaps the most comprehensive account of the Garza-Sada’s contribution to the development of the region is José Fuentes Mares, Monterrey: Una ciudad y sus capitanes. (México D.F.: Jus, 1976) in which the historian makes the Garza-Sada family and in particular, Don Eugenio Garza Sada, solely responsible for the industrial prosperity of the region.


\(^7\) In Spanish the phrase “ser un borrego” (to be a sheep) is a derogatory expression, often directed at political figures, meaning to follow the leader regardless of ethical or moral considerations. The idea of
This view of the Monterrey group is reinforced by a reminder of the political choices of the region at historically sensitive points, such as its backing of the interventionist government of Maximilian of Hapsburg against President Juárez or the support of the dictator Victoriano Huerta during the Revolution of 1910. More recent events of alliances with conservative and even fascist forces are also emphasized. The great industrialists, then, turn out to be unpatriotic reactionary exploiters.

This chapter suggests an alternative approach which claims that Monterrey followed a different path of development than the rest of the country. Monterrey is a Latin American exception. It is a region where shared values and family ties were the foundation of cooperation, commitment and trust—conditions required for self-generated development. The region did not experience feudalism, elite competition or foreign control, hence initially precluding the insertion of Monterrey in the core-periphery dichotomy of the Dependency school.\(^8\)

With some twists derived from the specific conditions of the region, Monterrey's initial phase of industrialization follows the American experience:\(^9\) a small group of entrepreneurs industrialized the region through the implementation of mass production,

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\(^8\) For an elaboration of the argument that Monterrey does not fit in the scheme of Dependency theory see Velllinga, pp 79-80. The idea here is that Monterrey's pre-colonial and colonial history did not set the preconditions for the "development of underdevelopment" (André Gunder Frank). The argument holds through the 19th century; however, it is questionable after the Revolution. By the 1940s, Monterrey was integrated into the national economy, hence subjected to the same position of periphery and dependency as the rest of the country. Despite the dependent condition of the country, the region kept some autonomy vis-à-vis Mexico City; and its elite maintained close relations with the financial elite of the industrialized world. For a development of the argument that despite its autonomy, Monterrey is dependent because it is part of a dependent nation see: John Walton, *Elites and Economic Development: Comparative Studies on the Political Economy of Latin American Cities.* (Austin: University of Texas, ILAS, 1977), in particular chapter 7 "Elites and Economic Development," pp. 193-217.

mass distribution, vertical integration, cartels, joint ventures, and advertising. The distinctiveness of the region in terms of capital ownership, labor organization and political alliances has prevailed to the present time. But in terms of the technological form of industrialization, the paths of Central Mexico and Monterrey merged.

Since the 1930s, both adhered to a model of import-substitution-industrialization based on mass production. Despite the ideological differences between Monterrey and Central Mexico, both accepted the classical view\(^\text{10}\) that technological progress pushes societies forward, that there is a narrow track of progress understood as productive efficiency, and that in the twentieth century the ultimate stage of mechanization is mass production. The events of the 1980s have undermined this coincidence. At this time of profound reevaluations of the models of import-substitution industrialization and of mass production, the Monterrey industrial elite is once again diverging from the national development path, opting for an alternative strategy of economic growth based on flexible specialization.

This chapter seeks to provide a foundation to understand Monterrey’s specificity. First, I will retrace the historical development of the region from colonial times to the Porfiriato. Then, I will describe Monterrey’s process of industrialization and the subsequent formation of a powerful industrial elite. Finally, I will analyze the relationship between the most autonomous business elite in Mexico and a strong and relatively autonomous state.

I.- The autonomous development of Monterrey.

Monterrey is an anomaly that does not fit the textbook sequence of either the "early industrializer" or the "late-late industrializer." It is a Latin American exception: it industrialized neither through foreign direct investment as other areas of Latin America did in the nineteenth century, nor through the government sponsored import-substitution industrialization of the twentieth century. The region did not follow Adam Smith's path to opulence, which sees a sequence from agriculture to manufacturing and finally to commerce; nor does it fit Karl Marx's stages of production. Monterrey presents a hybrid form of industrialization containing many elements of the American experience, but where the extent of the market limited the potential of this industrial experience leading to the emergence of features usually associated with late industrializers. Monterrey's distinctiveness springs from its pre-industrial characteristics and from its process of industrialization. These pre-industrial characteristics include the lack of feudalism, the existence of craft industries, the accumulation of large sums of capital through commerce, and the emergence of a single economic elite with a laissez-faire ideology.

Until the Mexican-American War (1847-48), Monterrey remained quite isolated from the rest of Mexico. The city had a rather uneventful colonial experience, with features that distinguished it from other parts of the country. Unlike Mexico City, Monterrey was not the site of a pre-Columbian civilization. The city was founded in an isolated enclave surrounded by desert, mountains, and inhabited by nomadic Indians; it had no rich land for agriculture or mining.

The king of Spain, Felipe II, ordered Don Luis de Carvajal y de la Cueva to conquer and settle the Nuevo Reino de León. The new province would aggrandize the Crown and

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set a barrier to “feisty” Indians who were creating havoc in the bordering state of San Luis Potosí. Most of the colonizers of the time came to New Spain without their families, but Don Luis de Carvajal was ordered explicitly by the King to take with him a few families in his expedition. Hence, from the beginning Monterrey had the characteristic of being a homogeneous community of Spanish settlers. This distinction was reinforced by the fact that many, including the prominent Luis de Carvajal, were of Sephardic descent. This characteristic of the city and its community was accentuated during the colonial period, as the waves of migration were constituted mostly of crypto-Jews who were escaping from the Inquisition of Mexico City and of Basques who were also unwelcome in the Viceregal court. The few indians that the settlers encountered in the region were either native indians or Tlaxcaltecas who had accompanied them in the expedition. The initial

12. - By Royal Decree only old Christians were allowed to come to New Spain. However, groups of crypto-Jews made it legally and illegally to Colonial Mexico. The case of Luis de Carvajal y de la Cueva is most interesting, not only because the Carvajal family represents the most well known case of persecution and extermination at the hands of the Inquisition’s Tribunal based in Mexico City, but also because Luis de Carvajal was a conquistador with Royal authorization to settle the state of Nuevo León who, as the Regiomontano historian Israel Cavazos points out, was ordered to take in his expedition sixty married couples and forty soldiers without having to fulfil the “Purity of blood” requirement. The historian Eugenio del Hoyo points out that 68.3% of the first colonizers of the Nuevo Reino de León were of Sephardic descent. According to Frank Brandenburg, one hundred Portuguese Sephardic families came with Luis de Carvajal to Nuevo León; these were not “Catholic Jews” or “Jewish Catholics” either, but fervent, unrepentant Sephardic Jews.


13. - Cf. Liebman. Also, interview with Eduardo Elizondo, former governor of the state of Nuevo León and former president of the Universidad Autónoma de Nuevo León, July 24, 1990.

14. - The indigenous population of the Nuevo Reino de León included some rooted communities in the Southern part of the state (bordering San Luis Potosí), and various nomadic tribes. The Indians of this region are often referred to as Chichimecas, which is a generic term for unspecified pre-Columbian tribes, but there were also Apaches. After the initial process of colonization, the relationship between the settlers and the Chichimecas improved, but the relationship with the Apaches (who lived mostly in the northern part of the state and in Texas) was antagonistic.

15. - Tlaxcaltecas is the name of a pre columbian people from Central Mexico. The Tlaxcaltecas were Rabid enemies of the Aztecs, and they proved to be extremely helpful to the Spaniards during the Conquest, for they knew the territory and allied with the Spaniards in the war against the Aztecs and other tribes.
confrontation between the indigenous population of the region and the Spanish settlers became an alliance to protect each other from the persecution by the central government in the later part of the colonial period. The small number of natives in combination with the topography and climate of the region had important socio-political and economic consequences: there were no gold or silver mines, no Haciendas, no construction of major colonial monuments; which precluded the exploitation of the natives and the implementation of a feudal system.

The lack of feudalism, the isolation from the rest of the country, and the roughness of the environment forged a community with a strong sense of identity, independence and cooperation. Writing in 1873, the governor of Nuevo León, José Eleuterio González described, as follows, the character of the inhabitant of his state:

This province was a military colony which, being remote from the Viceroy, was living in conditions of almost total independence. They had heard of the King and of the Viceroy but had never seen them...This mode of life bred in the Nuevo León people not only warlike habits, but also a spirit of independence and a sense of social equality that never left them.

Monterrey's colonial experience is closer to that of the American West than to that of Central Mexico. The city was not only besieged by its climatic and topographic characteristics, but also by the constant war against the Apaches of bordering Texas. The colonial experience forged a profound sense of fraternity and regionalism in the inhabitants of Monterrey.

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16. In his study The Jews in New Spain, Liebman points out that in some regions (including the Yucatán Peninsula and Northern Mexico), Crypto-Jews and Indians formed a secret alliance to protect each other from the persecutions of the Crown and the Inquisition, and each group allowed the other to follow its religious beliefs and practices. It is from this alliance that these emerged the aberration of Hebrew-speaking Indians of which Brandenburg speaks. Over time, some of the Indians converted to Judaism and this gave rise to small congregations of Indian Jews. (Brandenburg, p. 169).

The Mexican-American War ended this long period of isolation, turning the city into a pivotal point of exchange between Mexico and the United States. The North American Invasion and the consequent loss of half the national territory lowered the border, but put Monterrey on the map. Already in the 1830s, Monterrey had become a point of passage of merchandise entering and leaving Mexico through the northern ports of Soto de la Marina (1781), Congregación del Refugio (later known as Matamoros, 1820) and Tampico (1823). The commercial role of the city was reinforced by the American Civil War (1861-65) when, in light of the Union’s blockade of Southern ports, the Confederacy turned to the merchants of the port of Matamoros and of Monterrey to trade its cotton. The Regiomontano merchants took advantage of the American Civil War and the westward expansion of the U.S. economy to widen their market and accelerate capital formation.

The leading activity of the Regiomontanos was commerce. Throughout the century the development of the region was constant, attracting Mexicans and European immigrants who used their international connections to accelerate trade. Local and migrant merchants established important commercial houses, often in partnership with family members. Hence, Valentin Rivero, a Spanish immigrant from Asturias, founded the “Casa Rivero” which specialized in textiles. Rivero maintained his Spanish nationality and served as consul of Spain in Monterrey, but never went back to Spain. The Zambrano brothers, members of an old local family, established the “Zambrano, Hermanos y Compañía” in association with other local merchants. And José Calderón, another Regiomontano, went

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18.- In Mexican historiography the war between Mexico and the United States of 1847-48 is known as the North American Invasion.
19.- As a result of the war, the border with the United States was set only a 143 miles from Monterrey. The war, as Raúl Rangel indicates, was a turning point for the country as a whole, for Mexico exchanged Europe as its axis of social and economic life for Washington. In this context, Monterrey became the link between Mexico City and the United States. Cf. Raúl Rangel Frías. “Teoría de Monterrey” en Antología Histórica. (Monterrey, N.L.: Secretaría de Educación y Cultura, 1989), p. 33.
20.- The latter point was brought to my attention by Stephen Haber, Industry and Underdevelopment: The Industrialisation of Mexico, 1890-1940. (Stanford: Stanford University Press, 1989), p. 81.
on a long search to select the best and brightest to work with him in his “Casa Calderón,” perhaps the most prestigious commercial house of the time.

Although most Regiomontanos worked in commerce-related activities, some participated in an incipient craft industry covering a wide range of products. As early as 1854, a group of local merchants joined together to found the first textile plant of the region, “La Fama,” and in 1874, they established a second one, “El Porvenir.”21 These initial associations set the ground for the industrial ventures of the 1890s.

The second half of the nineteenth century was a period of political and economic instability for Mexico. Monterrey did not escape the fate of the nation. The city was twice subjected to foreign interventions, first during the North America invasion of 1847-48, and then, during the French incursion of 1864-67. By the 1870s, the region was in crisis: its caudillo Santiago Vidaurri had been executed for treason for supporting Maximillian of Hapsburg against President Juárez; the end of the American Civil War had eliminated an important source of revenue; and business declined as a result of the depression of 1879-81.

Many in Monterrey believed that new technological developments would bring prosperity to the region. The merchants placed their hopes on the railroad, which would extend the market and reduce the cost of goods, as it had done in the United States. A newspaper of the time summarized the dominant view when it stated that “all that is needed to develop the immense riches of Mexico is to harness it through a railway between Mexico City and the United States.”22 The railroad did not, however, bring the expected bonanza.

21.- For an account of the creation of Monterrey’s textile industry in the nineteenth century see: Rodrigo Mendirichaga and Tomás Mendirichaga, El Inmigrante: Vida y obra de Valentín Rivera. (Monterrey N.L., Emediciones, 1989). pp. 93-97 (for “La Fama”); pp. 149-52 (for “el Porvenir”). The book is a biography of a Spanish immigrant who became one of the leading merchants of the region. The authors retrace the formation of economic alliances to finance the textile factories.

On the contrary, commerce in Monterrey was plummeting, as people preferred to travel to Laredo, Texas to supply themselves with American goods. Stories are told of people taking day trips with empty suitcases that came back full of clothes. The railway company went as far as to offer special rates for shoppers. The key sector of Monterrey’s economic prosperity had been given a major blow. To date, Monterrey’s commercial sector has not been able to recover. Currently, Mexico City-based chains dominate the local market and most people (regardless of their economic status) take weekly trips to Laredo and McAllen to acquire all sorts of consumer goods.

As a result of the decline of commerce, the Chamber of Commerce had been urging its members to invest in industry. On two occasions (1880 and 1888) Monterrey hosted industrial fairs. In an attempt to find new avenues for economic prosperity, some merchants traveled to the United States to learn about new products and their process of production. As the economic elite of Monterrey became interested in the potential of producing their own goods, the city was acquiring the required infrastructure to become an industrial center. By 1891, the city had a modern network of communications (railway, telegraph and telephone), water, electricity and energy in the form of gas, building materials, and even a vocational school. The definite push came from two governors of Nuevo León, Lázaro Garza Ayala and Bernardo Reyes, who implemented economic policies such as a seven to twenty year tax-holiday, subsidies for industries, and protectionism.

By 1890, all the conditions required to attract investment in industry had been met. Governor Reyes (1889-1909), the quintessential ruler of the Porfiriato, brought political stability to the region, and adhered to the premises of classical economics. A tightly unified

24.- The Porfiriato is the name given to the dictatorship of General Porfirio Díaz (1877-1880; 1884-1910) which was ended by the Mexican Revolution of 1910.
group of interrelated merchants formed the local elite. The lack of latifundia had precluded the formation of competing elites; and the few landowners of the southern part of the state joined their financial forces with the merchants of Monterrey. Evaristo Madero, the grandfather of the first revolutionary president, Francisco I. Madero, was one of the few future industrialists who had built his fortune in agriculture in Coahuila and Nuevo León. The elite shared an important set of values, including a strong belief in laissez-faire economics, a sense of solidarity with its community, and a strong regional identity. As a block, the elite had accumulated a very large sum of capital that needed to be invested. Additionally, Monterrey’s infrastructure and tax incentives attracted American investors to the region. In the United States, the McKinley Tariff (1890) limited the importation of raw materials, hence American entrepreneurs sought to process ores abroad for export to their country. The incentives for establishing industries in Monterrey were so attractive that within a year three smelters had been opened; the largest one, the Compañía de la Gran Fundición Nacional Mexicana, belonged to the Guggenheim family. Initially, the Americans concentrated in the smelting industry and the Regiomontanos in manufacturing and processing industries. By 1900, however, the Regiomontanos controlled the industrial sector, and only twenty percent of investments in industry came from abroad.25 Since then, the Mexican nationality of investment has been a central characteristic of Monterrey’s industry.

Monterrey’s distinctiveness has deep historical roots. Since its founding the city has accumulated distinguishing features which include an isolated colonial experience, the lack of feudalism, the transformation of its geo-political position, the formation of a tight commercial elite with a strong laissez-faire ideology, and the development of a deep regional identity. All these elements favored an autonomous development process, and an

25.- Saragoza, p. 42.
industrialization pattern that shares—at least initially—more similarities with the industrialization process of the United States than with that of Central Mexico.

II.- Monterey’s process of industrialization.

Unlike other Latin American regions that were industrialized by foreign investors interested in developing the export sector, Monterey was developed mostly by local entrepreneurs eager to benefit from a growing consumer market. The merchants who survived the economic crisis of the 1870s and 1880s saw the limitations of commerce and the potential of industry. Given their knowledge of the market and the distribution networks they had established through their commercial houses, the *Regiomontano* merchants opted to produce the very goods they imported from the United States. The factories they wanted to establish required large sums of capital and had important forward and backward linkages. So, as in the past, the merchants formed joint ventures with partners of their commercial house or with other local entrepreneurs. This strategy provided the required capital for industrialization while limiting the risk of individual investors. In practice, each investor held a diversified portfolio, often serving on the boards of directors of several firms. Family connections reinforced business ties, as intermarriage within the elite was quite common and became a means to secure the cohesiveness of the alliance.

The industrialization process of Monterey can best be understood through the evolution of two factories that have been the cornerstones of Monterey’s industrial success: the beer factory Cervecería Cuauhtémoc, controlled by the Garza-Sada family; and the steel plant Fundidora de Fierro y Acero of the Zambrano, Rivero, Ferrara group. The stories of these two industries underline the singularity of Monterey’s industrialization

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26 - The market was growing not only because the local population was growing with the waves of migration to Nuevo León since independence, but also because the new communications networks had expanded the extent of the market.
process, the nature of its entrepreneurs, and the relationship between its industrial elite and the federal government. An analysis of their founding and evolution elucidates why in one case the firm grew into a conglomerate of interrelated firms and in the other the firm eventually went bankrupt.

**Cervecería Cuauhtémoc: the origins of a dynasty and of a business emporium.**

Since its founding, Cervecería Cuauhtémoc presented traits that distinguished it from other Monterrey firms. Whereas most new ventures were established through the association of merchant-financiers from different commercial houses, the Cervecería Cuauhtémoc was financed solely by Casa Calderón. Early on, José Calderón assembled a team of creative and bright men, skilled in management and commerce. Through the years, marriage transformed an initially business connection into one of blood. In 1870, the elder José Calderón recruited in San Luis Potosí a young Regiomontano to assist him in his commercial house. Although born in Monterrey in 1853, the young man had been educated in Spain, where he received instruction in business management and commerce. Upon his return to Mexico, he established himself in San Luis Potosí—a commercial city midway between Monterrey and the national capital. Calderón’s offer took him back to the city where he would become one of the founders of the Garza-Sada dynasty. His name was Isaac Garza Garza, the son of Juan de la Garza, a former mayor of Monterrey, and of Manuela Garza.\(^{27}\)

At the Casa Calderón, Isaac Garza became friends with Francisco G. Sada, a nephew of José Calderón. Francisco was the son of Calderón’s lawyer, Francisco Sada, and Calderón’s sister-in-law, Carmen Mugüerza. Calderón deeply trusted the two young men, who were often in charge of the commercial house and who managed the interstate businesses of the firm.

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\(^{27}\) Cf. Appendix 2, on the genealogical tree of the Garza-Sada family.
In an attempt to improve his financial position, in 1890, José Calderón decided to produce beer, a product he had imported for many years. He knew there was a growing market for the product and that the only domestic beer producer was located in Toluca, Central Mexico, far enough away not to pose any real competition. Aided by government subsidies, tax incentives and protectionism, José Calderón turned to production. With his brother-in-law, José Murgüeza, his lawyer, Francisco Sada, and with Isaac Garza, Calderón founded the Cervecería Cuauhtémoc. Since none of the associates had any knowledge of beer production, they invited Joseph Schnaider, a German immigrant who had worked at Anheuser-Busch in St. Louis, Missouri, to participate as a founding member of the venture. Schnaider brought his expertise while the Calderón group provided the capital. Schnaider’s association with the group lasted only until 1897, when he moved to Guadalajara. Within a few years of its founding, the brewery became a hundred percent Mexican.

José Calderón died a few months before the Cervecería Cuauhtémoc opened its doors, but his widow decided to maintain the venture. Isaac Garza and Francisco G. Sada shared the control of the brewery, the former as its president, the latter as manager. Isaac Garza was a man of ideas and vision with a strength for planning and strategy; whereas Francisco G. Sada had better managerial skills. This division of labor existed for as long as both men were alive. The marriage of Isaac Garza to Francisco’s sister, Consuelo Sada, sealed their alliance, and brought into existence the Garza-Sada dynasty.28

From the beginning, the brewery was a success. The owners reinvested profits, expanding into various aspects of the production process. Within a few years, the

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28. - Throughout the dissertation, I will refer to the Garza-Sada family (the two last names being hyphenated) to mean the descendants of Isaac Garza and Francisco G. Sada. When the name is spelled without a hyphen, as in Eugenio Garza Sada, it means that his father was a Garza and his mother a Sada. For instance his son Eugenio Garza Lagüera is a Garza-Sada but not a Garza Sada, for his mother is a Lagüera and not a Sada.
Cervecería produced its own wooden boxes, barrels, and glasses. Given the lack of skilled workers in the region, the brewery contracted glass blowers from Germany. Some fifty-four skilled glassblowers and foremen came to Monterrey to open the first glass factory in 1899, but by 1904, the Fábrica de Vidrios y Cristales de Monterrey had closed its doors. The low grade of the prime materials and the high cost of imported labor rendered the operation unprofitable. As if verifying Gerschenkron’s claim that late-industrializers overcome the lack of skilled workers and bridge the development gap by acquiring the latest technology, the owners of the brewery obtained the sole rights for the production of automated glass in Mexico. Cervecería established a partnership with two financiers from Chihuahua, Juan Brittingham and Juan Terrazas, who owned the rights to import into Mexico the automated glass producing machine patented by Owens.²⁹ Vidriera Monterrey began to operate in 1909, under the direction of a member of the Sada family. The monopoly over the mass production of glass bottles gave the brewery a definite competitive edge in the beer market.³⁰

By the end of the Porfiriato, the Cervecería was almost totally integrated. The brewery produced its beer, glass bottles, barrels, boxes. Its Fábrica de Cartón, established in 1900, supplied the caps and packaging. After the Revolution (1910-1921), the brewery opened a malt producing factory in 1929, and a steel plant (HYLSA) to provide metal caps in 1942, thus completing the process of vertical integration.

Isaac Garza and Francisco G. Sada viewed lowering the cost of production and integrating the process as only one approach to increase profits. As did their American

²⁹.- According to Alfred Chandler Jr., Michael Owens invented the bottle machine that by 1900 produced a completely automatic high-speed bottling process. The machine was originally produced for E.D. Libbey’s glass factory and became Owens-Illinois in 1965. To date, the machine is leader in the glass industry. (Chandler, pp. 312, 354).

³⁰.- This strategy was not unique to Vidriera, as Haber indicates: “Given the fact that almost all technology and capital goods utilized by Mexican manufacturers were imported, it was possible, by obtaining the sole rights to the use of a patent or a machine developed elsewhere, to monopolize the manufacture of a particular product.” (p. 89)
counterparts, they became deeply involved in the distribution and advertisement of their products. The market for beer was growing, as consumers’ taste were changing given the increasing urbanization of the country. Beer replaced mezcal as the main spirit drink in many parts Mexico. The owners of the brewery developed their previously commercial distribution channels into a wide network of distributors, reaching the Mexico City market and eventually displacing the local Toluca brewery. The decline in the cost of production derived from a more advanced technology explains in part the predominance of Cervecería Cuauhtémoc in the Mexican market. But perhaps the most important factor is that the brewery was producing a beer the quality of which had been recognized in international expositions in the United States and in Europe. The brand Carta Blanca received international prizes as early as 1893. The brewery initiated an aggressive advertising campaign that continues even today. Carta Blanca has plagued the radio wave lengths, sponsoring sports events, news and the time channel.

Cervecería Cuauhtémoc remained largely within the hands of a small interrelated and family-connected circle. The brewery adhered to a sort of Système Motte where family members occupied different positions within the businesses of the beer complex. The owners of the Cervecería were not interested in establishing a nepotistic system, but rather

31.- *Mezcal* is an alcoholic beverage derived from the fermentation of the liquid contained in the heart of an agave.

32.- The beer of Cervecería has received many awards since 1893. The first award was obtained at the Chicago Exhibition of 1893. The beer received gold medals at the Exposition Universelle in Paris (1900), at the Internationales Exhibition of Culinary Arts (1905), at the International Exhibition of Rio de Janeiro (1923), at the International Exhibition of Fine Produces IKOF in Munich (1960), and at the Chicago Exhibit of 1989, to name a few.

33.- Alfred Motte, a French cotton-textile manufacturer, conceived the *système Motte* in the 1850s. Piore and Sabel describe it in the following way:

“The *système Motte* was to pair each family member who had come of age with an experienced technician from one of the family’s firms; provide these two with start up capital (most of which was held, of course, by the family member), and have them establish together a company that specialized in one of the phases of production that was still needed. The new firms often found markets outside, as well as inside, the family, but their financial and emotional ties to the lineage made them dependable partners, even in difficult times...”(p. 34)
in securing the prosperity of their business through the selection of able managers and engineers. In order to ensure the quality of their managers, Isaac Garza and Francisco G. Sada sent their sons to be educated in the United States--to the very institutions that had trained the Alfred Duponts and Samuel Colts of North America.\textsuperscript{34} The manager of Vidriera Monterrey, Roberto G. Sada, obtained an engineering degree from the University of Michigan; his brother Luis G. Sada and his cousins Roberto and Eugenio Garza Sada--the heir of Cervecería--graduated from the Massachusetts Institute of Technology in the 1910s.

During the violent phase of the Mexican Revolution (1913-17), the Garza and Sada families moved to San Antonio, Texas. Up to that time, the \textit{Regiomontanos} had preferred European practices, education and fashion over North American. But after their residence in the United States, the industrialists leaned towards American ways. The Monterrey elite paraded the latest American fashions at the city's social clubs, sent their children to boarding schools across the border, and acquired weekend villas on Padre Island (Texas). More importantly, the industrial elite became more interested in and influenced by American business practices than in the past. As we will see shortly, the \textit{Regiomontanos} turned Frederick W. Taylor into their first business guru.

During the Porfiriato, the brewery received little attention from the government. The Monterrey elite and the Porfirián regime shared an attachment to \textit{laissez-faire} ideology. In practice, the government allowed the owners of Cervecería to run their businesses without any interference. The Monterrey elite negotiated with the government the formation of monopolies and oligopolies, since the protection of the market was a requirement to the success and survival of the businesses. American entrepreneurs had followed a similar strategy until the 1890 Sherman Anti-Trust Act rendered such arrangements illegal.

\textsuperscript{34}.- Both Alfred Dupont of the Du Pont Company and Samuel P. Colt, president of the U.S. Rubber Company, graduated from the Massachusetts Institute of Technology.
In Mexico, the situation was quite different, for even after the Revolution, the government maintained the monopolies and oligopolies to protect the incipient industry. The apparent contradiction between the adherence to a laissez-faire ideology and the continuous need for state intervention in the economy is, in reality, an inherent requirement of the market economy. As Karl Polanyi indicates in his history of nineteenth century capitalism in England, "A market economy is an economic system controlled, regulated, and directed by markets alone; order in the production and distribution of goods is entrusted to this self-regulating mechanism." The self-regulating aspect of the market is the theory behind a laissez-faire economics. However, the reality is that in order to create the mechanisms that regulate a market economy and in order to ensure the proper functioning of those mechanisms, government intervention is required. As Polanyi asserts:

The road to the free market was opened and kept open by an enormous increase in continuous, centrally organized and controlled interventionism. [...] contrary to expectations, [...] the introduction of free markets, far from doing away with the need for control, regulation, and intervention, enormously increased their range. Administrators had to be constantly on the watch to ensure the free working of the system. [...] As long as the system is not established, economic liberals must and will unhesitantly call for the intervention of the state in order to establish it, and once established in order to maintain it.

In requiring beneficial economic policies, the Regiomontano industrial-financiers were only setting the basis for the eventual functioning of a market economy.

Unlike their North America counterparts, the Mexican industrialists invested large sums of capital in industrial machinery and faced a rather limited market. In order to industrialize rapidly, the merchant-financiers acquired the latest mass-production machinery

36. Polanyi, p. 140.
37. Polanyi, p. 149.
38. According to Alfred Chandler, capital goods were quite inexpensive in the 1880s in the United States, and the manufacturers of machinery were eager to sell their machines not only in the U.S. but also in Europe.
that was used in the United States to satisfy an expanding market. Yet, the Mexican consumer market was quite small, as only five million Mexicans earned enough to consume manufactured goods.39 Early on, Mexico’s entrepreneurs attempted to expand the market through exports. The leading industrialists of the time set up a commission headed by Louis Signoret that went to South America and Europe to explore potential markets. The conclusions of the voyage were rather disappointing: the lack of a merchant marine rendered cost of products exorbitant; and, more importantly, their Latin American counterparts produced similar goods and protected their markets against foreign competitors.40 Hence, Mexican producers had only one market, the domestic one which they had to keep for themselves. As Stephen Haber indicates, Mexican industrialists combined the productive apparatus of a mass consumption economy with a market incapable of absorbing the industrial production, creating a “problem of excess installed capacity”.41 In order to solve this problem in the most advantageous way, the financiers of the first industrial wave used their newly acquired political power to shape the structure of the manufacturing sector into oligopolies and monopolies.42 This structure of the industrial sector survived the Mexican Revolution and was maintained until the 1980s. Through this arrangement, the Mexican entrepreneurs survived despite the fact that expensive equipment was underutilized, cutting potential economies of scale. In the end, consumers paid the price for an industrialization process that was, at least in terms of technology, inappropriate for Mexico.

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39.- Haber, p. 27. The total population of Mexico was 12.5 million people.
40.- Haber, p. 39.
41.- Haber, p. 31.
42.- Haber p. 44 and p. 192.
Fundinga Monterrey: the dangers of political worth.

In the case of the consumer goods industries, the role of the government was limited to macroeconomic policies. Hence, the owners of Cervecería remained quite independent from the government after the initial negotiations for the brewery had been concluded. However, in the case of heavy industry, the government took an active role in the development of the industry. In Monterrey, the Fábrica de Fierro y Acero, better known as Fundidora Monterrey, became a central concern of the Porfirian government.

Fundidora Monterrey attracted the attention of the government well before the first stone for the plant was laid down. The local and federal governments were conscious of the symbolic value of building the first steel plant in Latin America. Hence, permits for the construction of the steel plant, subsidies, tax-deductions, etc., became part of a big political game. This political game was, in a nutshell, an infight between two factions of the Porfirian administration who were eager to monopolize power, complicated by the fact that Bernardo Reyes was a potential successor to General Porfirio Díaz. In their negotiations, the industrial-financiers were caught in an uncomfortable position, for they did not want to upset any potential presidential candidate or power group. 43

From the beginning, Fundidora had a relationship of dependence on the political will of the federal government. After the Revolution, government’s intervention in the affairs of Fundidora grew as the federal government acquired shares of the company, controlling over 50 percent of the stock by the time the plant went bankrupt in the late 1980s. Many Regiomontanos hold the federal government responsible for the eventual bankruptcy of Fundidora. I will not attempt to elucidate the intricacies of the steel plant’s demise in this

43.- For an analysis of the political relation of the Monterrey elite with the Federal government between 1890 and 1910, Cf. Saragoza, pp. 52 ff.
chapter. Instead, I will present the elements that differentiated from the very beginning this venture from other Monterrey firms.

Fundidora Monterrey was, with Cervecería Cuauhtémoc, the cornerstone of Monterrey’s industrial development. Apparently, both businesses evolved in a similar fashion; however a closer look at the steel plant shows that from the beginning, Fundidora and Cervecería had critical financial and political differences which influenced in the long-run the viability of Fundidora.

Unlike Cervecería, which was founded by a small group of interrelated Regiomontano merchant-financiers, Fundidora was a major investment project which involved not only local entrepreneurs, but also financiers from Central Mexico. Moreover, if Cervecería seems to challenge Gerschenkron’s claim that late-late industrializers require institutions such as banks or the state to finance their development, Fundidora Monterrey confirms the point.

During the 1890s, the continuing modernization of the country increased the demand for steel. Vicente Ferrara, an Italian immigrant who had worked at one of the American smelting companies in Monterrey, had the idea of establishing a Mexican steel and iron plant in Monterrey. Ferrara’s project interested the Monterrey elite, but the start up cost for the steel plant required an investment of 10 million pesos, or about 5.05 million dollars of 1890.44 In his search for associates, Ferrara found the Société Financière pour l’Industrie au Mexique, a development bank set up by French merchant-financiers. Louis Signoret, an immigrant from Barcelonnette, Bas-Alpes, was the director of the bank. His brother sat on the board of directors of the Banco de Londres y México which was headed by Thomas Braniff. Ferrara recruited four merchant-financiers in Mexico City and five in Monterrey to

found the steel mill. Contrary to the brewery where all the founding members were
*Regiomontanos* of several generations, two-thirds of the owners of the steel plant were
recent immigrants. Moreover, given the fact that almost half of the founders of Fundidora
lived in Mexico City and that they had to be in constant negotiations with the federal
government to obtain political favors for the plant, the directorate of Fundidora was
divided. The American-born Braniff, the Spanish immigrant Basagoiti and the Frenchmen
Signoret and L’Honnorat formed the Mexico City directorate, while the *Regiomontanos*
Garza, Madero and Zambrano and the European-born Rivero and Ferrara sat on the
Monterrey directorate. The New Yorker Eugene Kelly was considered a *Regiomontano*,
for he had married the daughter of Patricio Milmo, a local merchant of Irish origin. Kelly
only spent a few weeks a year in Monterrey, but provided an important percentage of the
start up capital.

The story of the founding of Fundidora brings out an important point about the origins
of the entrepreneurs of the first industrial wave in Mexico. Most of the new industrialists
of Mexico were foreign born merchant-financiers who had accumulated their wealth
through commerce in Mexico. These entrepreneurs had financial links to Europe and the
United States and powerful connections within the Porfirian administration. Eager to
modernize the country, Porfirio Díaz coddled the European entrepreneurs. At the time, the
writings of the French sociologist Auguste Comte fed the ideology of a segment of the
Porfirian elite. Comte’s influence helped restore the stature of French ways. Hence, the
European merchant-financiers acquired a political clout that was reinforced by their
economic power. Except in isolated parts of the country, such as Monterrey, Mexican
merchants had few opportunities to accumulate capital through commerce and compete with
the immigrant industrialists.
The historical reality that only isolated Mexicans were able to participate in the first wave of industrialization and that for the industrialists based in Mexico City relations with the federal governments were crucial to their economic success, fundamentally shaped the character of the Mexican entrepreneur. The differences between the Mexico City and Regiomontano entrepreneurs survived the Mexican Revolution. But, in modern Mexico, the foreign entrepreneur was replaced by a Mexican businessman. In her study of The Mexican Entrepreneur (1971), Flavia Derossi classifies Mexican entrepreneurs into three categories: the “Central-Dependent” entrepreneur of Mexico City, the “Peripheral-Dependent” entrepreneur of Puebla and Jalisco, and the “Peripheral-Autonomous” entrepreneur of the Monterrey region.\textsuperscript{45} The degree of dependence is derived from the entrepreneur relation to the federal government. As Derossi indicates, only the “Central-Dependent” and the “Peripheral-Autonomous” entrepreneurs have strong political power. Unlike their dependent counterparts, the Monterrey entrepreneurs did not need close ties to the federal government to create their industries. The businessmen from Monterrey are distinct because they are indeed entrepreneurs and not merely managers of multi-national corporations or state firms, as are many of the businessmen from the dependent regions. The Regiomontano entrepreneurs rely on their own capital and pride themselves on their independence from the federal government. Whereas many of the dependent entrepreneurs rely on government contracts for the prosperity of their business, the Regiomontanos depend on the market rather than on government’s favors for the success of their enterprises.

The founders of Fundidora Monterrey were not quite periphery-autonomous entrepreneurs. After the Revolution, the managerial structure of Fundidora was reorganized. Basagoiti acquired a large percentage of stock, becoming the main

\textsuperscript{45} Derossi, pp. 47 ff.
stockholder of the company. Following the tradition of Mexico City entrepreneurs, Basagoiti invited his nephew to come to America to run his businesses as his ventures grew and as he became too old to manage them alone. He then named his Spanish-born nephew, Adolfo Prieto, director of Fundidora Monterrey. With Prieto the period of the double directorate came to an end. Although some Regiomontanos remained on the board of directors of the company, Adolfo Prieto moved the headquarters of the steel plant to Mexico City.

With this deed, Fundidora further differentiated itself from other Monterrey holdings. Even after acquiring national importance, the owners of the leading Monterrey holdings have maintained their headquarters in Monterrey. Chairmen of boards of directors and managers schedule weekly trips to Mexico City, but the decision-making power remains in Monterrey.

Looking at the evolution of Fundidora Monterrey from the perspective of business-government relations, the firm seems to have more in common with Mexico City firms than with those of Monterrey. However, if one looks at the steel plant from the perspective of labor-business relations, the Regiomontano character of Fundidora comes to life. Indeed, the original owners of Fundidora and Cervecería shaped the structure of business-labor relations that for a century has distinguished Monterrey from the rest of Mexico.

Since skilled labor was in short supply, the Monterrey industrialists early established a system of labor-business relations that could be labelled paternalistic or welfare capitalist. Regiomontanos still debate the origins of this system. Some claim that the founders of the brewery copied the German Krupp system; others, including managers at the brewery, see the origins of the system in the supplies of basic staples that Isaac Garza and Francisco G. Sada distributed among their workers during the Revolution. The civil war had cut off the supply of food to Monterrey, disrupting the pace of life. Workers were spending long
hours lining up for grain rations rather than working at the factory. The productivity of the brewery was lagging and thus the owners decided to take care of the basic needs of the work force in order to maintain the rate of production. Initially, the company provided its workers with groceries at discount prices, but soon it opened a credit union—the Sociedad Cuauhtémoc y Famosa—to finance affordable housing.\textsuperscript{46}

Currently most \textit{Regiomontanos} see the origins of these beneficial social practices in the Cervecería. Yet, at the turn of the century, Fundidora was the agent of social change in Monterrey. As early as 1903, the founders of Fundidora ran a discount shop\textsuperscript{47} for their workers and provided them with housing. And in 1911, Adolfo Prieto opened the first schools for the children of Fundidora’s workers. A real competition ensued between the Monterrey industrialists to provide benefits to workers. As soon as Fundidora established a benefit Cervecería would follow through, and vice-versa.

The fact that the Monterrey elite supplied its workers with groceries during the Revolution does not explain the fact that they continued to do so after the war. As noted earlier, however, during their stay in the United States, the Monterrey industrialists became interested in American business practices. The writings of Frederick W. Taylor were influential in shaping the structure of business-labor relations in Monterrey. Fundidora translated and distributed Taylor’s “Scientific Management.” Agreeing with Taylor, the industrialists of the region took labor problems for organic dysfunctions. As Saragoza indicates in his study of the Monterrey elite:

... the paternalism fostered in the Porfirian period was endorsed by the movement in American corporations towards greater efficiency,

\textsuperscript{46} A detailed discussion of the Monterrey system of labor relations is presented in Chapter 3 of this dissertation.

\textsuperscript{47} The discount shops known in Spanish as “Tiendas de Raya” were very common during the Porfiriato, as mining companies had established them early on. However, the Revolution revealed the abuses that had been perpetrated by the owners of discount shops to keep the workers in control. According to the historical accounts of Monterrey’s industrialization, the local capitalists did not abuse the system.
productivity, and profit through personnel management, "business relations" and similar notions.48

Through the twentieth century, the Monterrey elite has maintained a paternalistic system of business-labor relations which has suffered only minor modification. The system is characterized by the existence of recreational and welfare clubs through which the firm controls its employees and injects them and their families with the firm's ideology. The recreational club is just one leg of the system. Firm unions form the other pillar of Monterrey's industrial life.49

Unlike other industrial cities, the Monterrey elite has established and maintained non-political "white" unions.50 The unions work in coordination with management in the selection of personnel in an attempt to keep turnover low and limit strikes. Historically, the Monterrey industrial region has maintained the lowest rate of turnover and strikes of the country. The region has distinguished itself by its social peace and its labor-business alliance.

The similarities between the industrial organization of Monterrey and that of the United States have dissipated over time. Currently, Monterrey shares more similarities with a Japanese type of industrial organization. Perhaps a more pertinent explanation of Monterrey's labor structure would see Monterrey's specificity as the result of technological

48.- Saragosa, p. 144.
49.- For more detail on the use of the recreational and welfare clubs as tools to transmit the ideology of the elite see Chapter 3 of this dissertation.
50.- Even today, most Monterrey firms have independent unions. Seventy percent of the workers affiliated to a union in Monterrey belong to an independent union. The political unions (CTM, CROC, CROM) control all government-run services (transportation, garbage collection, etc.) and are often used as a political tool against the elite. Only a few firms have accepted a P.R.I. union, and this has been for economic reasons. The most notable example is that of GAMESA. The holding had an independent union but decided to replace it with a CTM affiliated union so that they could raise the salaries of the workers by 30%, present it as a union gain and hence force competitors (who are outside of Monterrey and have CTM-affiliated unions) to raise their salaries too.

Data provided by: Lucas de la Garza, President of the Partido de la Revolución Democrática in Nuevo León and former PRD candidate for governor of Nuevo León, interview, March 6, 1990, (on percentage of workers who belong to non-political unions); and Alberto Santos de Hoyo, President of GAMESA, interview, Spring 1990.
necessity. As Ronald Dore argues, under the technological necessity of a specialized labor force lie a series of labor relation requirements to assimilate both the adaptation of modern technologies and the transformations due to industrialization. What remains interesting about Monterrey is that despite the region’s eventual technological convergence with the rest of Mexico, it retained a unique labor organization.

Monterrey’s initial process of industrialization followed closely the American experience. Local entrepreneurs industrialized the region through the creation of vertically and horizontally integrated processing goods industries. Through distribution networks, advertising and politics, the local industrial elite extended the market beyond the borders of Nuevo León. But, despite its laissez-faire rhetorical ideology and given that the technology acquired was not adequate for the size of the national consumer market, the Monterrey industrial elite relied mostly on its political power to shape the market into monopolistic and oligopolistic arrangements that have characterized the Mexican industries until recently.

III.- Intra-elite negotiations to industrialize post-revolutionary Mexico.

After the Revolution, the Monterrey industrial process lost its similarities with the American experience. The new Regime was as interested as Porfirio Díaz in modernizing the nation, but its approach was quite different. Under the Constitution of 1917, the state became the primary agent of political, social and economic development. The ideology of the Revolution was antithetical to the values upheld by the Monterrey elite. The era of alliance with the government came to an end; from then on, the Monterrey industrialists would lead the business community’s fight against the federal government.

In addition to this political turnover, the Revolution brought other important changes to Monterrey. Like the depression of 1879-81, the Revolution eliminated industrial competitors. Foreign investors were either deterred from investing in a politically unstable country or were expelled from Mexico by the government. Some local industrialists left the country or reduced their investment. On the other hand, a few industrialists maintained their investments and grew as both industrialists and financiers. By the 1930s, the Monterrey elite had been reduced to a smaller yet more powerful group. Since then, Mexicans have associated the Sultana del Norte with industrial success and with one family: the Garza-Sada. As one observer puts it: “Mention Monterrey and the Monterrey Group comes to mind, mention the Monterrey Group and a tightly-knit family of wealthy and conservative businessmen comes to mind.”52

Monterrey’s industries have grown in tandem with the economic development of Mexico. At each stage, the Monterrey elite has confronted the federal government, sometimes in an atmosphere of suspicion and threat. But the Monterrey elite has obtained at least moral strength from each conflict to continue to grow and challenge the role of the state. Once again, the brewery and the steel plant serve as lenses to understand the evolution of Monterrey’s industrialization in the twentieth century. As in the Porfiriato, the federal government has been more concerned with the fate of the steel plant than with that of the brewery, for the steel plant is a source of international status and has a direct and visible relation to the development process.

The Revolution of 1910 brought a fundamental ideological change to Mexico. The era of the predominance of laissez-faire economics and development through foreign direct investment came to an end. The revolution that started with Francisco I. Madero’s call for liberal democracy was rapidly transformed into one that demanded social justice, land

52.- As quoted by Saragoza, p. 197. The observer of Mexico is not identified by Saragoza.
reform and workers' rights. Unlike Madero—who had been educated in the United States and had a deep admiration for the North American political system—Emiliano Zapata and Francisco Villa had not been influenced by foreign intellectuals and were not followers of Karl Marx or other socialist writers. Their demands for social justice were a direct result of the conditions of exploitation and abuse that permeated the Porfirián dictatorship. Members of the different ideological currents formed the Constitutional Congress. After extensive negotiations the Constitution was signed in 1917. The Constitutional Congress maintained important elements of the Constitution of 1857, which established a federal republic and proclaimed a strict separation of Church and state. But it added two essential features: social rights and the developmental role of the state. In practice, the Constitution was translated into three goals which would guide the administrations of the new regime: the creation of a nation, economic development and social justice. In *The Making of Modern Mexico* (1964), Frank Brandenburg defines in the following terms the ideology of the post-Revolutionary regime:

> An over-all synthesis would reveal the Revolutionary Creed is insistence that reason govern tradition, that secular authority supersedes divine right, that nationalism transcends particularism, and that the state performs welfare functions that historically depend on religious charity. The basic objectives further hold that state intervention is indispensable to economic growth; that social, political and economic integrations on a national scale are intrinsically good; and that international stature is gained and held by adherence to recognized principles of diplomatic conduct.53

The particular regime that emerged from the Revolution was, fundamentally, a federal system with a strong presidency and a mixed economy. Except for the latifundia that were subjected to land reform and the natural resources that became part of the state, the new regime respected private property and valued the role of the private sector in achieving economic development.

This interpretation of the post-Revolutionary regime is systematically different from the view sustained by the Monterrey industrial elite. To the Monterrey industrialists the new regime was a socialist type that threatened the very existence of the business elite. The Monterrey industrial elite has always looked at the federal government with scorn and suspicion and has feared the spread of communism in Mexico. This fear of Communism was specially strong during the Cárdenas presidency (1934-40) and the Echeverría administration (1970-76). This ideological bias has prevented the Monterrey elite from recognizing its points of convergence with the federal government on economic policies. The bias has perpetuated a Manichean view of the world, where the Monterrey elite represents itself as the “good guys” trying to industrialize the country despite the obstacles set up by the “bad guys,” the state. But this is only one side of the story, for Mexico City has the inverse bias according to which Monterrey is the land of reactionary, exploiting capitalists. These mutual misperceptions have been the basis of the major conflicts that have dominated the Monterrey elite’s relations with the Revolutionary regime, such as the dispute over the labor code and the conflicts with Cárdenas and Echeverría.

As early as 1917, the Monterrey industrialists returned from their self-imposed exile in the United States and joined the Mexico City financiers in the National Conference of Industrialists. The aim of the Conference was to pressure the new regime into maintaining pro-industrialist policies (tariff protections and monopolies), and to indicate that the business elite rejected articles 27 (land reform) and 123 (worker’s rights) of the new Constitution. Early on in the Conference, the Monterrey industrial elite, represented by Joel Rocha of the Salinas y Rocha commercial house, acquired the leadership of the Mexican business elite. Unlike most Regiomontanos, Joel Rocha believed that the

54. Haber, p. 139.
55. The Salinas y Rocha commercial house is the only commercial house of Monterrey that survived and even grew to become a national chain.
industrialists had to take an active role in politics to fight the policies of the government. He dedicated the next decade to the negotiations over the creation of the Labor Code, the conflict that dominated business-government relations through the 1920s. The codification of Article 123 into the Ley Federal del Trabajo addressed one of the most politically volatile issues that came out of the Revolution. But as Saragoza indicates,

[the formulation of] a uniform labor code offered the possibility of a legalistic resolution to labor-capital relations [...] the making of such legislation also provided the private sector with an opportunity to translate its concerns into the federal labor code.56

As a result of its struggle with the new regime and under the leadership of the Monterrey industrial elite, the business community created COPARMEX57 in 1929, an employers organization whose goal would be to protect business interests.

The negotiations over the Labor Code set the tone for the atmosphere that dominated business-government relations at least until the pro-business administration of President Miguel Alemán in the 1940s. However, the mood of these relations should not veil the fact that Mexico was not the Soviet Union. Labor acquired important rights such as the basic right to work and belong to unions; but, capital obtained also certain protections and guarantees. The outcome of the negotiations of the 1920s was that the benefits acquired during the Porfiriato were maintained. Monopolies and oligopolies, tariffs and protectionism were all part of the economic structure of the new regime. The maintenance of these policies can be perceived as a political achievement of the industrial elite. Such an interpretation, however, tends to hide the fact that the new regime was eager to industrialize the nation and that it saw these policies as prerequisites to the development of a national industry in the context of a mixed economy that respected private property.

56.- Saragoza, p. 135.
57.- COPARMEX: Confederación Patronal de la República Mexicana. (Confederation of Employers of the Mexican Republic).
This period was a turning point for the Monterrey industrial elite. The government pro-
industrial policies created conditions that were quite distinct from those in the United
States. The similarities with the American experience came to an end, as the Monterrey
industrialists benefitted from the glories of a captive market. The nature of the government
policies and the advantages that the Monterrey industrialists had from their earlier
experience in industry rendered import-substitution industrialization an attractive policy to
the Monterrey industrial elite. The industrial path of Monterrey merged with that of the rest
of the country. Despite the patent contradiction between the rhetoric of a laissez-faire
ideology and the concessions acquired through their negotiations with the regime, the
Monterrey elite continued to advocate the establishment of a market economy. In the elite’s
logic there was no contradiction between its declared ideology and its benefitting from
government policies. On the contrary, in a first instance, the elite required the state to
establish policies that would create the conditions for the eventual blossoming of a market
economy. Once the struggle between the elite and the federal government arose over the
control of civil society, the elite sought to generate the conditions for the implementation of
a market economy within the context of ISI. In this new scheme, the elite would benefit
from the lack of international competition, as a bonus derived from government anti-market
policies. And, once the closed system was established, the elite would attempt to create a
market economy when the mechanisms to benefit the elite were already in place. As Karl
Polanyi points out, “Laissez-faire was planned,” not only in England but also in Mexico.
Until the 1980s, the Monterrey industrial elite had been planning a market economy
without reaching the point of implementation.

As noted in the previous section, the Monterrey industrial elite took the leadership of
the business elite and the Garza-Sada clan rose at the head of the industrial class. The
period proved to be one of growth for the Garza-Sada family, as it continued its industrial
expansion and entered the financial sector through participation in old banks and in the creation of new ones. The Constitution transformed the industrial profile of Monterrey, for under Article 27, Fundidora became even more dependent on the government. Adolfo Prieto did not just move the directorate of the steel plant for his own convenience to Mexico City; his move was a necessity since mining fell under the regulation of the government and, early on, mining unions became quite politicized.

In retrospect, this period seems to be a rather calm one in terms of business-government relations. The desire of the regime to develop the nation compounded with the economic depression of the late 1920s early 1930s created conditions favorable to the development of industry. But a formal alliance between government and business, in particular with the Monterrey elite, was precluded by ideological perceptions and political necessities.

The Conflict with President Cárdenas and the expansion of the Monterrey group.

Few administrations have been so poorly understood in Monterrey as the Cárdenas Presidency (1934-40). Lázaro Cárdenas's rule was characterized by the implementation of the project of the Revolution. The President achieved social peace and political stability by organizing labor, carrying out land reform, and sponsoring infrastructure programs while maintaining the concept of private property. He set the political and economic basis for the industrial development of the 1940's. Through his presidency, investment in manufacturing rose,\textsuperscript{58} and his public works projects benefitted the heavy industry sector. Lázaro Cárdenas is recalled in Mexican historiography as the greatest President of the twentieth century, a place of honor in Mexico's political history he shares with the "Benemérito de las Américas," Benito Juárez.

\textsuperscript{58} - Haber, p. 189.
In Monterrey, however, President Cárdenas is remembered with deep scorn and disdain. His social policies are interpreted as attempts to install communism in Mexico. Half a century latter, the Regiomontanos recall with glee how their forefathers spoke down to the President and chased him out of the city. This interpretation of the outcome of the conflict with Cárdenas is, at best, a fantasy, for General Cárdenas was not in the habit of doubting his authority. Yet, the conflict between President Cárdenas and the Monterrey industrial elite led to the misconception that there was a generalized conflict between the Cárdenas administration and the business community. As Haber indicates, the majority of Mexican manufacturers did not perceive Cárdenas as a threat. The conflict was between Cárdenas and the Regiomontanos.

The tensions between President Cárdenas and the Monterrey elite were present from the beginning of his administration. However, the conflict did not explode until 1936, when the President supported a worker's strike at Vidriera Monterrey, one of the two most important businesses of the Garza-Sada family. As the situation at Vidriera soured, the President went to Monterrey to negotiate a solution. The President presented a fourteen point plan in which he urged the industrialists to turn their industries over to the government if they were not up to running them. The strike was resolved in favor of the workers, although the Garza-Sada clan established measures to prevent the politicization of their firms' unions and to increase the screening of candidates for jobs at their plants.

The conflict with Cárdenas and its aftermath had important implications for Monterrey. Contrary to plausible expectations, the conflict with the President did not reduce the power of the Monterrey elite. On the contrary, the experience gave the Garza-Sadas a new expertise that allowed them to become stronger. Hence, in order to protect their interests in the face of possible government intervention against their highly integrated beer complex, the family divided the business into two separate holdings: Valores Industriales S.A.
(VISA) and Fomento de Industria y Comercio S.A. (FIC). Cervecería Cuauhtémoc was the backbone of VISA and Vidriera Monterrey of FIC. The division went a step further by granting the control of each holding to two distinct families. VISA was under the control of the direct descendents of Isaac Garza and Consuelo Sada, the Garza Sada family; FIC was controlled by the descendents of Francisco G. Sada and Mercedes García, the Sada García family. Members of each family maintained minority interests in each others’ firms, but at least to the outside world these were two separate entities. Moreover, both families made an effort to diversify their holdings in fields that were not dependent on government contracts. VISA continued to expand the beer complex, and established as independent businesses parts of the process that had been divisions of the brewery in the past, such as a malt company, a packaging company, a technical services firm, and a distribution firm. FIC followed a similar strategy in the glass sector. The new organization included Vidriera Monterrey, Vidriera Mexico and Vidrio Plano, a plate glass manufacturing plant with Belgian technology that began to operate in 1936.

Aside from their industrial ventures, the Garza-Sadas expanded their financial interests. In 1932, the Monterrey elite founded the Banco Industrial de Monterrey to finance industrial development. As part of the reorganization of VISA, the Compañía General de Aceptaciones was established in 1936, to facilitate the financial transactions among the different firms of the holding. Subsequently, the company extended its services to FIC. The financial interests of the Monterrey elite and in particular of the Garza-Sadas was not limited to the Monterrey region. The elite had interests in the Banco de Londres y México and in other financial groups. By the end of the Cárdenas administration, the Garza-Sadas controlled a life insurance company (Seguros Monterrey), a capitalization bank (Banco Capitalizador de Monterrey), a mortgage bank (Crédito Provincial Hipotecario), a
construction company (Construcciones S.A.), and shared with other *Regiomontano* families the control of the Banco de Nuevo León.

Despite the elite’s visceral dislike for President Cárdenas, it cannot in fairness be said that his administration undermined the position of the Monterrey industrial elite. On the contrary, Cárdenas set the basis for the economic take off of Mexico. For the next thirty years, the Monterrey industrial elite would benefit from the successes of an import substitution model of industrialization.

**The Monterrey elite and the success of ISI:**

Over the past decade, it has become standard to criticize the import-substitution model of industrialization as an inadequate path to development. However, the model was at the base of the Mexican economic miracle that lasted three decades, from the 1940s to 1970. During that period, Mexico’s economy grew at a rate of 6 to 8 percent annually. By the 1970s Mexico had become a newly industrialized country. The Monterrey industrial elite played an important role in the development of the private sector’s industry.

During World War II, the Garza-Sadas entered the realms of steel and chemical production to overcome the shortages caused by the war. VISA established Hojalata y Lámina (HYLSA) to produce metal bottlecaps for beer bottles. The company expanded into an integrated steel complex.59 Celulosa y Derivados (CYDSA) was founded to meet the chemical needs of the glass factory. CYDSA also expanded into different companies that produce fibers, films, plastics and chemicals.

From the 1940s on, the development of the Monterrey industrial plant was constant. Monterrey was also much more than the Garzas, the Sadas and Fundidora. Aside from the Garza-Sadas, other families expanded their ventures or founded new plants, such as the Clariond family of the Industrias Monterrey S.A. (IMSA) group and the Santos family of

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59. For an analysis of the history of HYLSA, see Chapter 5 of this dissertation.
GAMESA. The former developed their firms in the steel processing industries, the latter in the flour, pasta and cookie business. By the 1970s, Monterrey’s industrialists were involved in most sectors of the economy: cement, steel, glass, chemicals, autoparts, plastics, fibers, beer, pasta, flour. But, despite the economic and industrial importance of other families, the Garza-Sadas maintained their leadership.

During this period (1940-70), an important part of the industrial development of the holdings was achieved through the association with multinational corporations to acquire technology and know-how. Of the Garza-Sada businesses, CYDSA is the one that profited the most from such associations, as all of its ventures were concluded with foreign firms. But, as in the past, even in ventures with foreign associates the Regiomontanos retained the decision-making power of the firms. Some of the firms acquired the franchise rights of foreign products such as Coca-Cola-- to date, VISA controles the largest franchise of Coca-Cola outside the United States. Except for Vidriera Monterrey and HYLSA, the firms did not invest in research and development, choosing to obtain the technology from abroad; and, except for Vidriera, no efforts were made to develop capital goods. Hence, the Monterrey industrial elite participated with the rest of the country in setting limitations to the very model that allowed the country to develop. At the time, however, few in Mexico were worrying about the inherent contradictions of import-substitution industrialization.

In order to maintain its predominant position in the Mexican market, the Monterrey industrial elite expanded its operations to other states, sometimes by acquiring existing plants and integrating them into their holdings, sometimes by creating new plants. Two companies, FIC and HYLSA, went a step further and opened plants or participated in joint
ventures abroad. Vidriera, for instance, opened a plant in Guatemala. HYLSA exported its iron reduction technology—Proceso HYL—to several countries.\textsuperscript{60}

This period also represented the golden age of Fundidora. The steel plant had had several strikes in the 1940s and 1950s, but under the leadership of Carlos Prieto, a graduate of the Massachusetts Institute of Technology, the plant blossomed. But, despite the importance of Fundidora to the national economy, the influence of its owners in Monterrey was almost nonexistent. The headquarters of the steel plant were in Mexico City and the plant had acquired a CTM union as a result of the increasing state participation in the venture. \textit{Regiomontano} employers became suspicious of Fundidora’s workers who were \textit{de facto} banned from jobs in plants that belonged to the Monterrey group.\textsuperscript{61} Fundidora and its owners were seen as outsiders.

Simultaneously, one member of the Garza-Sada family emerged the spokesman and ideologue of the group. His name was Eugenio Garza Sada, the son of Isaac Garza and Consuelo Sada. Since his return from the United States after the Revolution, Eugenio Garza Sada worked at the Cervecería Cuauhtémoc, eventually becoming its general director and president of VISA. His brothers and cousins had similar trajectories, having studied in the United States and eventually heading one of the family’s companies. But, Don Eugenio, as he is recalled in Monterrey, achieved wider recognition in the region because he did not limit his accomplishments to the well-being of his factory and his workers. Don Eugenio was highly regarded as a community leader concerned with improving the condition of all \textit{Regiomontanos}. Stories are told of his active participation in helping the victims of the hurricanes that struck the city from time to time. But probably his greatest

\textsuperscript{60} - A discussion of VITRO and HYLSA’s expansions in the international market is presented in Chapter 5 of this dissertation.

\textsuperscript{61} - As will be discussed in Chapter 3, it is was a policy of the Monterrey elite not to hire workers who had belonged to government unions. The term “Monterrey Group” refers to the plants of the Garza-Sada clan, i.e. plants that belong to Alfa, VISA, VITRO and CYDSA.
contribution to the city was the founding of the Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM) in 1943, an institute patterned after his alma mater, the Massachusetts Institute of Technology. Through his active life as a community leader, Don Eugenio won the respect of Regiomontanos. He became the spokesman of the community and its representative vis-à-vis the federal government, as his opinions provided the consensus of the community. Through this role, the Garza-Sada family further extended its predominance in Monterrey. The family not only dominated the industrial and financial scene but, as I will argue in the next chapter, shaped the culture of the region through the institutionalization of its ideology.

In the 1960s, Monterrey was characterized by its prosperity. The city enjoyed rates of industrial growth and productivity superior to those of the rest of the country and the rate of turnover in its industries and the number of strikes were lower than in the rest of the country. The Monterrey elite was on better terms with the federal government, signified, for example, by President Gustavo Díaz Ordaz's (1964-70) selection of Eduardo Elizondo, a conservative pro-business lawyer, as governor of Nuevo León. Monterrey was at one of its highest points.

The political origins of the economic decline.

Despite the strong ideological control, Monterrey was not exempted from the political turmoil of the late 1960s and 1970s. The first crack in the smooth veneer of Regiomontano society appeared at the Tecnológico. The student movement that swept the streets of Paris in May and Mexico City in October 1968, reached Monterrey. The conflict at the Tecnológico pales by comparison to the student uprisings at Berkeley or at U.N.A.M., but it reflected a fissure in the harmony of Monterrey’s daily life and exposed the authoritarian

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62.- The role and importance of the ITESM to Monterrey’s life will be discussed in Chapter 3 of this dissertation.
and paternalistic structure of the society. The conflict began when the directorate of the Institute banned the publication of a critical student journal, *El Quijote*. The elimination of the paper fomented student activism which eventually led to a hunger strike by over a hundred students to protest the expulsion of six students that had participated in an anti-establishment play in December. In January 1969, the conflict was ended with the dismissal of three students and, more importantly, with the elite’s expulsion of the Jesuits from Monterrey. Up to that time, the Jesuits had been in charge of the education of the children of the Monterrey elite. But during the conflict, the telephones of the priests had been tapped and in their recorded conversations the priests seemed to incite students to rebel. The Jesuits had become too radical for the taste of the Monterrey elite, and hence were no longer welcome in the region.

This incident was the first in a period of challenge to authority and to the status quo. The killings of Tlatelolco on October 2, 1968, had unveiled the authoritarian nature of the Mexican regime. Despite the President’s acceptance of total responsibility, many Mexicans held the Secretario de Gobernación, Luis Echeverría, responsible for the massacre. When Echeverría came to power in 1970, he tried to reestablish the legitimacy of the regime through a policy of political opening and shared development. The quiet Secretario de Gobernación turned out to be a radical leader, concerned with bridging the income inequality of the Mexican population and with turning the country into the leader of the Third World. Needless to say, the rhetoric of President Echeverría and his policies shocked the sensibilities of the Monterrey industrial elite.

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64. The Secretario de Gobernación is the minister of the Interior. I choose to use the Spanish term here instead of the English one because the Mexican secretary has wider power than his American counterpart. Indeed, until 1976, the Secretario de Gobernación was the most powerful cabinet position, and the man in charge was almost guaranteed to become the next president.
For the next two years, the President maintained tense relations with the governor of
the state of Nuevo León, Eduardo Elizondo. During the Díaz Ordaz administration, the
governor (1967-72) had established friendly relations with the then secretary of
Gobernación, Luis Echeverría, but, once Luis Echeverría became president the relationship
soured. According to Eduardo Elizondo, Mr. Echeverría took a 180 degree ideological turn
when he became President. The governor and the President could not see eye to eye on
any issue. The conflict finally exploded in 1972 over the governor’s handling of the
student strike at the Universidad Autónoma de Nuevo León (UANL). The university was
attempting to raise its academic standards by increasing the requirements for admission and
graduation. A group of left-wing students initiated a strike to protest the new policies. The
governor, after consulting with the President, asserted his authority by breaking the strike
and approving the new requirements for admission and graduation. The event led to
protests in other cities. In order to contain the political damage, President Echeverría
ordered the governor to retract his actions. Eduardo Elizondo felt that he had no other
choice but to resign. With the removal of the pro-business governor, the conflict between
the Monterrey elite and the federal government came to life once again.

The rhetoric of President Echeverría and the spread of pro-communist guerrilla
movements revived the Monterrey elite’s deep fear of communism. Throughout 1972 and
1973, kidnapping of businessmen, politicians and even diplomats by leftist groups became
commonplace. The Monterrey elite knew that it was a prime target for such violent acts,
but refused to take adequate precautions. In the morning of September 17, 1973, Don
Eugenio Garza Sada was intercepted in his car as he was driving to work. Four men tried
to pull the eighty year old man out of the car, but he resisted. An exchange of gunfire first
struck an assailant and then Don Eugenio. The assassination of the patriarch of the group

65.- Interview with Eduardo Elizondo, July 1990.
further exacerbated the tensions between Monterrey and Mexico City, and between the private sector and the federal government. At first, the President sent one of his ministers, a former Dean of the Tecnológico, as his representative to the funeral. But upon his arrival, Víctor Bravo Ahuja notified the President of the volatile nature of the situation and requested his presence in Monterrey. Under a long cold rain, President Echeverría stood silently at the cemetery while the spokesman of the Monterrey Group, Ricardo Margáin Zozaya, vehemently blamed the policies of the Echeverría administration for the death of their leader.

With the assassination of Don Eugenio, the relationship between the business elite and the federal government reached its nadir. The private sector was reluctant to invest in an already troubled economy, and many industrialists chose to place their capital in North American and Swiss banks. The lack of support from the private sector for the Echeverría administration deepened the crisis of the import-substitution industrialization model of development. The death of Don Eugenio also marked a turning point for the Echeverría administration as the President heightened his populist and “Tercermundista” rhetoric. It was during the second half of his sexenio that he proposed the “Chart of Duties and Rights of the States” at the United Nations, that he expropriated productive lands in the northern state of Chihuahua to implement land reform, and that he accused the Monterrey elite of promoting a clandestine meeting to destabilize the country.67

By 1976, the economy was in shambles. For the first time since 1952, the peso was devalued. Capital flight accelerated as the end of the Echeverría administration approached in an atmosphere of political uncertainty.

66.- Tercermundista refers to the Third World. It is the translation of the French word “Tiers-mondisme” coined by Alfred Sauvy in the 1950s to refer to the developing world. Luis Echeverría intended to become the leader of the Third World.
67.- Fuentes Mares, p. 85. Echeverría’s accusation prompted José López Portillo, then candidate to the presidency, to refer to the businessmen’s meeting as a case of “kulkluxklanism.”
By the end of the Echeverría administration, Monterrey presented a different image from the homogeneous, prosperous one of the 1960s. The death of Don Eugenio Garza Sada shook the power and position of the Garza-Sada family. As in any good story that involves power and wealth, the division of Don Eugenio’s financial interests was a dramatic affair that, for a while, split the family, and allowed Javier Garza Sepúlveda to pit his two cousins, Eugenio Garza Lagüera and Bernardo Garza Sada, against each other through the manipulation of his share of VISA. The dispute was finally settled through a division of VISA into two distinct holdings: Valores Industriales S.A. (VISA) and Grupo Industrial Alfa S.A. VISA, headed by the son of Don Eugenio, Eugenio Garza Lagüera, kept the beer complex and the financial sector. Alfa, directed by Bernardo Garza Sada and initially comprised of the steel complex HYLSA and some other minor businesses, soon grew to become the leading industrial group of Mexico. Fomento Industrial y de Comercio, which later became Grupo VITRO S.A., was headed by Adrián Sada Treviño; and CYDSA by his cousin Andrés Marcelo Sada Zambrano. Hence by the late 1970s, the Grupo Monterrey was constituted of four autonomous holdings headed by different leaders. Even though each individual member retained interest in the other’s holdings, the President of each holding was the main stockholder and as such retained total control over the business. If at the turn of the century the Garza-Sada ventures represented at most a handful of firms, by the 1970s each holding assembled a wide variety of plants and businesses that encompassed all sectors of the economy. The homogeneous industrial town of Monterrey had become a diverse industrial center, second in the country only after the Valle de México.68

68: The Valle de México contains the Federal District and parts of the states of Morelos and México. The region houses almost fifty percent of México’s industries.
Yet the Garza-Sadas were no longer the only important industrialists of the region. Others groups such as AXA, Conductores de Monterrey, Cementos Mexicanos S.A. (CEMEX), PROTEXA, GAMESA, IMSA, had carved their places among Monterrey’s leading holdings. Like the Grupo Monterrey, these holdings had expanded their operations throughout the country. Even though their owners did not yet inspire the respect and recognition that the Garza-Sadas enjoyed, they were eager to have a voice in the Monterrey industrial elite. In this regard, the assassination of Don Eugenio served to democratize the relations within the elite. Decisions were now taken by consensus in consultation with the leaders of the top holdings of Monterrey. In the 1980s, this group of entrepreneurs constituted the Grupo de los Diez\textsuperscript{69} (the Group of Ten) which presented the opinion of the Monterrey industrial elite to the President. To date, the group has bi-monthly meetings with the President and with members of his Cabinet to discuss economic policy. Yet, the role of ideologue of the group felt again on one man, Andrés Marcelo Sada, the president of CYDSA, who has been head of the Consejo Coordinador Empresarial (CCE) and an active member of the Unión Social de Empresarios Mexicanos (USEM), an organization whose goal is to promote a type of capitalism that is in agreement with the social doctrine of the Catholic Church.

The events of the 1970s did not have such a positive outcome for Fundidora. After a decade of prosperity and growth, the company suffered severe losses in 1970, as a result of a miners’ strike in Durango. In 1972, the company underwent one of a series of changes of property. Some of its stock was acquired by the government and some by private stockholders. In 1975, the steel plant was indebted for 800 million dollars, and the government had to intervene to bail it out. The financial situation of the group worsened; in

\textsuperscript{69} - The Grupo de los Diez includes the presidents of the following groups: Alfa, Cemex, VITRO, VISA, CYDSA, PROTEXA, GAMESA, IMSA, AXA, Ramirez.
1977, the national development bank NAFINSA\textsuperscript{70} acquired 56 percent of the stock, 44 percent remained in the hands of Fundidora and 14 percent in the hands of private Japanese investors.\textsuperscript{71} From then until its closure in 1986, the story of Fundidora, one of the original pillars of Monterrey's industrial success, became a story of constant financial strife, of lagging technological modernization and of recurrent strikes. Fundidora presents the quintessential example of the eventual pitfalls of the import-substitution model of industrialization.

The economic crisis of 1976 warned about the deep structural problems that threatened the viability of the Mexican economy, but despite the initial implementation of an IMF stabilization program, these omens were soon forgotten. The discovery of important reserves of oil was expected to solve all the problems of the country. President López Portillo invited Mexicans to "learn to administer abundance." The government and the private sector borrowed heavily on the international financial market. The banks of the developed world were eager to recycle the famous petrodollars and Mexico offered a very promising future. The economy grew at rates superior to 8 percent.\textsuperscript{72} For a moment, the dream appeared as reality. The Monterrey industrial elite expanded into every sector of the economy -- the brewer of the past became also a florist and the steel producer an hotelier. The Regiomontano entrepreneur left behind his frugality and became an international jetsetter. Overnight, business meetings would be arranged at Maxim's of Paris or at the Plaza Hotel in New York. But the fantasy soon came to an end: by 1981, Alfa was

\textsuperscript{70}. NAFINSA is Nacional Financiera S.A., the national development bank.
\textsuperscript{71}. Juan Zapata Novoa, La Muerte de Fundidora: Reconversión de la Cultura Industrial Mexicana. (México D.F.: Editorial Limusa S.A., 1989), pp. 43-44.
\textsuperscript{72}. According to Jesús Silva-Herzog, "from 1978 to 1981, the Mexican economy grew at 8.4 per annum in real terms." (p. 5). For an elaboration of the economic situation in the late 1970s and early 1980s see Jesús Silva-Herzog F., Beyond the Crisis: Mexico a - d the Americas in Transition. (Stanford: The Americas Program, Stanford University, 1987).
heading toward bankruptcy, unable to meet the payments of the interest on its 2.3 billion debt.

The crisis of Alfa was just an omen of the crisis of the national economy. By August 1982, Mexico was unable to meet payments on the interest on its debt, inflation was rampant, and the peso was in a free-fall. The economic situation generated an atmosphere of panic that fuelled extensive capital flight. The sense of betrayal and chaos prompted President López Portillo to expropriate the national banks on September 1, 1982. With this decree, the President broke his alliance with the business community. Overnight, the business elite lost a substantial part of its financial power, its control over banks and other institutions of the financial sector. The era of Mexico's economic miracle came to an end. In the aftermath of the initial crisis, the Monterrey industrial elite turned to its ideological roots. This time, however, the elite would try to be congruent with its ideology.

Since its founding in 1596, the city of Monterrey has had a social, political and economic history that has been distinct from that of central Mexico. The colonial experience forged a people with a strong sense of independence and a regional identity, two elements that influenced the political choices of the region at a crucial stage of Mexico's modern history. The geo-political transformation of the region in the 1840s provided its inhabitants with a unique opportunity to accumulate capital and establish the basis for industrial development. By the 1900s these two characteristics of Monterrey -- its regionalism and its industrialization -- merged and shaped the identity of the city and of its inhabitants. Monterrey became the industrial center of Mexico and its industrialists a

73. In 1982, Mexico had a foreign debt of about $80 billion dollars, an inflation rate of 100%, and its currency was devalued by 500%. Source: Business Mexico. (Mexico D.F.: American Chamber of Commerce), Feb. 1984.
powerful business elite with a strong *laissez-faire* ideology, that they did not practice but only voiced.

After the years of cooperation with the Porfirian regime, the Revolution of 1910 brough back the traditional antagonistic relationship between Monterrey and Mexico City. The tensions and ideological contentions between the industrial elite and the federal government polarized the ideological stand of the Monterrey elite. In order to protect its economic interests, the elite sought to eliminate the influence of the new regime on the *Regiomontanos* by shaping the culture of the region through the institutionalization of its ideology. At the economic level, the industrial elite took advantage of its desires shared with the regime to industrialize the nation and of the economic benefits of maintaining the industrial leadership of the country within a system of closed borders. Unlike other elites that had to intellectually search for an alternative model of development to overcome the structural crisis, the Monterrey elite had only to go back to its roots, to its history and ideology, to derive a new strategy of economic growth.
Chapter 3: The socio-political foundations of the Monterrey economy: shaping the regional culture.

"¿Recordarás al país? Lo recordarás y no es uno son mil países con un solo nombre. Eso lo sabrás"1
Carlos Fuentes, La Muerte de Artemio Cruz.

The current rapprochement between the Monterrey industrial elite and the federal government results from their ideological convergence, and from the simultaneous success of the Monterrey elite in overcoming the economic crisis of the 1980s. The adherence to a common set of beliefs does not in and of itself guarantee economic growth and prosperity. Monterrey’s success is not grounded merely in its ideology, but in the way in which this ideology has shaped the culture of the region and generated the conditions necessary for the successful implementation of an alternative strategy of economic growth.

The Monterrey industrial elite was able to implement its new strategy of economic growth rapidly and successfully because the region already possessed the preconditions required for the implementation of such a model. These preconditions, embodied in the social foundations of Monterrey’s society, are an outcome of the culture of the region which has been shaped over the years by the Monterrey industrial elite through the institutionalization of its ideology. Through a diverse set of social institutions, the elite’s ideology has become a generator of the social grid.

The ideology of the Monterrey industrial elite is self-reliant, individualist, Federalist and distinctly liberal. Since the Revolution of 1910, the elite has refined its ideology, adding to it certain Catholic attributes. Indeed, with the ascendancy of the “Revolutionary Creed” the elite added an important religious component to its ideology to form a shield for

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1.- Translation: Will you remember the country? You will remember it; and it is not one country but a thousand countries with a single name. That, you will know. (Emphasis added).
Monterrey's society against the influence of the Revolutionary ideology. The political conflicts of the elite with the Revolutionary regime and the dangers derived from the potential appeal of the Revolutionary ideology led to a radicalization of Monterrey's ideology and culture. Not surprisingly, the period of greatest confrontation between the northern elite and the regime was one of institutionalization of the Monterrey ideology.

In this chapter I argue that the Monterrey ideology and culture were essential to the elite's success in implementing its strategy of economic growth. In arguing this point, however, I do not contend that the culture of the region is static. On the contrary, the cultures of both the country and of the region are rapidly changing, increasingly converging. Neither do I contend that the preconditions for the implementation of the Monterrey strategy can only be produced in Monterrey. In fact, there are a few enclaves throughout the country where these preconditions exist. I do argue, however, that it would be naive to think that the Monterrey strategy of economic growth can be rapidly and successfully implemented in those parts of the country that do not have the social infrastructure to generate the prerequisites of the model. Elements such as a skilled work force or trust between employers and employees cannot be generated overnight. As the story of Monterrey shows, it takes years of cultural and social transformation to produce favorable conditions for the successful implementation of this alternative strategy of economic growth.

The aim of this chapter is to describe the way in which the Monterrey industrial elite shaped the culture of the region and created the preconditions necessary for the successful implementation of its strategy of economic growth. First, I describe the prerequisites of the new strategy, and I argue that some of the social elements called for by the strategy of the 1980s existed in Monterrey as an outcome of the elite's desire to create a market economy and its subsequent struggle to protect its society from the Revolutionary regime. And, I
analyze the way in which the elite used religion to shape the culture of the region. Then, I discuss how the elite institutionalized its ideology and evaluate the impact of the elite’s ideology in transforming Monterrey’s society. Finally, I analyze the new social currents that are transforming the ideology of the region and assess the implications of this cultural change on the economic strategy.

I.- Planning Laissez-faire.

The Monterrey strategy of economic growth calls for a profound transformation of the structure of production: from supply-production which was the structure of production dominant under ISI in which industrialists supplied the market with mass-produced goods without taking into account the desires of the consumer; to demand-production which is the new type of industrial production based on the demands of consumers and often based on flexible specialization to facilitate adaptation to a changing market. The social, economic and political requirements are distinct under each one of these systems of production. A system based on flexible specialization requires a skilled and flexible labor force, as workers are required to perform several tasks in the plant, produce entire parts of a product and use high-technology equipment. In this system of production, firms rely heavily on sub-contractors to produce parts that are labor intensive. A trustworthy network of sub-contractors is needed. Aside from an industrial culture, cooperation and trust become important requirements of a system that needs flexibility to adapt rapidly to the demands of the market. In order to compete in the international market, cutting-edge technology and design acquire a place that they never had under ISI. Hence, the existence of research centers and the development of ties between industry and university become important under this system of production. These elements -- a skilled and flexible labor force, an industrial culture that emphasizes trust and cooperation, a potential network of sub-contractors, the existence of research centers and business relations with universities -- are
to a certain extent preconditions for the development of flexible specialization in a region. The elements existed in the Monterrey of the early 1980s and were crucial to the successful implementation of the elite’s strategy of economic growth.

The presence of these preconditions in Monterrey is quite accidental to the emerging economic strategy, for no one could have foreseen even a few years ago what the requirements of the new system of production would be. The presence of these desired elements in this region is, on the other hand, an outcome of the elite’s commitment to the establishment of a market economy. Karl Polanyi in his classic study of the rise and fall of 19th century capitalism argues that with the implementation of the market economy came a profound transformation of the social sphere in which society was threatened with becoming a separate but subordinate sphere to the economic sphere:

The market pattern, on the other hand, being related to a peculiar motive of its own, the motive of truck or barter, is capable of creating a specific institution, namely, the market. Ultimately, that is why the control of the economic system by the market is of overwhelming consequence to the whole organization of society: it means no less than the running of society as an adjunct to the market. *Instead of the economy being embedded in social relations, social relations are embedded in the economic system.* The vital importance of the economic factor to the existence of society precludes any other result. For once the economic system is organized in separate institutions, based on specific motives and conferring a special status, society must be shaped in such a manner as to allow that system to function according to its own laws. *This is the meaning of that familiar assertion that a market economy can function only in a market society.*

Early on, the Monterrey industrial-financiers of the 19th century understood that *laissez-faire* had to be planned— that the social conditions required for the functioning of the market had to be created. This initial belief was reinforced by the threat represented by the ascendancy of the Revolutionary creed. The new regime was dangerous not because the state intervened in the economy, but because it took an active role in shaping society. It is

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hence not surprising that the ideology of the Monterrey elite became more radical during the early years of the institutionalization of the Revolutionary regime and, more importantly, that the institutionalization of the Monterrey ideology occurred during this period of virulent conflict between the regime and the northern elite.

The Monterrey industrial elite came out of the Revolution a loser in relation to the new regime. The former allies of the Porfiriato were perceived as traitors to the regime for their political behavior during the Revolution and their support for Victoriano Huerta. Suspicion and hatred permeated the relations between the federal government and the northern elite, who were forced to interact with each other only because of their shared economic interests. The new regime wanted to develop the nation while the Monterrey elite wished to protect its markets and continue its industrial expansion.

Despite the end of the armed conflict, during the 1920s the country was still in turmoil. The Revolutionary regime was busy building the nation, establishing a stable government, getting the economy going, and fighting the Cristero rebellion in Central Mexico. The period provided a window of opportunity for the Monterrey elite to institutionalize its ideology in an attempt to reclaim the part of society to which the elite felt it had a right; the new regime might dominate Mexican society as a whole, but in Monterrey, the elite would actively protect society from its “destructive” influence. The institutionalization of the Monterrey ideology was not a planned affair. It was, rather, a by-product of ad hoc responses of the elite to the intrusions of the state. As Karl Polanyi put it, “Laissez-faire was planned; planning was not.”

From a 1990s perspective, it may seem presumptuous to believe that a small number of entrepreneurs could shape the culture of a region and thus control society. It would be incorrect to assume that these entrepreneurs clearly devised to take over Monterrey’s

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3. Polanyi, p. 141.
society; the elite's actions were dictated by the entrepreneurs' desire to maintain a market economy and to continue the industrialization of the region. The long-term outcome of these actions was, however, to shape the culture—and hence society—to be congruent with the ideology of the elite. The elite was able to have such a tremendous impact on Monterrey society because the region already had a peculiar culture that was anti-Mexico City. Moreover, Monterrey was small town of 88,479 inhabitants\(^4\) where most people had either family ties or working relations with the emerging elite. Hence, transmitting values and shaping the culture of the region was no Herculean task. The ability of a powerful business elite to shape the life and culture of their region is not unique to Monterrey; it has been reported in other parts of the world, especially during the initial stages of industrialization.

The ideology of the Monterrey elite and the culture of the region.

During the Porfiriato, the ideology of the Regiomontano industrial-financiers was self-reliant, individualist, federalist and distinctly liberal. As discussed in Chapter 2, some of the elements of this ideology had deep historical roots. After the Revolution, the elite added a religious dimension to its ideology which came to emphasize above all laissez-faire and the social teachings of the Catholic Church as prescribed in the Papal Encyclical Rerum Novarum (1891).\(^5\) Through the institutionalization of the ideology, the Monterrey

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5.- In Rerum Novarum, written in 1891, Pope Leo XIII (1878-1903) “approved a larger role for the state in the protection of workers, attempted to define a just wage, and emphasized the legitimacy and necessity of trade unions.” (definition taken from: Eric O. Hanson, The Catholic Church in World Politics, (Princeton: Princeton University Press, 1987, p. 41.) The Monterrey industrial elite does not seem to see a contradiction between its belief in laissez-faire and its adherence to Rerum Novarum, despite the fact that Catholic political economy (if one may call it that) is presented as a humanistic alternative to capitalism and Marxism. The issue of the social responsibility of the entrepreneur has been a point of contention within the Mexican private sector. Most businessmen disagree with the ideology of social responsibility and believe that only large firms can afford to adhere to such an ideology. It is then not surprising that most of the supporters of the doctrine of social responsibility are in Monterrey. Moreover, when defining its ideology, the Monterrey industrial elite is eager to point out the Catholic influence comes primarily from Rerum Novarum rather than from Vatican II.
industrial elite shaped the culture of the region and shielded its society from the influence of the Revolutionary creed.

The culture of the Monterrey region is distinct from that of the rest of Mexico. It is an industrial culture that values hard work, education, efficiency, frugality, family, morality, and social responsibility. It is a culture that disdains procrastination, scorns tardiness and looks down on conspicuous consumption. For the Regiomontano, there is no mañana, only today. Until the oil boom, Monterrey had limited cultural life. Even today, the city has little night entertainment. To outsiders, the Regiomontanos lack the lavishness, hospitality and easy-going spirit characteristic of Central and Southern Mexicans. But, to the people of Monterrey, other Mexicans appear lazy, irresponsible and perhaps immoral.

Some of the unique characteristics of Monterrey’s culture were forged by the colonial and pre-revolutionary experience. However, most of the traits that the culture exhibits today were generated by the two tools that the industrial elite used to inscribe its ideology: 1) the social and educational institutions that mold the individual from conception to death; and 2) religion. Although for analytical purposes I distinguish these two components, they are actually interrelated, as religion permeates most aspects of social life in Monterrey.

The role of religion in Monterrey

Monterrey is one of the strongholds of Catholicism in Mexico. This statement may appear strange in a country that is theoretically speaking 90% Catholic. But, in this largely anti-clerical country, Monterrey, Guadalajara, Puebla and San Luis Potosí are known as regions where people are mochos, meaning that they are fervent believers and followers of the Catholic Church. As Frank Brandenburg points out in The Making of Modern Mexico, there are many variants of Catholicism in Mexico.6 In most regions, the type of

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Catholicism that is practiced is an amalgam of Christianity and pre-Columbian religions. But in Monterrey the Catholicism that predominates is one that is closest to the modern European type. The people of Monterrey view Catholicism as a source of ethics and morality that they have to implement in their daily lives, and they abhor the idolatry of the Catholics of Central and Southern Mexico.7

The Catholicity of Monterrey is reflected in the way in which Catholicism permeates social relations. Perhaps one of the least important aspects of Catholicism in Monterrey is that Regiomontanos are regular churchgoers. Catholicism is present in parochial schools for the children of the elite and the working class; it is present in most private universities, in the social clubs of the Monterrey holdings, and in the firms themselves. The teachings of the Church are present in the philosophy of the corporations as well as in the ideology of the non-governmental unions.

To the Chilango8 accustomed to the strong anti-clericalism of Mexico City and, until 1992, to the sanctity of the strict separation of Church and state, Monterrey seems a strange place. Whereas the main avenue of Mexico City is named after President Benito Juárez, who dictated the Leyes de Reforma (1857) establishing the separation of Church and state in Mexico, in Monterrey, Avenida Juárez is a small street buried in the worst part of town, and the main avenues are named after Porfirian governors and right-wing ideologues such as José Vasconcelos and Manuel Gómez Morín.9 More shocking is the Regiomontano

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8.- Chilango: inhabitant of Mexico City.
9.- For biographies of José Vasconcelos and Manuel Gómez Morín and their ideological influence in early post-revolutionary Mexico, Cf.: Enrique Krauze, Caudillos Culturales de la Revolución Mexicana, (México D.F.: Siglo XXI, 2ª Ed., 1976). José Vasconcelos and Manuel Gómez Morín were two intellectuals who were influential in shaping different ideological currents in the early part of this century. Vasconcelos was Secretary of Education in 1921 during the Obregón presidency and ran as an independent candidate for the presidency in 1928. Gómez Morín was the founder of the right-wing party, Acción Nacional. He was also one of "los Siete sabios," a group of intellectuals that represented different ideological currents in post-Revolutionary Mexico. Some of the other members included Antonio Caso Leal, Alberto Vásquez del Mercado, Vicente Lombardo Toledano, Teófilo Olea y Leyva, Alfonso Caso and Jesús Moreno Baca.
custom of saying grace and playing the Ave María on radio stations for the Angelus.¹⁰

This practice would be unacceptable in Mexico City, as would the Monterrey tradition of holding end-of-year masses in factories and businesses, and of inviting the bishop or at least a priest to bless the new factory, construction or business.

The Catholicity of the Monterrey region is however a recent phenomenon. It was created by the Monterrey industrial elite as an instrument of social cohesiveness to be used against the disruptive influence of the new regime. Indeed, until the 20th century, Catholicism was not important in Monterrey.

As discussed in chapter 2, Nuevo León had a peculiar colonial history. Inhabited by nomadic tribes, the region was colonized by Spanish families of Sephardic or Basque descent. The evangelization of the indigenous population was extremely slow and difficult. In other parts of the country, the existence of pre-Columbian organized religion facilitated the imposition of Christianity; but in Nuevo León there was no religion to substitute, no god to be transformed or coopted. Writing in the 17th century, the cronista Alfonso de León concluded:

Only in this part of the Indies; in this portion of the world that exists between the limits of the New Spain, Florida, Vizcaya and the northern coast, that is called the New Kingdom of Leon; only here one does not find neither true nor confused knowledge of God. It is only here where barbarism has assembled; it is only here were men have completely left nature, not the form, and have become wild beasts; forgetting the end for which they were nurtured. Without recognizing a God or a king, giving superiority to the nurtured thing. So that some indians, ill or sent to the gallows for a crime, receive baptism; it is necessary to tell them that they will go to heaven where there is plenty of food, it is then that they accept [baptism].¹¹

¹⁰ - Angelus: a devotion of the Western church that commemorates the Incarnation and is said morning, noon and evening.
Definition taken from the Webster’s New Collegiate Dictionary
¹¹ - Alfonso de León, Historia del Nuevo Reino de León, as quoted by José Luis Guzmán, “La Difusión de la Religiosidad en el Nuevo Reino de León”, La Religión en el Nuevo Reyno de León, (Monterrey, N.L.: AGENL, 1988), pp. 11-12. My translation. See the original below:
“Sólo en esta parte de Indias; en esta porción del mundo que hay entre los límites de la Nueva España, Florida, la Vizcaya y la costa del Norte, que se intitula Nuevo Reino de León; aquí- sólo es donde el
Except for the Southern part of the state, evangelization was ineffective during the seventeenth and eighteenth century. The nomadic lifestyle of the indigenous population rendered difficult the work of the missionaries who, in the end, were satisfied with "Christianizing" the people of Nuevo León without evangelizing. This basically meant that the Church was satisfied with baptizing the indigenous population—which according to Alfonso de León's conclusions was not an easy task—without providing further religious indoctrination.

Nor did the missionaries receive much help in this matter from the local Spanish population either. According to the historian Eugenio del Hoyo, 68% of the first colonizers of Nuevo León were of Jewish descent. By royal decree, new Christians were banned from the Americas. However, the founder of Nuevo León, Luis de Carvajal y de la Cueva, was allowed to bring a hundred families from Spain without proving their "purity of blood." Many of those who came with Carvajal were crypto-Jews who, once in these secluded lands, resumed the practices of their ancestors. Despite the Inquisition's trial of the Carvajal family, Nuevo León attracted crypto-Jews throughout the colonial period.

The trial of the Carvajal family is without a doubt the most infamous case of the Inquisition in New Spain. Although accused of judaizante, Don Luis de Carvajal y de la Cueva was a devout Catholic. The rest of his family, however, followed Jewish law. His nephew and hand-picked successor was considered a rabbi. Tried by the Inquisition on

barbarismo se ha recopilado; aquí sólo es donde, de todo punto, los hombres, dejando la naturaleza, no la forma, se han convertido en fieras; olvidando el fin para que fueron criados, sin reconocimiento a Dios ni rey, dando superioridad a cosa criada. Pues para que algunos indios, enfermos, o puestos, por delitos, para ahorrar, reciban el bautismo; es necesario proporcionales que han de ir al cielo, y que allá muchos mitotes y qué comer, con cuyo cebo lo admiten"


13. - Luis de Carvajal el Mozo was not an ordained rabbi as Judaism had been banned from Spain in 1492. But he was one of the most knowledgeable members of his community and studied the Bible (he did not know the Talmud, as no Torah or Talmud was available to him in Spain or in New Spain). Once in the Inquisition jail, he changed his name to the Joseph Lumbroso and continued to study and teach Judaism,
two occasions, he died at the stake with his mother and siblings.\(^{14}\) Through the seventeenth and eighteenth century, the Inquisition continued to prosecute people for following Jewish laws and practices. However, the actual primary role of the Inquisition in New Spain was not to prosecute (religious) heretics as it did in Spain, but to try sexual crimes (bigamy, and “solicitation” by members of the Church),\(^{15}\) Freemasons and libertarians. According to the historian Solange Alberro, there were few cases of heresy prosecuted by the Inquisition of Mexico City, as the Inquisition did not prosecute the religious deviations of the indigenous population. But, of those few cases of heresy, many came from Nuevo León despite the fact that distance limited the reach of the Inquisition.\(^{16}\)

The Judaism of the people of Nuevo León was not an organized religion. There were no synagogues, no yeshivas, and no ordained rabbis. However, the people followed some basic Jewish laws and customs that had been transmitted to them by their ancestors. These traditions impregnated the culture of the region where one can still find traces of Sephardic traditions in the local folklore.\(^{17}\) Understanding the Sephardic and indigenous nomadic ancestry of the people of Nuevo León is essential in comprehending their resilience to Catholicism during the colonial period and during the 19th century. This also

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\(^{15}\) “Solicitation” referred to the act of demanding a sexual favor in a sacred place (such as a Church). If a priest had an affair outside the Church he did not commit a crime that could be prosecuted by the Inquisition; however, if he asked a woman for a sexual favor during confession, he was liable.

\(^{16}\) Solange Alberro, “Inquisición y Sociedad en el Norte de Mexico Colonial” in La Religión en el Nuevo Reyno de León, (Monterrey, N.L.: AGENL., 1988).

\(^{17}\) In his study “Los Sefarditas en Nuevo León,” Ricardo Elizondo points out at least 23 traditions of the region that have a Jewish origin. Among the most striking are the habit of not mixing meat and milk products or consuming internal organs, animals that creep, fish without scales and fins (kashrut laws); the tradition of celebrating religious marriages under an arc decorated with flowers (chupah); and the tradition maintained until some fifty years ago of marrying the brother of one’s deceased husband (levirate marriages). Moreover, the author visited number of villages throughout the state and found that many ladino words were widely used instead of their Spanish equivalent.
explains the fact that, unlike Central Mexico, Nuevo León is not covered with colonial churches and cathedrals.

The arrival of European merchants in Nuevo León in the second half of the 19th century began to transform the religious configuration of the region, as some of the new inhabitants were practicing Catholics and Protestants. But even then, religiosity was not a main characteristic of the Nuevo León or of the Monterrey region. After the Revolution, however, Catholicism acquired a prominent role in Monterrey’s social life. The Catholic ethic became an integral part of the ideology of the entrepreneurial elite.

This religious conversion of the region is not unique to Monterrey. In his study “Religion and Enterprise: The Case of the French Textile Industry,” David Landes analyses the role of Catholicism in the economic success of Rousaix-Tourcoing, a region in the northeast of France, in the nineteenth century. Like Monterrey, Rousaix-Tourcoing was industrialized by practicing Catholics who developed family firms and believed in the fundamental virtues of hard work, education and family ties. Writing about these nineteenth century industrialists, Landes asserts:

...these businessmen were good Catholics by any objective criterion. Yet, they were at the same time among the most prosperous and progressive textile manufacturers in the country, so wrapped up in their industry at the expense of other concerns that they became known as the Americans of France.18

Landes could as well have been referring to the twentieth century Regiomontano industrialists. The cultural similarities between Monterrey and Rousaix-Tourcoing are remarkable. Entire paragraphs of the Landes study could apply to Monterrey by replacing the name of the region and the name of the Motte family by Garza Sada. The most interesting aspect of the analogy, from the point of view of this study, is that Rousaix-

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Tourcoing, like Monterrey, was not originally a region of fervent Catholics but as it developed, Catholicism became, at least apparently, essential to economic success.¹⁹

When looking at the role of religion in Monterrey, one is often reminded of Max Weber’s study, The Protestant Ethic and the Spirit of Capitalism. Landes initially also considered a Weberian interpretation which would, in a nutshell, be that the people of this region (Roubaix-Tourcoing/Monterrey) were hard-working people because they wanted to secure salvation. However, this explanation does not fit with Catholic theology. As Landes indicates, “their faith did teach them of their duty to their fellow men, especially their employees, and of their general obligation to contribute to charity. But an impetus to work and moneymaking? No, not really.”²⁰ Landes resorts to a psychological interpretation: the people of Roubaix-Tourcoing became hard-working Catholics to overcome an inferiority complex vis-à-vis the people of the city. One could attempt to make a similar argument about the Regiomontanos, saying that they became hard-working people and devoted Catholics because they were trying to overcome their “outsiderness.” This argument may have some elements of truth. For instance, one could wonder whether the elite became so devotedly Catholic because it wanted to make up for its Jewish ancestry, or whether the commitment to hard work, education and family are legacies of their Jewish past. There might be some explanatory power in each of these interpretations. However, I find most convincing the argument that the Regiomontano industrial-financiers of the turn of the century were capitalists with a business mind, interested in creating and developing an industrial emporium. Their motivation for being productive was (and still is) derived from an economic desire to accumulate wealth. This desire is combined with social goals and political ambitions such as improving the well-being of their community and

¹⁹.-Through the eighteenth century and until the 1840s, Roubaix-Tourcoing was a region inhabited by skeptics and bien-pensants. (Landes, p. 75)
²⁰.-Landes, p. 68.
becoming a powerful elite. This motivation is then based on economic ambition and not on a feeling of inferiority. The fervent Catholicism of the Monterrey elite has, on the other hand, a political origin linked to the desire of the elite to establish a market economy.

During the Porfiriato, religion was not a crucial element of Monterrey's life. Most of the new migrants were devoted Catholics and some were Protestants. The old Monterrey families had generally lost their attachment to Judaism. Despite the fact that the industrial-financiers sent their children to a prestigious boarding school in Saltillo run by Jesuits, most remained nominal Catholics. And the working-class saw the Saturday night dance, not religious ceremonies, as the main social event in their lives.\(^{21}\) After the Revolution, however, Catholicism became a dominant characteristic of Monterrey's society, as religion provided the elite with a justification for its paternalistic measures toward the working-class, and with a powerful antidote to the anticlerical state.

Indeed, given the ideological accord with the Porfirian regime, the industrial-financiers were in control of Monterrey society. But, with the Revolution, a major threat against the interests of the industrialists appeared. Initially, the threat was embodied in the war itself which undermined the productivity of the businesses of the industrial-financiers. In order to minimize the impact of the war on their workers, some industrialists decided, as early as 1918, to provide them with food at low prices, so that the workers would put their energies into production rather than into looking for provisions for their families. Soon thereafter, the financiers extended their reach by opening a credit union for their employees. These initiatives were the beginnings of a series of institutions that the elite created to take care of its employees from cradle to grave. At the time of their foundation, these institutions had a clear economic justification: the elite was establishing a set of social institutions to improve

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\(^{21}\) Interview with Professor Germán Otalora Bay, sociologist and chairman of the Business Administration program at I.T.E.S.M. (Campus Monterrey), April 17, 1990.
the living standard of its workers and maintain them so that they would become committed to the firm. The result would be higher productivity and low turn-over rates. However, over time, the justification for these institutions evolved into a more sophisticated explanation which included this economic line, but was reinforced by the argument that the creation of these institutions was derived from the social teachings of the Catholic Church. In this sense, the elite was not being paternalistic. It was simply following the mandate bestowed upon them by Rerum Novarum, the 1891 papal encyclical on social duties of the entrepreneur. Paradoxically, these institutions became the primary instrument of the elite to indoctrinate its workers with its ideology imbued with the teachings of the Church. The Catholicization of Monterrey society, and of the working class in particular, became a veiled objective of the elite who saw a normative force in religious values.

For the elite, Catholicism was a powerful weapon against Communism. Even today, the Monterrey elite sees a strong correlation between Catholicity and anti-Communism. As a 1981 study on religion in Nuevo León concludes:

> It is not peculiar to observe that those for whom Christianity is opposed to Communism are those individuals who own businesses and factories (the category labelled “capitalists”; 64.3% [of the “capitalists” in the survey linked Christianity with anti-communism]). For the members of the upper classes, if religion is related to politics it is in the sense of the fight against Communists.\(^{22}\)

Hence, one of the key questions that the elite has traditionally asked of the applicants to their jobs is whether they are devout Catholics. This practice is in decline, but to date at least two of the major holdings of the region still screen for religion in the final interview.\(^{23}\)

Moreover, religion is present in the life of the factory, in the firm-run social clubs, and in

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\(^{23}\) - Confidential information provided by a few former or current employees in the Human Resources direction of four separate holdings.
the philosophy of the holdings. As I will demonstrate in the next section, religion is present in each institution that affects the life of the worker and of his family and the life of the elite. Each one of these institutions has the mandate of transmitting the ideology of the elite, which could be summed up as free enterprise and Catholicism.

Catholicism has not only been a tool of the elite to divert its working-class from Marxism, it has been instrumental in giving cohesiveness to Monterrey society in order to limit the influence of the Mexican state. The Revolutionary regime threatened the Monterrey elite not because it affected its economic interests (in a narrow sense), but because it had a social program which included granting extensive rights to workers and providing free and secular education for all. Anticlericalism provided the Monterrey elite with a tangible element to turn society against the new Regime. Indeed, the elite translated the regime goals in Marxist terms and set its response in Catholic terms. Hence, the new regime was not granting basic rights to the working-class but creating socialism; the government schools were not providing free and secular education for all but turning the working-class against the upper-classes. The response was to create non-political (Catholic) unions and parochial schools. Hidden under the veil of Catholic unions, education and party, the elite was in reality transmitting its *laissez-faire* ideology. In Monterrey, the elite has succeeded in equating free enterprise with Catholicism. To threaten one is to attack the other. It is through this junction that the elite has been able to develop a powerful shield to protect its economic interests.25

24.- The party that I refer to here is Acción Nacional (PAN) which is not, according to its officials, a Catholic party, but the ideology and program of which are tainted by the social teachings of the Catholic Church. Acción Nacional was founded in 1939 by Manuel Gómez Morín, who was not from Monterrey but was the lawyer of the Garza Sada family. The influence of the Monterrey elite in the party has been important and Monterrey is one of the strongholds of *panismo* in Mexico. More important for my argument is the fact that during the 1980s, a new faction appeared in the PAN which called for a greater emphasis on the *laissez-faire* ideology of the party. Most of the proponents of *Neo-panismo* (as this movement became known) are from Northern Mexico, and many are from the Monterrey region.

25.- In this case, economic interests are meant in the widest sense of the term, which according to Karl Polanyi, under a market economy would include not only capital but land and labor as well. As Polanyi
Over the course of this century, the Monterrey elite has succeeded in using religion as an instrument to shape the culture and transmit its ideology. However, the process has also transformed the elite, which is now deeply Catholic. Some of the members of the current elite were grandchildren of devout Christian immigrants, and most of the descendants of Sephardic Spaniards today deny, at least publicly, their Jewish ancestry. The Judaic past of the region is brushed aside as an old myth. However, a few decades ago, the Garza family made a generous donation for the establishment of a Jewish center in Monterrey in memory of its Jewish ancestors.26 And today, whenever the presence of Church representatives is required at official functions, an invitation is extended to the Grand Rabbi of Monterrey. This deference is especially surprising in light of the fact that Jews constitute less than 0.045% of the population of Nuevo León.27 More striking is the fact that people in Monterrey know that Moisés Kaimán is the Grand Rabbi of Monterrey. I would challenge the reader to find a gentile who knows the name of the Grand Rabbi of Mexico City! Despite these deviations, the Monterrey elite has made clear where its allegiance lies. On two occasions the elite has sponsored the visit of Pope John Paul II to Monterrey.28 This northern city is the only city, other than the capital, that the Pope has visited twice in his journeys through Mexico. The Regiomontanos have been instrumental

indicates: “A market economy can only exist in a market society. A market economy must comprise all elements of industry, including labor, land and money. (...) But labor and land are no other than the human beings themselves of which every society consists and the natural surroundings in which it exists. To include them in the market mechanism means to subordinate the substance of society itself to the laws of the market.” (p. 71)

26.- Liebman, p. 292.

27.- According to the 1990 census there are 1,218 Jews in Nuevo León, most of them living in the Monterrey region. Most of the current Jewish population arrived in the region in the 1930s and are predominantly Ashkenazi Jews. Data taken from: Nuevo León: Resultados Tomo I, XI Censo General de Población y Vivienda, 1990. ( Aguascalientes, Ags.: INEGI, 1991), p. 96, cuadro 10, “Población de 5 años y más por municipio y sexo según religión.”

28.- Pope John Paul II, in an attempt to establish relations with the Mexican state, became the first Pope to visit Mexico. His first trip in 1979 caused widespread controversy as his presence challenged the Constitution. But, by his second trip in 1990, things had changed if not de jure at least de facto. Since then, the Mexican regime is moving rapidly toward the elimination of its traditional anticlericalism and to a less stringent separation of Church and state.
in the current rapprochement between the Vatican and the Mexican state. There is no question that the current generation of Monterrey entrepreneurs is devoted and committed to Catholicism.

In terms of the middle and working-classes, the impact of the elite has also been significant. Religious and firm events have replaced Saturday night dances as the center of social life and levirate marriages are unheard of today. The Catholicization of the masses was facilitated by the numerous waves of migrants from Central Mexico, especially from the very Catholic San Luis Potosi. The influence of the working-class migrants is also reflected in the slow transformation of Monterrey's Catholicism that, within the lower classes, is increasingly adopting some of the idolatry that characterizes the religion in Central Mexico.

Over the course of the century, the Monterrey industrial elite has succeeded in shaping the culture of the region in order to create a society that has a strong adherence to free enterprise and that values hard work, education, family and community. Religion has been a powerful instrument to ingrain the elite's ideology in Monterrey's society. But, unlike the missionaries of the colonial period, the elite has not been satisfied with a superficial conversion. The elite has generated a series of institutions which regulate the life of Regiomontanos, endoctrinating them daily with its ideology.

II.- Shaping the cultural grid through the institutionalization of the elite's ideology.

The secret of the industrialists' success in creating and maintaining a pro-business society in Monterrey lies in the elite's ability to conflate the public and private lives of individuals. Through its institutions, the elite takes care of its employees from cradle to grave, showing them at each stage of life the way to think, work, play, eat, raise children and retire. And it also keeps in check its own peers and offspring through private schools, universities and exclusive social clubs. No aspect of life is left to chance. In creating a
pro-laissez-faire culture the elite simultaneously implemented a system that begets the human resources for the smooth functioning of its industries.

1.- An organization-oriented labor market.

The factory system

During the early stages of industrialization in Monterrey, a skilled labor force was in short supply. As discussed in Chapter 2, the industrial-financiers of the nineteenth century were obliged to import workers from abroad. They established a system of business-labor relations—which could be labelled paternalism or welfare capitalism—to promote low turnover rates and allegiance to the firm. The Revolution reinforced the industrialists’ need to protect and nurture their labor force. During the armed conflict, the shortage of provisions jeopardized production as workers were more preoccupied with finding supplies for their families than with production. The elite opted to provide its workers with basic staples at lower prices so that they could again focus on production. After the Revolution, the industrialists widened the social benefits for their labor force in order to enhance their loyalty, especially at times when, at least in rhetoric, the Revolutionary regime seemed to be offering a better alternative. Hence, the Monterrey industrial elite pre-empted the Mexican state in providing health-care, subsidized groceries and low income housing to workers.29 Through the implementation of these social benefits and the installation of an organization-oriented type of industrial relations within the firm, the elite created an alternative system of labor-business relations which became characteristic of the Monterrey region.

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29.- As early as 1911, the Monterrey elite was providing subsidized groceries for its workers; CONASUPO and the “Canasta básica” were not created by the Mexican government until the 1970s. Likewise, as early as 1918, the Monterrey industrial elite opened a credit union to help its workers buy houses and in the 1930s and 1940s the elite sponsored entire neighborhoods of low-income housing for its workers. It was not until the Echeverría administration that the Federal government established INFONAVIT (lower income housing for workers). Finally, the elite established clinics for its workers a few years before the government created IMSS in the 1950s.
Whereas in the rest of Mexico labor-business relations are governed by a market-oriented system of industrial organization in the firms of the Monterrey elite the system is similar to the organization-oriented type found in Japan. The firm provides lifetime employment and recruits new workers among the family members of its working force. Hence turnover is low and loyalty to the firm high. Higher positions in the firm are filled through a promotion system that provides career mobility to blue-collar workers and white-collar employees alike. In order to enhance the promotion system, the firm provides education and training. The firm, not the state, supplies health care and other welfare benefits. The unions are company unions instead of independent political unions, and bargaining takes place at the firm level, without government involvement. Finally, management policies are intended to foster the attachment to the firm, or "amor a la camiseta."

In such a system of lifetime employment, the process of selection is painstaking as candidates are scrutinized exhaustively. Through the interview process, the candidate has to demonstrate that he has the required level of education (at the shop-floor entrance level, traditionally the minimum level of education has been secundaria), good principles and morals, a disposition towards work, and most importantly, that he is a good Christian and

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30.- In his study, "Late Development--or Something Else? Industrial Relations in Britain, Japan, Mexico, Sri Lanka, Senegal," Ronald Dore defines a "market-oriented" system of employment as "a single national system in which all firms operate in the same labour markets" and a Japanese "organization-oriented" system as "dualistic with a market-oriented system in that small firms and an organization-oriented system in the large." (p. 1). A "market-oriented" system is characterized by high labor turnover, wages and salaries are defined by "equal pay for equal work," training and social security are responsibilities of the workers or of the State, class consciousness precedes enterprise consciousness, individual material self-interest is the work-motivator, etc. (pp. 1-2). I will define the "organization-oriented" system in the text. In this comparative study, Dore concludes that the only place that comes closer to the Japanese organization-oriented model is the Monterrey region where the firms of the Monterrey group have a system similar to the one found in the large Japanese corporations. Dore however does note some discrepancies between the Japanese model and the Monterrey system of labor relations. Ronald P. Dore "Late Development--or Something Else? Industrial Relations in Britain, Japan, Mexico, Sri Lanka, Senegal." (Brighton, England: Institute of Development Studies, August 1974) Discussion paper # 61.

31.- Secundaria is the equivalent of Junior High School.
has no leanings towards Marxism or class-consciousness. The family background of the
candidate is also investigated. Until recently, having worked for an enterprise that had a
government-affiliated union (CTM, CROC, CROM) or having a family member affiliated
with a political union, was enough reason to be banned from the firms of the Monterrey
elite, especially from the enterprises of the Garza-Sada clan (Alfa, VISA, CYDSA and
VTRO).

Once the person is hired, he becomes a member of the larger family represented by the
firm. He is pampered by the firm, who pays him a salary higher than the minimum wage,
provides him with ongoing education and training, and helps him improve the standard of
living of himself and his family. The worker or employee develops a sense of pride, of
belonging to a prestigious family. His identity is tied to the firm. His objectives are those
of the firm, and he becomes blindly loyal to the firm. The firm makes it difficult for an
employee to leave his job. Part of the strategy is the managerial tactic of offering better
work conditions and benefits than other firms. The other part of the strategy consists of
integrating the worker’s family into the large family of the firm, so that his entire social life
is linked with the firm. Leaving one’s job means destroying one’s life; it is seen as a
betrayal of the firm, of the familia empresarial.

In the words of a Monterrey manager quoted by Ronald Dore:

I’ve never found a better definition of Industrial Relations than this: maintain a work force that is still satisfied and satisfactory and the rest is a
matter of auxiliary techniques. This is why we put so many obstacles in the
way of those entering the company because once in it’s difficult to get out.
We don’t like giving anyone the sack and its something we try to avoid.
You see, we think of our work force as a family, united not just for work
reasons but also by emotional relations. Here we never talk about
“obreros” because of the pejorative connotation the word has; here we are
all equal as employees or as members of the “Sociedad” (the firm’s welfare
and recreational society).\footnote{Dore, p. 13.}
The entrepreneurs are interested in maintaining low turnover because this enhances the firm's productivity and protects their investment in human resources. In his comparative study of labor organization, Dore reports that one Monterrey firm had calculated that "they had on average, to keep a worker for four years to recoup the costs of training, and, with a claimed loss of only 0.5% of its labour force to other firms every year (and another 2% to emigration to the United States or to self-employment) they seemed with their high wages, high fringe benefit policy to be successful in protecting their investment."33

Before the debt crisis, only on rare occasions did the industrialists dismiss one of their workers. Acquiring the "wrong" political ideas or inciting other workers to go on strike was a major reason to be fired. So was drinking beer other than that produced by Cervecería Cuauhtémoc--as this act was seen as a sign of betrayal as well.

Through this organization-oriented system the Monterrey elite developed and maintained a highly skilled and committed labor force. Mobility within the firm reinforced the allegiance of its labor force to the corporation and its commitment to work and productivity. Stories of apprentice workers who, through education and hard work, became managers and entrepreneurs are numerous. Monterrey is the land of opportunity for those men willing to follow the rules.34

The welfare and recreational clubs:35

Outside the plant, the Monterrey industrialists relied on two institutions to keep their employees in check, the social club and the union. Most Regiomontanos see the origins of the welfare and recreational society in the Cervecería Cuauhtémoc. But at the turn of the

33.- Dore, p. 12.
34.- Monterrey is not, on the other hand, the land of opportunity for women, as even today women are seen as wives and mothers whose jobs are to stand by their men and keep a Christian home.
35.- This section is based on several visits to the Sociedad Cuauhtémoc y Famosa during the spring of 1990, and interviews with Francisco Vazques, under director of human resources at SCyF, April 17, April 24, and July 1990.
century, Fundidora de Monterrey was the agent of social change in Monterrey. As early as 1903, the founders of Fundidora ran a discount shop\(^{36}\) for their workers and provided them with housing. In 1911, Adolfo Prieto opened the first schools for the children of Fundidora's workers. A real competition ensued among the Monterrey industrialists to provide benefits to workers. As soon as Fundidora established a benefit Cervecería would follow through, and vice-versa. However, from the 1920s on the club of the beer complex, Sociedad Cuauhtémoc y Famosa (SCyF) became the model of social development and labor relations for all the holdings.

At a first sight, the Sociedad Cuauhtémoc y Famosa looks like a typical country club. The facilities include: three swimming pools (one is olympic-sized); several tennis, basketball, volleyball, softball and soccer courts; a jogging track; a baseball park; an open air amphitheater; playgrounds, picnic areas and parks; a gymnasium for men and one for women; ballrooms, restaurants, arts and crafts academies; and a discount store. In short, Cervecería provides everything one would want in a modern club. But once inside the club, it is difficult to miss that this is not just another recreational club for the middle-class.

Most of the workers and employees of the Grupo Valores Industriales S.A. (VISA) belong to the Sociedad Cuauhtémoc y Famosa.\(^{37}\) Managers and owners are also members of SCyF and are expected to participate in club activities. The stated purpose of the Sociedad is to achieve the integral development of its associates at the cultural, moral and economic level. The guiding principles of the Sociedad are work, savings, equality, unity, liberty and family. It is then not surprising that the motto of the club is “*Trabajo y Ahorro*”

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\(^{36}\) The discount shops known in Spanish as “Tiendas de Raya” were very common during the Porfiriato, as mining companies had established them early on. However, the Revolution revealed the abuses that had been perpetrated by the owners of discount shops to keep the workers in control. According to the historical accounts of Monterrey's industrialization, the local capitalists did not abuse the system.

\(^{37}\) Until the division of the beer complex into VISA and SIC (former name of VITRO) in 1936 and then between VISA and Alfa, all the workers of the Garza Sada holdings belonged to the Sociedad. Since the separation of the group into different holdings, each holding has opened its own club. Hence, there is a VITROCLUB, NOVA (for Alfa) and SIMA (for CYDSA)
(“Work and Savings”). The model of “integral development” is “a strategic plan based on the philosophical principles of VISA and in the values the Sociedad promotes. Its objective is to facilitate the educational and reeducational process that help the associate and his family attain a full development according to his whole potential.” In practice, no aspect of the life of the individual is left unmodeled by the Sociedad.

38. Definition taken from the pamphlet “¡Welcome!, SCyF”, p.4. The translation is mine.
39. The diagram below shows the different aspects of the person’s life that are touched by SCyF.

MODELO DE DESARROLLO INTEGRAL

ESPIRITUAL
VALORES
- SALUD
- ECONOMICO
- BIENESTAR (DELETE)
- BELLEZA (ARTE)
- VERDAD (CIENCIA)
- BIEN (MORAL)
- ABSOLUTO (RELIGION)
- CIVICO Y PATRIO
- ORGANIZACIONALES

INTELECTUAL
- ACTIVIDADES FORMATIVAS
- ACTIVIDADES CULTURALES
- ACTIVIDADES ARTISTICAS
- CONOCIMIENTOS PRACTICOS
- ORIENTACION VOCACIONAL

OCUPACIONAL
- CONDICIONES ERGONOMICAS EN EL TRABAJO
- REHABILITACION OCUPACIONAL
- AMBIENTE FISICO
- ADMINISTRACION DEL TIEMPO LIBRE (RECREACION)
- CONTRIBUCION A LA PAZ LABORAL

ECONOMICO
- FINANCIERO Y SEGURIDAD
- APOYOS A LOS OTROS FACTORES

EMOCIONAL
- SALUD EMOCIONAL
- AUTO-ESTIMA
- SOPORTE Y REHABILITACION PSICOLOGICA
- EXPRESION A afectiva

SOCIAL
- CONVIVENCIA FAMILIAR
- DESARROLLO FAMILIAR
- RELACIONES CON LA COMUNIDAD INTERNA (MEMBRESIA)
- RELACIONES CON LA COMUNIDAD EXTERNA
- RELACIONES CON LA NATURALEZA

FISICO
- ACTIVIDADES MEDICAS
- ACTIVIDADES DEPORTIVAS
- AUTO-RESPONSABILIDAD
- NUTRICION SANA

The Sociedad promotes social interaction among the members of the different firms of the holding and their families. Surrounded by different factories of the corporation, the Sociedad is the center of the social, cultural, educational and religious life of the VISA family. Employees and workers are encouraged to spend their lunch hour at the club, eating at one of the subsidized restaurants or cafeterias, and to return after work to exercise, participate in a recreational event or take a course. One of the purposes of SCyF is to teach the worker to manage his free time. From the perspective of SCyF, the only good use of non-working hours is to be at the club. The family then becomes an integral part of club life. Activities are designed to integrate and educate all members of the family, children as well as grandparents. SCYF offers a wide range of extracurricular courses for children and self-improvement courses for the wives of VISA's laborers, including piano, karate and ballet lessons as well as cooking, sewing and English lessons. But the recreational activities of SCyF are, in reality, window dressing for the more significant tasks of the Sociedad.

Through the recreational activities the elite transmits its ideology and values to the working-class in an informal manner. It also fosters the development of emotional attachments and friendships among the members of the holding, hence creating an atmosphere of trust and a sense of belonging to a community of people with similar goals and values. The ideas and values of the elite are ingrained in the SCyF community through informal talks and conferences, and through the Sociedad's fortnightly magazine, Trabajo y Ahorro, which serves up the slogans of the group.

Moreover, through the different services that it offers (aside from the recreational ones), the Sociedad takes over family life. The Sociedad not only pressures the worker and his family to spend their free-time at the club, but it decides how much money the
worker can spend on groceries, what he can buy, where he can live, and how he can conduct his private existence.

The firm runs a service of subsidized groceries for its workers that seems a great convenience. Neither the worker nor his wife has to go to the store. The company that runs the service provides him (or preferably his wife) with a list from which they family selects the products they want and then it delivers them to the house on a bi-monthly basis. The value of the groceries is subtracted from his pay. But the sistema de despensa is also a means for the elite to circumvent the law of equal pay for equal work and benefit those workers with larger families and lower income. The system has two tables of subsidies, one according to salaries and the other one according to dependents. According to one entrepreneur, the purpose of the despensa is to educate the people and oblige them to follow an order in their consumption. Hence, the worker is not allowed to spend more than 40% of his income on groceries. Needless to say, when possible the products are those produced by the holding or by other corporations of the region.

An initial raison d’être of the Sociedad was to sponsor housing for the workers of the Cervecería Cuauhtémoc. SCyF functioned as a credit union that granted workers and employees loans to buy homes. However, the homes of the workers had to be built in the neighborhood where the members of the firm lived, usually within walking distance of the plants and of SCyF. In this way, the workers would interact mostly with other workers of the Monterrey group, diminishing the possibility of their being exposed to negative influences. Moreover, living in the same neighborhood forces workers to abide by the

40.- Although this idea was presented to me by several entrepreneurs, it had already been noted by Dore in his 1974 study.
41.- Interview with Jorge Chapa, former head of the Consejo Coordinador Empresarial and of CONCANACO, president of Casa Chapa and owner of one of the two Despensa services that cater to the workers of the Monterrey firms. Monterrey, March 9th, 1990.
42.- The housing program of SCyF has been an absolute success: In 1923, 10% of the working force that belonged to SCyF owned their own homes; in 1965, 44.6% of the members owned their homes; in 1988,
moral principles of the firm, as peer approval becomes an important part of personal life. Pressure to display a united, accomplished family are motivating factors for work, study, and leading a moral life. This behavior is rewarded by SCyF at annual ceremonies held to recognize the best workers, the most productive, the most punctual, and those who have never missed a day of work. Ceremonies are also held to acknowledge the best students, the best athletes, and the most accomplished members of the club.

The Society condemns behavior that undermines the integrity of the family, for “the family is the basis of society.” SCyF offers legal advice to its members and helps them “legalize their situation” when they are cohabitating. It does not, however, help its members get divorces. In cases of marital distress, couples are directed to the club’s therapist. Family and personal therapy are widely available, as are support groups to overcome addictions (usually alcoholism) or to learn to live a full life after retirement. The therapy is based on Christian values and emphasizes the supremacy of family and community over the individual.

Through different programs, the Sociedad shapes the spiritual, emotional, social, physical, economic, occupational and intellectual life of the member and his family. Through this constant interaction with the different facets of the worker’s life the elite instills its norms and values. This functional aspect of SCyF was confirmed once again in the 1980s, when the club became a valuable tool for the rapid introduction and instruction in the concept of “Quality.” The clubs helped transform the culture of the region into a “Quality culture.”

In addition to the club, VISA relies on three other institutions that directly affect and shape the life of the worker: the school, the clinic and the union. The Centro Escolar

76%; and in 1990, 82% of the members of SCyF owned their homes. Source: Francisco Vazques, “Celebra aniversario Sociedad Cuauhtémoc y Famosa”, El Norte, Miércoles 28 de Marzo de 1990, 32 A.
43 The club here refers to SCyF but it also applies to the clubs of other holdings.
Cuauhtémoc is formed of eight schools providing elementary and secondary education for the children of the Sociedad members. The schools are run by LaSalliste priests and segregated by sex. The Sociedad covers 75% of the cost of education and provides merit scholarships for continuing high school at the Tecnológico de Monterrey. Merit scholarships are also available for college and post-graduate studies.

In providing parochial schools for the children of its members, SCyF protects its workers and potential workers from the influence of the Revolutionary regime. Indeed, one of the main disputes the Monterrey elite has had with the government is that it considers public education to be antibusiness and conducive to class antagonism. The Monterrey industrial elite has been the main force behind calls for amending the Constitutional article on education (Artículo 3), for reforming the free textbooks, and for establishing a “free school,” i.e., free from the regime’s ideology.

By establishing its own welfare organizations the industrial elite has limited the interaction of its labor force with the regime. Aside from housing and schooling, the elite provides first-rate health care for its employees and their families. At the shop-floor, all the plants have a clinic staffed 24 hours a day, seven days a week. Outside the factory, the industrialists run private hospitals for the members of their familia empresarial (which includes workers and their families). The services offered include preventive medicine, hospitalization and out-patient care. The elite place great emphasis on preventive medicine; for example, SCyF holds nutrition workshops and pap smear clinics on a regular basis. Once again, the Monterrey elite pre-empted the federal government in providing health care to the working class, as the first clinics appeared a decade before the Instituto Mexicano del Seguro Social (IMSS) was established. Even now, the industrialists pay the fees of the IMSS but provide their own health care system. In order to discourage its workers from attending the Seguro Social, where free family planning is available, the elite has built first-
rate hospitals with the most modern equipment. Alfa's Clinica Nova, for instance, is reputed to be one of the top hospitals in Monterrey, surpassing most of the clinics that cater to the elite.

The Monterrey elite believes in the motto "Mens sana in corpore sano." It promotes a healthy lifestyle and stresses having a balanced life which includes work, exercise, productive recreation, family and religion. The elite's formula is meant to develop self-confidence and well-being in the members of its community. Hence, workers are more productive and efficient and carry on a positive attitude towards their job and the company. By integrating the worker's family into the corporate existence, the elite enhances the homogeneity of Monterrey's society, of its values and beliefs--that is, the culture of the region. Furthermore, by integrating the family, the elite creates a sort of security system for its investment. The integrated family not only becomes a pool of potential workers, but it also deters the worker from leaving his job for fear of losing all the benefits, status, and future opportunities his entire family has acquired through the firm.

Thus far, I have used the model of VISA to describe the Monterrey system of industrial relations, for the Sociedad Cuauhtémoc y Famosa has been the model that other firms have tried to emulate. Not surprisingly, the firms that have clubs almost identical to SCyF are the other holdings of the Garza-Sada clan: Alfa, CYDSA and VITRO. Not all the holdings of the Monterrey group have a recreational and welfare club, although most provide additional benefits--such as scholarships--beyond those required by law. Only one holding has chosen not to have a club, for the owners believe that it is a useless investment. In recent years, the validity of the club system has been called into question not only by its traditional critics, who contend it is a paternalistic system that manipulates the working-class, but by some members of the elite who consider that under the current economic conditions, firms cannot afford such expenditures. To the latter critics, the supporters of
the club point out that the clubs are worthy investments as, over time, they have produced a
tame working force of educated and skilled workers who are productive, responsible,
dedicated and committed to the firm. Moreover, the region has enjoyed long periods of
social peace without strikes. Indeed, until the crisis of the 1980s, the Monterrey region had
the lowest rates of turnover and strikes in the entire country and the most educated and
skilled working class.

The union of SCyF has been critical in maintaining friendly and cooperative relations
between labor and the firm. A former director of SCyF explains the functioning of the
Sociedad’s union in the following terms:

Unlike the traditional scheme where labor and business interact directly
with each other through the union in a confrontational manner, here, SCyF
acts as a mediator between business and union. Hence, instead of a
confrontation, the triangular relation establishes a dialogue between workers
and managers.44

The Unión de Trabajadores de Cervecería Cuauhtémoc y Fábricas Monterrey was the
first independent union founded in Monterrey after the codification of Artículo 123 in 1931.
The union provided a blue-print for other white unions that came to characterize the region
since the 1930s.

*Sindicalismo Blanco.*

The early history of unionization in Mexico is quite complex as it is characterized by
continuous struggles, divisions and sub-divisions of diverse groups representing a wide
ideological spectrum.45 In the early stages of industrialization, Monterrey had a few
mutualist societies and cooperatives. However, trade unions did not appear in this region
until the 1920s. Once again, the industrial-financiers of the Monterrey region sought to

44.- Interview with Mariano Montero, Director of CAINTRA, March 1990.
45.- Although it is a fascinating subject, I will not attempt to present here a discussion of the evolution of
(México D.F.: El Colegio de México, 1990); and Javier Freyre Rubio, *Las Organizaciones Sindicales,
protect their workers (and thus their interests) from the influence of the Revolutionary regime. As discussed in Chapter 2, the Monterrey elite was an active participant in the National Conference of Industrialists and in the formulation of the Labor Code. As soon as the Ley Federal del Trabajo was enacted in 1931, the leaders of the Monterrey elite, the Garza Sada family, created the Unión de Trabajadores de Cervecería Cuauhtémoc y Fábricas Monterrey. All the workers of the beer complex had to belong to this union and to no other. But the real impetus for unionization in Monterrey stemmed from the impulse the Cárdenas administration (1934-40) gave to syndicalism in Mexico.

Indeed, with the Cárdenas administration came the corporatist restructuring of the official party into four sectors: military, peasant, worker and social. The members of the labor sector were grouped into the newly created Confederación de Trabajadores de México (C.T.M.) which was then headed by the left-wing ideologue Vicente Lombardo Toledano. At the time of its founding in 1936, the motto of the C.T.M. was “Por una sociedad sin clases” and its objective was to socialize the means of production as a first stage to integrating a communist regime. In response to the C.T.M. and to President Cárdenas, support of striking workers at Vidriera Monterrey, Regiomontano workers--backed by the elite--created the Federación de Sindicatos Independientes de Nuevo León in March 1936.46 With the slogan “Unión y Justicia Social,” the federation regrouped fifteen existing unions and mutualist societies. Once again, the elite provided a Christian alternative to the Marxist trade unions sponsored by the state. Even after President Alemán’s reform of the C.T.M. into a confederation for the “emancipation of Mexico” in 1947, the Federación de Sindicatos Independientes dominated labor politics in Monterrey, as the industrial elite refused to hire anyone who did not belong to an independent union.

46.- Some of the founding members of the Federación de Sindicatos Independientes includes workers from Vidriera Monterrey, Cementos Mexicanos, Cervecería Cuauhtémoc, Casa Holck and Fábricas Monterrey.
State-sponsored unions such as the C.T.M., C.R.O.C. and C.R.O.M. made few inroads in Monterrey, except for those sectors related to public services.\textsuperscript{47} But likewise, the independent unions had little impact outside of Monterrey, except for some enclaves of conservatism such as Guadalajara, San Luis and Puebla, and those regions where the Monterrey elite established factories. In 1964, the federation was restructured and became the Federación Nacional de Sindicatos Independientes (F.N.S.I.).

In its principles, F.N.S.I. makes explicit the influence of the Catholic Church on the Federation, and hence on the independent unions of Monterrey. The unions categorically reject both liberal capitalism and Marxism and adhere to the ideology and programs of Christian syndicalism, which is in turn based on the social doctrine of the Catholic Church as exemplified in \textit{Rerum Novarum}.\textsuperscript{48} Hence the members of the Federation work towards the evolution of a more solidaristic economic, social and moral order.\textsuperscript{49} The “white unions,” as these independent firm unions are known, have been instrumental in maintaining a low level of strikes in Monterrey, as negotiation rather than confrontation is seen as the leading force behind business-labor relations. Through the unions, the

\textsuperscript{47} The monopoly of state unions in the services are (especially in transportation) a weapon that, on occasion, the regime uses against the Monterrey elite. For instance, at times of great tension between the elite and the regime, a transportation strike can affect production as some workers are unable to get to work. This weapon has become increasingly efficient now that Monterrey is a larger city and fewer workers live within walking distance of the factory.

\textsuperscript{48} It is interesting to note that for the Regiomontanos, the social doctrine of the Catholic Church always goes back to the teachings of Popes Leon XIII and Pius XI and to \textit{Rerum Novarum}, but never to the more progressive teachings of Vatican II.

\textsuperscript{49} In its declaration of principles the Federación states: “Los Sindicalistas Independientes rechazan la doctrina del liberalismo económico o capitalismo liberal, porque van contra la dignidad del hombre, la solidaridad y el bien común;..... En igual forma, los Sindicatos Independientes rechazan el marxismo-leninismo, por su descarada profesión atea que niega la existencia de Dios y trata de borrar los principios religiosos del hombre..... En cambio, los sindicatos independientes pugnan por la evolución hacia un orden económico, social y moral más solidario, que baja la autoridad legítima del Estado, regule el ejercicio de los derechos humanos y el cumplimiento de los deberes de los ciudadanos y de las instituciones, y promueva la armonización de intereses y la convergencia de esfuerzos, para que sea una operante realidad el bien común y el progreso compartido en forma equitativa, de todos los miembros de la sociedad.” Quoted from: “Declaración de Principios” in Federación Nacional de Sindicatos Independientes, 50 Aniversario, (Monterrey, N.L.: Editorial Gona, 1986), p. 62.
working-class of Monterrey has been convinced that it is in its best interest to cooperate with the industrial elite. It is at this level that the elite's use of Catholicism becomes the most obvious and the most effective. In the mind of the worker being a good Catholic has been equated with rejecting Marxism and following the Church teachings that emphasize solidarity and cooperation with the entrepreneurs. Thus, as long as the working-class feels the moral necessity to adhere to these precepts and as long as its economic needs are met beyond the basic standards established by the government, industrial relations in Monterrey will be characterized by the presence of Sindicatos Blancos.

The elite has invested great financial resources and imagination in creating a system that systematically indoctrinates the working class of the region with a set of beliefs that have the ultimate benefit of generating a skilled, productive, trustworthy and cooperative labor force. This system of industrial relations has transformed the culture of the region into an industrial culture that emphasizes productivity and loyalty to the firm. Ingrained in this culture is the notion that the basis of success and self-worth lies in the approval and recognition that one receives from the familia empresarial. By recasting labor-business relations in Christian terms of cooperation and fraternity, the elite has been successful in creating a culture where at least in appearances everyone wins. The entrepreneur is not an "exploiter" but a friend, or more precisely a father who looks after the worker's well-being. For many years, the Monterrey system of industrial relations was represented by outsiders as a prime example of labor exploitation, as the worker is not only robbed of his surplus value but more importantly of his consciousness. And for years, the Monterrey industrial elite responded to its critics with higher levels of productivity and lower levels of turnover and strikes. With the economic crisis of the 1980s and with the rapid transformation of society, some of the components of the system have begun to change. However, in terms of this study, the essential fact is that after decades of implementation, this system of labor
relations took on a life of its own and generated the social preconditions required for the rapid implementation of a new strategy of economic growth in Monterrey.

2.- Shaping society through subtle pressure, education and the media.

Pressuring peers to conform.

One of the strengths of the Monterrey industrial elite in being able to shape the culture of the region throughout the century has been its ability to maintain a homogeneity and a consensus within its ranks. The cohesiveness of the elite is in part derived from the fact that the core of the elite is formed by the extended family of the Garza Sadas. This family has provided the leadership in terms of shaping business-labor relations and business-government relations. One of the members of the Garza-Sada clan has traditionally been the ideologue of the group. In the first stage of industrialization, it was Don Francisco Sada, who was followed by Don Eugenio Garza Sada and, in 1973, by Andrés Marcelo Sada, current president of CYDSA and co-founder of the Unión Social de Empresarios Mexicanos (USEM). But in addition to the family connections, the Monterrey industrial elite has established institutions that pressure all members of the elite to conform.

The mechanisms set up to reproduce the ideology of the elite in the new generations of entrepreneurs are, not surprisingly, quite similar to those implemented to shape the views of the working class. The recreational club is, once again, the center of social life.

Until fairly recently only la crème de la crème of Monterrey society could belong to the Casino de Monterrey, the most prestigious and exclusive club. Extensive background checks were conducted on new applicants, and newcomers to the region were not usually

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50.- Unión Social de Empresarios Mexicanos (USEM) is an organization of conservative Catholic entrepreneurs whose goal is to bring Christian humanism to the factory. The organization is not only interested in transforming labor relations according to the social teachings of the Catholic Church but also to “Catholicize” politics.

51.- The Casino de Monterrey is not a casino in the traditional sense of the word, as gambling is outlawed in Mexico. The Casino de Monterrey is a club where people can go to eat, dance and play bridge, poker and canasta.
welcome, especially if they came from Mexico City. The members of the Casino had to follow a moral life, and social scandals were reason enough to be expelled from the Casino. The number of families admitted to the Casino was quite small; hence membership was a sign of status and power. Since the late 1970s, the Casino has opened its doors to more families and has lost some of its prestige. But for most of this century, the Casino was the center of political life of the Monterrey elite, and an incentive to excel in academic and professional terms.

In the 1960s, the Club Campestre became another center of gathering for the Monterrey elite. This recreational club has an 18-hole golf course and all the other amenities of a modern country club. Many elite families have Sunday brunch at the Campestre right after Mass. The club is one of the few appropriate places for young people to meet and interact--the others being school, church and the family living room.

Like its employees, the Monterrey elite is under great social pressure to have a united, hard working, Catholic family. Traditionally, the children of the elite have been educated in parochial schools which, until 1969, were run by Jesuits, but which are currently under the direction of the more conservative Legionaries of Christ and the Opus Dei. The male offspring are expected to attend college and graduate school; daughters are supposed to marry in their late teens and have children.

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Education, the Tecnológico de Monterrey and university-firm relations.

Since the early stages of industrialization, the Monterrey industrialists have greatly appreciated the value of education--especially technical education--for industrial progress. Hence, the first generation of entrepreneurs sent their sons to be educated at the Massachusetts Institute of Technology (M.I.T.) where they received degrees in mechanical engineering or chemical engineering. The second generation of industrialists also attended
M.I.T. and other prestigious institutions in the United States. But since 1943, a new option became available to the children of the elite.

Inspired by his alma mater, Don Eugenio Garza Sada founded the Instituto Tecnológico y de Estudios Superiores de Monterrey (I.T.E.S.M.), better known as the Tecnológico de Monterrey. As with M.I.T., the school’s strength lies in engineering. With twenty-six campuses throughout the country, I.T.E.S.M. is the most respected private engineering school in Mexico. The role of the Tecnológico is not only to educate the new generation of engineers and entrepreneurs, but to instill in them the ideology of the elite. Unlike M.I.T., the Tecnológico de Monterrey is a rather authoritarian institution where students are treated like minors and pressed to think in an innovative manner within the ideological framework of the elite. Heterodoxy is not tolerated, as was made evident in 1969 when the Jesuits who were in charge of overseeing the moral and spiritual education of the students were expelled from Monterrey.52

The Tecnológico has served an important equalizing role in Monterrey society, as it has opened the doors of many firms to members of the middle-class. The institute has trained new generations of businessmen, managers and plant engineers. The national prestige of the Tecnológico and the status it grants to its graduates within Monterrey has further accentuated the value of education in Monterrey. Aside from I.T.E.S.M. and the state-run Universidad Autónoma de Nuevo León, there are eight other centers of higher education in Monterrey. As a result, the region has the highest ratio of university graduates in the

52.- Influenced by Vatican II and by Marxism, the Jesuit order underwent a important period of transformation and became a more liberal and progressive organization. The Jesuits became concerned with issues of poverty, income inequality and democracy, three topics that were perceived as dangerous by the Monterrey industrial elite. After their expulsion from Monterrey, the Jesuits were replaced by two of the most conservative Catholic orders: Opus Dei and the Legionaries of Christ.
country, as well as the highest concentration of graduates from American graduate
programs in business administration and engineering.53

The Monterrey elite has established the institutions required to generate the cadres,
researchers and skilled labor force required to run their enterprises. It is then not surprising
that the degrees most valued in Monterrey are technological and scientific ones. Doctoral
degrees in the social sciences and humanities are looked upon with great contempt.
Moreover, the humanities and social science courses offered in private universities are
designed to educate the daughters of the elite who are expected to become cultivated
housewives.

Beyond their role in educating the new elite, the Tecnológico de Monterrey and the
Universidad Autónoma de Nuevo León (UANL) have established research links with
industry. University-industry cooperation began in the 1960s with the creation of the
Instituto de Investigaciones Ingenieriles (I.I.I.), an engineering research center for industry
at the UANL. This initial project failed, but the idea of selling research to firms was
revived in the late 1970s, and became an established reality in the 1980s with the
foundation of the Centro de Tecnología Avanzada para la Producción (CETEC) at the

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53. There are ten universities in the Monterrey region. The largest one is the state-run UANL which
services over 100,000 students and has 6,000 professors; then the prestigious ITESM with 12,000
students and 900 professors; the Universidad de Monterrey with 5,000 students and 500 professors, and the
Universidad Regiomontana with 7,000 students and 600 professors. The six other universities are smaller.
Most of the private universities have some kind of relation with a religious order. Data taken from:

According to Professor Otalora, chairman of the Business Administration program at I.T.E.S.M,
Monterrey has the highest concentration of MBA graduates in the country—over 2,500. About 60% of the
MBA graduates have a background in engineering and 25% in business administration. Over 300 MBAs
got their degrees from the Wharton School (the highest concentration of Wharton alumni in the country)
and 150 from the University of Texas (Austin). Despite the existence of graduate programs at the
Tecnológico de Monterrey, many members of the elite go on to graduate school in engineering or in
business administration in the United States. M.I.T. is still the first choice of most Regiomontanos.

showing off alma mater rings is an important part of Monterrey culture. Many of the top managers and
researchers that I interviewed proudly displayed their school ring. M.I.T. is definitely present among the
members of research centers and the directors of engineering in the best factories of the region. Fifty-five
percent of the students in the business administration program of the Tecnológico are sponsored by the
holdings of the region.
Tecnológico de Monterrey. The construction of the CETEC, and equipping it with cutting-edge machinery and technology, was financed by the leading holdings of Monterrey. The CETEC contracts research projects from industry, and offers graduate programs and short-term courses in areas of computer science and engineering that are becoming essential in the new industrial environment of flexible specialization.\textsuperscript{54} Through the late 1980s, the CETEC became instrumental in introducing “Quality” to Monterrey through courses for plant managers and conferences.\textsuperscript{55} And with the renewed interest in research and development, the CETEC is gaining importance in Monterrey’s industrial life.

**The role of the media:**

The Monterrey industrial elite has not left untouched a single institution that can be used to shape society. Whether it is the family, the Church, schools, or recreational centers, the elite has left its imprint. The elite has also succeeded in exploiting the media as a tool to diffuse its ideology and influence public opinion.

In this area, the elite has benefitted from the monopoly of private television by Televisa, a conservative and pro-business organization, from the low ratings of government channels, and from the presence of American television. Hence, television—which had the potential to hamper the efforts of the industrialists in shaping the belief system of the region—has been a reinforcing factor. Likewise, radio and newspapers have worked to the advantage of the elite. Many of the radio stations of the region are controlled by the elite.

\textsuperscript{54} The CETEC is divided into different sub-centers which offer different graduate programs, short-term courses, and research and development services. These centers include: Centro de Automatización y Control de Procesos Industriales; Centro de Sistemas de Manufactura; Centro de Desarrollo Industrial; Centro de Tecnología Computacional; Centro de Electrónica y Telecomunicaciones; Centro de Investigación en Informática; Centro de Optica; Centro de Calidad; Centro de Competitividad Internacional.

\textsuperscript{55} The Centro de Calidad of the CETEC holds the monopoly on several “Quality” courses such as the Taguchi method, and the training of managers of firms that want to acquire Ford's “Q.” For a discussion of the concept of “Quality” see Chapter 4 of this dissertation.
Aside from saying the *Ave Maria* for the Angelus, radio stations repeat slogans that encourage people to work harder and to support a market economy.\(^{56}\)

The press has been the most ardent supporter of the elite in Monterrey. The two major newspapers of Monterrey, *El Norte* and *El Porvenir*, have pro-business philosophies and strong ties to the elite. Since the late 1970s, *El Norte* has become the most influential paper in the region. Its role has not only been to report current events, but more importantly to attack the local and the federal government and to diffuse the ideology of the elite. Founded by the Garza Sada family, *El Norte* was taken over by its editors, the family Junco, who gave it a still more conservative and anti-government tone. The newspaper provides a forum for the elite to present and debate its views and a vehicle to transmit its latest organizational ideas and to publicize the results of local programs. In addition to having weekly sections on microentrepreneurs, new entrepreneurs, technological innovation and new strategies to administrate a business, the paper reports on the social events of the elite, including a weekly magazine on the neighborhood’s weddings, baptisms and parties with pictures and commentary. To appear in the newspaper is a symbol of status.

In introducing the new strategy of economic growth, the newspaper has been a good tool to rapidly diffuse the new ideas of the elite and a useful instrument in teaching the basic concepts of “quality” and the creation of a new “quality culture.” The industrial elite has wisely used the media to homogenize Monterrey’s society and mold public opinion.

3. **Some of the implications of the elite’s ideology:**

Through the institutionalization of its ideology, the Monterrey industrial elite has generated an industrial culture that values education, hard work, efficiency, loyalty and

\(^{56}\) One of the most frequently repeated phrases is “*El tiempo es valioso, no lo desperdicies*” (“Time is valuable, don’t waste it!”).
trust, as well as morality and family unity. Through its welfare institutions, the elite has been able to protect its workers from the influence of the Revolutionary regime and raise their standard of living above the national average. Moreover, the elite has created a system that, through education and work, provides an avenue for rapid mobility. Stories of former shop-floor workers who become managers a few years later, and of employees who become successful entrepreneurs, are not unheard of. But despite these virtues, the Monterrey culture has some major flaws which are inherent in the process of institutionalization itself.

The culture of the Monterrey region is elitist, paternalistic and sexist. The elitism of the culture has exacerbated the duality of labor. Those who work in the holdings of the Monterrey elite have a status and a standard of living superior to those of workers employed outside the elite's holdings. The solidarity of the workers is then with the firm rather than with other workers. This state of affairs has produced a situation in which the less educated, unskilled workers and those who disagree with the elite's political views are marginal to the process of development. The problem of economic disparity is a serious problem in Monterrey which is not addressed by the elite. By creating a mechanism that reinforces labor disparity, the elite has accidentaly established a mechanism that enhances the loyalty of workers to the firm.

Since the 1970s, some members of the elite have openly attacked the blatant paternalism of the Monterrey industrialists. However, despite the critiques little has been done to solve this problem. Self-criticism has become a standard practice, but confidential documents of some of the major holdings still stress paternalism as an important element in managing human resources. Paternalism, and in particular the authoritarianism associated with it, has become a source of labor discontent since the economic crisis. And paternalism is in
contradiction with the participatory culture called for by the new strategy of economic growth.

One of the most disturbing elements of the Monterrey culture is, however, its inherent sexism. The sexism of Monterrey is quite different from the traditional *machismo* of Central Mexico—it is neither the unabashed harassment of women or the glorification of male sexual exploits. It is a subtle but very clear message that women have only one role in society: to be housewives and mothers. At the upper echelons, there are no women entrepreneurs, no women executives, no managers, no directors. The only women who work in the holdings are secretaries wearing the companies' uniforms and the janitors. Unless they are teachers, nurses or doctors, women do not occupy professional positions in Monterrey. The daughters of the elite are encouraged to go to college, but only to be able to understand their future husbands. The career woman is highly despised. This is the Monterrey of the 1950s, the 1970s and of 1990.

During the course of my research, I was so surprised by the lack of professional women in Monterrey that I asked a manager of one of the leading holdings if they ever hired women. His response was:

Here, we rarely hire professional women. In reality, the only women we hire are the secretaries who have to be good looking and young. When we hire them we make them sign their letters of resignation with the clear understanding that if they get pregnant or married they have to leave the job. You must understand, we cannot mix young girls with married, divorced or widowed women—let alone immoral women—as they would corrupt the young girls. And, you must understand this: when I leave home in the morning, I may have had an argument with my wife or have had problems with my children, and the last thing I want is to come to the office and see a fat, unhappy woman sitting behind that desk. That is why I like it here because when I get in, a beautiful young girl looks at me, smiles at me, and in a sweet tone says: "Buenos días Ingeniero, may I offer you a cup of coffee?"\(^{57}\)

\(^{57}\) Confidential interview with a director of one of the leading holdings of Monterrey, April 1990.
Although this holding is reputed for its good-looking secretaries, its policy is, in all fairness, an extreme position in Monterrey. The more accepted position is to hire women as secretaries regardless of their marital status. Since the economic crisis, more women have however been hired at the shop-floor level, given the shortage of skilled workers and the rising levels of turnover. Most of the plant managers are honest in pointing out that, these days, women tend to be more reliable workers than men: they are responsible, hard working and do not take bribes. But even then, sexism has not disappeared. When asked why women were assigned to only one part of the production process, a manager simply responded:

As you know, by nature, women are inferior to men. They do not mind doing repetitive tasks as their brains do not require them to think. Men, on the other hand, have a problem with this line of work. So we hire women. Besides, they tend to be more responsible and productive than men. 58

The sexism of Monterrey is another outcome of the elite’s institutionalization of their ideology. By shaping and defining all aspects of private life, the Monterrey elite has been able to keep in check an important element of societal transformation: professional women. This sexism has also benefitted the shaping of the culture as women become agents of the status quo, for they diffuse and maintain the elite’s beliefs within the home.

The beliefs, practices and institutions—in short, the culture—described thus far in the chapter is the one that has characterized the region through out most of this century. The economic crisis, the increasing interaction with other parts of Mexico—facilitated by modern telecomunications and transportation—and the rise of a new generation of Regiomontanos has slowly brought about some social changes that are likely to affect the culture of the region. However, in terms of the new strategy of economic growth, the crucial facts are

58.- Interview with the plant manager of one of the main factories of Monterrey, May 1990. It was very interesting for me to note that the manager expressed this view without stopping for one second to consider that his interviewer was a woman getting a Ph. D. at M.I.T.
that in the early 1980s the dominant culture was still the one generated under the ideological leadership of Don Eugenio Garza Sada and that the social preconditions for the successful implementation of the new strategy were already in place.

III.- Implications of cultural change and cultural differences for the successful implementation of the new model.

Some of the elements that define the cultural grid of Monterrey's society have been changing over time. The process of transformation began in 1973, with the death of the patriarch of the group, Don Eugenio Garza Sada. The new generation of Regiomontanos who ascended to power in the late 1970s was less austere and more cosmopolitan than its predecessors. The years of the boom brought some relaxation to Monterrey in terms of investment risks and moral conduct. However, with the economic crisis, the elite attempted to revert to its former behavior. It did so in terms of its financial behavior, but in terms of social behavior and attitudes, the elite was losing its grip.

The economic crisis forced the elite to renounce its life-employment policy and fire a huge number of blue collar workers and white-collar employees. In most cases, the industrialists attempted to fire employees and maintain their workers. Hence, the most affected sector was the middle-class, who overnight lost its status and standard of living. The crisis undermined the blind loyalty that employees and workers had for the firm. Moreover, the crisis awoke civil society throughout Mexico, and in Monterrey people became less tolerant of paternalism and authoritarianism. Although this change did not create an immediate problem for the elite's implementation of the new strategy of economic development in the 1980s, it is increasingly becoming a source of concern as workers are less willing to put up with treatment that they deem unacceptable and are more likely to quit their jobs. As a result, high rates of turnover are becoming a problem in Monterrey, a problem that until the late 1980s was completely unheard of in this part of the world. A top
manager at the leading holding of Monterrey complained that people are not the way they used to be. He expressed his feelings in the following terms:

In the past, working-class people were committed to improving their lives and that of their families, proud of belonging to a respected organization and of doing a good job. They were not afraid of hard work. Now, young people are lazy. If you'll excuse me, they are rocanroleros without values or desires to make a better life for themselves. They get a job and after three days, after they see how tough it can be, they leave and never come back. That's a real problem.\footnote{Interview with a top manager at VITRO, June 15, 1990.}

His assessment of the new generation might be correct. However, there are other factors that explain people's unwillingness to put up with demanding jobs or difficult managers. Currently, workers have other employment options that can be more appealing than belonging to one of the holdings of the region. One option is to go to the United States and obtain a better paying job in industry. Other options include working for the maquila industry, which sometimes pays higher wages than the Monterrey holdings, becoming a sub-contractor, or simply washing cars in the street—as the latter is often more profitable and probably less taxing than working in an industrial plant.

As a result of this change in male workers, the holdings of the Monterrey elite have been forced to turn to working-class women to fill the positions left vacant by men. Increasingly women are being employed to perform tasks which until recently were restricted to male workers. Managers have been pleasantly surprised by their female workers, as they find them more dedicated, more responsible and sometimes more skillful than their male counterparts. However, the entrance of women to the shop-floor is transforming the view that women have of themselves, the cohesiveness of the family (as men have difficulties accepting the new role of their wives), and the culture of the region. At least for the working-class, sexism is becoming an intolerable condition.
Since the Revolution, the elite has tied its ideology to religion. Catholicism became an important source of the cohesiveness of society, especially in opposition to the anti-clerical state. But despite the long-term ability of the elite to control the belief system of society, religion is an important shaper of the social grid, which is also beginning to change. As discussed in the first part of this chapter, the form of Catholicism practiced in Monterrey was distinct from that of other parts of Mexico. With the important waves of migration from central and southern Mexico, Catholicism is changing in Monterrey. Increasingly, working-class people are holding processions and celebrating feasts for a number of saints. Many corporations have established the new practice of holding annual peregrinations to the Guadalupe Shrine in Mexico City. In terms of the elite, the crucial change in Catholicism is not the way it is practiced but who is providing it: until 1969, the elite relied on the Jesuits for their moral guidance and education, but since the 1970s and especially through the 1980s the more conservative and capitalist-minded Opus Dei and Legionaries of Christ have become their spiritual mentors. Although the effects of this ideological shift are not yet evident, they will become so as the new generation of Regiomontanos educated under these conservative orders come to power. More important, however, from the point of view of the elite is the fact that the working-class is beginning to adhere to Protestantism, thus undermining an important source of influence and control.

The speed of the cultural change in Monterrey has been facilitated by demographic factors such as migration and the fact that the baby-boomers of the 1970s are coming of age. These adults born after 1968 and after the assassination of Don Eugenio Garza Sada have a very different view of their lives and their futures than their parents. To them, life has many opportunities to offer that are not dependent on the local holdings.

In a world that is becoming smaller and smaller, the culture of Monterrey--its beliefs, practices and institutions--is being transformed. The culture of Mexico City is also
changing, as it becomes more conservative and rejects many of the assumptions of the Revolutionary Creed. Hence, the two cultures are converging. Monterrey, as the rest of Mexico, is undergoing a period of profound transformation. It is too early to tell how the culture of the region will look in a few years and what effect these changes will have on the economic interests of the Monterrey elite.

Monterrey in other regions:

The industrial culture of the Monterrey region, with its productivity and skilled work force, does exist in some other parts of Mexico. However, the Monterrey culture has not been reproduced in entire regions, but only in some small enclaves of factories that belong to the Monterrey group. The most successful cases involve factories that have tried to reproduce the entire model, with its recreational and welfare clubs, its parochial schools, its company neighborhoods and its non-political unions. But the successful cases are actually a minority, as the vast majority of entrepreneurs complain that the productivity of their plants outside of Monterrey is lower than that of their original plants. The explanation often provided for this decline in productivity is that the people of central Mexico are lazy and unwilling to do hard work. However, visits to the plants suggest alternative explanations.

The most striking case involves a battery plant located in the rural state of Tlaxcala. The plant is similar to the one in Monterrey, yet it produces 3,000 fewer batteries per day than its counterpart in the north. One of the owners of the plant in Monterrey indicated that the plant was less productive because the workers were peasants-turned-industrial-workers who would take any opportunity to go back to the field. Although it is true that most of the

workers of the Tlaxcala plant are former peasants, the Regiomontano left aside some crucial information.

Even though the plants are quite similar and are both managed by Regiomontanos, the workers at the plant in Tlaxcala are not treated with the same respect and consideration as those in Monterrey. The first obvious difference is that the Tlaxcala plant looks like a jail. It has a picketed wall and guards with machine guns who greet visitors at the door. Until 1989, the plant also had attack dogs who would growl at workers as they came into the plant. The workers in the Monterrey plant are fed twice a day in a beautiful refectory with wall-to-wall windows. The workers of Tlaxcala are not fed even once per day. They merely receive free milk—a beverage that is supposed to diminish lead poisoning. Most importantly, the workers in the Monterrey plant are given special clothes that they must wear at work and that they leave at the plant to be washed each day. The workers of the Monterrey plant are not allowed to leave the plant without taking a shower. These two measures are assumed to diminish the possibility of contaminating workers' families with lead from the battery production. But in the Tlaxcala plant, workers are not even advised that lead is a toxic substance. Whereas their peers in Monterrey get bimonthly blood tests to measure their exposure to the lead, in Tlaxcala workers are told that it is a myth that their jobs could be harmful to their health. When I confronted the manager of the Tlaxcala plant with this discrepancy, his only response was that lead is not really poisonous!

Moreover, the manager of the plant is a Regiomontano who despises the people of Tlaxcala. Not surprisingly, the plant has had serious political trouble with the people of the region. After a violent strike in the mid-1980s, the Regiomontanos decided not to hire workers from the village, despite the fact that the original agreement held that the plant could be opened on that agricultural land only if there was a commitment to hire the people of the region.
In view of this reality, the explanation of the owner looks increasingly unacceptable. Moreover, a few miles from this plant, in the neighboring state of Puebla, a counterexample is present. On the same rural landscape, on each side of the Puebla-Mexico City highway, at the base of the imposing volcanoes, are two examples of industrial productivity: the Volkswagen plant and the HYLSA plant. Both opened in the late 1960s when President Díaz Ordaz sought to give an economic boost to his home state. Twenty years later, these two plants are great successes.

According to the director of the HYLSA plant in Puebla, the plant is as productive as those in Monterrey. In twenty years, HYLSA transformed the small town into an enclave of Monterrey’s culture. The plant offers its workers the same type of training and opportunities as in Monterrey; it maintains a recreational club, Club Nova, and a clinic. The *Regiomontanos* have been committed to improving the standard of living of the small community. They have built schools and roads and have brought water and electricity to areas that did not have those services previously. Recently, they have hired the services of ADMIC to assist the people of the community to become small producers and subcontractors for the plant.61 Unlike the Tlaxcala case, the managers of HYLSA Puebla have learned to adjust to the idiosyncrasies of the region. They have learned that they may have to make some special arrangements to accommodate a worker who has to take a short leave during the harvest season, or that they have to respect their workers’ feasts and celebrations. Cases such as this one demonstrate that the industrial culture of Monterrey can be transplanted and adapted to other reasons when care is taken.

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61.- ADMIC, Asesoría Dinámica para la Microempresa, is a program originally created by the elite with the idea of helping the marginal poor. Today, ADMIC provides credit and training to microentrepreneurs who become sub-contractors for industry or independent producers. For an indepth discussion of ADMIC, see Chapter 6 of this dissertation.
The real difficulty appears when there is an attempt to transpose the Monterrey culture on a place that has a very strong native culture. Such is the case of the plants that have been opened in the Mexico City region. The comparisons between Monterrey plants and their equivalents in the Valle de México show great disparities, as some plants perform very well and others very poorly. One of the most successful examples is the one of Vidriera los Reyes, a plant almost identical to Vidriera Monterrey. The plant has a level of productivity comparable to the one in Monterrey, but does fewer changes of production and less export production than the one in Monterrey. This plant is the only one of the Monterrey group that has a director from Mexico City. But the director, as well as other local managers and supervisors, has spent long periods of time in Monterrey working for Vidriera Monterrey. When discussing the differences between industrial productivity and culture between Monterrey and Mexico City, he was eager to point out that it was impossible to recreate Monterrey’s culture in Mexico City or to expect the same high level of commitment to the firm or low level of turnover, since Mexico City is a much larger city with many more employment options and where people are less trusting than those in a smaller community such as Monterrey. He continued to point out that his workers are as productive as the ones in Monterrey, but that sometimes they left their jobs because they found work closer to home. In some cases, his workers spend two hours commuting to work, a deed that can actually be very dangerous after dark, especially on pay day. The company opened a VITROClub in Mexico City in the hopes of recreating the attachment to the firm that is so characteristic of Monterrey. But the people of Mexico City could rarely attend firm events, as the distances from the different plants to the club were, in some cases, prohibitive, and because their family members often had other needs and social engagements. In Mexico City, the plant cannot provide the social role it can in Monterrey, hence the plants of the Monterrey group have a much harder time building and maintaining
a skilled and dedicated labor force outside of Monterrey. The worker of Mexico City is more committed to his trade than to his firm.

The implication of these difficulties in recreating some of the social foundations of the Monterrey industrial culture elsewhere in Mexico is that it becomes unrealistic to assume that the elite’s new strategy of economic development can rapidly and successfully be implemented throughout the country. It is more plausible to assume that more enclaves with similar characteristics will emerge not only in plants run by the Monterrey elite, but also in plants run with similar management philosophies under similar social conditions.

The economic success of Monterrey in the 1980s was premised on its elite’s ability to implement its new strategy of economic growth rapidly, because the preconditions for the new strategy already existed. In order to implement such a successful strategy at the national level, these preconditions have to be created anew. Unfortunately, factors such as a skilled labor force, or trust between employers and workers, cannot be created overnight. Mexico will need to invest more resources in education and other social programs to generate the desired conditions.
Chapter 4: Monterrey's alternative strategy of economic growth.

Despite the ideological convergence, the current rapprochement between the Monterrey industrial elite and the federal government would not have occurred were it not for the astonishing recovery of the Monterrey economy. In less than a decade, the Sultana del Norte has put behind it the anachronistic import-substitution model of industrialization and has overcome its financial strife. With 3.8% of the population, the Monterrey region\(^1\) produced 12% of Mexico's gross industrial product and 15% of the exports in 1989.\(^2\) The local economy has continued to grow over the past two years at rates superior to those of the rest of the country. The leading holdings of the Monterrey region have recovered their financial health--paying dividends to stockholders and even expanding their operations abroad.\(^3\) The recent prosperity of Monterrey cannot be attributed solely to the policies of the federal government. The recovery and the current rates of growth are the result of the shrewd financial restructuring of the holdings and the implementation of a new strategy of economic growth, a strategy based on pragmatism, new conceptualizations of technological progress, and the difficult lessons of the past. Through the successful implementation of this new strategy of economic growth, the Monterrey industrial elite has reclaimed the

\(^{1}\) Throughout the dissertation, I will use the term Monterrey to refer to the Monterrey metropolitan region (Area Metropolitana de Monterrey) which is formed by seven municipalities: Monterrey, Guadalupe, San Nicolás de los Garza, Santa Catarina, Garza García, Apodaca and General Escobedo. This region contains 81.69% of the entire population of the state of Nuevo León, and most of the industries of the state. Data taken from: Instituto Nacional de Estadística, Geografía e Informática, Resultados Preliminares: XI Censo de Población y Vivienda, 1990. (Mexico D.F.: INEGI, 1990), p. 155.

\(^{2}\) Data provided by the Cámara de la Industria de la Transformación de Nuevo León (CAINTRA), 1990. The data do not quite reflect the importance of the Monterrey holdings which have subsidiaries throughout the country, and in some cases abroad.

\(^{3}\) For instance, Grupo Industrial Alfa reinstated dividend payments to stockholders in the spring of 1990; VITRO S.A. acquired the U.S. glass producing company Anchor Glass in the fall of 1989; and Cementos Mexicanos S.A. (CEMEX) issued stocks in the European stock market in the Summer of 1990. Other examples of the economic recovery of the Monterrey holdings will be presented in this chapter.
industrial vanguard of Mexico. Through its economic success, the pariah of the past has become the model of prosperity for the nation.

The aim of this chapter is to describe and assess Monterrey’s strategy of economic growth in the 1980s. I use the term “strategy” because it is not yet a fully articulated or implemented model of economic growth as, for example, ISI is. Indeed, for many Regiomontanos it is not a strategy, but merely a set of pragmatic ideas derived in an ad hoc manner from the negative experiences of the 1970s and early 1980s, the success stories of Japan and Western Europe, and the conjunction of the collapse of ISI with the increasing globalization of the economy. In shaping this strategy, the Monterrey elite displayed great foresight about the future of the Mexican economy. Although the strategy is still being articulated and implemented, some results are already apparent. In order to understand the transformation of the Monterrey economy over the past decade, I will first describe its expansion during the years of the oil boom and its subsequent collapse at the end of the López Portillo administration. Then I will discuss the short-term strategy the Regiomontano industrial elite used to overcome financial bankruptcy in the midst of a profound structural crisis. Finally, I will describe and evaluate the long-term strategy of economic growth.

I.- Prelude to the Crisis:

The sexenio4 of José López Portillo (1976-82) was a singular period in Mexico’s modern history. For a short period of time, Mexicans had the impression that they were joining the ranks of the industrialized world, that every Mexican was entitled to and would soon have a better future. Within a year, the country went from an I.M.F. stabilization plan to the riches provided by the timely discovery of oil reserves during the second O.P.E.C. shock. With his charisma and rhetorical abilities, President López Portillo

4.- A sexenio is the six year long administration of Mexican presidents.
bridged the ideological cleavage carved by the populist rhetoric of President Echeverría (1970-76). Through his speeches, he carried Mexicans into a magic world in which their country had become the Horn of Plenty.

The period was one of reconciliation as President López Portillo established the Alianza para la Producción with the business community. The economic prosperity of the oil boom healed the relationship between the Monterrey industrial elite and the federal government. Through this period, the Garza-Sada clan became a legend again. Their holdings were the only private corporations—and the only Mexican corporations other than Petróleos Mexicanos (PEMEX)—to appear for five consecutive years (1978 to 1982) on the list of the largest 500 corporations outside the United States. Their holdings—Grupo Industrial Alfa S.A., Valores Industriales S.A. (VISA), Celulosa y Derivados S.A. (CYDSA) and Grupo VITRO S.A.—covered the spectrum of Mexican industry and had important interests in the financial sector. VITRO, for instance, was the main share-holder of Banpafs and VISA of

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5.- The rankings of the groups are done in terms of sales.

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PEMEX and Altos Hornos de México are two paraestatales (government-owned industries).
Alfa and VISA are two holdings of the Garza-Sada family.
Industrias Peñoles is another private group.
Ford de México and Chrysler de México are two transnational corporations.

As shown in the above table, the year of the economic crisis, only three Mexican firms remained on the Fortune 500 list of most important firms outside the United States. In 1982, Alfa and VISA ranked among "the ten biggest decrease," Alfa decreasing its sales by 56% and falling 404 points in the scale and VISA reducing its sales by 44.6% and losing 463 points in the scale. Data taken from the following issues of FORTUNE: August 11, 1980.: 190-ff; August 10, 1981.: 205-ff; August 23, 1982.: 182-ff; August 22, 1983.: 170ff.
Banca Serfín, the third largest national bank at the time. The Garza-Sadas were not only the rulers of Monterrey, but the owners of much of Mexico. Articles about the Garza-Sada clan, its achievements and its lifestyle, filled special issues of *Paris-Match* and *Town and Country*. By 1980, the Monterrey industrial elite had forgotten its strife with the federal government and publicly endorsed the government’s economic policies. The reconciliation of the Monterrey elite with the federal government was captured by the now famous welcoming statement of Bernardo Garza Sada, president of Grupo Industrial Alfa, to President López Portillo on his visit to Monterrey: “Con otro como López Portillo ya la hicimos.”

Most of the country’s growth was financed through oil revenues, government spending and heavy borrowing in the international financial market. The leading holdings were expanding at rates superior to the average 8.5% rate of growth of the gross domestic product. Supported by their foreign creditors, entrepreneurs were borrowing beyond the absorptive capacity of their firms. But, contrary to the initial criticism of the bankers and officials of the industrialized world, and in spite of the elite’s taste for extravagance and overtly conspicuous consumption, most of the capital borrowed was invested in renovating machinery, acquiring new businesses, and initiating joint-ventures.

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8.- One way to measure a fragment of conspicuous consumption is to look at the percentage of imports dedicated to luxury goods. The data show that only 3% of all imports for the entire country was used to purchase luxury goods. The percentage is small but the amount is quite large in real terms: $12,690 million pesos or $634.5 million dollars. Data taken from: Federico Gómez Pombo y Miguel Cepeda. “Las petrodólares se convierten en importación suntuaria de privilegiados” en *Proceso*, nº 224, 16 Febrero 1981, pp. 12-4.
The economic boom transformed the structure of the Mexican economy, which became increasingly dependent on oil revenues to finance growth. The recession in the industrialized world curbed the demand for oil and led to the rise of interest rates. In the summer of 1981, the overexposed Grupo Industrial Alfa was unable to meet the interest payments on its debt. At the time, Grupo Industrial Alfa employed over 52,000 workers and controlled some one hundred and fifty businesses in most sectors of industry. In order to avoid a crisis of confidence in the country, the López Portillo administration bailed out Alfa with a credit from the Banco de Obras y Servicios Públicos (BANOBRAIS). The bail out of Alfa resulted in public outrage, as the loan was equivalent to the credit lent to 6,345 small businesses.

The crisis of Alfa was just an omen of the oncoming crisis of the national economy. By 1982, the dream of painless prosperity came to an end. The recession in the industrialized nations, the subsequent increase in interest rates and the decline of oil prices


10.- In order to curb inflation in the United States, the Federal Reserve Board pushed interest up from 6% in 1977 to 18% in 1980. Source: Aspe, p. 123. According to the Federal Reserve Bank of Chicago, a 1% increase in the LIBOR sustained over a year cost Mexico approximately $600 million in additional interest payments. Between 1978 and 1981, the 6-month LIBOR on dollar deposits increased from an average annual rate of 9 1/4% to 16%. Source: Federal Reserve Bank of Chicago, International Letter 489 (1982), note 4 as quoted by Donald L. Wyman in “The Mexican Economy: Problems and Prospects” in Mexico’s Economic Crisis: Challenges and Opportunities, (La Jolla: Center for U.S.-Mexican Studies, UCSD, 1983), Monograph Series, 12, p. 7.


12.- According to Juan Antonio Zúñiga, the 12 million peso loan of BANOBRAIS to Alfa is equal to the amount lent by FOGAIN (the credit bank for small businesses) loans to 6,345 small business with 200,000 employees. Cf. Juan Antonio Zúñiga. “El sector financiero oficial, puntal de la gran empresa privada” en Proceso, nº 262, 9 de Noviembre de 1981, p. 16.
exacerbated the structural dysfunctions of the Mexican economy. In order to cope with the imminent crisis, the federal government took emergency measures that were often contradictory and counterproductive. Inflation ran rampant, the peso was in free fall, and capital flight accelerated.\(^{13}\) It is estimated that during 1981, Mexicans took $5.5 billion out of the country in the form of capital flight and $6.1 billion in tourism abroad.\(^{14}\) As Mexicans hastily boosted their bank accounts in the United States and Europe, the economy was collapsing. By August, Mexico had practically run out of reserves and could no longer meet payments on its $80 billion debt.\(^{15}\)

With the backdrop of the Mexican economic crisis, the “dispute for the nation”\(^{16}\) was raging. President López Portillo seemed unable to decide on a coherent plan of action, vacillating between a monetarist and a structuralist approach. In February 1982, he devaluated the currency and set exchange controls. But by March he had appointed Jesús Silva-Herzog as Secretario de Hacienda y Crédito Público\(^{17}\) and Miguel Mancera as director of the Banco de México; both of them favored tight monetary and fiscal policies.

\(^{13}\) Inflation reached 98% by December 1982, and the exchange rate fell from 27 pesos to a dollar in January 1982 to 95 (for the controlled rate) and 150 (for the free rate) pesos to a dollar by December 1982. Data taken from Wyman, p. 12. For more detailed data on the state of the Mexican economy in the late 1970s and through the 1980s, Cf.: Mexico en la Decada de los Ochenta: La Modernizacion en Cifras. (México D.F.: UAM-Azcapotzalco, 1990).

\(^{14}\) Data taken from Carlos Ramirez. “La nacionalización de la banca, respuesta a la demanda popular” Proceso, 6 de Septiembre de 1982, nº 305, p. 11.

\(^{15}\) By December 1982, the Mexican foreign debt was equal to $ 84,145.6 millions; 69.9% of the total debt was public and 30% was private. Source: Leopoldo Solís and Ernesto Zedillo, “Foreign debt of Mexico,” in International Debt and the Developing Countries, Gordon W. Smith and John T. Cuddington, eds. (Washington D.C.: The World Bank, 1985), Table 10.2, p. 261. For an account of the economic origins of the crisis see: Norman A. Bailey and Richard Cohen, The Mexican Time Bomb. (New York: Priority Press Publications, A Twentieth Century Fund Paper, 1987).

\(^{16}\) The phrase “dispute for the nation” was coined by Carlos Tello and Rolando Córdera in La disputa por la Nación, in which the authors argue that the nation is caught in a struggle between those who want to maintain the Revolutionary regime with a strong developmental state and those who want to transform the rules of the game and govern in the context of a free market economy that benefits only a small but powerful minority. Cf.: México: La Disputa por la Nación. Rolando Cordera y Carlos Tello. (México D.F.: Siglo XXI, 1981).

\(^{17}\) The Secretario de Hacienda y Crédito Público is the Minister of Finance.
and eliminated exchange controls, considering them inefficient in halting capital flight. The economic policies of the new financial team failed to control the deterioration of the economy. By August, Mexico was experiencing falling foreign exchange earnings, depleted reserves, massive capital flight and a maturing foreign debt. Some members of the Cabinet urged the President to declare a moratorium on the debt, but others, including President-elect Miguel de la Madrid, recommended the negotiation of an IMF stabilization plan. The President initially favored the moratorium, but he decided against it after his Argentinean and Brazilian colleagues refused to join him in this action. Finance Minister Silva-Herzog went to Washington to negotiate an agreement with the International Monetary Fund and two weeks later, in a desperate attempt to maintain some control, President López Portillo announced, at his last Informe de Gobierno, the nationalization of the banks on September 1, 1982. The President installed exchange controls and named as director of the Central Bank the structuralist Carlos Tello.

With the nationalization or, to be more precise, the "étatisation" of the Mexican banks President López Portillo appeared to be closing the chapter on the "dispute for the nation." Despite his pro-business policies, his administration had rejected Mexico's entrance into the General Agreement on Tariffs and Trade (GATT), although not without an intense infight that divided the economic cabinet and ended in top level resignations. In his

18.- For an account of Jesus Silva-Herzog's negotiations in Washington in the summer of 1982 see: Joseph Kraft. The Mexican Rescue. (New York: Group of Thiry, 1984.)
19.- The Informe de Gobierno is the State of the Nation address traditionally presented on September 1st.
20.- For an account of the decision-making process that led to the nationalization of the banks see: Carlos Tello, La Nacionalización de la Banca en México. (México D.F.: Siglo XXI, 1984). The author had been Secretario de Programación y Presupuesto between 1976-78 and became the director of the Banco de México after the nationalization of the banks.
21.- Although the term "nationalization" is usually used to refer to the state takeover of the banks, it is technically incorrect. The banks that were expropriated were only Mexican banks that belonged to Mexican private sector owners. Foreign banks that operated in Mexico did not become property of the Mexican government, but were operating under harsher restrictions such as the exchange controls.
dramatic State of the Nation address, the President scolded the national elite for robbing the country and tearfully begged the poorest of the nation for forgiveness, as he had failed them. In the context of increasing relaxation of Mexico's nationalistic economic regulations, the étatisation of the banks was the final gesture to demonstrate that the President was, in reality, "with the Revolution" and retaking the Revolutionary development path.

The action was received with glee by an important segment of the Mexican population that was beginning to feel the pains of the economic recession, and with great discontent by the business community. The strongest reaction came from Monterrey where the business elite called for a national industrial and commercial strike to protest the measure. But the strike never took place; the businessmen of Central Mexico were uninterested in further antagonizing the government, and the governor of Nuevo León, Alfonso Martínez Domínguez, pressed the business elite to call off the strike. Overnight, the leaders of the Monterrey industrial elite lost an important source of power. Their businesses were in shambles, their banks nationalized, their future bleak. The governor of Nuevo León, Alfonso Martínez Domínguez, who a year earlier had pleased the elite with the luxurious urban renovation of their city, now shunned them. It is said that if the governor ran into

23.- The Revolutionary development path is the one based on the Constitution of 1917; it sees a developmental role for the State in the context of a mixed economy.
24.- Support for the nationalization of the banks was expressed through a large march in Mexico City called for by labor. Despite the government-sponsored aspect of this march, many members of the middle-class attended. It must be remembered that the nationalization of the banks took place as an IMF stabilization plan was being negotiated. For many, supporting the nationalization of the banks was a way to protest the "IMF oppression." For the IMF, the creditors and the industrialized countries (in particular the United States), the nationalization of the banks was a source of concern; but they were reassured by the presence of Jesús Silva-Herzog in the Ministry of Finance as well as by the views of President-elect de la Madrid.
25.- During the sexenio of López Portillo, Monterrey underwent profound urban transformations. The elite moved from their traditional two story houses in the Obispado (the wealthy section of Monterrey) to the luxurious suburbs of Garza García--the wealthiest municipio of the country. The downtown area of the city was renovated through an investment of 25 billion pesos (about 1 billion dollars), destroying an entire
the president of a Monterrey holding, he would pretend not to know him. The powerful jetsetters had become indebted “nonentities.”

At this writing, nine years later, the étatisation of the banks seems a small parenthesis in Mexico’s modern history, and comparisons with President Cárdenas’ nationalization of petroleum in 1938 appear farfetched. Despite the nationalization of the banks, the de la Madrid administration (1982-88) initiated a profound restructuring of the Mexican economy along the lines of an open economy, joining the GATT and privatizing some state-owned enterprises. The tendency was reinforced by the selection of Carlos Salinas de Gortari to succeed President de la Madrid. But, as the elections of 1988 signaled, the dispute over the development path the country should follow was anything but over. The political elite is divided and the holders of power are determined to shape the economy according to a neoliberal frame in the short-term. In his first three years in office, President Salinas has profoundly transformed the nature of the Mexican economy by privatizing the economy, opening it to foreign investment, and negotiating a free trade agreement with the United States. At least for the time being, the era of the nationalized bank is over, as President Salinas completed the reprivatization of the banks in 1991. Given the fact that the bankers had been compensated for the nationalization, the banks are not to be returned to the original owners or be acquired by a single group. However, members of the Monterrey elite have been able to join other industrialists and investors in the acquisition of Mexican banks.

In terms of this study, however, the nationalization of the banks is an important event for it eliminated an entire sector in which the Monterrey elite was extremely active. In this sense, President López Portillo facilitated my task, for I can concentrate on the study of

neighborhood to create a mall with parks, fountains, shopping centers and monuments. The small industrial town of the past became a modern city.

26.- Confidential interview with a member of the governor’s cabinet, July 1990.
Monterrey’s industrial sector without ignoring an important branch of the elite’s economic interests. During the 1980s many former bankers and financiers became involved in the profitable business of the stock exchange. Except for a newly created holding, none of the holdings of Monterrey owned or managed a stock exchange house. And even though some members of the Monterrey elite held interests in the Regiomontano stock exchange houses, I will omit the subject of the relation of a given industrialist to the stock exchange business, for presumably the businessmen invested as private individuals, and most of the information needed to make the connection between a given Casa de Bolsa and a given holding is confidential.

II.- Initial Reaction to the Crisis:

The hangover from the oil boom was painful for the entire country. In Monterrey, the atmosphere was somber. In order to slow down their fall, the owners of the leading holdings of the Monterrey group broke their traditional commitment to life-long job security. Overnight, thousands of professionals, white-collar employees and blue-collar workers found themselves unemployed, unable to find a job in the recession-racked economy. Those who kept their jobs worked in an atmosphere of panic, expecting at any time a letter of dismissal. However, the crisis did not hit all holdings in the same way. The largest holdings were highly indebted. While many medium-size firms maintained their economic health.

After the assassination of Don Eugenio Garza Sada in 1973, a new generation of Regiomontanos became the leaders of the Monterrey holdings. The younger generation was less homogeneous than the previous one in terms of business style. During the oil boom, a division appeared between the conservative and the aggressive entrepreneurs. The smaller groups, such as IMSA, GAMESA and other medium-size family firms,

27.- The new holding is Pulsar Internacional which owns Vector Casa de Bolsa.
followed the Monterrey tradition by limiting their debts to small quantities, preferably in pesos, and maintaining a low profile. On the other hand, the heirs of the Garza-Sada family became the jet-setters of the late 1970s, borrowing and investing heavily. Hence, the four holdings of the Grupo Monterrey--Grupo Industrial Alfa, VISA, VITRO and CYDSA--became the most successful in the late 1970s, and the most indebted.\textsuperscript{28} The employees and workers of these four holdings benefitted the most from the oil boom, but were later the hardest hit.

Both internal and external factors determined the degree of indebtedness of the holdings. Holdings decided independently whether and to what extent to borrow. After this internal decision, holdings that chose to borrow were exposed to bankers who were willing to lend beyond the absorptive capacity of the groups. Such bankers were both eager to recycle petrodollars and enticed by the growth potential of the Monterrey holdings. \textit{Regiomontanos} tell stories of international bankers knocking at the door of the industrialists offering them cheap dollars, and of receiving loans prior to signing the protocols with the banks. In this heady period, Alfa accumulated a debt of 2.7 billion dollars, VISA acquired $1.3 billion, and VITRO and CYDSA--who were late-comers into the game--were indebted for 600 and 432 million dollars respectively. The Garza-Sadas used the loans to expand rapidly; they exchanged a strategy of vertical integration for one of diversification, turning long-term beer producers into florists and steel producers into hoteliers. While the economy was booming, firms were growing at a higher pace than the Mexican economy;\textsuperscript{29} but once the economy entered the downward spiral of the debt crisis, the already shaken holdings had to struggle to survive.


\textsuperscript{29.-} For instance, between 1977 and 1982, Alfa’s assets grew an average of 18\% annually. Source: Alfa’s internal report.
The economic and political crises brought realism and pragmatism back to Monterrey. There was no recipe to overcome the crisis, yet the groups followed a similar strategy. The holdings returned to their sectors of expertise. The entrepreneurs evaluated the acquired businesses, selling immediately those that were not competitive by international standards. They renegotiated their debt with international bankers, and they implemented profound restructuring of the industrial organization of the Monterrey firms as early as 1983.

The approach of the Monterrey industrial elite to management of the economic crisis was based on a long-term perspective. The main objective was to restructure the corporations not only to survive hard times but to compete by international standards. In their thinking, the Monterrey industrial elite showed a certain foresight, for they prepared their firms to face the challenges of an open economy. However, in the short-run, the entrepreneurs were primarily concerned with the renegotiation of the debt. Given the past leadership of the holding and the size of its debt, Grupo Industrial Alfa provided the blueprint for the debt renegotiation.30

In the fall of 1982, Alfa accepted that its crisis was structural rather than a simple liquidity crisis, and devised two rules to address the problem. Grupo Industrial Alfa controlled over 150 firms, each of which had its own creditors, some of which had mortgages, and a joint debt of 2.7 billion dollars. The first rule was that creditors could not transfer their debts to another firm of the holding. The second rule consisted of a division of the group by business sectors, creating a basic steel sector, an petrochemical sector, a diversified product sector and a food sector. Each business had to undergo its own restructuring, and could not ask for financial help from any other business since no firm was in a position to help. At this stage, Alfa sold many firms, closed plants and cancelled

30.- The interviews that I conducted with heads of corporations, top-level managers and members of the strategic planning sections of several Monterrey holdings, revealed that a common pattern was followed by the Monterrey industrialists. Interviews conducted in the spring of 1990.
projects. One of the results of this restructuring was the disappearance of the Mexican electronics industry. Alfa was going back to the basics, concentrating on its old business, steel, but keeping the potentially valuable petrochemical sector. Where the industry was not competitive by international standards, the bankers recuperated a trivial percentage of the loan. In other cases—such as the petrochemical industry—creditors recovered the entire loan. But, as the case of the petrochemical industry shows, the companies that had foreign associates were better-off: the foreign associates that provided the technology to the firm limited its capacity to increase its debt, thus keeping it in a healthier financial situation.

In addition to these two basic guidelines, Alfa established three other internal rules: 1) creditors had to negotiate directly with the firm, for the debt belonged to the firm not to the holding; 2) all the banks had to agree on the objective, since no creditor would be given special treatment; and 3) the terms of the renegotiation of the debt had to allow the business to produce, reinvest and grow, for the well-being of the firm was a prerequisite to meeting payments on the debt. The last point involved intense negotiations with the banks since the financial institution wanted to receive each peso that was produced. But, as Alfa businessmen noted, that approach would bankrupt the firm in the short- or medium-term, rendering impossible any payments on the debt.

The process of restructuring the debt lasted several years. In 1985, debtors and creditors reached an agreement which the Mexican businessmen revoked after the macroeconomic conditions of the country worsened. A financier at Alfa expressed great

31.- Alfa held a large percentage of the electronic industry that produced radios, stereos and televisions in Mexico under the brands Philco, Admiral and Magnavox. Currently, televisions and hi-tech stereos are not produced in Mexico, for it is cheaper to import them from the United States or Japan than it is to produce them.

32.- The blue-print created by Alfa to restructure its debt was described to me, in detail, by CP. Enrique Flores, underdirector of financial coordination at Grupo Alfa, 6/4/1990.
shame at having to go back on a signed arrangement with 150 international banks. However, the economic situation and the overwhelming character that the debt acquired in the international financial sector led to innovative instruments and solutions. The Mexican government created FICORCA, interest rates were set at LIBOR, and a market for debt developed. Alfa’s debt was valued at five cents. Alfa reached a new agreement with the banks to reduce its debt, by reducing the debt to its market value the creditors recuperated their money almost right away. At the end of 1987, the holding agreed with the banks that instead of paying over the long-run the billion dollars it owed, it would pay $25 million dollars in cash, $200 million dollars in federal government debt, and the remainder would be capitalized for 45% of the group. Six month later, HYLSA, the steel business of Alfa, signed a similar agreement, and other firms and holdings followed through.

The harsh discussions of the early 1980s between Alfa and the banks turned into a common desire to resolve the debt problem in the most advantageous way to both creditors and debtors. A financier from Alfa summed it up by saying: “We were no longer working against the banks; rather we were working with the banks to restructure the firms.” In some cases, the banks agreed to include a clause allowing the firms to use any extra cash to take advantage of upside-potential and get greater discounts on the debt.

Through this negotiation, Alfa reduced its debt from 2.7 billion dollars in 1982 to $150 million in 1990. The group is currently earning 720 million dollars. Between 1989 and 1990, Alfa grew 20% in real terms. Exports went from $150 million in 1981 to $400 million in 1990. For the first time in eight years, the group was able to pay dividends to

33.- FICORCA: Fideicomiso para la Cobertura de Riesgos Cambiarios, which took over the obligation to pay the foreign exchange debts of national enterprises.
34.- The holding made this arrangement for the debt of the holding, not of the businesses that formed the holding.
35.- This simply means that 45% of the stocks of the firms would go to the banks. The firm still maintained control over the holding, but the bank kept important assets.
36.- Interview with Enrique Flores, underdirector of financial coordination of Grupo Alfa, June 4, 1990.
its stockholders in 1990. Alfa has made a come-back as one of the major private industrial concerns of Mexico.

Other holdings of the Garza-Sada family followed comparable strategies of debt reduction. The second most indebted holding, Valores Industriales S.A. (VISA), concentrated its debt in one business, FEMSA.\textsuperscript{37} By 1984, the group had reached an agreement with the banks, but in 1987 it declared a moratorium. A new renegotiation led to a reduction of the debt, the sale of less competitive enterprises, and VISA’s purchase of part of its own debt. VISA was also able to take advantage of the opportunities offered by the Mexican economy to acquire its second competitor, Cervecería Moctezuma, hence controlling 60% of the domestic beer market. With the purchase of Cervecería Moctezuma, VISA’s debt was raised to $1.9 billion dollars. But through renegotiations VISA reduced its debt to $300 million dollars by 1990.\textsuperscript{38}

Celulosa y Derivados S.A. (CYDSA), one of the largest petrochemical corporations in Latin-America, reduced its $432 million debt to $40 million dollars in eight years, through a similar strategy of aggressive debt reduction. Yet, the chairman of the board, Andrés Marcelo Sada, is eager to point out that debt renegotiation in and of itself was not the solution to overcome the crisis.\textsuperscript{39} As early as 1981, the holding made an effort to increase its exports in order to obtain hard currency. CYDSA’s exports went from $16 million dollars in 1981 to $142 million in 1989.\textsuperscript{40} But, in order to compete abroad, the holding had to adopt a new strategy of production that took into account the demands of the market.

\textsuperscript{37.- FEMSA: Fomento Económico Mexicano S.A.}
\textsuperscript{38.- Data obtained through an interview with Lic. Carlos Salazar Lomelín, Director of Comercial Planning at VISA, July 30, 1990.}
\textsuperscript{39.- Information obtained through interview with Ing. Andrés Marcelo Sada, chairman of the board of CYDSA, May 14, 1990.}
\textsuperscript{40.- Data taken from CYDSA’s 1990 annual report. Exports showed a steady growth until 1989 when they fell by 35 million dollars. In 1987 CYDSA exported $152 million and in 1988, it exported $177 million dollars.}
The realization that the crisis was structural had profound consequences for the conduct of business in Monterrey. The crisis exposed the limitations of the import-substitution model of development and accelerated the opening of the Mexican economy. In five years the macroeconomic conditions changed drastically: oil was no longer the salvation to the national economy, cheap dollars were no longer available, and the domestic market was no longer reserved for the national industrialists. Until 1981, the Mexican industrialists (regardless of the region) had grown accustomed to having a monopoly or an oligopoly in their field of production and to closed borders and excessive taxes on imports. The protection of the domestic market for the Mexican producer had resulted in the production of low quality goods and in the establishment of non-competitive industries that increased their revenues by raising prices rather than increasing productivity. Industrialists had no incentive to improve designs or quality, for customers did not have any other alternative than to accept mediocre, expensive products. But, by 1982, Mexican businessmen could only acquire dollars through exports; the quality of the products had to be improved in order to be competitive abroad. Moreover, the entrance of Mexico to the GATT in 1984, and the rapid opening of the Mexican economy, led to a flow of foreign competitors who offered consumers a choice in design, price and quality. In order to earn foreign currency and maintain their share of the domestic market, the private sector had to find a strategy that would allow it to adapt rapidly to the new environment. Monterrey, used to dealing with its northern neighbor and foreseeing the macro-economic structure of the 1990s, implemented a new approach to production: productivity and competitiveness through "Quality." The "quality" approach became the most visible, but certainly not the only means to reshape the structure of the Monterrey economy.
III. - The long-term response to the crisis: Monterrey’s alternative strategy of economic growth.

After the nationalization of the banks, no one could foresee which political economic path Mexico would follow. The International Monetary Fund stabilization plan demanded a profound restructuring of the economy through the reduction of the state, the privatization of state enterprises, and the opening of the economy.41 But the crisis of legitimacy of the Mexican regime required the assertion of the “Revolutionary Creed” and the implementation of populist measures to weather the crisis. In this context of uncertainty, the Regiomontanos upheld their beliefs in a free market economy. In the 1970s, the Monterrey Group had been a strong advocate of Mexico’s entrance to the GATT and early proponents of establishment of a free trade agreement with the United States.42 In the midst of the economic crisis, the Regiomontano entrepreneurs believed that inevitably the country was heading toward an open economy and an eventual common market with the United States. Politics could temporarily block the process but would not stop it. Hence, Monterrey had to be ready to face the challenge ahead.43

After a realistic assessment of the economic conditions of the region through the lens of neo-classical economics, the Regiomontano entrepreneurs concluded that the import-substitution model of industrialization—from which they had benefitted enormously in the

42.- In the late 1970s, Mexico debated its entrance to the GATT. The Monterrey industrial elite supported the opening of the economy, despite the fact that it would temporarily harm its industries by breaking oligopolies. At the time, there were also discussions in certain circles in the United States and in Mexico about the possibility of a free trade agreement between Mexico and the United States. Used to the interdependence with the American border, the Monterrey elite supported such agreement. For a discussion on the early negotiations for a free trade agreement Cf. Carlos Ramirez. “Bajo las normas del GATT se procesa ya el mercomún con EU” Proceso, 15 de Febrero de 1982, nº 276, pp.14.
43.- This deterministic view of the future of the Mexican economy was expressed by most of the leading entrepreneurs of Monterrey in interviews that I conducted between February and August 1990. The explanation might be a post facto rationalization for the selection of the strategy that they implemented.
past—had, in the end, hurt the region, for it had hindered its development by sheltering it from competition. Moreover, the industrialization through mass production had not only been inefficient, as plants never produced at full capacity; but had precluded the rapid adaptation to a changing market. The crisis required a profound transformation of the industrial structure at all levels of production.

It is in this context of transformation and uncertainty that the Monterrey industrial elite initiated its search for an alternative strategy of economic growth. In Mexico City, the de la Madrid administration was advocating an export-led growth model of development. But this model did not satisfy the northern industrialists since they had become aware that the root of their problems rested within their own firms; it resided at the core of the production process. Moreover, after the swings in policy approaches of the López Portillo administration and the subsequent “abandonment” by the de la Madrid administration, the Regiomontano entrepreneurs decided to take their fate in their own hands. As in the 1890s, they studied the strategies and models that were implemented in other parts of the world.

44.- This view often expressed by entrepreneurs when they were asked to explain why they had chosen to implement a quality program in their factories. The logic of the argument was that they needed quality programs to render their firms competitive by international standards. The firms were not competitive because under ISI they had produced for a captive market that could not be selective in terms of price, quality or styles. All the heads of corporations that I interviewed as well as managers agreed on this point.

45.- Since the early stages of industrialization, equipment was underutilized as there was not a large enough domestic market to justify production at full capacity. For a discussion of a historical account of underutilization of the productive plant, see Haber.

During my visits to a variety of industrial plants in the Monterrey region, the directors of engineering of the plants often indicated that their equipment was being underutilized. The managers of the plants were having trouble adapting their mass-production equipment to the new requirements of a more flexible production based on demand production. The most clear cases were those of HYLSA, IMSA, and CUPRAM, all three processes that required foundries.

46.- This view is reflected in the radical policies introduced within the firms, in the proliferation of conferences on industrial restructuring and on strategies of development followed in Europe and Japan in the efforts to introduce quality to the region, as a tool to transform the culture and the structure of production of the region.

Among the broadest expositions of these points is Othou Ruiz’s 1990 speech to the members of CAINTRA. Mr. Ruiz, a top manager at VISA has also been president of the local chamber of industry (CAINTRIA).
Once again, foreigners became "gurus" that provided alternative strategies of growth. But the Taylors of the 1980s were not necessarily North Americans and, interestingly enough, they often advocated strategies that were contrary to Taylorism. Moreover, the entrepreneurs were not interested in blindly applying recipes from abroad, but rather in taking elements of the Japanese and Western European experiences and adapting them to the conditions of the Monterrey region. As early as the 1970s some industrialists had noticed the relevance of the Japanese and Italian experiences for Monterrey. A manager at VITRO explains that:

In '76, I talked with President López Portillo about how we should have large industries supported by small and medium-size industries as the Japanese and the Italians had done, because then, the country acquires great structural force. And we need big industries supported by small ones.\(^{47}\)

Another industrialists indicated:

The flexibility of the industrial plant can occur if we reorient our creativity -- as the Italians have. We are initiating this process through the multiple skilled programs, internal rotations within the plant, and subcontracting. We have subcontracted as much as 40\% of our production.\(^{48}\)

And, a tecnólogo went as far as claiming that the Monterrey region could be compared to Emilia Romagna, Italy.\(^{49}\) In addition, the industrialists were not only looking at the success stories of the industrialized world (in particular of Japan and Emilia-Romagna in Italy), but also at its failures in an attempt to learn from the negative lessons of others as well as from their own. It is in this context that Made in America: Regaining the Productive

\(^{47}\) Interview with Francisco J. Garza, Director de Industrias Básicas del Grupo VITRO, former Director General de FAMA, July, 25-26, 1990.

\(^{48}\) Carlos G.Segovia, Director General de FAMA, Director de Envases de Vidrio y Tecnología, Grupo VITRO, June, 15, 1990.

\(^{49}\) Ing. Enrique Canales, Technological Consultant, March 14, 1990.
The Monterrey strategy of economic growth in the 1980s.

The ultimate goal of the Monterrey industrial elite in searching for a new strategy of economic growth was to find a way to turn their outdated plants into efficient and competitive firms that could compete in an open and increasingly global economy. The strategy is composed of a series of schemes that transform different levels of the production process.

The most important changes are implemented within the firm. The aim is to substitute the old system based on supply-production through mass-production by a more flexible system based on demand-production. This transformation requires a complete change in the culture of production and in the industrial organization of the entire holding. Where the old culture emphasized volume production, the new culture demands efficiency, quality and service to the client. Where the old culture established a rigid hierarchy between management and labor and a system of seniority to advance in the plant, the new system emphasizes cooperation between management and labor and a system that rewards merit and skills. Labor is granted a more participatory role and acquires greater responsibilities within the plant. Technical instruction becomes an integral part of human resource management as labor is expected to develop greater skills and become more flexible. The flexibility of labor is only one of the elements to render production supple; the plant has to

50.- Most of the businessmen that I interviewed in Monterrey between February and July 1990 owned a copy of the book, and more than one refereed to it as "his bible" to overcome the crisis. Michael L. Dertouzos, Richard K. Lester, Robert M. Solow et al. Made in America: Regaining the Productive Edge. (Cambridge: MIT Press, 1989).

51.- Over the course of my field research, many entrepreneurs insisted that it is not a strategy but a set of pragmatic ideas that were implemented to overcome the structural crisis that threatened the long-term viability of the region. However, even though I agree that it is not yet a model of economic growth, I believe it is a strategy, for it has an internal coherence that binds the different schemes that are being implemented at different levels of the economy.
be transformed in its lay-out to turn production more fluid and, if necessarily, in its equipment through the introduction of computer-aided design and production and flexible machinery. All these aspects of the strategy have been captured in the "quality programs" that the Monterrey industrialists have been implementing throughout their holdings.

However, other elements are just as important in transforming the structure of the economy, for they are complementary to the changes implemented at the plant level. The strategy recognizes that, in an open economy, technological development acquires an importance that it never had under the former system of import-substitution industrialization. Moreover, in a world in which production is dictated by demand, plants become more efficient by subcontracting certain processes of production to outside producers. This aspect of the strategy takes advantage of an existing program that attempts to link the informal sector to the economic chain, providing a source of sub-contractors.52 Finally, the strategy requires a renaissance of the entrepreneurial spirit that has traditionally characterized the region.

Most of the elements of the strategy are implemented at the micro-economic level, for it is at this level that the entrepreneur can have full control. However, the success of the strategy requires the coordinated effort of the entrepreneurs of the region in order to transform the underlying structure of the economy. Moreover, favorable macro-economic policies can enhance the results of the strategy. The Monterrey elite has favored the opening of the economy, the negotiation of a free-trade agreement with the United States and Canada and the increasing integration of the region with the state of Texas.

In the remainder of this chapter, I will describe and assess the part of the strategy that is implemented through "quality programs" and through the revival of the "entrepreneurial

52.- This program is ADMIC, which was created by the Monterrey elite in 1979. For an analysis of ADMIC, see Chapter 6 of this dissertation.
spirit.” The issues of technological innovation and sub-contractors will be analyzed in two subsequent chapters.

**Quality in theory as it is understood in Monterrey:**

From the smallest entrepreneur to the president of the leading holding, no three words have become more fashionable in Monterrey these days than productivity, competitiveness and quality.\textsuperscript{53} The concept of productivity and competitiveness through quality is not a new one. It was developed over two decades ago by an American, W. Edwards Deming, who is considered to have been influential in Japan’s economic success.\textsuperscript{54} Some of the elements of this concept had been implemented in at least one plant in Monterrey as early as 1973.\textsuperscript{55} However, it was not until the mid-1980s that the Regiomontano businessmen agreed to transform the industrial organization and industrial culture of the region. Several “gurus”\textsuperscript{56} have shaped Monterrey's concept of quality; however, each entrepreneur has selected the strategies that seem most appropriate to his own firm.

The basic idea behind “quality” is that in order to be competitive a firm has to be productive. Productivity can only be achieved through excellence. In the past, productivity was measured in terms of units produced, regardless of the quality; now quality must be the first concern. To produce with quality, individual values have to be refocused. Quality is not merely a property of a product, but a way of life that

\textsuperscript{53.-} The phrase sounds like a slogan because it actually is one. This section is written in the language that entrepreneurs and teachers of the program use to describe it.


\textsuperscript{55.-} Some of the concepts of the “quality” approach are not completely new to the Regiomontano, for Monterrey’s system of labor relations shares some similarities with the Japanese one. For a discussion of the similarities between Monterrey’s system of labor relations and the Japanese system Cf. Dore, Ronald P. “Late Development--or Something Else? Industrial Relations in Britain, Japan, Mexico, Sri Lanka, Senegal.” (Brighton, England: Institute of Development Studies, 1974), discussion paper # 61.

\textsuperscript{56.-} Among the people who have influenced the Regiomontano’s view of quality are: W.E. Deming, J. Juran, A.V. Feigenbaum, K. Ishikawa, P. Crosby, G. Taguchi, K. Albrecht, C. Llano, and L. Sullivan.
encompasses the culture of the firm, the management and conditions of human resources, the lay-out of the plant, the timing of production, etc.

The first aim of the quality approach is to satisfy customer requirements, by "doing the right thing, right the first time, every time." \(^57\) The objective is two-fold: to please the customer so that s/he brings business in the future; and to reduce waste due to the production of items that do not meet basic standards. One of the essential assumptions behind the concept of quality is that there is no such thing as high and low quality: either a product has quality or it does not; either it is produced with quality or it is not. According to the theory, the continuous improvement of a product or a service is what increases the market share of the firm. Inspection by a third party does not produce quality; at most, it avoids embarrassment and it increases cost. Hence, in a quality world, prevention has to replace inspection. In a "quality" firm, supervisors are not needed; the worker is responsible for supervising his/her work and the grade of the materials that go into production.

Quality is measured in terms of costs which can be gathered in three categories: the cost of prevention, the cost of inspection and rework, and the cost of field failure. The cost of prevention is considered to be a "good" cost, for it precludes other costs and can be reduced in the long-run. On the other hand, the costs of rework and field failure are "bad" costs, for they signal an inefficiency in the production process. The costs of quality are measured in statistical terms. Indeed, the first step to introducing a quality strategy in a firm is to achieve statistical process control. According to the theory, statistics provide an objective element to assess results on a daily basis. Statistical process control allows the firm to adapt production to stated goals and does away with the traditional subjective

\(^57\) The following description of the quality strategy is based on a presentation by Ing. Antonio Zárate, general director of METALSA, at the V International Exchange "El Hombre y la Calidad," held at the Instituto Tecnológico de Estudios Superiores de Monterrey, March 20-22, 1990
The use of statistical process control assumes that all the workers of the plant are familiar with basic statistics. Thus, workers need to have a certain level of education, and are constantly given training. In the words of Antonio Zárate, general director of METALSA and leading promoter of quality in Monterrey, “Quality begins with education/training, continue with education/training, and ends with education/training. Quality is a race with no finish line; so are education and training for quality.” The largest initial investment that a company has to make in implementing a quality program is in training and education. From the president of the corporation to the janitor of the plant, every single employee and worker has to receive special training. It is through this educational program that the culture of the firm and of the society is being transformed.

The ultimate goal of producing with quality—or producing quality as some managers would say—is to increase productivity. By definition productivity is higher when more goods are produced with fewer resources—fewer materials, lower energy consumption, less labor, in a shorter time. Rendering the plant time efficient is an essential requirement for quality. The entire structure of the plant has to be reorganized; hierarchical structures are replaced by more participatory ones. The traditional organization of plants by departments is replaced by customer/supplier chains within the factory. The job is arranged around the sub-organizations formed by these customer/supplier chains, staffed with functional workers who do the entire job. The customer/supplier sequence facilitates the ready discovery of quality problems—inefficiencies and bottlenecks—at their source. It renders production more efficient by permitting a precise programming of production.

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58.- This subjective evaluation is very common in Mexico. According to the plant managers of the firms I visited in Monterrey, when asked how much was produced in a day, a worker usually responds with words such as “a lot,” “not much,” or “enough.” With the introduction of statistical process control, the worker can provide an exact answer which allows management to better plan production.
Thus, inventories can be reduced and customers are serviced on time. This scheme is the cornerstone of the concept of Just-in-Time (JIT) production.59

In order to achieve its long-term goal of increasing profits, the firm's daily objective has to be to satisfy external customers. Customer satisfaction is not only derived from the product purchased, but also from the quality of the service s/he receives. Quality of service to the customer has two components: the interaction with the client and the support service provided to the client. The first component is defined by Antonio Zárate as the "moment of truth." It is "that precise instant when the customer comes into contact with any aspect of your business and, on the basis of that contact, forms an opinion about the quality of your service and, potentially, the quality of your product."60 The second component consists of continuing the relationship with the customer after the sale has been completed by providing on-site service and advice.

The successful implementation of a quality strategy requires a culture based on a set of values and attitudes that are intrinsically different from the ones upheld by Taylorism. The new approach calls for service, trust, participation, solidarity, job security, an alliance with customers and suppliers. Quality then becomes "a philosophy which gives meaning to life and work and provides a sense of belonging and commitment."61 Each and every person has to be transformed into a quality person, for quality of products and services can only be produced by quality people. The person has to be committed to service and to continuous improvement. The only way that a company can be transformed through the implementation of quality is if management is committed to this change and exerts its

59.- In Japan, this scheme of production is known as "kanban."
60.- The quote is taken from the presentation of Mr Zárate at the V International Exchange "El Hombre y la Calidad," held at the Instituto Tecnológico de Estudios Superiores de Monterrey, March 20-22, 1990
leadership. For this reason, quality is first introduced to the top echelon of the firm; only after the managers have completely accepted the program is its spread through the plant. The long-term goal is that the entire community adheres to quality, for it is very hard to maintain a quality strategy when suppliers and customers follow old negative patterns. In the case of Monterrey, this simply means that it becomes difficult to produce quality goods if the supplier's materials are not up to standards; it is impossible to maintain a Just-in-time scheme, if suppliers are ever late. Thus, every manager has a vested interest in producing and servicing quality, and in expecting other managers to do so.

In the above paragraphs, I have presented a description of "quality" as a concept, a strategy and a philosophy as it is understood in Monterrey. I intentionally chose to paraphrase the Regiomontano entrepreneurs in describing the quality program. The tone of slogans and flowing logic is an integral part of the Regiomontano understanding of quality and of the way the concept is ingrained. Moreover, the impression that if only the program is thoroughly applied Monterrey would overcome its limitations and become extremely competitive by international standards is a strongly held belief of many Regiomontanos. At the V International Conference on Quality sponsored by ITESM in March 1990, several participants expressed their belief that through quality Mexico, and in particular Monterrey, would develop and become an international economic power in the twenty-first century as Japan did in the last quarter of this century.  

**The most successful case: Quality at METALSA:**

Perhaps the most successful implementation of quality has been at METALSA, the largest business of Grupo PROEZA of the Zambrano family. Since its association with

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A.O. Smith Corporation in 1959, METALSA has been producing structural ensembles and components for the auto parts industry. Like many other businesses in Monterrey, METALSA entered a deep crisis in 1982. The owners readily saw that merely renegotiating the debt would not ensure survival, and that they would have to export quality products at low cost. They searched for models of business success and were inspired by the Japanese approach. In 1984, Antonio Zárate introduced a quality program to METALSA, through the implementation of statistical process control and a strategy to refocus values.

In order to transform the culture of the firm, METALSA followed two separate strategies: it slowly introduced different components of its quality program in its oldest plant; and it built a new plant to be organized and run fully under the quality program. The new plant, located in Apodaca (a suburb of Monterrey), has proven to be an extremely successful pilot project, incorporating all the elements of the theory of quality. The plant is equipped with modern technology such as flexible manufacturing machinery. The lay-out of the shop-floor is organized according to a customer/supplier chain scheme. Inventories are kept to a minimum—only for imported materials can the inventories surpass a month’s supply. The process is subject to Just-in-time production.

Since the key to any quality program is the behavior and management of human resources, the owners and managers of METALSA concluded negotiations with the firm’s union. All the workers of the Apodaca plant were new. After an intense process of selection, METALSA hired only bright young men with no experience in industry. All had completed junior high-school, most had gone to technical school. During the first year, the labor force spent 40% of the time in training. Each worker was taught to do multiple tasks, and became a member of a “sociotec,” a group of six or eight men working together in a

63.- METALSA produces chassis for cars and trucks, motor parts, axles, and other auto parts.
"small business." In the sociotec, the task at hand is self-control: each group produces, inspects, corrects and plans production. Each member of the group is responsible for the control of the quality of his work. When a problem arises, the group gets together--usually after hours--and searches for a solution; these meetings are often organized on a regular basis to look for ways of improving production. In some plants these groups are called "quality circles" or "total quality circles." At METALSA these groups are part of the sociotec. In this new industrial organization, there are no supervisors, but one worker becomes the leader of the sociotec for three months. During that period his salary is raised by fifteen percent.

In the old plant, located in Monterrey, the quality program was introduced slowly for, as the general director of PROEZA, Enrique Zambrano Benítez, explains, it is harder to transform an existing culture than to create a new one.64 It took workers and managers four years to unlearn what had been done for over 25 years, but once the new culture was accepted the accomplishments were greater than in Apodaca. The workers of the Monterrey plant drew from their skills and practice to master the production process. In the Monterrey plant, the machines remained the same, only the lay-out of the shop floor was reorganized. In industrial organization terms, however, both plants are basically equal.

From the beginning, the owners of METALSA invited the union to participate actively with management in the selection of the most appropriate program for the plant. Union representatives and the director of the METALSA, Antonio Zárate, visited plants where quality programs had been implemented. They were most impressed by the General Motors plant in Ramos Arizpe (Coahuila), and adopted the concept of sociotec from that plant. Aside from the union's involvement, workers received a guarantee that no one would be fired as a result of this reorganization. METALSA provided every worker with

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64.- Interview with Ing. Enrique Zambrano Benítez, general director of PROEZA, June 25, 1990.
job security through long-term contracts. Managers convinced workers that the quality program was intended to benefit not only the firm, but workers as well. The company froze hirings, but every time a member of a sociotec resigned, his salary was distributed among the remaining workers. As a result of these agreements, turnover has remained low at METALSA.

Since customer/supplier relations are essential inside and outside the plant, METALSA has established working relationships with its suppliers. For instance, it drew up a customer/supplier agreement with HYLSA--the steel plant that provides 80 percent of METALSA's raw materials--in which HYLSA commits itself to supply quality materials to METALSA. This agreement relieved METALSA of the burden of inspecting materials. Furthermore, as part of its service to the client, HYLSA sent a group of engineers to METALSA to study the needs of the plant, and to devise changes that might render the process more efficient and reduce waste.\textsuperscript{65} Likewise, METALSA constantly polls its clients to sell them a better product and serve them better.

Thus far, the results of the quality program in METALSA have been outstanding. The company has accumulated several awards, including national awards for security for the low number of job-related accidents and prestigious international awards for quality. The quality awards include Chrysler's Pentastar--awarded only to the top five suppliers--a diploma from General Motors, Ford's "Q" Award, and an award by John Deere of the United States (as opposed to its Mexican subsidiary).\textsuperscript{66} Receiving these quality awards has become a major incentive for workers to improve their performance.

\textsuperscript{65.-} As we will see shortly, HYLSA also has a quality program.
\textsuperscript{66.-} Both John Deere and the Ford Motor Company have had an active role in introducing quality to Mexico: Ford by requiring a quality certification of its suppliers, and John Deere by introducing JIT to Mexico.
John Deere (USA) made METALSA its only foreign subcontractor. Ford’s Q not only turned METALSA into a supplier for Ford; it further indicated that METALSA had achieved the toughest test for quality. Indeed, Ford’s Q tests every single aspect of the quality program, including the cleanliness of the plant and the number of bathrooms per worker. For METALSA, obtaining these awards is a recognition of its quality program and a passport to the global auto parts market. Currently, 30% of the production is exported.67

METALSA took the most drastic approach to introducing a quality program by creating a new plant. Most firms were more cautious. Some such as IMSA drafted a contract through which every business and plant of the holding agreed to adhere to a quality program; others introduced the quality concept without mentioning the word. In most cases, quality was introduced through training of top managers and the implementation of statistical control process.

Quality at HYLSA: a more conservative approach

Hojalata y Lámina S.A. (HYLSA), the steel plant of Grupo Industrial Alfa, had elements of the quality strategy as early as the mid-1970s. Over the past fifteen years, elements of the old and new approaches to industrial organization have coexisted. HYLSA began to experiment with quality circles in the 1970s. Through the 1980s, HYLSA’s quality circles acquired national recognition for their achievements. Yet, HYLSA was not willing to launch an aggressive quality program, for there were many obstacles to the implementation of such a program at HYLSA. Traditionally, the firm had emphasized the importance of high volume as a measure of productivity and success, and the company was

used to selling its products whether they were in good condition or not.68 This culture had to be replaced by one in which quality and service prevailed. To make matters worse, the managers of HYLSA were not convinced that quality was the best strategy for their firm.

In order to overcome these obstacles, Alfa hired the Massachusetts-based consulting firm, GOAL, to work with the top echelon of management of HYLSA in understanding quality as a culture. The top managers underwent numerous sessions with world experts who convinced them that their paternalistic and authoritarian approach had to be left behind for the sake of the firm. In January 1984, the managers of HYLSA introduced the first elements of the quality program, but no one mentioned the term “quality” at the time. Managers were expected to initiate the cultural change through their new behavior, setting themselves as role-models for the employees and workers of the firm. The economic crisis had resulted in the lay-off numerous managers and workers, creating a mood of discomfort and uncertainty in the firm. Yet, HYLSA maintained a low turnover by offering the highest entering wages in the region. The firm introduced the quality program to the shop-floor through the reinforcement of its accident prevention program (Programa de Seguridad). Managers transformed the original program into a less paternalistic, more participatory one. The accident prevention program was very successful and set a basis to support a quality program. In 1986, after all managers, employees and workers had

68.- Interview with managers of HYLSA and with managers of HYLSA’s plant of “Aceros Planaos.” Managers at HYLSA admitted that during the period of import substitution industrialization they had no incentive to improve the quality of the goods they produced since they had a captive market. Mexican manufacturers were forced to buy the product from HYLSA whether it was in perfect condition or not since they could not acquire it from abroad and since the alternative produced by a state-run steel plant could be worse and/or more expensive. This phenomenon was not unique to HYLSA. Most—if not all—Mexican manufacturers were guilty of producing goods of poor quality because they knew that the consumer did not have another choice. This fact, recognized for years by the consumer, is now openly accepted by the private sector and the government alike.
received some basic training on quality, HYLSA implemented a full-fledged "Total quality policy."69

To date, 80% of HYLSA's work force is involved in quality circles. Some circles have come up with innovations that reduce the cost of production and solve bottleneck problems. The firm puts greater emphasis on service, delivering on time and insuring the good presentation of the product, and uses a transportation system that protects the product. HYLSA has established an express service which allows it to deliver an order within a week. According to the head of human resources at HYLSA, the firm is not far from producing Just-in-time. All these facts may seem basic expectations of production but they are a major departure from the way HYLSA produced in the 1970s when it dominated a captive market for steel products and the consumer had no other choice than to put up with HYLSA's arrogance and low quality.

Despite the positive results of the quality program, some critics within Alfa point out that HYLSA's success is quite marginal. The firm indeed reduced its costs of production, but this reduction is the result of the implementation of cost reduction strategies that were ignored during the years of the boom because of the ease with which costs could be passed on to consumers. The improvements may be impressive by local standards, but they are insignificant by international standards given the amazing progress achieved by Japanese and American steel industries in the 1980s. Moreover, the quality and cost of HYLSA's

69.- The policy is based on the following eleven points: 1) the improvement of quality is a responsibility and a task of the administration; 2) HYLSA's organization has to focus on satisfying the needs of internal and external clients; 3) education and training of the entire personnel are essential priorities; 4) processes have to be controlled through statistics; 5) decisions have to be based on statistical evidence; 6) quality improvement is an organized, continuous process based on specific programs and projects; 7) top administrators and bosses will provide a working atmosphere that stimulates quality work; 8) the administration must enhance the formation of quality circles; 9) suppliers must be actively involved in our quality program; 10) errors should be prevented rather than corrected; 11) any change of process or equipment must be geared to improving quality without raising costs. Based on HYLSA's internal document "Calidad Total" signed by Ing. Gustavo S. Cortés, general director of the firm.
products are not competitive by international standards, HYLSA has been able to maintain its share of the domestic market because the cost of transportation of steel is high, hence HYLSA has an advantage over its foreign competitors at the local level. However, HYLSA—and for that matter the entire Mexican steel industry—could be easily eradicated by the dumping of Japanese produced steel, as one Japanese corporation, Nippon Steel, produces several times more tons of steel than the entire Mexican steel industry. The bottom line of this critique is that the quality program in and of itself cannot render HYLSA competitive by international standards. The only way that HYLSA will be competitive is through massive investment in new technologies, and at this time Alfa is not willing to put forward a risky investment as there is an international overcapacity of production in steel.70

**Some conclusions about quality in Monterrey:**

The two case studies depicted above represent two extremes of the implementation and results of quality programs in Monterrey. The success of METALSA and the failure of HYLSA to become competitive by international standards point to an underlying assumption of the quality approach which is that in order to be competitive by international standards the firm has to have an initial comparative advantage. For instance, in the case of PETROCEL, a petrochemical business of Alfa, the quality program gave the already competitive firm an edge in the international market. Quality is only a tool to improve the efficiency and the quality of production of a firm. It is for this reason that it is only one of the elements of the overall strategy of the Monterrey industrial elite.

Most Monterrey businessmen pride themselves in having a total quality control program or policy. Many assert that they have even gone a step further by establishing Just-in-time

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70.- This critique was advanced by two engineers who are members of the team of Strategic Planning for Alfa. Interview conducted on June 4, 1990.
production. Others like to think that their firms have flexible technology. In the realm of ideals, all these statements are true; but, when faced with the test of reality many still remain on paper and not in practice. In all the plants that I visited in Monterrey, I saw a statement indicating management’s commitment to a quality program. In most cases, however, the program was dictated by the headquarters of the holding, making it difficult to assess the belief of plant managers in the program. In one case, for instance, the director of the plant spent ten minutes praising the quality program and the importance of workers’ participation in the decision-making process; and then went on to stress that female workers had to be supervised and controlled, for “as you know, by nature women are intellectually inferior to men.” The director of the plant did not seem disturbed by the prospect that denigrating half of his labor force could be detrimental to his quality program.

All plants I visited kept statistical records of production and trained their workers, and most had quality circles. However, only two firms had implemented the program at all levels of the plant, and only one could be said to be close to Just-in-time production. Most plants I saw have tried to render their process more flexible, yet few have machines that allow them to change the pattern of production promptly, and only a few firms have flexible machinery—usually one machine. The true exception is VITRO’s Fábrica de Máquina (FAMA): equipped with cutting edge technology (several flexible manufacturing systems, CAD/CAM, computer connection to design centers of clients in the US and Europe), this plant seems to belong more to Japan than to Mexico.

In this new industrial world, most firms would become increasingly flexible and efficient by subcontracting certain parts of their production. FAMA has been the leader in introducing this form of production to Monterrey; since the 1970s, the plant has made a concerted effort to develop its network of sub-contractors. However, quality concerns have undermined the widespread development of subcontractors, despite the existence of
an elite-sponsored association (ADMIC) whose aim is to turn members of the informal sector into potential subcontractors for the elite's industries. In order to address this problem, ADMIC is now teaching its members the importance of producing in time quality goods that meet the demands of the client. In the realm of ideals, the development of subcontractors is an integral part of the Monterrey elite strategy of economic growth. Several industrialists expressed their desired to implement such a system of production in the near future, for they considered it an element in the industrial success of Japan and of Italy. However, they also indicated that unless the quality of production could be sustained and guaranteed, they would not risk sub-contracting their production at this time. In practice, industries are maintaining a double road, sub-contracting a percentage of some parts and producing the rest in small shops housed in the factory. The system is perhaps inefficient but it is a scheme the elite has found to make the transition to this new form of production while protecting their quality programs from sloppy producers.  

If reality does not yet match theory, Monterrey can at least be praised for introducing the concept to Mexico. The initial results achieved by the Monterrey firms in terms of waste reduction and increased efficiency have inspired other Mexicans to follow the quality route. More interestingly, the transformation of the industrial plant has brought up steaming political questions related to the transformation of business-labor relations, the role of unions, and the need to adapt the labor code to the new reality of industrial organization for quality production.

In Monterrey, the industrialists did not have many difficulties introducing quality programs in their firms, for traditionally business-labor relations have been amiable given the non-political nature of the unions. However, even in the best of circumstances, managers still had to negotiate with the union the implementation of the program. Unions

71.- The question of sub-contractors is analyzed in more detail in Chapter 6.
were involved in the process from the very beginning; in most cases, wages were increased by 15% to render the multiple-skills requirement acceptable to labor. To date though, many issues remain unsolved. One of the sensitive questions is related to wages and promotions. In the old system, workers are promoted according to seniority when there is a vacancy. This system does not provide any incentives for self-improvement, and is detrimental to the success of the quality program. A better system would be one that allowed for indirect lines of ascension and rewarded knowledge and achievement. Only a few plants have implemented this alternative system of promotion. The most successful experiment is at Vidrieria Monterrey where a “crossing-system” has been in place since 1989. But, even at Vidrieria, the “crossing-system” met with the initial opposition of the union, and despite its apparent success some workers are skeptical about the benefits they can derive from this new form of promotion.

Outside the plant, many critics contend that the new system of production is far more detrimental to the workers: by making labor flexible workers lose their rights and become vulnerable.72 Others approve of this new industrial organization but are eager to point out that the benefits of increased productivity ought to be shared with the workers.73 Many firms have special awards for members of quality circles that find an improvement to production or solve a bottleneck problem. But none shares with its workers the economic benefits. At first, these critics point out, workers are willing to accept that profits have to be reinvested in the factory, but after a few years they want economic rewards. This type of conflict has been the basis of the long and damaging strikes at Ford Motor Company (Mexican subsidiary) and Cervecería Modelo (producer of Corona beer). Thus far,

73.- One of the proponents of this view in Monterrey is Dr. Fernando Jaimes, director of the Graduate and Research Division at the ITESM. Interview conducted on March 15, 1990.
Monterrey has not had major conflicts with the unions, but the search for a more appropriate system of remuneration and promotion continue.

The Monterrey industrial elite has undertaken the transformation of the industrial structure of the region through the implementation of quality programs that affect the very core of the former system of production. The industrialists selected this radical approach because they saw it as the only way to salvage their holdings at a time when the federal government was not available for support or help. Yet, the elite would not have taken this initiative unless it had previously recovered its entrepreneurial spirit, its creative thinking and its willingness to take risks.

The reemergence of the entrepreneurial spirit:

During the oil boom, the most powerful Regiomontano industrialists had forgotten to be entrepreneurs and had instead become business administrators, accumulating a wide variety of businesses, regardless of the firm's potential or of their expertise—or lack thereof—in the firm's field of production. This was particularly true for the two largest holdings at the time: Grupo industrial Alfa and VISA. Alfa, for instance, acquired 34 new businesses between 1974 and 1980 in such diverse sectors of the economy as petrochemicals, synthetic fibers, tourism, electronics, capital goods and food, despite the fact that its expertise was in steel production. Valores Industriales, the share-holder of Cervecería Cuauhtémoc, behaved likewise. By 1982, Alfa and VISA each managed over 150 factories and businesses, but many were inefficient and unproductive. The industrialists had been more preoccupied with purchasing grandiose-looking projects than rendering their businesses efficient and productive. The federal government, for its part,

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facilitated this behavior of the industrial elite, for every time they requested a price increase in their products, the government acquiesced, eliminating any incentive to improve the quality of the product or the efficiency of production. By 1982, however, that scheme was over. The elite’s initial response to the crisis was to save its core industries first by getting rid of all bad investments and then by concentrating on ameliorating the market position of their traditional firms. This “return to basics” entailed not only the reconsolidation of businesses discussed in the first section of this chapter, but more importantly a renewed emphasis on entrepreneurship.

The Monterrey industrial-financiers had traditionally been entrepreneurs, that is to say, men willing to take a risk to invest their capital in new ventures and create successful businesses. The first and second generation of Regiomontano entrepreneurs had been very hard working and frugal, living a simple life and reinvesting all their profits into their businesses. However, the generation that ascended to the presidency of the different holdings in the 1970s had a taste for luxury and spending. This new generation initiated the transformation of Monterrey almost in tandem with President López Portillo’s command to learn to live in abundance. The Regiomontanos acquired a taste for the lifestyle of the rich and famous; in their businesses, they became more concerned with managing an increasing number of mediocre businesses than in creating new ones and improving the old ones. Young people were increasingly more attracted to jobs in the leading holdings than to creating their own businesses. The crisis of 1982 forced Regiomontanos to reflect on their behavior and to return to the teachings of their forefathers.

75.- For an account of the lifestyle of the entrepreneurs of the first and second generation, see José Fuentes Mares, Monterrey, una Ciudad Creadora y sus Capitanes. (México D.F.: JUS, 1976).
Contemporaneously with the renegotiation of the debt and the introduction of quality to the holdings, the industrial elite has conducted a campaign to revive the entrepreneurial spirit in Monterrey. The crusade to develop entrepreneurs is held at various levels of society. At the Tecnológico de Monterrey, a program has been established to target the next generation of entrepreneurs. The "Programa Emprendedor" encourages students to take a course which requires them to create and run their own business for a semester. The program has been somewhat popular among students but it has the disadvantage of deterring financially-insecure students from participating in the program, opening a legal business for a semester requires capital. In order to link the informal sector to the economic chain through the development of microentrepreneurs, the elite has continued to sponsor ADMIC. Founded in 1979, the program has succeeded in generating a pool of subcontractors for the region's industries as well as in developing small independent business-men and -women.76 Public recognition is an important element of Monterrey's social life and a constant incentive for betterment. Hence, El Norte, the leading newspaper of Monterrey, features a weekly section on the most outstanding microentrepreneurs and monitors the progress of the students' business projects. These two programs have had the effect of introducing the entrepreneurial spirit to the new generation and to people who otherwise would be at the fringes of society. However, the most important revival of entrepreneurship has come from the business elite itself.

It could be argued that all the industrialists who have made efforts to render their holdings competitive by international standards have recovered the entrepreneurial spirit. However, a narrower conceptualization grants the title of "Entrepreneur" only to a small group of industrialists who have taken serious risks and concluded bold deals in an effort

76.- ADMIC stands for Asesoría Dinámica para la Microempresa. The development of microentrepreneurs into sub-contractors for Monterrey's industry is the subject of chapter 6.
to expand their market or have introduced creative strategies to go beyond the preexisting boundaries for doing business in Mexico.

It seems difficult to select one single example of outstanding entrepreneurship in the past decade, for at least three cases are striking. The first one is the creation of an completely new holding by Alfonso "Poncho" Romo; the second is the bold acquisition of the second largest glass producing company in the United States by Grupo VITRO; and the third is the partnership established by Alberto Santos, president of GAMESA until 1991, with ejidatarios. The last two cases are examples of groundbreaking projects.

For Alfonso Romo, "in the 1980's, the country went on sale, there were bargains for anyone willing to take a risk." The young engineer had worked for VISA during the oil boom, but had aspirations of becoming an entrepreneur. In 1981, the graduate of the Tecnológico de Monterrey opened a few bakeries and soon thereafter resigned from VISA. His initial attempts at creating a business were, however, difficult. In 1982, he had to sell his house, as he was unable to pay the interest on his loans; but he kept his source of income, the bakeries Pastelería Monterrey. The following year, in association with his father-in-law, Alejandro Garza Lagüera, and a friend, Juan Romero, he acquired the nearly bankrupt cigarette factory Cigarrera la Moderna. "Four Monterrey holdings," Mr. Romo states, "looked at Cigarrera, but given the businessmen's distrust in the future of the country, they turned their back on a great opportunity." The cigarette factory became the first cornerstone of his holding, Pulsar Internacional. Over the past decade, Alfonso

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77.- Alejandro Garza Lagüera is the son of Eugenio Garza Sada, the patriarch of the Monterrey group until 1973, and the brother of Eugenio Garza Lagüera, current president of VISA. Some Regiomontanos claim that Alejandro Garza Lagüera is the real cause behind Alfonso Romo's success, for he supplied him with cash and opened the doors of the Monterrey group for Mr. Romo. Mr. Romo disagrees with this view and sees himself as a self-made man. Although born and raised in Mexico City, he obtained his bachelor's degree from the Tecnológico de Monterrey. His parents are originally from Monterrey and he is a related to the Revolutionary leader Francisco I. Madero and to the merchant Evaristo Madero. He is then a legitimate member of the Monterrey elite. And his entrepreneurial success is not derived from his marriage to a member of the Garza-Sada clan, but from his skills.
Romo has created commercial and financial businesses and acquired other industrial plants. His holding is rapidly becoming one of the most powerful in the region, having a stronghold in the financial sector through its national insurance company and stock-exchange houses and maintaining a presence in manufacturing.\textsuperscript{78}

Alfonso Romo considers that creativity, hard work and the adherence to the philosophy of the group is at the root of the emergence of Pulsar Internacional as a national holding. His view is set on the future rather than on short-term objectives. Thus, he only acquires companies that have the potential to grow through innovation and value-added. In developing the businesses he acquires his first aim is to increase the share of the market to which the business is entitled. At least initially, Pulsar adapts itself to its new company instead of imposing on it a stratified organizational structure. However, the holding provides each new business with a leader, a businessman who runs the firm according to Pulsar's philosophy--value-added, innovation, and long-term view. In the large companies, the regional managers became directors of their own business and workers were given more autonomy. Since, according to Poncho Romo, the source of inefficiencies in production lies in the lack of leaders and direction, he was able to turn frail companies into profitable ones by providing each company with a leader, a set of values and a purpose.

It is not surprising that each of the companies that belong to Pulsar has a quality program. In some cases the implementation of the program is not quite advanced; it is often limited to the statistical control of production and the reorganization of the lay-out of

\textsuperscript{78}-The industrial sector contains Cigarrera la Moderna, Luxor and Mohawk (a carpet factory), Carter (a plant in the United States that produces non-flammable carpets for airplanes), Tapetes Chanticco, and Aluprint (a leading edge flexible packaging factory). The financial sector is formed by Vector Casa de Bolsa (the fifth stock-exchange house in Mexico), Seguros La Comercial (one of the top national insurance companies), and two other businesses. The "embrionic" sector is constituted of small businesses such as the bakery, restaurants and a ceramics factory.
the firm. But one element is striking at Pulsar's firms: the importance given to labor and to service, hence education and training are greatly emphasized.

There is, of course, a second component to Pulsar's strategy. It is the search and development of domestic and international markets. In the case of the carpet industry, Pulsar explored the export market. Currently Luxor is exporting to the United States, Europe and the Middle East. As a strategy to enter the North American market, Mr. Romo acquired the American company Carter. In the cigarette business he bought out his British partners in order to increase the company's independence and markets for exports.

Aside from the nearly bankrupt firms that he acquired, Alfonso Romo created new businesses, especially in the financial sector. His stock-exchange house, Vector S.A., became, in the 1980s, one of the five most powerful casas de bolsa nationwide. By 1990, Alfonso Romo began to investigate the sector of new technologies with the aim of sponsoring the development of biotechnology in a European research institute and applying the patent in Mexico.

The international connection is crucial to Mr. Romo. His main criticism of Mexican businessmen is that they tend to be parochial. In his view, if one is to succeed in a global market one must be international. In Mr. Romo's case, a hobby allows him to establish international contacts and have international exposure. He is the owner of one of the top equestrian teams in Europe. Through equestrian events, he has met leading entrepreneurs, artists, and politicians of the industrialized world. Some of these meetings have initiated business deals, while others have benefitted Monterrey society--such as his encounter with Luciano Pavarotti, whom Alfonso Romo invited to perform in Monterrey in December 1990.

Pulsar Internacional presents a unique case of amazing economic success during the economic crisis. By taking advantage of the opportunities provided by the crisis, Mr.
Romo built an industrial and financial emporium. Alfonso Romo has come to represent the quintessential entrepreneur, the Regiomontano who is willing to risk everything in order to make a dream come true.

To a lesser degree, the experience of Alfonso Romo was repeated by a couple of holdings that had maintained a conservative stand on borrowing during the 1970s and were able to take advantage of the opportunities of the 1980s. For these firms, the 1980s represented a turning point in the positioning of their firms. Family firms that had lagged significantly behind the Garza-Sada holdings became leading national firms. Such is the case of Cementos Mexicanos S.A. (CEMEX) of the Zambrano family. Over the past decade, CEMEX acquired several cement plants throughout the country and the Sunbelt Enterprises in the United States. CEMEX has established itself as the main producer of cement in Mexico and as international leader in the field. In June 1990, CEMEX entered the European stock-exchange market in order to reduce its debt and better its financial position. According to the General Director of the group, Lorenzo Zambrano, the technology of CEMEX is superior to that of American plants; hence CEMEX is more productive and efficient. In a decade, CEMEX has consolidated its position as one of the leading cement producers of the world.

Another holding that benefitted from the economic debacle of the 1980s is Industrias Monterrey S.A. (IMSA) of the Clariond family. Realizing that the steel sector will undergo a profound crisis in the years ahead, the directors of IMSA continued their traditional vertical integration strategy but sought new areas for investment. In 1987, IMSA acquired

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81. Being one of the world’s top px. Lucrers of cement can be seen as a great achievement, however it can also be a curse since cement production is an environmental hazard. Even when anti-pollution measures are taken, the level of pollution from cement factories is high.
Acumuladores Mexicanos S.A. (Acumex), a company that produces batteries for automobiles and industrial use, and holds 70% of the domestic market. And in 1989, it bought CUPRUM, which produces aluminium structures. In both cases, IMSA implemented a quality program and emphasized exports. Acumex is now the only battery supplier of the Mexican subsidiary of Ford Motor Company (which implies that the company has been awarded Ford’s valuable Q). The success of IMSA is, as in Pulsar’s case, based on the introduction of a more participatory form of industrial organization and on the emphasis on expanding the market share of its businesses.

This emphasis on finding new markets has been one of the key elements that have turned Grupo VITRO of the Sada family into the most important private holding in Mexico. Like most Monterrey holdings, in order to ensure a flow of hard currency VITRO increased its exports to the industrialized world. For instance, VITROENVASES, one of the businesses of the holding, secured for itself a larger share of the market by filling a niche in the American market through the production of bottles in non traditional colors, decorated bottles and long-neck bottles for the beer industry. Some of VITROENVASES’s clients in the United States include Budweiser, Coca-Cola and some wine-producers of California. VITROENVASES exports an average of $60 million to the United States each year.82

But this strategy of increasing exports was not bold enough for a company that had been dreaming of becoming a transnational corporation. In 1989, through a hostile takeover, VITRO acquired Latchford Glass Corporation and Anchor Glass Container Corporation, the second American glass producing company, representing 26% of the glass-container market in the United States. Latchford Glass Corporation is a small regional company based in California. Anchor Glass, on the other hand, has 23 plants

82.- Data provided by Ing. Carlos Segovia, director of Envases, Vidrio y Tecnología, June 15, 1990.
scattered throughout 14 states. The combination of both companies gives VITRO complete access to the U.S. market.

At the time of the acquisition, Anchor Glass was in poor financial shape. The company was the result of the merging of six different firms, with different philosophies. The managers of Anchor Glass had been unable to provide leadership and good management to the company. In order to render Anchor Glass competitive, VITRO closed two plants, keeping 21 plants operating. The remaining plants have been redesigned, up-dated and equipped with machinery produced by Fábrica de Máquinas (FAMA), the capital goods business of Grupo VITRO. A program of human resources management has been implemented, based on VITRO's philosophy and aiming at making the system more participatory.

The acquisition of Anchor Glass has not only opened an important market for VITRO in general, but has ensured for FAMA a continuous export market, at least over the next five years. The takeover of an American corporation signals the path that VITRO seeks to follow in the 1990s: VITRO aims at becoming one of the top glass producing companies in the world and securing its place in the global economy. Given VITRO's level of technological development, this desire does not seem far-fetched.

VITRO's acquisition of Anchor Glass is a groundbreaking event for Mexican entrepreneurs. Until this takeover, no Mexican had been able to achieve such a bold move; at most, holdings had opened joint-ventures abroad. Now, VITRO has brought down a psychological constraint that has limited the horizons of Mexican entrepreneurs to Mexico. Yet, as the case of VITRO shows, no one group can aspire to become a transnational corporation unless it has the financial and technological backbone required to pursue that aspiration.

83.- The question of VITRO's level of technological development will be discussed in Chapter 5.
The directors of VITRO were not the only ones in Monterrey to shatter conventions. In the summer of 1990, the then president of GAMESA, Alberto Santos de Hoyo, made headlines in Mexico by creating the first joint-venture between a businessman and *ejidatarios*. This agricultural partnership, established between GAMESA and 500 peasants of Nuevo León, sought to increase the production of wheat and soy-beans. According to the plan, 20 million tons of wheat were to be produced by September 1991. The joint investment totaled 30 billion pesos (10 million dollars). GAMESA provided the capital, technology, administration and commercial structure and sponsored a R&D project headed by the Consejo Nacional de Ciencias y Tecnología (CONACYT) and the Tecnológico de Monterrey. The federal government, on the other hand, financed 50% of the investment in infrastructure. The venture was considered a pilot project that could lead to many other such projects around the country. The venture had profound political implications, for traditionally peasants have held businessmen in great distrust. Moreover, until 1992, the government had kept the private sector out of agriculture, as land and agrarian reform had been considered major achievements of the Mexican Revolution. GAMESA’s project opened a wide array of possibilities for the participation of businessmen in the agricultural sector. Alberto Santos saw the groundbreaking nature of his project when he stated: “There are many businesses and businessmen in the country who would like to form partnerships with *ejidatarios*, and to end the taboo that they are class enemies. We have to demonstrate that we are brothers and that we can work together.”

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84.- *Ejidatarios* are the members or owners of *ejidos*, small parcels of land owned by the community of peasants who labor the land.
85.- CONACYT is the National Council on Sciences and Technology.
The new alliance between the private sector and peasants was endorsed by President Salinas, who on several occasions had consulted Regiomontano businessmen on the best approach to render the countryside efficient and productive. A year and a half after the GAMESA project was implemented, President Salinas called for a constitutional amendment to reform Artículo 27, which regulates land ownership and limits the participation of the private sector in agriculture. The GAMESA project did not bring about the constitutional amendment, for President Salinas had intended to change the Constitution as part of his neo-liberal modernization design. However, Alberto Santos implemented his project at a time of uncertainty when the amendment to the Constitution was not taken for granted.

For the Regiomontanos, recovering the entrepreneurial spirit is not just an imperative for survival in a competitive world, but a return to the core of their identity. The crusade to revive the "entrepreneurial spirit" has created an atmosphere of challenge and optimism in Monterrey. The industrialists often compare the current situation of the region with the times of the Apaches when the Regiomontanos had to fight for their survival. As in the past, they have overcome hurdles and built a strong industrial base.

Over the past decade, the Monterrey industrial elite has gone from facing impending bankruptcy to reclaiming the industrial leadership of Mexico. In less than eight years, the elite negotiated a drastic reduction of its debt, implemented the basis of the structural

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87. The lack of agricultural self-sufficiency has been an serious problem in Mexico since the 1970s. The dependence on imported grains grows yearly. The Mexican government has stressed the importance of reducing the dependence on imported basic goods (corn, sugar, wheat). Early in his administration, President Salinas requested a leading member of the Monterrey elite to draft a proposal on how to render the country-side productive. The confidential document argues for a constitutional amendment on Article 27 which would permit the acquisition of land by agri-businessmen. I do not know what the President's response to the document was, but an amendment to any of the key articles of the Constitution (Art. 3, 27,123, 130) is a highly sensitive political issue.
transformation of its process of production, and achieved rates of economic growth superior to those of the rest of the country. This success was the result of the elite’s efforts, creativity and foresight. On this occasion, the Monterrey industrial elite did not turn to the federal government to solve its crisis, as Mexico City was too busy and confused by overcoming its own financial problems and defining its political identity. The "abandonment" by Mexico City forced the elite to make a realistic assessment of its situation and provided the space required to experiment with new strategies of economic growth. After assessing the limitation of industrialization through mass production, studying the experiences of other nations and forecasting the future of the Mexican economy, the Monterrey industrial elite devised an alternative strategy of economic growth. This new strategy calls for a profound transformation of the production process. The elite has initiated the alteration of its industrial structure through the introduction of quality programs (that modify the industrial organization of the firms and the process of production in the plant). Moreover, the elite has attempted to integrate smaller producers into the economic chain through the formation of sub-contractors for their industries, and has emphasized the role of research and development and technological innovation as an element of its strategy.

The Monterrey elite’s strategy of economic growth is still being articulated and implemented; hence, results have to be evaluated as part of a process that is not yet completed. Since pragmatism is an important part of the strategy, a program that is in place today may disappear tomorrow. But thus far the overall approach has taken Monterrey out of the crisis into a more hopeful future.

Despite the overall performance of the Monterrey economy, the economic crisis, the macroeconomic transformation of Mexico and the implementation of a new strategy of growth have taken their toll of those businesses not flexible enough to adapt. Moreover,
the strategy has emphasized existing disparities and reinforced the inability of outsiders to integrate themselves into the chain of development of the region. For example, the duality of labor has been accentuated. A skilled worker who can perform many tasks is in great demand, but an unskilled worker has no chance of obtaining a job in a plant. This transformation has further marginalized the group of Regionaltanos who live in poverty and have no other alternative than to exist at the edges of an increasingly wealthy society.

The Monterrey development strategy is not without threats either. A new crisis is being incubated by the contradictions in the government’s economic policies. The Pacto de Estabilidad y Crecimiento Económico (PECE) has frozen wages to the point that a person who washes four cars in the street can earn twice as much as a worker earns after eight hours of harsh work. Moreover, the minimum wage is so low that recipients live below the poverty line. Hence, many workers are choosing to join the ranks of the informal sector, leaving the factories with a shortage of labor. For the first time in its industrial history, Monterrey is experiencing high rates of turnover. The problem is especially severe now that the companies are implementing quality programs; training and education cannot be wasted on workers who may leave the job the next day. The success of the entire quality program is put at risk by the turnover rate. Moreover, the government keeps increasing the prices of gas, electricity, oil and telephone, but the PECE imposes a freeze on prices, raising the cost of inputs that cannot be transferred to consumers. Thus profits are falling, jeopardizing investments. The situation is a mirror of the government’s desire to open the economy to foreign trade while controlling the economy through a pact. It is creating uneasiness in the business and labor sectors and is endangering the achievements of the recent past.

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88.- Harsh working conditions in Monterrey can mean working at a glass oven or a steel foundry while enduring summer temperatures of over 100° F and winter temperatures below 32° F.
The strategy is also jeopardized by the inherent contradiction derived from the implementation of a strategy that emphasizes trust, cooperation and worker participation in the context of increasing political authoritarianism. The contradiction has the potential of destabilizing the political process, as an individual cannot be given freedom at work and then be expected to leave it at the factory’s exit. As the manager of one of the leading holdings in Monterrey said: “We need more democracy because there is a profound lack of confidence in authority and in the application of the Law. The lack of democracy affects productivity, hence it is required to increase participation at all levels.”

The PECE is not the only economic policy that is undermining the Monterrey development strategy. A new tax policy is driving many sub-contractors back into the informal sector since they are unable to fulfill all the requirements to exist as small shops and pay taxes. The tax law has a clause making it illegal for a firm to buy from a sub-contractor unless s/he proves first that s/he is registered with the Secretaría de Hacienda y Crédito Público and has paid all taxes. It seems ironic that government policies are undermining the very economy that President Salinas takes as an example of the future he envisions for Mexico.
Chapter 5: The quest for technological proficiency.

Until recently, domestic technological development had not been considered a requirement for growth in Mexico. Like most developing countries, Mexico attempted to bridge the development gap through the rapid industrialization of the country with foreign machinery and know-how. During the early stages of industrialization, technological innovation was not a priority, as the domestic market was satisfied by goods locally mass produced, often by multi-national corporations. According to the conventional view of development of the 1950s and 1960s, Mexico would eventually reach a second stage of industrialization and would produce capital goods and develop technology. But by the time it attained its second stage, Mexico--like most developing countries--had become dependent on foreign technology, science and managerial skills. The model of economic growth actually deterred the development of local technologies, as industrialists could acquire technology abroad and maintain local oligopolies for production. Technological backwardness is hence one of the legacies of the import-substitution model of industrialization based on mass-production.¹

Given the new international and national macroeconomic context, the Monterrey industrial elite recognizes the significant role that technological innovation and technological development will play in the firm’s ability to compete in an increasingly flexible and global economy. Hence, the elite’s strategy of economic growth calls for the acquisition and application of existing technologies as well as investment in research and development. The technological component of the Monterrey strategy is perhaps the most difficult to

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implement, as the region's level of technological development is quite uneven and backward by international standards.

Despite the fact that Monterrey is one of the bastions of technological development in Mexico, its level of technological innovation and implementation is drastically uneven from factory to factory, from industrial sector to industrial sector and even within a given holding. The inequalities range from cutting edge technologies to primitive practices. Within this context, Monterrey has a long tradition of technological research and development. Once again, the holdings of the Garza-Sada family provide the leadership; HYLSA with its patented HYL process of direct reduction of iron for steel production, and VITRO with its innovations in the field of glass production and capital goods for the glass industry, are exemplary. Since the 1970s other Monterrey holdings have distinguished themselves by their technological advances, such as CEMEX in cement production and MASECA in the production and processing of corn. But it is only now that the elite is actively seeking to become technologically proficient.

Technological proficiency is increasingly considered a requirement that Mexico must fulfill in order to compete in a global market. The aim of this chapter is to assess Mexico’s, and in particular Monterrey’s, level of technological development. In the first part of the chapter, I compare Mexico’s level of technological development with that of other newly industrialized countries and describe the government’s efforts to address the technological issue over the past two decades. Then I evaluate Monterrey’s overall level of technological development in the late 1980s. In the last section, I analyze two case studies of indigenous technological innovation at HYLSA and VITRO. The first case represents a success story turning sour, at least in part because the successful innovation was tied to the old model of development. The second is an example of what Mexican engineers can achieve in their own country with local technology, capital and labor when they consider an alternative
model of development. This last section provides an opportunity to discuss some of the problems that the Northern elite might face in its attempts to achieve technological proficiency.

I.- Mexico’s technological development in comparative perspective

Since World War II, the development and application of new technologies has triggered important levels of economic growth in both the industrialized and the developing world. For decades, traditional wisdom held that developing nations should acquire technology from the industrialized world in order to catch up and bridge the development gap. But in the 1970s a major debate emerged in the developing world over the cost of the technology, its inappropriateness in the developing world, and the dependency it generated upon the industrialized world. Hence, some governments of the Third World, including Mexico, promoted the development of local technologies.

Through an import-substitution model of industrialization, Mexico grew and developed for four decades without a perceived need for indigenous technology. The ISI model had produced the Mexican “economic miracle,” resulting in rates of growth of 6% and 7% annually. By the late 1960s, the devastated rural country that emerged from the Revolution of 1910 had been transformed into an increasingly modern, urban nation with a growing middle-class.

A profound transformation had also taken place in the international arena: most colonized countries of Asia and Africa had achieved independence and acquired some

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2.- This strategy was followed by the European nations that developed after Great Britain. For a fascinating account of the development strategy of the late and late-late industrializers of Europe, Cf.: Alexander Gerschenkron, Economic Backwardness in Historical Perspective. (Cambridge: The Belknap Press of Harvard University Press, 1962).

3.- According to the leading economist of the Mexican department at the World Bank, Mexico’s growth rate between 1950 and 1974 averaged 6.4% in real terms and inflation was in single digits throughout the period. Cf.: Sweder van Wijnbergen, “Growth, External Debt and the Real Exchange Rate” in Mexico’s Search for an New Development Strategy, Dwight S. Brothers and Adele E. Wick, eds. (Boulder, CO: Westview Press, 1990), p. 209.
political power by uniting with other developing countries in challenging the established world order. Through the 1970s, the denominated Third World questioned the international economic order and demanded a just restructuring of the international system. In the academic field, a debate ensued between the proponents of a Dependency approach and the defenders of Modernization theory. Both the academic and the international political debates were relevant to the conditions of Latin American countries. Most Latin American intellectuals and governments became strong adherents of Tercerundismo and Dependencia.

Within this ideological context, President Luis Echeverría (1970-76) advanced a reformulation of the import-substitution model of industrialization. The President attacked the economic model for producing uneven development at home and for fostering dependency on the industrialized world. In order to rectress the problem, the President implemented his policy of Desarrollo Compartido at home and advocated the creation of a new international economic order abroad. In practice, President Echeverría's

4.- The roots of the Third World go back to the Bandung conference of 1955 and the entrance of the newly independent nations to the United Nations. At the United Nations, the developing countries formed a unified front which became known as the “Group of 77” at the first UNCTAD conference of 1964. The UNCTAD became the international forum through which the Third World demanded the restructuring of the international economic order. The theme of the V UNCTAD in 1979 was the negotiation of a code of behavior for technology transfer. The 1970s were the heydays of Tercerundismo. The last major international event in which the Third World appeared to have some voice was the North-South Conference held in Cancún, Mexico in October 1981. With the debt crisis the Third World lost much of its political power; and with the collapse of the Soviet bloc, the Third World has become a forgotten topic of discussion. For a discussion of the Bandung Conference see: Odette Guitard, Bandoung et le Réveil des Peuples Colonisés. (Paris: Presses Universitaires de France, 1961). For a definition of the Third World and a description of its major development problems, Cf.: A Geography of the Third World, J.P. Dickerson, et al., eds. (London: Methuen, 1983). For a discussion of the “North-South system” from an economic perspective Cf.: Joan Edelman Spero, The Politics of International Economic Relations. (New York: St. Martin's Press, 1981). The literature on the Third World flourished in the 1970s. Spero provides a solid bibliography on the subject.

5.- For a presentation of the Echeverría administration’s economic policy from the perspective of the players Cf.: La Política Económica del Nuevo Gobierno, Jorge Eduardo Navarrete, ed. (México D.F.: Banco Nacional de Comercio Exterior, 1971). The study not only provides an analysis of the economic conditions of Mexico in the late 1960s and early 1970s but develops the logic behind the administration’s economic strategy. Moreover, the book reproduces a large number of government documents and economic statistics. Luis Echeverría sought to become the leader of the Third World. In 1975, he proposed the
reformulation of the economic model consisted of populist measures aimed at improving
the living conditions of the majority of the population and of the acceleration of the
industrialization process through government-sponsored projects financed with foreign
borrowing.\textsuperscript{6} The results of the President’s approach were, in the long-run,
counterproductive as they deepened the contradictions of Mexico’s model of development.\textsuperscript{7}
However, the President’s criticism of the economic model brought to light some of the
inherent problems of import-substitution industrialization, paved the way for a policy of
export-led growth, and put the issue of technology on the political agenda.

Echoing the views of many critics at the time, President Echeverría believed that import-
substitution industrialization had failed largely because it generated technological, scientific
and managerial dependency on the industrialized world. The international transfer of
technology was slow, inadequate and extremely expensive. Multinational corporations
often controlled the transfer of technology by selecting the type of technology and deciding
on the pace and degree of the transfer of technical knowledge skills. Hence, the technology
was often inadequate for the needs of the country and did not create forward and backward
linkages with the larger domestic economy. Because of the application of ISI, Mexico had
not developed an industry for the production of capital goods. Moreover, despite the
tangible development and industrialization of the country, the technological gap between
Mexico with the industrialized world was widening. As the study Tecnología e Industria

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  \item "Charter for the Economic Rights and Duties of Nations," which was supposed to provide the basis for the
  new international economic order (NIEO).
  \item \textit{Desarrollo Compartido} (Shared Development) aimed at increasing employment and improving income
distribution through public spending. The government resorted to foreign borrowing to finance major
development projects that, in the past, might have been undertaken by multinational corporations but that,
given the new ideological context, the government chose to finance. For a discussion of the political roots
of Shared Development, see Jeff Frieden, "Third World Indebted Industrialization," in \textit{International
  \item For a discussion of the negative impact of the Echeverría administration’s macroeconomic policies on
the structure of the Mexican economy, Cf.: Robert G.Newell and Luis Rubio F. \textit{Mexico’s Dilemma: The
\end{itemize}
\end{footnotesize}
en el Futuro de México indicates, "[t]he technological gap does not only refer to the incapacity to develop local technology but more importantly to the inability to select inside or outside the country, the most appropriate technology that could be adapted and thereafter developed." Mexico had reached that level of technological backwardness. In order to address the problem of technological dependency, President Echeverría established the "Law to Promote Mexican Investment and Regulate Foreign Investment" and founded the National Council of Science and Technology, CONACYT, with the aim of promoting scientific research and technological development in Mexico.

Prior to the Echeverría administration, except for a few academic scientists and industrial engineers, government officials and businessmen had little concern for issues of science and technology and their link to development. Since his administration, the Mexican government has implemented scattered scientific and technological policies. Through the sexenios of Presidents López Portillo (1976-82), de la Madrid (1982-88) and Salinas (1988-present), the government has proposed programs for the national development of science and technology and has dictated and revised laws on inventions and patents. But despite the growing number of research centers and the theoretical role of

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8.- IBAFIN, Tecnología e Industria en el Futuro de México. (México D.F.: Editorial Diana, 1989) p. 144. 9.- This law, known in Mexico as the Ley de Inversiones Extranjeras ("Ley para Promover la Inversión Mexicana y Regular la Inversión Extranjera"), signed in 1973, reinforced the existing legislation over foreign participation in Mexico. According to this new law, certain sectors were closed to foreign investors (such as oil, petrochemicals, communications); other sectors required a Mexican investment of 60% (such as in steel); and otherwise, all foreign investments were limited by the golden rule of 51%-49% --that is, 51% of the capital invested had to be Mexican in order to maintain a Mexican control of the company. The law also specified that the government had to approve any foreign investment before the company was established or the project initiated.
10.- Consejo Nacional de Ciencia y Tecnología, CONACYT. The objective of this council is to promote scientific and technological research through the financing of research and of fellowships for students as well as the granting of "shared risk" loans for business development of technology.
11.- The programs include the Programa Nacional de Ciencia y Tecnología 1978-82, and the Programa Nacional de Desarrollo Tecnológico y Científico 1984-88, as well as a set of laws and regulations such as the Ley para coordinar y promover el desarrollo científico y tecnológico (1985), the Decreto que establece estímulos fiscales para fomentar la investigación, el desarrollo y la comercialización de tecnología nacional (1987), and, under the Salinas administration, the new Reglamento de la Ley sobre el Control y Registro de la Transferencia de Tecnología y el Uso y Explotación de Patentes y Marcas (1990).
CONACYT, Mexico still lacks a government structure dedicated to the integral development of technology. Moreover, the participation of the private sector in research and development is almost nonexistent; the private sector provides less than 5% of the national funds allocated to science and technology. As a result, scientific and technological development is done by sectors, it lacks a coordinating structure, and the role of CONACYT is limited to financing dispersed research projects and fellowships for graduate studies in Mexico and abroad. In short, President Echeverría’s dream of rendering the country self-sufficient in terms of technology has not only failed, but there is still little infrastructure with which to pursue it.

The blame for the failure of the scientific and technological development programs could be laid on the limited financial support they received, and indeed, that is part of the explanation. Whereas in 1980 the United States and Brazil spent 2.5% and 0.8% respectively of their gross domestic product (GDP) in research and development (R&D), and in 1982, England, Japan and France spent 2.2%, 2.1% and 1.8% of their GDP in R&D respectively, Mexico allocated only 0.54% of its GDP to R&D in the heyday of economic prosperity. Likewise, Mexico lags behind other developing countries such as Brazil, Argentina and Korea in such indicators of the level of technological development as the number of engineers and scientists per capita, the number of local patents, and the

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12.- Tecnología e Industria en el Futuro de México, p. 13.
13.- Ibid, p. 146. The Mexican budget for science and technology represents less than 1% of the Gross Domestic Product. Ninety-five percent of the budget is provided by the public sector and only 5% by research centers, universities and industries. The percentage of the budget allocated to science and technology has decreased over the past ten years. According to IBAFIN’s study, the numbers have fallen from 0.6% in 1981 to 0.2% in 1987 (p. 145); but according to Julio Rubio Oca, Rector of the Universidad Autónoma de México, the percentage of the GDP dedicated to science and technology has declined from 0.4% in 1982 to 0.2% in 1991. In reality, the reduction of the budget is steeper, for in real terms the GDP of 1982 was larger than the GDP of 1991. Source: “Se redujo a 50% el gasto de Mexico en Ciencia y Tecnología: Rubio Oca,” Excélsior. (México D.F., 24 Julio de 1991, p. 5-A, 7-8 cols).
14.- Ibid, p. 145-6. In 1980, Mexico’s GDP was 4,470,077 million pesos or about 199,000 million dollars.
export of capital goods.\textsuperscript{15} Paradoxically enough, Mexico is at the vanguard of other developing countries when it comes to the development of major technological breakthroughs.\textsuperscript{16}

The root of Mexico's technological problems can be found in limited financial resources and in the failure of the government to implement policies. However, agreeing with Mexican officials and scholars, I believe that Mexico's technological backwardness is primarily caused by the adherence to an economic model that protected obsolete technologies and permitted growth and development without R&D. Under the aegis of the import-substitution model of industrialization, Mexico did not have an imperative to develop its own technology.\textsuperscript{17} Within closed borders, industrialists had no incentive to improve their production processes to protect or expand their markets. As an official at Alfa indicated, "At HYLSA, it was easier to go to SECOFI [the ministry of Commerce] and

\begin{itemize}
\item[\textsuperscript{15}.] During the 1970s, only 7\% of the authorized used of patents were local in Mexico whereas in Brazil the number was 12\% and in Argentina 35\%. Moreover, in 1984 Mexico had 23 researchers per 100,000 inhabitants whereas Argentina had 65 and the world in general had 85. Between 1970 and 1982, Mexico exported 1,711 million dollars in capital goods; whereas India exported $1,813 million, Argentina $1,969 million and Korea $5,760 million. (In this case, Brazil lagged behind Mexico since it only exported $58 million). Sources: \textit{Tecnología e Industria en el Futuro de México}, pp. 145-150. Also Cf.: Carl J. Dahlman and Francisco C. Sercovich, "Local Development and Export of Technology. The Comparative Advantage of Argentina, Brazil, India, The Republic of Korea and Mexico." (Washington, D.C.: The World Bank, 1984) Staff Working Papers, no. 667, in particular table 1 "Comparison of Cumulative Technological Exports" p. 8; table 4 "Analysis of Revealed Comparative Advantage of the Five Countries' Technological Exports," p. 30 and table 6 "Comparative indicators of Human Capital and Local R&D Resource Allocation," p. 39.
\item[\textsuperscript{16}.] In their comparative study of the local development and export of technology, Dahlman and Sercovich found that Mexico was the only country in their sample (which included Argentina, Brazil, India, Korea and Mexico) in which private firms had come up with a major technological breakthrough; and that Mexico and Brazil were the only two countries were state-run firms or research centers had produced a major technological breakthrough. In the case of Mexico these breakthroughs included: 1) a process using natural gas to produce iron; 2) a process to produce non-woven textiles; 3) a process to produce newsprint from sugar cane bagasse; 4) a process to demetalize heavy crude oil (developed by the Instituto Mexicano del Petróleo which belongs to PEMEX). In the Brazilian case, the breakthroughs included: 1) a shale oil process developed by Petroleos Brazilianos; 2) the Brazilian turboprop airplane. Source: Dahlman and Sercovich, p. 23.
\item[\textsuperscript{17}.] Brazil, like Mexico, followed an import-substitution model of industrialization, but Brazil's geopolitical aspirations and its strong military provided a push for the development of R&D in Brazil.
\end{itemize}
request an increase in steel price or in subsidies than to study ways to render our production process more efficient.”

However, with the opening of the economy and the need to be competitive by international standards, the option of ignoring productivity through technological innovation and R&D has disappeared. Under President Carlos Salinas de Gortari, Mexico is implementing a development model that is based on the idea of export-led growth. A key premise of the model is that in order to grow, the country has to widen its markets not only by increasing the purchasing power of the local population (as ISI attempted to do) but, more importantly, by expanding its markets abroad. This design contains the crucial requirement of international competitiveness not often met by overpriced and poor quality Mexican products. In their attempts to improve productivity and the competitiveness of Mexican products, the government and the private sector have learned the importance of technological development and of the intrinsic connection between science, technology and development. As in the Echeverría administration, there is a growing interest in technology; however this time government officials, academics and industrialists are focusing on applied technology rather than on theoretical innovations.

In the 1970s, the emphasis was on science; scientific discovery was presumed to lead to technological development. Though the process of learning would inevitably be slow technology would evolve according to the conditions and the needs of the country. In the 1990s, however, Mexico does not have the time to wait patiently for the discovery of its appropriate technology; scientists are left to theorize while industrialists and tecnólogos concentrate on technological innovation and implementation.

19. This view was expressed by scientists and industrialists in interviews conducted in the spring and summer of 1990.
20. A tecnólogo is an engineer who specializes in the development of applied technology inside the firm.
In this new environment, the term "technological innovation" has been revised to mean not only a technological breakthrough, as Schumpeter defines it, but also the technological improvement of a production process. At the plant level, the initial effort is directed at improving the production process, at taking advantage of the productive capacity of the plant given its preexisting technology and machinery. This understanding of technology goes in tandem with the implementation of quality programs. It is through this redefinition of technological innovation that the technological gap is being bridged. The outstanding technological breakthroughs are left to the scientists of the world, while firms try to reach a competitive level of technology in the potentially competitive sectors of the economy. As one técnico from Monterrey explained, "for the first time, we are all learning to read and understand scientific papers; we need to understand what we are talking about before we can select a technology, before we can properly apply it. But then, we have to apply it." 

In this unromantic view of technological innovation, the scientist or engineer is perceived as someone who could produce a patentable innovation by working on a tangible project for a couple of years rather than by waiting for divine inspiration. In the 1990s, the emphasis is on the practice before the theory, the reality before the dream.

This new conceptualization of technological innovation for development is not unique to Mexico. In their study Technology and the Pursuit of Economic Growth, David Mowery and Nathan Rosenberg describe the changing context of innovation in the United States. The current understanding of the relationship between economic development and the technological variable is that scientific research at the frontier is an insufficient condition for growth. The technology has to be applied within the firm, which can also be a source of innovation. In order to innovate and assimilate new technologies, there has to be a growing interdependence between the research group and the firm. Furthermore, the

experience of Japan has demonstrated that scientific supremacy is not as important as the country’s ability to assimilate technology. For Mowery and Rosenberg,

It is easy to exaggerate the extent to which national economic growth depends on a first-rate domestic scientific research capability.
...Exploiting this increased mobility of scientific and technological knowledge requires an environment within would-be recipient countries that includes strong commercialization capabilities. These include a considerable level of scientific and engineering expertise...as well as other skills that reside at the “downstream” end of the spectrum of activities that make up R&D.\(^{22}\)

For Mexico, becoming technologically proficient in the 1990s entails not only being able to develop local technology, but more importantly being able to select appropriate technology from abroad, implementing it and innovating it.

**II.- Technological development in Monterrey**

But for a few notable exceptions, the *Regiomontano* entrepreneurs did not behave differently from their Central Mexico counterparts when it came to technological innovation and research and development. In the early history of Monterrey’s industrialization, they imported machinery, technology, and in some cases skilled workers, from the United States and Europe.\(^{23}\) At times the industrialists selected the most modern technology available; but, in other instances they acquired machinery that was considered obsolete in the United States.\(^{24}\) During the second wave of industrialization they formed joint ventures with foreign partners, often multinational corporations, to acquire technology and equipment. As a rule, the technology was not adequate for the needs of the country and the

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\(^{23}\) Cf. Chapter 2: “Political and Economic History of Monterrey, Nuevo León” for an account of the early years of its industrialization. In the case of the brewery, for instance, the machinery and technology were imported from the United States. Skilled workers were brought from Germany for the glass factory.

\(^{24}\) As in the case of HYLSA, for more detail see part III of this chapter.
equipment was underutilized. But closed borders allowed them to overcome the limitations of the market, as producers could count on captive consumers and ensure high profits through price. The average Regiomontano entrepreneur did not have an incentive to behave differently from other Mexican businessmen. On the contrary, the Regiomontano industrialist took full advantage of the situation, creating monopolies or participating in oligopolies in a wide range of economic sectors. Aside from a few exceptions—among which the most noted are HYLSA’s patent for direct iron reduction for steel production and FAMA’s production of capital goods for the glass industry—the Monterrey industries have not been interested in technological innovation.

Reclaiming the title of the industrial vanguard of Mexico, the Monterrey entrepreneurs sought out technological innovation and development in the early 1980s, almost a decade before the rest of the country. At the time, the Regiomontano industrialists predicted Mexico’s eventual entrance to the GATT and anticipated the need to be competitive by international standards. Getting ahead of the game, they began to study means to overcome the technological deficiencies of their factories.

The success stories of HYLSA, VITRO, CEMEX and MASECA, and the impressive development of interactive television at the Tecnológico de Monterrey, may present an image of technological modernity. However, this level of technological sophistication is only achieved in a few specific industrial sectors and in an even smaller number of factories. The conclusions presented in the CAINTRA study “La tecnología en

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25. This argument was presented and developed in chapter 2. For an evaluation of the underutilization of Mexico’s industrial potential Cf. Stephen Haber, Industry and Underdevelopment: The Industrialization of Mexico 1890-1940. (Stanford: Stanford University Press, 1989).
26. Monterrey’s industries cover a wide range of products, from consumer goods such as beer, ham, crackers and cookies, to heavy industry goods such as steel, glass, cement and petrochemicals.
27. These two cases will be discussed at length in subsequent sections of this chapter.
28. CAINTRA: Cámara de la Industria de la Transformación de Nuevo Léon. (Chamber of Manufacturing Industry).
Monterrey" reflect the dim reality of great technological disparity among Monterrey’s industrial plants. But the CAINTRA report is a valuable document: it is the first study to assess the interest of firms in technology and the extent of their involvement in R&D, and as such it provides valuable data on Monterrey’s industry. Furthermore, the mere existence of the report reflects the growing concern of the industrial elite for technology, its study, its implementation and, in some cases, its development.

The report is based on a 1985 and a 1988-89 survey of big and medium-size firms that had an interest in research and development (R&D). According to the report, a firm is said to be “very interested” in R&D if it has a well-established department of research and technological development and if research is an integral part of the institutional culture of the firm. A firm has “interest” in R&D if it combines technological research with quality control programs. The findings point to a growing interest in research and development, especially among medium-size firms. The numbers rose from 27% of the medium-size firms and 41% of the large firms (over 250 employees) that were “interested” in research and technological development in 1985 to 45% and 57% respectively in 1989. The percentage of large firms “very interested” in R&D did not change; 29% of them remained “very interested” in technology and actually do have a research center. The percentage of medium-size firms “very interested” in R&D increased threefold, from 12% to 36%.

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29.- Enriqueta Medina y Federico Arreola. “La tecnología en Monterrey,” (Monterrey N.L.: CAINTRA, 1990). Mimeo. The study was conducted by the Nuevo León’s Chamber of Manufacturing Industry.
30.- Data taken from the report “La tecnología en Monterrey”, pp. 25-6, tables 2 and 3.

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<td>Very interested</td>
<td>29%</td>
<td>29%</td>
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<tr>
<td>Interested</td>
<td>41%</td>
<td>57%</td>
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<tr>
<td>Not interested</td>
<td>30%</td>
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Only 14% of the large firms refuse to invest in their own research and development. The heads of these firms argue that it is not worth investing in research and development when the latest technology can easily be acquired abroad and when the technological breakthrough is most likely to come from a multi-national corporation that has a huge research budget.

These percentages may provide the mistaken impression that medium-size firms are more likely to conduct R&D than large firms. The qualitative analysis shows that only 36% of the medium-size firms have a center of research and technological development, that the center is most likely to be between 5 and 9 years old, and that 75% of the time the center has only one full time researcher who does not have a post-graduate education.31

On the other hand, 86% of the large firms have a research center. In 42% of the cases, the center is over 10 years old. In large firms “very interested” in R&D, centers average over 50 researchers; in those “interested” in R&D centers average 8 researchers. Of all researchers employed by large firms, 35% hold masters degrees and 4% hold doctorates in science or engineering. Seventy-five percent of the large firms that are “very interested” in R&D have a research center and a laboratory, compared to 50% of the large firms merely “interested” in technology. All the large firms that are “very interested” in R&D have patented at least one technological innovation; whereas only 37% of the “interested” large

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<th>Medium-size firms</th>
<th>1985 Survey</th>
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<tr>
<td>Very interested</td>
<td>12%</td>
<td>36%</td>
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<tr>
<td>Interested</td>
<td>27%</td>
<td>45%</td>
</tr>
<tr>
<td>Not interested</td>
<td>61%</td>
<td>19%</td>
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firms have done so. None of the medium-size firms has thus far patented a technological innovation or product.  

The general findings of the report are not surprising. The largest firms have the capital required to invest in research and technological development. In most cases, these firms invest less than 1% of their total sales in R&D. The report shows a growing interest in technology not only in theoretical terms, but more importantly in practice. The major shortcoming of the report is that by translating the data into appealing percentages, it fails to remind the reader of the universe being studied. The report does not set the numbers in the context of Nuevo León or Monterrey's total of industrial units, leaving the reader with a rather optimistic view of technological development in Monterrey.

According to the economic census of 1986 for the state of Nuevo León, 82.1% of the “economic units” in the manufacturing sector are small enterprises of 20 or fewer persons, 15.5% are medium-size firms of 50 to 250 employees, and only 2.4% are large firms of over 250 employees.  

Taking these numbers into account, the CAINTRA report then shows that, even though there was an increasing interest in R&D and technological innovation through the 1980s, only a small percentage of all Monterrey firms have some strategy or program for technology development. In fact, if the data are correct, only 0.6% of all the industrial units of Nuevo León utilize R&D. 

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33.- Data taken from: Nuevo León Resultados Oportunos Estatales, Censos Economicos 1986. (Aguascalientes, Ags.: INEGI, 1986) p. 87. Gráfica 15. According to the same table, the small firms (82.1% of all firms) employ 11.8%, the medium size firms (15.5% of the total) employ 30.7%, and the large firms (2.4%) employ 53.7% of all those people working in the manufacturing sector in the state of Nuevo León.
34.- According to the 1985 economic census, there were 6,361 economic units in manufacturing in the Monterrey metropolitan area. Then, according to my extrapolation of the report, there would be about 38 centers of R&D in the Monterrey region. The number seems too large to match reality unless one takes a wide definition of technological research. Moreover, the data do not distinguish between economic units that are independent of one another and those that are related. Simply put, the data do not tell us how many of those research units belong to the same corporation. For instance, VITRO has more than one research center, if counted separately it could have as many as seven. In my view, there are fewer than ten research centers that do cutting-edge technological research. Data on number of economic units in industry taken
The number of research centers in Monterrey in quite small, but some of these centers have been able to produce technological breakthroughs in industrial sectors that have long life cycles, such as the glass, the steel or the cement industries. In my interviews with tecnólogos, scientists, and leaders of the business community of Monterrey, I found a consensus that, at least for the time being, they are not interested in exploring new high-technology industrial sectors, such as computers or electronics. Instead, they emphasize becoming more proficient at evaluating existing technologies, maintaining their leadership in those sectors in which they already excel, and developing their competitiveness in other industrial sectors that exist in the region. It is at this level that the Regiomontano understanding of technological innovation comes into play: in their view, the development of R&D will be important to the future of the region in the long-run, but in the short-run, the entrepreneurs have to acquire and implement existing technology. The industrialists are learning to control processes in the plants through quality control programs, and are introducing new technologies that render the production process more flexible, efficient and rapid.\(^{35}\) No study has yet been done to assess the level of flexible specialization in the plant. However, based on my research, I conclude that the directors and engineers of most medium-size and large plants of Monterrey are aware of the existence of technologies that could improve their processes. Increasingly, CAD/CAM and computerized machines are becoming an integral part of production. Flexible manufacturing cells are not unseen either. Often, these advanced technologies cover only a small part of the entire process of a plant; however, the trend is to up-date technology in order to optimize the productivity of the plant. In this way, the Regiomontano entrepreneurs are bridging the technological gap

\(^{35}\) For a detailed analysis of Monterrey’s programs to improve its competitiveness see Chapter 4: “Monterrey’s Alternative Strategy of Economic Growth in the 1980s.”
in an attempt to acquire the competitiveness they require to survive in an open, global economy.

Most entrepreneurs have adhered to traditional practices to acquire and/or develop their technology: they have bought their technology abroad; they have developed their own technologies; or, as in most cases, they have formed joint-ventures with foreign corporations. One entrepreneur, however, has come up with an innovative way--at least in the Mexican context--to acquire cutting-edge technology. This approach, devised by the President of Pulsar Internacional, Alfonso Romo, consists of financing researchers abroad who are developing cutting-edge technologies in fields less exploited in Mexico such as biotechnology. Currently Mr. Romo is studying the possibility of financing a laboratory in Switzerland. The basic idea is that he supplies the capital and the scientists provide their knowledge. If a patentable technology comes out of the project, Mr. Romo would own the patent and would implement it first in Mexico. This project is still under consideration, but for Mr. Romo this approach could become the best way to overcome the technological gap.

It is too early to evaluate this new strategy. Rather, in the remainder of this chapter, I will concentrate on two firms that followed a more traditional path. These firms, HYLSA and VITRO, are characterized by their long-term commitment to research and development and the successful implementation of their own technology. Although they represent exceptions in a world of vast technological backwardness, they are held as examples of what can be accomplished in Mexico by Mexican engineers.

III. The technological breakthroughs at HYLSA

Even in the large firms, research and development often does not permeate all the businesses of the holding. In the case of Grupo Industrial Alfa, Hojalata y Lámina S.A. (HYLSA) has historically been the one firm where Alfa has been at the technological cutting-edge by international standards. Other businesses of the holding have failed from
their lack of technological competitiveness;36 still others have maintained their competitiveness with imported technology,37 often through joint-ventures with transnational corporations.38 Hojalata y Lámina has been the only firm of the holding to grow and excel with its own technology.

The origins of HYLSA

The story of HYLSA goes back further than that of Grupo Industrial Alfa. Alfa emerged from the division of the original portfolio of Valores Industriales S.A. in 1974. VISA was divided among the heirs of Isaac Garza and Francisco G. Sada, the founders of the beer emporium and the Garza-Sada dynasty. The Garza Lagüeras kept VISA with the Cervecería Cuauhtémoc, while the Garza Sadas founded Alfa—with the steel plant HYLSA and the cardboard business TITAN as its operating companies. In 1974, HYLSA dominated Alfa’s portfolio, representing 87% of the assets and 88% of the operating income.39 The Garza Sada family was getting only two of the original firms, but HYLSA was a gem.

The history of HYLSA dates back to 1943. With the world at war, the United States had halted its exports of steel and strategic metals. The shortage of metal plate from abroad represented a serious problem for the Cervecería Cuauhtémoc; sheets of metal could not be acquired domestically or abroad, precluding the production of bottle caps for the brewery.

36.- Among the plants that Alfa closed in the midst of the debt crisis were Philco, Admiral and Magnavox, three firms that produced radios, televisions and stereos. Some of the production was done in joint-venture with the Dutch firm Phillips, but the rest had local technology. As managers at Alfa stressed, the only reason the companies survived in the first place was because the borders were closed, but once Mexicans were able to acquire Japanese and American products, they had no incentive to support such inferior products, especially since higher quality goods (such as Sony) could be acquired at a lower prices than the Mexican produced goods.

37.- Such is the case of most of Alfa’s competitive businesses, including the petrochemical firm PETROCEL, which currently represents the second most important business of the group.

38.- Some of the foreign partners include: AKZO (Netherlands), Dupont (USA), BASF (Germany), Ford (USA), HERCOFINA (USA), AMOCO (USA), TEKSID (Italy), Duro Felguera (Spain).

39.- Data obtained from confidential internal report of Grupo Industrial Alfa.
In order to overcome this hurdle, the owners of the brewery decided to establish a small steel plant while the war lasted.

With this goal in mind, Camilo G. Sada, a graduate of the Massachusetts Institute of Technology and a member of the Garza-Sada clan, acquired in the United States discarded equipment to build a temporary plant. All the machinery was old, and the technology was considered obsolete in the United States. But the Regiomontanos were not concerned by either fact. Under the instructions of Camilo G. Sada, brewery workers disassembled and reassembled three discarded machines to create one plant. On April 26, 1943, President Avila Camacho inaugurated the plant. Roberto Garza Sada became president of the company, and his cousin Camilo the manager.

The first few years of HYLSA's existence were trying. Several times the owners considered the possibility of closing the plant. But, once again, war would change the fate of HYLSA. Indeed, with the Korean Conflict (1951-3), HYLSA faced a shortage in the supply of thick sheet metal which it required for its production process. In order to overcome this new bottleneck, the Garza Sada family decided to adhere to their traditional strategy and integrate the process backwards.

During its initial integration phase, HYLSA needed an electric oven and scrap iron to produce steel sheets. Given the size of the domestic market and the level of development, Mexico did not produce enough scrap iron. Due to the Korean War, the American suppliers could export only low grade iron sheets which contained a high level of tramp elements. The raw material was of such low quality that HYLSA could not produce its steel sheets. The company had only one choice: to produce fresh iron.

The traditional process to extract iron from the ore required a high temperature furnace and coke. However, HYLSA was a small company which produced about 10 tons of steel per year, and the Monterrey region was not rich in coal. HYLSA could not afford the
traditional process, so its engineers, under the leadership of the current president of Alfa, Bernardo Garza Sada, studied the possibility of reducing ore without a high temperature furnace. In theory, this alternative process was feasible, but in practice it had only been tried at the laboratory level. The HYLSA team visited a few American scientists who had studied and developed the process at the laboratory level, and hired one of them, Mr. Madaras, to install a pilot plant in Monterrey.

The collaboration with the American scientist proved to be disastrous. The Regiomontano engineers were constantly in disagreement with Mr. Madaras over the design of the plant and the chemical equations. When the plant was built according to Mr. Madaras' design, the experiment failed. The owners of HYLSA discharged Mr. Madaras of his acquired responsibilities with the firm, and HYLSA's engineers turned to the task of developing their own technology.

HYLSA's technological breakthrough

In 1957, a team headed by the engineer Juan Celada developed and patented the first industrial process for the direct reduction of iron.\textsuperscript{40} In Voltairian terms, the process consists of mixing methane with water vapor to obtain two highly reducing gases, carbon monoxide and hydrogen. Iron oxide is then exposed to these two gases, producing iron and carbon dioxide and iron and water. The process is said to be a direct reduction because it does not require melted iron oxide.\textsuperscript{41} Iron is obtained in the form of “pellets” or small balls that have tiny holes left by the oxygen; hence the product is called \textit{fierro esponja}

\textsuperscript{41}.- The chemical equations of the process read as follows:

\begin{align*}
\text{CH}_4 + \text{H}_2\text{O} &\rightarrow \text{CO} + 3\text{H}_2 \\
\text{Then: } \text{Fe}_2\text{O} + \text{CO} &\rightarrow \text{Fe}_2 + \text{CO}_2 \\
\text{Fe}_2\text{O} + \text{H}_2 &\rightarrow \text{Fe}_2 + \text{H}_2\text{O}
\end{align*}

The reaction can be carried on with \text{Fe}_2\text{O} or \text{Fe}_3\text{O}, obtaining \text{Fe}_2 or \text{Fe}_3.
(sponge iron). The process of direct reduction does not consume coke as the traditional process does, but requires large quantities of natural gas and electricity.

With its process of direct reduction, which became known as Proceso HYL, HYLSA achieved international recognition. The process was not only at the cutting-edge by international standards, but also represented the quintessential example of technological development that is adapted to the requirements of a developing country. Proceso HYL was not based on coal which was unavailable in the region, but on natural gas which was extremely abundant and cheap, and on electricity, the price of which was subsidized by the government.

During the late 1960s and early 1970s, steel became a scarce product. Major steel producers of the industrialized world attempted without success to develop their own processes of direct reduction. Only Midland Ross succeeded in developing a process of direct reduction, known as Midriks, which was implemented by the German corporation Korf. Unlike HYL which was a batch process, Midriks permitted continuous production and was therefore more efficient than HYL. This competition pushed HYLSA to develop a thermally efficient process. The new process HYL3 reestablished HYLSA's technological leadership in the field of direct reduction of steel.

Originally, HYLSA developed its own technology with the view of overcoming an internal shortcoming of the company. However, with the scarcity of steel in the 1970s and the growing tensions between North and South, a market opened up for HYLSA's technology. In association with foreign firms, HYLSA sold its technology first to the Mexican government and then to Brazil, Venezuela, Indonesia, Iran and Iraq. The

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42.- U.S. Steel, Ananco Steel and Nippon Steel failed in their development of a direct reduction process. The German company Pissen developed a process known as Purofer, but it eventually failed.

43.- The first plant was sold to the Mexican government which implemented it in TAMSA (Tubos y Aceros de México). Then, a plant was sold to Usina Siderurgica da Bahia (USIBA) of Brazil, the plant opened in Salvador, Bahia in 1973. Subsequently, three plants were sold to Iran, four to Iraq, one to
foreign firm built the plant, but HYLSA provided the technology, the engineering design of the plant, the know-how, the training, and initial and post-operational assistance to the client. In this first set of contracts, HYLSA equipped the plants with the original process, HYL, which had been renamed HYL1 after the development of HYL3.

The economic crisis of the 1980s caught HYLSA at a turning point, for its researchers had just developed the process HYL3 at the pilot level. HYLSA was unable to implement the process at the plant level until 1989, when the company installed it at the state-owned steel plant SICARTSA. The new process proved to be more efficient and productive than expected. Soon thereafter, HYLSA signed contracts with India, Indonesia and Malaysia. In Malaysia, HYLSA is to take over a failed project of Nippon Steel and turn it into a productive plant.

For the researchers of HYLSA, the transfer of their own technology is a source of great pride and encouragement. This sense of achievement has been reinforced recently by recognition from the American Iron and Steel Institute, which has invited HYLSA to participate in the development of a more efficient and less polluting steel process based on coal but using pre-reduced iron ore. HYLSA’s role in this project consists of developing the most efficient process to reduce iron.

HYLSA in the 1980s and 1990s

Currently, HYLSA is at the international cutting-edge of applied technology for the process of direct reduction of iron. However, the direct reduction of iron is only the initial aspect of the longer process of steel production. When evaluated as a whole, HYLSA falls behind many of its competitors. Indeed, some of the factors that rendered HYLSA competitive by international standards have changed in relative terms over time. First,
since the de la Madrid administration (1982-88), the government has drastically reduced the subsidies on energy, bringing the price of natural gas to international levels and the price of electricity above the international average. Hence, a process that was originally extremely cheap has become expensive. Moreover, after the reduction of iron, the steel production of HYLSA follows a rather conventional path. In these subsequent processes, the plant is old and inefficient, some of the equipment dating back to its acquisition in the 1930s. The machines are frequently redesigned and modified to be more productive: for example, the machine that produces the sheets of steel was originally designed to produce 20,000 tons per month; currently the same machine is producing 100,000 tons per month. However, the firm does not have the capital required to update its machinery and its technology in other areas of the production process. When compared to other Mexican plants, HYLSA maintains its competitiveness in the production of steel sheets. But, when compared to the giants of Japan or the mini-mills of the United States, HYLSA is an insignificant competitor.

In this period of trade liberalization, HYLSA has no illusions of finding a market for its final product. The main interest of the firm is to maintain its share of the domestic market. The planners at HYLSA are aware of the potential dangers that their firm faces in a open economy: with a small percentage of its production, Nippon Steel could eliminate HYLSA from the market. Fortunately for HYLSA, the cost of transportation of steel is high, precluding the competitive import of steel into Mexico.

The realization that despite its technological superiority HYLSA’s future could be threatened has pushed HYLSA’s managers to propose to the Federal government the creation of a national policy for the steel industry. A proposal drafted by HYLSA’s planners and reviewed by officials at the Ministry of Industry and Commerce (SECOFI) is currently under consideration. If adopted, this policy will be the first such policy adopted
in Mexico and would represent a breakthrough in government-private sector collaboration in the field of policy design and implementation. The interest of HYLSA in policy formation is reinforced by the firm’s interest in acquiring some of the state-owned plants that are currently being privatized. A good national policy for the steel industry would buy time for HYLSA to improve its competitiveness and protect its markets. HYLSA’s collaboration with the Federal government in the drafting of a national policy for steel is a departure from the critical yet unconstructive tactics of the past. Since the 1980s and in particular during the presidency of Carlos Salinas, the Monterrey elite and the Federal government have collaborated in the drafting of national policies. At times the elite has taken the initiative and suggested a certain policy, such as the proposal for a national steel policy; at other times, the Federal government has asked the elite for suggestions and proposals, as in the case of the privatization of the agricultural sector.44

The story of HYLSA is representative of the stories of other Mexican firms that have attained a high level of technological sophistication in some areas but have remained at a backward stage in others. The lack of homogeneity in the modernization process of the firm has, in the end, deeply affected the firm, weakening it in the face of international competition. However, this conclusion is derived from the perspective of an open economy; from the perspective of an import-substitution model of industrialization, the developments of HYLSA were a great success and an example that appropriate technologies could be developed domestically and that the firm did not need to be dependent on multi-national corporations to obtain its technology. The premises have changed but this fact does not undermine the achievements of HYLSA.

44 - Interview with Mariano Montero, director of CAINTRA, June 24, 1990. Also, interview with Ing. Manuel Gutierrez, Planeación Estratégica de HYLSA, July 11, 1990 (the National policy for steel), and Ing. Alfonso Romo, April 19, 1990 (the privatization of the agricultural sector).
IV.- VITRO: "Conquer the world before it eats you up."

One holding has distinguished itself from all other Mexican holdings by its overall high level of technological sophistication. This holding is VITRO S.A., which is perhaps the world's most integrated glass-producing corporation. VITRO produces everything from capital goods for the glass industry to industrial glass for the construction and the automobile industries to glassware for industrial and domestic consumption. The owners of the holding, the Sada family, have traditionally emphasized the importance of acquiring and developing cutting-edge technology for their corporation. VITRO allocates at least 1% of its sales to research and development; its factories are equipped with the most modern machinery and its workforce is highly qualified. During the 1980s, VITRO overcame its debt crisis and established itself as the leading private business in Mexico as well as one of the few Mexican transnational corporations. VITRO is the best example of regional development at work. Moreover, the study of the evolution of VITRO underscores the importance of politics—especially of internal politics of the firm—in creating this successful venture.

VITRO's origins:

VITRO dates back to the first wave of industrialization of the Monterrey region as part of the brewery, Cervecería Cuauhtémoc. The first attempt of the Garza-Sada family to found a glass factory to supply the beer business failed in 1904, when the low grade of the prime materials and the high cost of imported labor rendered the operation unprofitable. But the search for a more efficient process continued. In 1909, Vidriera Monterrey began to operate under the direction of Roberto G. Sada. The glass factory was equipped with the latest technology, as the owners of the brewery had established a partnership with two financiers from Chihuahua who owned the right to import into Mexico the automated glass
producing machine patented by Owens. Through the acquisition of the Owens machine, the Garza Sada family overcame the lack of skilled workers and bridged the development gap with the earlier industrializers. Moreover, they established a monopoly in the production of automated glass which gave the brewery a comparative advantage in the beer market and turned Vidriera Monterrey into a highly successful venture.

Vidriera Monterrey continued to grow as part of the brewery. In order to maintain the technological advantage of their plant, the Garza Sada family updated the factory with the latest technology--Lynch equipment--in 1927. Political events transformed Vidriera into an independent business in 1936, when President Lázaro Cárdenas intervened in a labor strike at the glass factory. As a result of the Federal government’s intervention in what they perceived as their internal affairs, the Garza Sada family decided to divide the highly integrated beer complex into two independent businesses: Valores Industriales S.A. (VISA) and Fomento de Industria y Comercio S.A. (FIC). Cervecería Cuauhtémoc was the backbone of VISA and Vidriera Monterrey of FIC. The division went a step further by granting the control of each holding to two distinct families. VISA fell under the leadership of the direct descendents of Isaac Garza and Consuelo Sada, the Garza Sada family; whereas FIC was controlled by the descendents of Franscisco G. Sada and Mercedes García, the Sada García family. Members of each family maintained minority interests in each others’ firms, but at least to the outside world these were two separate entities. Like the brewery, FIC followed a strategy of vertical integration. The new organization included Vidriera Monterrey, Vidriera Mexico and Vidrio Plano, a plate glass manufacturing plant with Belgian technology that began to operate in 1936.

As it had with HYLSA, World War II brought new concerns of technological self-sufficiency to FIC. In 1944, the Sada family opened the doors of its Fábrica de Máquinas

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45. For a more detailed account of the beginnings of the glass factory Cf. Chapter 2.
S.A. (FAMA), a capital goods factory for the glass industry. After the war, FIC continued to expand and diversify, opening glass factories not only in other regions of Mexico but also abroad. By 1980 FIC had become one of Mexico's most respected holdings. The firm exported capital goods and finished products and was one of the two Mexican transnational corporations at the time. The new image of the holding demanded a new name. In 1980, under the direction of Adrián Sada, FIC became VITRO.

VITRO's commitment to technological competitiveness

The ability of VITRO to overcome the debt crisis rapidly and continue to grow and expand throughout the 1980s, is a direct result of the firm's concern for and dedication to the achievement of technological competitiveness. Of the six industrial businesses that constitute VITRO today, four are run mostly with VITRO's technology and the two others have acquired cutting-edge technology through associations with foreign corporations which bring in the technology while VITRO provides the capital and the labor force. VITRO's technological superiority rests on its moral and financial commitment to technological innovation and research and development.

Each one of the six businesses of VITRO operates independently and has its own research and development center, which is in charge of innovating the technology to render the process more efficient and competitive. In most instances, the center also creates the next generation of the produced good. Each business allocates 1% of its sales to research and development. In addition to these research centers, VITRO has a larger research center.

46. These four businesses include:
-VITRO ENVASES: produces glass and plastic containers as well as Samsonite suitcases.
-VITRO CRISTALERIA: produces crystal ware (glasses, ashtrays, etc.)
-VITRO INDUSTRIAS BASICAS: houses VITROTEC and FAMA (capital goods).
-VITRO FIBRAS Y SILICATOS: produces the prime materials for glass production.

47. These two businesses include:
-VITRO VIDRIO PLANO: which first opened in 1936 with Belgian technology but now has a confidential contract with a British firm.
-VITRO ENSERES DOMESTICOS: which produces glass cookware (such as Pyrex, plates, etc) and refrigerators, stoves and washing machines in association with Whirlpool.
center, VITROTEC. The role of VITROTEC is to produce technological innovation in areas in which VITRO has a competitive advantage by international standards, and to administer technologies, i.e., VITROTEC has to keep track of those existing technologies that have not been exploited but could be applied at VITRO. VITROTEC receives 1% of all the sales of VITRO as front-end money. VITROTEC is staffed with senior tecnólogos, most of whom hold doctoral degrees in chemical or mechanical engineering. Unlike most firms, VITRO has been able to maintain a minimum level of technological competitiveness in all its businesses. This homogeneity is due in part to VITRO’s interest in technology, but is derived mostly from the existing interdependence between VITRO Industrias Básicas and the other five businesses of VITRO.

Even though VITRO’s interest in technology can be traced back to 1909, this systematic attempt to develop its own technology and to maintain a certain level of interdependence between the different businesses through VITRO Industrias Básicas dates back to the early 1970s and to the foresight of a small group of managers and engineers.

The 1970s were a period of restructuring for the businesses of the Garza-Sada clan. The assassination of Don Eugenio Garza Sada in 1973 led to the division of the group into VISA and Alfa. At FIC (now VITRO), the death of its president in 1972 brought a younger and more dynamic leadership to the group. The new president of FIC, Adrián Sada Treviño, appointed his cousin Rogelio Sada Zambrano director of the holding48 and restructured the internal organization of FIC, dividing it into independent businesses. Perhaps, in retrospect, the most important decision of Adrián Sada at the time was to appoint Dr. Francisco J. “Pachis” Garza director of Industrias Básicas. Adrián Sada had first met Mr. Garza in 1968, when he hired the U.S.-trained Ph. D. engineer. Mr. Sada

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48.- Rogelio Sada Zambrano is the son of Andrés G. Sada who was then president of CYDSA, the last holding of the Garza-Sada clan, and the brother of the current president of CYDSA and ideologue of the Monterrey elite, Andrés G. Sada Zambrano. Rogelio Sada ran for governor of Nuevo León on the PAN ticket in 1991.
had been impressed by the innovative ideas of “Pachis” and was eager to put them into practice. The timing was wrong however, as the firm was undergoing a slow transition of power. Mr. Garza considered resigning from his frustrating job, but stayed after he was offered the challenging position of director of the division Industrias Básicas and the direction of FAMA in 1972. With his new job, “Pachis” in fact received a laboratory to implement his own model of development.

Mr. Garza’s development model was based on his conception of how the economy should work. He designed this model and the strategy to follow based on his knowledge of Japanese firms, his belief in the value of technological innovation, and his commitment to economic nationalism, which he thought was compatible with capitalism. The basic idea behind his model was that in order to grow, all levels of the economy should be interrelated and cooperate with one another. In practice, it meant a complete restructuring of FAMA and the creation of VITROTEC.

The transformation of Fábrica de Máquinas S.A. (FAMA)

When Francisco “Pachis” Garza arrived at FAMA, the factory produced a wide variety of capital goods for the domestic industry. FAMA was not competitive and did not stand a chance to compete in the international market. But Mr. Garza sold his concept of development to President Echeverría and obtained six government loans (FONEI) to modernize the plant. His strategy consisted of reducing the number of capital goods produced to two or three goods that required high technology and creating a venture with the American firm Westinghouse to acquire electronics. Through this venture (and other ventures formed later), FAMA acquired the technology it had been lacking and a channel to sell its production abroad. Hence, “Pachis” developed a model of center and peripheries which kept FAMA, the center, linked to several companies throughout the world.

49.- Interview with Dr. Francisco J. Garza, Director de Industrias Básicas, July 25-6, 1990.
Pachis’ strategy contained a second component which consisted of a complete reorganization of the plant. FAMA acquired the latest technology, obtaining flexible machinery at a relatively early stage. The new technology required an avant-garde system of industrial relations: FAMA retrained its labor force and established a new system of remuneration which promoted workers’ productivity, and created a network of subcontractors for the plant. The new system of labor relations solved several problems at once: instead of the traditional system of remuneration which promoted workers once an opening was available, Mr. Garza’s system consisted of eliminating lower level categories and creating new categories which required higher qualifications. In order to reach those positions, workers—who had by then become technicians—would pass theoretical and practical exams. The system of promotion became meritocratic. FAMA raised its salaries, reducing its turnover and precluding its best workers from emigrating to Texas factories. Through this vast restructuring, Mr. Garza concluded that it was inefficient to produce every single component of the product at FAMA. Every division of the factory had its internal set of shops which produced small parts, molds and screws; Mr. Garza eliminated most of these shops. Initially supported by FAMA’s credits, some of the workers whose jobs had been eliminated opened their own independent shops, while others found jobs elsewhere at FAMA or in some other firm.

By the late 1970s, Pachis’ dream had become a reality. FAMA was praised by businessmen, government officials and even the World Bank. Currently, FAMA is one of the most modern and technologically sophisticated plants in Latin America. Equipped with cutting edge technology (several flexible manufacturing systems, centers of CAD/CAM, satellite linkage to design centers of clients in the United States and Europe),

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50. When FAMA applied for its third FONEI loan, the World Bank which was a co-sponsor of the loan opposed it on the grounds that there were more important priorities in an underdeveloped country like Mexico than to establish a capital goods plant for the glass industry. But, after visiting FAMA, the World Bank approved the loan.
this plant seems to belong more in Japan than in Mexico. The plant may be the only one in Monterrey that is completely covered and run with air purifiers and air conditioning. The working conditions are outstanding. FAMA workers are highly qualified, and FAMA has created its own network of subcontractors who produce quality parts. FAMA specializes in machines for the glass industry and has been able to sell its products to several countries, including leading Western nations such as Germany.

Pachis impishly tells the story of how he first sold FAMA’s equipment to the Germans. FAMA had decided to try the European market and Mr. Garza went on a tour to promote FAMA’s equipment. In Germany, he received a dinner invitation from the president of a glass producing firm who wanted to “meet the Mexican who was audacious enough to try to sell Germans Mexican-made equipment.” The dinner ended in a business contract.

Through the years, FAMA has sold its equipment to clients throughout the world.51 Even before service to the client became the important part of business that it is today, FAMA provided training, maintenance and repair service to its clients. FAMA operates service centers in London, Hamburg, Tokyo, Prague, Singapore, Sydney, Montevideo, and several cities of the United States.

FAMA has been considered an island of technological sophistication and success in Mexico. According to a specialist of manufacturing at the Tecnológico de Monterrey, the only other functioning plant in Mexico that is as technologically advanced as FAMA is CONIG, a Caterpillar sub-contractor.52 Mr. Garza is eager to point out that there is no reason why FAMA should be an exception in Mexico. The fact that FAMA has been able

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51.- Some of FAMA’s clients include plants in Canada, USA, Switzerland, Belgium, Great Britain, Czechoslovakia, Germany, France, Japan, Australia, New Zealand, Egypt, Malaysia, the Philippines, Singapore, Thailand, Argentina, Chile, Uruguay, Brazil, Peru, Ecuador, Venezuela, Colombia, Costa Rica, Panama, Dominican Republic, Guatemala and Nicaragua.
52.- Interview with Dr. García Gardea, Director del Centro de Manufactura, CETEC, ITESM, May 1990.
to grow and compete is, according to Pachis, a proof that capital goods industries can succeed in Mexico.

The creation of VITROTEC

Mr. Garza’s interest in technology touched other businesses of VITRO, first through FAMA—which supplied the equipment for some of VITRO’s plants—and then through VITROTEC. The creation of VITROTEC was, however, a team effort. It is difficult to specify where the idea came from, for three people take credit for VITROTEC’s creation. There seems to have been a coincidence of interests between Rogelio Sada Zambrano, Francisco J. Garza and Enrique Canales. As director of FIC, Mr. Sada provided the financial and institutional support for the creation of VITROTEC. Mr. Garza housed VITROTEC within his division Industrias Básicas, and Mr. Canales became the director of the research center. Mr. Canales shared with Mr. Garza creativity and a profound interest in technological innovation. Interestingly enough, aside from their interest in technological innovation, both Mr. Canales and Mr. Sada are artists. The connection between art and technology may seem irrelevant, but as these Regiomontanos explain, technological innovation is like art: there is no divine inspiration—both art and technology are the outcomes of hard work and dedication. In Mr. Canales’s words:

Art, like technology, is competitive. I have noticed that with the economic opening, people are paying attention to the administration of technological development. It is a difficult task for the administrator given the myth that technological development is derived from inspiration and creativity. That is a joke. The process is rational, creativity is designed, not inspired.

There is a debate within VITRO about whether VITROTEC has benefitted all businesses alike or has given preferential treatment to a couple of them. Some managers

53.- Mr. Canales is a painter and sculptor and Mr. Sada is a painter and a playwright and director, although Mr. Sada began painting after he left VITRO.
54.- Interview with Enrique Canales, former head of VITROTEC, March 14, 1990.
even argue that VITROTEC has not provided a single practical contribution to VITRO, and that the research center is run by scientists who develop projects that have no application in the plant. This last position is rapidly dismissed by evidence that VITROTEC has produced technological innovations that have improved both the process of production and the final product. However, from an outsider’s perspective, it seems that VITROTEC has mostly enhanced the technological position of two businesses: FAMA and VITROENVASES. The intimate connection between these three units is not surprising. FAMA produces the glass-producing machines with which VITROENVASES is equipped to mass produce its glassware; VITROTEC develops technologies to render the process more efficient, linking FAMA and VITROENVASES; and VITROTEC improves the design of the glassware that is being produced. The interrelation between FAMA, VITROENVASES and VITROTEC explains in part the success of VITROENVASES.

**VITRO as a transnational corporation**

Since its origins, VITROENVASES\(^{55}\) has been the backbone of VITRO.\(^{56}\) Even prior to FAMA’s takeoff, VITROENVASES was succeeding abroad. As early as 1936, Vidriera Monterrey exported glassware to Central America, and in 1960, FIC and Vidriera Monterrey entered a joint venture with five Central American countries to establish a glass-producing plant in Central America. The first plant, Industria CentroAmericana del Vidrio, was opened in Guatemala after the partners overcame the hurdle presented by the conflict between Honduras and El Salvador. Currently, the venture has two glass-producing plants,\(^{57}\) a cap producing plant (CATASA), a lab vials producing plant (EMOPLAS) and a

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\(^{55}\) VITROENVASES is the name of the large division that houses Vidriera Monterrey, the original business of the VITRO holding. Aside from six glass-producing factories located in different parts of the country, VITROENVASES produces plasticware and Samsonite luggage. In the discussion that follows, I will concentrate on glassware production, the primary aspect of VITROENVASES.

\(^{56}\) That is to say, before Vidriera Monterrey became part of VITROENVASES and FIC became VITRO.

\(^{57}\) The original five countries included Guatemala, El Salvador, Nicaragua, Honduras and Costa Rica. After the 1960s conflict, El Salvador and Honduras dropped out, and after the Sandinista Revolution,
business that provides prime materials (Silices de Centro America). VITRO kept 49% of the stock of this Central American venture.

The incursion into Central America was the first experience of VITROENVASES as a transnational corporation. In the early 1970s, VITRO opened a plant in Rio de Janeiro, Brazil. According to Enrique Canales, who was in charge of opening the plant in Brazil, VITRO follows a strategy of “soft imperialism.” This strategy contains four premises: 1) VITRO keeps only 46% of the stock, so that the Brazilian partner is the main stockholder; 2) VITRO provides the technology, equipment and starts the production, while the Brazilian associate is in charge of the administration of the business, sales and of finding new partners; 3) management has to be native; and 4) after three years, no Mexican should be working at the plant. The strategy was a success as the goals were met and the Brazilians partners were pleased with VITRO’s “soft imperialism.”

Through the 1980s, VITROENVASES had no opportunities to form joint ventures abroad; potential partners were not investing and VITRO was trying to overcome its own debt. But in 1989, through a hostile takeover, VITRO acquired the second leading glass producing company of the United States, Anchor Glass Container Corporation.58

The role of politics in the transformation of the firm

With the acquisition of Anchor Glass, VITRO entered a new stage of its history. The epoch of Pachis is now gone. The process of transition began in 1985 when Rogelio Sada Zambrano, the director of the holding, had to resign his job. Mr. Sada had been involved in political protests backing the electoral victory of the P.A.N. candidate for governor, Fernando Canales Clariond. The de la Madrid administration pressured VITRO to prevent its employees from participating in politics and the president of the holding, Adrian Sada,

Nicaragua left the venture, leaving only Guatemala and Costa Rica. The two plants are located in Guatemala and in Costa Rica.

58. The acquisition of Anchor Glass is discussed in more detail in Chapter 4.
took advantage of the situation and requested his cousin’s resignation. An internal political battle followed as the top level positions were redefined. Managers were polarized between the supporters of Francisco J. Garza for General Director and those of Ernesto Martens. The board of the corporation elected Ernesto Martens.

The animosity persisted after Mr. Martens’ designation. Slowly, Mr. Martens eroded the locus of Mr. Garza’s power. The final blow came with the acquisition of Anchor Glass. Using the takeover of Anchor Glass as an excuse, Mr. Martens reshuffled certain divisions within the holding. FAMA became an independent unit under the direction of Carlos Segovia, who was also director of foreign investments and of Envases Vidrio y Tecnología, the main sub-division of VITROENVASES. Mr. Segovia’s first priority was to turn FAMA into a supplier for Anchor Glass. He decided that the quality of FAMA’s production could not be ensured if the plant subcontracted some of its production to small shops of the Monterrey region, and he began eliminating the 150 microentrepreneurs that supplied FAMA. Whereas under Pachis 40% of the production was supplied by outside shops, by 1990 it had fallen to 12%. Moreover, Mr. Segovia believes that the VITROTEC is useless, and that most of the research done at the research center is never applied. Mr. Garza vigorously disagrees with Mr. Segovia’s view and points to the many technological achievements of VITROTEC. But Mr. Garza no longer has a voice in VITRO. Through 1990 he was increasingly isolated, and he left the firm by the end of the year.

In attempting to grant the benefit of the doubt to his opponents, Mr. Garza tried to explain how his strategy was incompatible with VITRO’s new role in a global economy and with Mexico’s economic opening. In his view, VITRO is turning away from technological innovation for capital goods and moving towards technological innovation for consumer goods. The new emphasis is reinforced by the lack of interest of the Salinas administration in developing Mexico’s production of capital goods. In the short-run, this
change may not be detrimental for Mexico and VITRO, but in the long-run its is. As Mr. Garza stressed, “it takes 25 years to build a capital goods industry, it takes only 4 years to destroy it.”

The VITRO of the 1980s was a reflection of “Pachis” model of economic growth in a microcosm. The holding successfully integrated technological development, efficiency, flexible production and the sub-contractors. The firm was becoming an oasis of “regional development” as it is understood, for example, in Italy. But the transformation of VITRO in the early 1990s not only demonstrates that micropolitics can transform an economic model, but more importantly the velocity with which objectives, perceptions and models can be transformed. The new face of VITRO is not yet defined; it is constantly being reshaped by internal and external politics and by micro and global economics. Given the acquisition of Anchor Glass and the current emphasis on entering the American market, the new strategy of VITRO is the most logical one. However, a question raised by Pachis remains crucial not only for VITRO but for the country as a whole: in what area does Mexico want to excel? To become one of the world’s top producers of glass is a positive desire of VITRO, but to attempt to do so while undermining the basis of its current success would only jeopardize the ability of VITRO to achieve its objective.

Conclusion

In terms of technological development, Mexico is still a backward country. Most of the modern technology has been acquired through associations with multi-national corporations, which have often provided inadequate technologies, and at times have wiped out indigenous technological developments, such as the pharmaceutical industry. Until recently, local entrepreneurs had lacked an incentive to invest in technological development, but with the opening of the economy, research and development have become essential in

59. - Interview with Francisco J. Garza, July 25-6, 1990.
the industrialists' attempt to achieve and maintain a competitive edge. In theory, most firms are interested in technological innovation, but few are actually investing in research and development. The current approach is to learn what is available abroad and apply existing technologies. This trend has been facilitated by the intellectual decoupling of scientific inquiry and technological innovation.

Only a small percentage of all Mexican firms have a history of technological sophistication; some of the most technologically sophisticated firms are located in the Monterrey region. The disparities in terms of technological development are as present in Monterrey as in the rest of the country, but by necessity or by interest, some of the leading entrepreneurs of Monterrey have been concerned with the implementation of advanced technology and the development of indigenous technologies. The most serious attempts have resulted in the development of technologies that are at the cutting-edge. This is the case of HYLSA, VITRO, CEMEX and MASECA, which have been able to produce their own technologies and compete abroad. However, the few exceptions do not guarantee that Monterrey will be ready to compete in an open economy. Actually, Monterrey's level of technological development could, in the long-run, seriously threaten the successful implementation of a strategy of development based on flexible specialization.
Chapter 6: Transforming the informal sector.

The Monterrey region is one of the most developed and thriving areas of Mexico.\(^1\) However, despite its prosperity, the region has not overcome certain characteristics of Third World economies. As in the rest of Mexico, economic growth has been accompanied by great inequality. The Monterrey industrial elite provides well-paid employment for a segment of the population, but a vast percentage of urban poor remains at the margin of Monterrey’s society, unable to enter the formal economy. The attempts of the Mexican government to address the issue of income redistribution under the import-substitution model of industrialization failed. The economic crisis of the 1980s only exacerbated the disparities between the rich and the poor, as the standards of living of wage-earners fell and unemployment and underemployment became rampant.

To the government and the private sector, the growing and highly visible informal sector is at once an enigma, an inspiration, a relief and a nuisance. These conflicting views are derived from the realization that the informal sector provides a buffer against potential social outbursts at times of austerity and that it contributes significantly to the gross domestic product,\(^2\) but that it also represents unfair competition to the formal economy and an important source of tax evasion. Since 1979, the Monterrey industrial elite has devised a strategy to incorporate the informal sector into the formal economy. Through credit and training, the Northern elite promotes the transformation of the microentrepreneur into a

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1. For an assessment of Nuevo León’s economic and social development in comparative perspective, Cf.: Nuevo León: Cuaderno de Información para la Planeación (Aguascalientes, Ags.: INEGI, 1988). The study supports its claims with data from the 1986 economic census and other follow up measurements conducted by the National Statistics Institute (INEGI).

2. The data on the contribution of the informal sector to the GDP are varied and unreliable. An estimate from the Inter-American Development Bank puts it at 17%, the director of ADMIC puts it at 40%. Given the nature of the informal economy the exact percentage is hard to estimate, but there is a consensus that the informal sector does contribute significantly to the gross domestic product. Interview with Benito Cabello Zul, Director of ADMIC, March 16, 1990.
sub-contractor for the large firm or into an independent producer. Originally, this program was conceived as an attempt to share some of the benefits of the oil boom with the poorer members of society who had the initiative but not the financial means to become productive. But as the economic crisis called into question the existing model of development, the creation of sub-contractors became an integral part of the Monterrey strategy of economic growth.

In this chapter, I will analyze the attempts of the Monterrey industrial elite to turn the informal sector into a source of sub-contractors. First, I will address the issue of inequality under ISI; then I will describe the program of the Monterrey elite to help integrate the urban poor into the formal economy. In the last part of the chapter I will assess the social, political and economic impact of this element of the Monterrey strategy.

I.- A major shortcoming of the “Mexican miracle”: economic growth with income inequality

During the period of the “Mexican economic miracle” (1940-80), the Mexican economy grew at average rates of 6 to 8 percent. But the fruits of economic prosperity were not equally distributed among the population. The 1977 Household Survey of Income and Expenditure found that 36% of the Mexican families lived below the poverty line; 83% of the poor lived in rural areas, and 50% of the urban poor lived in the largest cities--Mexico.

<table>
<thead>
<tr>
<th>Period</th>
<th>Average GDP growth in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940-1950</td>
<td>6.0</td>
</tr>
<tr>
<td>1961-1970</td>
<td>7.0</td>
</tr>
<tr>
<td>1971-1980</td>
<td>6.4</td>
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<tr>
<td>1978</td>
<td>8.0</td>
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<tr>
<td>1979</td>
<td>9.2</td>
</tr>
<tr>
<td>1980</td>
<td>8.3</td>
</tr>
</tbody>
</table>

City, Guadalajara and Monterrey. More important, however, was the fact that a negative redistribution of income had occurred during the period of economic growth, worsening the relative position of the poorest. As Aspe and Beristain assert in their study on “The Evolution of Income Distribution Policies during the Post-Revolutionary Period in Mexico”:

A slight redistribution of income has occurred, adversely affecting some higher-income brackets but also to the detriment of low-income families and individuals and to the benefit of the upper-middle-income groups. For many observers and analysts, the redistribution has not only been slight; it has occurred, at least partly, at the expense of the poorest. In other words, it is asserted that if economic development is defined as a sustained process of increased per capita income (which has been achieved), accompanied by a redistribution of the national product towards the groups with lower relative incomes (which is yet to be achieved), then the country has grown but not developed.

Since the Cárdenas administration (1934-40), improving the standard of living of the population has been a central goal of the Mexican government; since the López Mateos administration (1958-64), diminishing income inequality has also been a major objective of the regime. However, during the period of Desarrollo Estabilizador (1958-70), sustained economic growth without inflation was a priority over the redistribution goal, so that the model of development produced efficiency without equality. Through this period, the problem of inequality was accentuated by the decline of the rural sector as a source of employment, the increase in rural out-migration, and the rate of growth of the population.

By the late 1960s, Mexico had become unable to create enough jobs to absorb the “surplus

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4.- Survey as quoted by Aspe and Sigmund in “Introduction,” The Political Economy of Income Distribution in Mexico, p. 4.

5.- Although the government began to keep statistics on income inequality in 1950, the magnitude of the problem did not become politically potent until the 1960 publication of Ifigenia Navarrete’s study on income distribution in Mexico. Cf.: Ifigenia Martínez de Navarrete, La Distribución del Ingreso en México y el Desarrollo Económico de México (México D.F.: Instituto de Investigaciones Económicas, Escuela Nacional de Economía, 1960). In a later study, the author showed the increasing worsening of income distribution, see: “La Distribución del Ingreso en México” in El Perfil de México en 1980, Leopoldo Solís, ed. (México D.F.: Siglo XXI, 1970).

rural population." At the economic level, unbalanced growth resulted in the small size of the domestic market, the lack of integration between the agricultural and the industrial sectors, the inefficiency of industrial production, and the chronic worsening of the balance of payments. At the political level, the Mexican political system was likewise reaching its limits, as became apparent with the political crisis of 1968.

Coming to power under the cloud of the evident decline of legitimacy of the regime—which had failed to meet the revolutionary goals of producing socially just economic development and establishing a democratic regime—President Luis Echeverría (1970-76) attempted to address the political and economic crises through the implementation of his policies of Apertura Política y Desarrollo Compartido (Political Opening and Shared Development). Departing from policies of former administrations, President Echeverría turned redistribution into the main priority of his administration. In his inaugural speech, the President presented the basic tenets of his economic policy and summarized his views in the following terms:

There is no inevitable dilemma between economic growth and income redistribution. Those who assert that we must first grow in order to distribute are either wrong or lie by interest. It is true that employment and productivity have to be increased with greater speed than to date. In order to do so, it is essential to share income with equity and extend the internal consumer market. It is also required that human effort be more fruitful. In order to do so, it is equally necessary to distribute: distribute well-being, education and know-how.

7.- By the late 1960s, the Mexican rate of population growth was adding around 400,000 new entrants to the labor market every year, but the economy was only providing about 300,000 new jobs. Source: Roberto G. Newell and Luis Rubio F., Mexico's Dilemma: The Political Origins of Economic Crisis. (Boulder CO.: Westview Press, 1984), p. 151, footnote 16. The authors cite Leopoldo Solfú, La Realidad Económica Mexicana, (México D.F.: Siglo XXI, 1970) and Clark Reynolds, The Mexican Economy, (New Haven, CT.: Yale University press, 1970) to support their analysis.

8.- For an elaboration of the argument of the decline of the legitimacy of the Mexican regime see Newell and Rubio, Mexico's Dilemma.

The Echeverría administration implemented the policy through massive government expenditures in agricultural, industrial and social projects financed through foreign borrowing. By the end of the administration, the Mexican economy was in shambles. The government was running a huge deficit, the private sector was halting investment and capital flight became a serious problem as confidence in the administration declined. At the political level, the rhetoric of the President created an antagonistic gap between rich and poor, and fear of a possible coup d'Etat dominated the last months of the administration. More importantly, the goal of improving income inequality in Mexico was not achieved. The patterns of income distribution in Mexico in 1977 were very similar to those of 1950.¹⁰

The oil boom of the late 1970s provided a glimpse of hope that the conditions of the vast majority of the population could be improved. For a short period of time, urban families in particular saw their standards of living rise. But the dream was short-lived as many middle-class families rapidly became impoverished as a result of the economic crisis of the 1980s. Through the decade, the rich became richer and the poor, poorer.¹¹

Income inequality remains a serious economic and political problem in Mexico. The decade of negative growth eliminated opportunities for the Federal government to alleviate inequality. Urban centers became plagued with street vendors and young people willing to perform menial tasks for a few pesos. Migration to the United States escalated, attracting not only young rural male workers but increasingly more educated lower middle-class families. As the ranks of the unemployed and underemployed swelled, some members of

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¹⁰.- Aspe and Beristain, p. 16.
¹¹.- During the de la Madrid administration (1982-88), real wages fell 60%, dropping to the 1962 level, and prices went up 4,200%. Moreover, through the boom of the Mexican stock exchange, 114 families accumulated 34% of GDP. Source: Rosa Albina Garavito Elías, "Así les fue a los trabajadores" in México en la Década de los Ochenta: La modernización en cifras. R. Garavito y Augusto Bolívar, coord. (México D.F.: UAM- Azcapotzalco, 1990), Cap. VIII, p. 254.
the private sector developed a campaign encouraging self-employment, "empléate tu mismo." Since the regime's model of economic growth had failed to meet the demands of an important segment of the population, the private sector offered a neo-liberal solution based on the idea that through initiative and self-employment, the individual could overcome poverty. Four years later, the Salinas administration has attempted to undermine the political side of the problem by establishing the Programa Nacional de Solidaridad (PRONASOL), a program aimed at improving the living standards of the poorest communities. Solidaridad provides the funds to purchase the material required to build a school, pave a road, or bring electricity to a community; the community provides the labor force. The program has marginally improved a small number of select communities, but it is basically a pork barrel program aimed at recuperating votes for the PRI. Eight decades after the Revolution, inequality, one of the leading causes of the conflict, remains unsolved.

Inequality in Monterrey

The Monterrey metropolitan area is one of the most productive and wealthiest regions of Mexico. However, despite the level of industrialization and prosperity of the region, one-fourth of its population lives below the poverty line. In the Monterrey region, the most affluent municipality of the country (Garza García) coexists with the slums of Santa

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12.- The campaign "Empléate tu mismo" was developed by the Consejo Nacional de la Publicidad, a private sector group. The campaign consisted of television and radio spots inviting unemployed people to employ themselves by becoming entrepreneurs. The campaign was geared towards women and young unemployed men of the poor and lower middle-class, and consisted of suggesting that one could solve one's economic problems by becoming a seamstress, a baker, a carpenter at home.


14.- Vellinga, Menno. Industrialización, burguesía y clase obrera en México. (México D.F.: Siglo XXI, 1981), p. 107. Although the data provided by Vellinga are for 1969 and no data are available for 1990, the percentage is not likely to have improved during the decade of the economic crisis.
Catarina, the Fomerreyes ¹⁵ and the shanty-towns of “San Luisito” (Colonia Independencia).

The statistical data show that although the state of Nuevo León has a standard of living superior to the national average and that the Monterrey metropolitan area surpasses by far the rest of the state, poverty is still a dominant characteristic of the region.¹⁶ Data on the seven municipalities that constitute the Monterrey region reflect the disparities that exist among neighborhoods. For instance, Garza García (also known as Colonia del Valle) has the largest percentage (24.87%) of the economically active population that receives an income lower than the minimum wage in the region, but it also has the lowest percentage of housing without water (1.94%), drainage (16.49%) or electricity (3.52%). On the other hand, San Nicolás de los Garza has the lowest percentage of economically active population that receives an income inferior to the minimum wage (9.90), but has larger percentages of housing without water (2.88%), drainage (19.19%) or electricity (8.14%). The municipalities of Apodaca, General Escobedo and Santa Catarina have the highest percentage of housing without water, electricity or drainage, and an average percentage (around 14%) of economically active population that receives an income lower than the minimum wage.¹⁷

The discrepancies between the standard of living indicators within a given municipality have a simple explanation tied to the primary function of the municipality. For instance, Garza García is the home of the Monterrey elite—the neighborhood is covered with mansions, shopping malls, private schools and exclusive social clubs. The high percentage

¹⁵.- A Fomerrey is a community of lower income housing built by the state.
¹⁶.- The data for the 1980 census show that 17.62% of Nuevo León’s economically active population received an income inferior to the minimum wage, and that 9.71% of the economically active population did not receive an income; the national average is 25.34% and 17.69%, respectively. Source: “Nuevo León: Indicadores del Nivel de Vida de la Población, por Municipio, 1980”, in Nuevo León: Cuaderno de Información para la Planeación. (Aguascalientes, Ags.: INEGI, 1988), Cuadro 2.11, 1era parte, p. 78.
¹⁷.- All the data in this section are taken from the table cited supra op.
of the economically active population that receives an income below the minimum wage is a reflection of the high concentration of people employed as domestic servants. On the other hand, San Nicolás is the oldest industrial suburb of Monterrey. Most of its inhabitants are employed in the holdings of the Monterrey group and housed in company housing, explaining that the overall standard of living is superior to other municipalities. The statistics for Apodaca, General Escobedo and Santa Catarina reflect the existence of ciudades perdidas within these industrial municipalities. The data for the oldest municipality of the region, Monterrey, reflects the industrial and commercial nature of the city in terms of income and underemployment, and the longevity of the city in terms of the housing standards.¹⁸

The data used above are from 1980, the height of the oil boom. Even then, the Monterrey region showed a clear tendency to contain two universes: a developed, prosperous world and an underdeveloped, marginal one. The existence of these two worlds was one of the outcomes of a model of economic growth that accentuated the duality of labor. The workers that were hired by the Monterrey industrial elite earned an income superior to the minimum wage and enjoyed many benefits, including housing, schooling and health care. But a growing number of the population, especially the least educated and the women, were left out of the benefits of economic growth.

In 1979, David Garza Lagüera, a member of the Monterrey elite, decided to implement a development program aimed at the “marginal” poor, members of the informal sector who had an entrepreneurial spirit but lacked the economic or administrative means to create their own businesses. In its origins, the program was the outcome of a sense of social responsibility on behalf of a descendant of the founders of the Monterrey group.

¹⁸.- The data for Monterrey are: 13.65% of the economically active population receives less than the minimum salary; 4.01% of the housing does not have water, 17.02% does not have drainage and 2.40% does not have electricity.
However, during the 1980s, the program became a integral part of the Monterrey strategy of economic growth, as it became apparent that the informal sector was a fertile source of sub-contractors for the region’s industries.

II.- ADMIC: a development program for microentrepreneurs.\textsuperscript{19}

According to Mr. Garza Laguirea, the founding of ADMIC (Asesoría Dinámica para la Microempresa) was accidental. On a trip to New York City, this son of Don Eugenio Garza Sada met the chairman of the board of Accion International, a non-profit organization based in Massachusetts, the goal of which is to foster the economic development of the poor in developing countries. After a long conversation with John Duncan, the chairman of the board of Accion International, Mr. Garza Laguirea decided to open a program affiliated with Accion International in Monterrey. He received funding from some of the leading Monterrey holdings and opened the program in 1979. At the time, the economy was booming and unemployment was not a problem. However, the industrialists felt a sense of commitment toward the poor, especially toward the “microentrepreneur,” the person with the entrepreneurial spirit but without the financial means to grow.

ADMIC is not--and was not intended to be--a charity organization. Its basic aim is to help the country develop entrepreneurs from within the ranks of the poorest segments of the population, to promote the freedom to be an entrepreneur, and to encourage the economic self-sufficiency of the individual. The philosophy of the organization is based on the belief that individuals have the right to free enterprise, and that business is the means to improve both the individual and society. The mission of ADMIC is to enhance the integral development of the person, to create employment and income among the least favored, and

\textsuperscript{19}. This section is based on an interview with Mr. David Garza Laguirea, president of ADMIC, and multiple interviews with Mr. Benicio Cabello Zul, director of ADMIC, as well as on interviews with several microentrepreneurs, my observations of the interaction between the ADMIC and the microentrepreneurs, and my visits to small shops.
to achieve economic freedom. In order to do so, the organization seeks entrepreneurs with
growth potential and provides them with credit and training to help them achieve their
objectives.

In practice, ADMIC is a ground-breaking organization that has seriously undermined
myths about the informal sector and the urban poor. ADMIC was the first organization to
grant loans to a segment of the population that had traditionally been thought of as
unworthy of credit. But, unlike other existing programs that provide loans to micro and
small entrepreneurs, ADMIC combines loans with training. When a microentrepreneur
approaches ADMIC, the organization evaluates his/her project, provides him/her with a
loan to start-up or up-date the business, and gives him/her training in basic accounting,
marketing and human resource management. If the microentrepreneur is unwilling to
participate in ADMIC courses, s/he is not accepted in the program. A central element of the
strategy is to render the individual responsible; hence ADMIC does not believe in aid. The
loans carry a low interest rate, and after three months of participation in the program the
microentrepreneur is expected to contribute to the costs of running ADMIC. In the view of
the founders of ADMIC, the lack of charity not only forces the entrepreneur to be
responsible, but bolsters her/his self-confidence as s/he becomes self-sufficient. Through
support, instead of aid, ADMIC attempts to form a new generation of entrepreneurs.

As Benito Cabello, director of ADMIC, explains:

Here, the moment we accept a microentrepreneur in our program, we teach him that he has to live in a system of free
competition and in which the only way to survive is through competition; because we believe that in the microentrepreneur we
have the entrepreneur of tomorrow. Thus, the way we form him today will determine the way he will behave tomorrow. He has to
learn to live in reality, in an economy that is not fictitious, that does not have subsidies but where the only way to make it is through
competition and within the rules of the game.20

20.- Interview with Benito Cabello, Monterrey, March 16th, 1990.
Initially, ADMIC was financed by the major holdings of the Monterrey region. However, it soon became apparent that the program needed additional funding. In the early 1980s the Inter-American Development Bank granted the program a credit line of $300,000 in pesos with a symbolic interest rate.\textsuperscript{21} Through the 1980s the program raised funds among other industrialists in different parts of the country, opening programs in seven states. By 1990, ADMIC had obtained funds from the Inter-American Foundation and the World Bank. Moreover, a decade of success has opened new opportunities of credit through local commercial banks such as BANORTE and the Banca del Oriente, and the negotiation of a 25 billion pesos credit line from Banco Nacional de México (BANAMEX). Currently, ADMIC has two lines of credit, one of which is derived from loans from the Inter-American Development Bank and a second from the Mexican commercial and development bank. The latter represents 60% of the source of credits.

The success of the program is not only reflected in the increased funding that it has received within Mexico and from international organizations. More important perhaps is the fact that over the past five years the program has grown at a rapid pace, providing support to a greater number of microentrepreneurs. Between 1982 and 1988, ADMIC lent 4 billion pesos to the microentrepreneurs; in 1989 alone, the program provided 9 billion pesos (about $3.5 million).\textsuperscript{22}

The average length of participation in the program is seven years. The initial year is one of learning in which the microentrepreneur does not grow much; the program has to bring down psychological barriers of the entrepreneur, who is often not eager to hear new ways to improve his production process or the organization of his business. By the second year, the entrepreneur grows rapidly and takes greater advantage of the support and courses

\textsuperscript{21} - Interview with David Garza Lagüera, Monterrey, July 12th, 1990.
\textsuperscript{22} - Data provided by Benito Cabello. The 4 billion pesos cannot be translated into dollars as the exchange rate varied from 27 pesos to a dollar to 2,500 pesos to a dollar.
that ADMIC offers. Then comes a stage of slower but steady growth during which the microentrepreneur becomes increasingly independent, until he graduates from the program, i.e., when he becomes a small entrepreneur and a member of the formal economy. A comparative study conducted by Acción International indicates that Mexican entrepreneurs tend to graduate more often than their counterparts in other Latin American nations (no explanation is provided for this discrepancy). Even in Mexico, the rate of graduation from the program varies according to the type of activity and the shape of the economy; yet, ADMIC has demonstrated that with a small credit of $375, a member of the informal sector can grow. More importantly, 92% of the loans are paid on time, reflecting the trustworthiness of the entrepreneurs.

Originally conceived as a program to help the poor during the period of rapid economic growth, ADMIC became an important institution to help members of the informal sector weather the economic crisis and a tool of the industrial elite to implement an element of their new strategy of economic growth. By looking at the diversity and relative success of the microentrepreneurs as I do below, one can see how ADMIC moved from economic escalator to industrial tool.

III - From sub-contractors to survivors: the diversity of the microentrepreneurs

The microentrepreneurs are self-employed individuals who run small family businesses with fewer than eight workers. The pool of potential microentrepreneurs is quite large, for it includes members of the formal and informal sector, housewives,

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24. Thus far I have been using the term that ADMIC chooses to refer to individuals who are self-employed. The government-sponsored counterpart of ADMIC, FOMICRO calls them microindustriales. FOMICRO: Fondo de garantía y fomento a la micro industria de Nuevo León was created by governor Jorge Treviño in 1986, after his failed attempt to take over ADMIC. FOMICRO is similar to ADMIC in that it provides loans to people who cannot get credit in commercial banks; but FOMICRO does not provide the extensive training that ADMIC does. The extent of FOMICRO training is limited to seminars held every other week.
25. The term “informal sector” has several definitions and implications. In reference to the developing world, the work of Hernando de Soto comes often to mind. However, in this chapter the term is not used to
retired workers and workers soon to be laid-off. The microentrepreneurs produce a wide range of products, from clothes, furniture and food to molds, dies and lathes. ADMIC only admits those individuals who express a strong desire to be independent entrepreneurs, to grow and to integrate themselves into the economic chain.

Even among the microentrepreneurs there are sharp differences in wealth, education, and possibilities of development. Aside from personal characteristics, there are economic factors that affect the rate of success of a given entrepreneur. However, despite the discrepancies within a given group and the changing market for a given trade, three groups of microentrepreneurs can be distinguished: 1) the sub-contractors for the large firms; 2) independent producers of consumer goods; and 3) the “enslaved” maquiladors. The impact of a program such as ADMIC in incorporating the poor into the economy can best be evaluated through the analysis of each one of these groups.

Microentrepreneurs as subcontractors for the large firms

The microentrepreneur who has become a subcontractor for a large Monterrey firm is usually an educated man who has at least completed high-school and a few semesters of engineering school, and has formerly been employed at one of the local factories, such as FAMA or METALSA. He usually left his employment because he had an urge to be independent and to found his own shop. He produces molds, lathes or dies and sometimes provides maintenance services for the factory. In most cases, he comes to ADMIC because he needs a loan to buy more equipment and requires assistance to organize production and keep his books. In his shop, he employs three or four people, usually family members, sometimes a factory friend or an apprentice.

*imply illegality as in de Soto's study. Here, I am referring to a segment of law abiding citizens whose productive activity is not directly linked to the economic chain or recorded in formal procedures. I am not talking of the drug-dealer or the criminal, but of the man who sells his services in the street, the street vendor, and especially the owner of a small family shop who does not keep books and does not have a formal administrative organization. Hernando de Soto, The Other Path: the Invisible Revolution in the Third World. (New York: Harper & Row Publisher, 1989).*
The shop of this type of entrepreneur is quite astonishing. In a back room or in a closed garage he keeps several precision machines, most of them acquired with the loans he obtained through ADMIC. He has a telephone and sometimes a FAX machine so that he can be in close contact with his contractors. He and his team are all skilled workers with extensive formal and practical education. His objective is to continue to grow and maintain a diverse network of sub-contractors not only from the Monterrey region, but also from neighboring states. The full-time sub-contractor represents 20% of the microentrepreneurs that are affiliated with ADMIC, and 60% of the microentrepreneurs sub-contract their work on a more irregular basis.

Through the late 1980s, these microentrepreneurs did extremely well, as the leading industrialists were willing to support their development. Indeed, this source of qualified sub-contractors emerged just as the elite’s strategy of economic growth was requiring more efficiency, flexibility and the elimination of certain tasks that could more efficiently be sub-contracted. A symbiotic relationship developed between the large firms and the sub-contractors, characterized by mutual trust. But, by 1990, the situation began to change, at least for some sub-contractors.

Three independent events have had a negative effect on the sub-contractors. First, the demand for certain types of production (for instance, molds) declined as the structure of the economy changed. Then, the Salinas administration attempted to force all producers into the formal economy by demanding receipts for every transaction, hurting some sub-contractors who could not afford to meet all the requirements of the government to become a formal shop (this point will be developed in the next section). Finally, FAMA sharply reduced the percentage of production that was subcontracted. As discussed in Chapter 5, this change in FAMA was the result of internal politics; however, the managers of FAMA avoided an honest talk with their sub-contractors and chose instead to delay payments,
creating serious financial troubles in some of these shops. But, despite these difficulties, the role of the sub-contractors is more likely to multiply in the Monterrey economy, especially now that factories are having higher turnover and greater difficulties in hiring highly skilled labor, and that efficiency has become a crucial requirement for competitiveness. On the other hand, in order to maintain their source of income, the sub-contractors will need to follow the contractor’s quality standards. Hence, ADMIC has established courses on quality production to help microentrepreneurs meet industry standards.

**Microentrepreneurs as direct producers:**

This type of microentrepreneur usually produces finished goods such as clothes, shoes or furniture. Women, although still in the minority, are active participants at this level of microentrepreneurship. The direct producer has a basic formal education and little work experience in large firms. He values independence and, as one shoe-maker asserted, “prefers to be head of mouse than lion’s tail.”

26 He tends to have a medium-size shop with ten or twelve employees. The business is often registered with the Secretaría de Hacienda y Crédito Público (Finance Ministry), and pays taxes and social security for its employees.

27 In some rare cases the employees are affiliated with an independent union. In most cases, he hires young people (often relatives) with no work experience and trains them.

ADMIC has helped this group of entrepreneurs by providing loans to buy equipment or raw materials, and to allow the business to expand. ADMIC has also offered them extensive training in accounting, business administration and marketing. Many of these producers have problems selling their products and increasing their profits. ADMIC has

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26 - Martín Pérez Rodríguez, Monterrey (Colonia Independencia), May, 6th, 1990.
27 - To be registered at Hacienda is similar to having an IRS tax number.
helped them to establish a cooperative that buys raw materials in bulk so that the microentrepreneurs can save on the cost of the product, and has established biannual fairs to promote the products of the microentrepreneurs. In some cases, ADMIC has linked microentrepreneurs to commercial houses that might be interested in purchasing their production.

This group of entrepreneurs is very sensitive to the fluctuations of the market. Some of them are being eliminated by the flow of cheaper American goods into the domestic market. Such is the case of the producers of furniture who complain that their handmade wood furniture cannot compete with the plywood machine-made furniture of the United States.

Even though most microentrepreneurs are registered with Hacienda, they are likely to go back into the informal sector as they cannot afford to meet the new regulations of the government. The regulations require the microentrepreneur to register his business not only with the Ministry of Finance (SHCP, Hacienda) but also with the ministries of ecology (SEDUE) and health (SSA). Each of these ministries imposes a series of requirements that are often too expensive for the microentrepreneur. For instance, one requirement is that the shops have to run on industrial light, requiring special wiring and tripling the cost of electricity consumption. The microentrepreneurs argue that the measure is a tactic by the government to extract more income from them, but has no logical basis as they do not need industrial light to produce their goods. These microentrepreneurs also agree with the sub-contractors that the new tax law is threatening their existence and forcing them back into the informal sector. The new tax law requires that each transaction take place between individuals and firms that are registered at Hacienda, and that transactions must be kept on record by both parties. This law is hurting many entrepreneurs who are almost ready to become formal members of the economy, but cannot yet afford formality. A recent study shows that the cost of running a registered small-business could be as high
as 70% of annual revenues.28 The law is thus destroying many years of work with ADMIC. Moreover, the tax law and all the requirements to be registered at Hacienda are extremely time consuming. According to the Regiomontano economist and journalist Federico Arreola, microentrepreneurs spend 30% of their time doing paper work for the government.29

The Salinas administration’s rules and regulations for the microentrepreneurs had a negative impact on ADMIC as entrepreneurs were unable to graduate from the program or even to pay their loans on time. The timing of this crisis was crucial; it occurred just as ADMIC was negotiating a line of credit with BANAMEX, the leading national bank, then directed by the former president of the Inter-American Development Bank, Antonio Ortiz Mena. During the loan negotiations, the president and the director of ADMIC met with the Secretario de Hacienda, Pedro Aspe Armella, who became interested in the program. ADMIC officials indicated to the Minister of Finance that his policies were undermining their program. Thereafter, Mr. Aspe and ADMIC officials negotiated amendments to the laws in order to reduce the negative impact on the microentrepreneurs. The concessions of the Ministry of Finance are a clear signal that the administration approves of this type of development program. At some level, it fits well within the conceptions of the Programa Nacional de Solidaridad. Whereas in the past the accepted view was that the state had to play a developmental role, now the new understanding is that macroeconomic growth will be achieved through microeconomic progress; development will occur from the bottom-up through free enterprise.

28 - The study was conducted by the United Nations Regional Program for Employment in Latin America and the Caribbean and quoted by Nathaniel C. Nash in “Latin Informal Economy Saves Day” in The New York Times, 3-21-92, 1D, cols. 3-5. The U.N. study also found that, in Mexico, only 27% of small, informal sector producers had not at least once tried to register their businesses.
29 - Federico Arreola, editorial, El Norte, 6 de Junio de 1990, 3-A. The U.N. study quoted above also indicated that in Mexico there were 21 “red tape” administrative procedures to register a business with the government.
Microentrepreneurs as "enslaved" maquiladoras

This final group is constituted of the poorest microentrepreneurs, most often women, who are struggling to survive. These entrepreneurs run small bakeries or catering businesses or assemble clothes for large firms (maquila work). The working and living conditions of these entrepreneurs are harsh. They are under stress to meet the payments on their loans; they are often falling behind.

If in the case of the sub-contractors and of the direct producers it is easy to see the benefits that the microentrepreneur extracts from participating in ADMIC; it is more difficult to do so with this last category. Indeed, in my interviews with bakers, tortilleras and maquiladoras, it seemed that ADMIC had offered them only false hopes and added strains to their already burdened lives. One woman had invested all her capital in a tortilla business that was being wiped out by the industrial producers of tortillas. Another woman was running a small "sweat-shop," working an average of sixteen hours for a contractor of maquila clothes. In my view, ADMIC failed these two women for the same reason: the program did not conduct a good evaluation of the potential success of these two ventures. Moreover, it allowed these individuals to indebted themselves beyond their growing capacity, forcing them to face bankruptcy on a daily basis. For these women, the way to avert bankruptcy is to work day and night, locked in small rooms with one or two employees. The case of the maquila sweat-shop is quite common among the members of this category. These producers are exploited by their contractors who pay them by volume and discount the value of underutilized materials.

The staff of ADMIC maintains that these individuals are microentrepreneurs. From my point of view, they are not; they are exploited workers who work at home, receive a minimal income and no social benefits. It is at this level that the program underscores some of the implicit assumptions and implications behind this type of labor market.
Assumptions behind the reorganization of the informal sector and its implications:

As in most Third World countries, the increasing growth of the informal sector is a serious economic and political concern in Mexico. Through the decade of negative growth, an important intellectual change took place in terms of the government's understanding of its role in economic development. The deeply held belief of the 1970s that only the state could alleviate income inequality was replaced by a view that the dominant role of the state in the economy was, in reality, a primary cause of economic disarray. Privatization became the new approach to development, coupled with a strong adherence to neo-classical economics. In this neo-liberal view of the world, poverty would be relieved through the entrepreneurship of the each individual. This philosophical view is not only the political belief of the technocratic ruling class, but perhaps more importantly, the only view consistent with the stringent economic policies called for by the economic crisis.

Within this context, ADMIC has become a highly regarded program by the private sector and the government alike. Over the past three years, the program has grown rapidly, opening offices throughout the country, and even taking over government-run programs in some states.\textsuperscript{30} The fear of the director of ADMIC is that the program might lose its impact as it is "massified."\textsuperscript{31} Currently, the program has improved the standard of living of an important number of families. However, in the larger scheme of things, ADMIC has only touched a small percentage of the number of people that comprise the informal sector.\textsuperscript{32} To

\textsuperscript{30}.- Such is the case of Tamaulipas where the government has asked ADMIC to take over its program for micro-industrialists. Interview with Benito Cabello, May 29, 1990.
\textsuperscript{31}.- ADMIC has been growing rapidly in the 1990s, opening offices throughout the country. The Salinas administration has strongly encouraged the development of the program, supporting it financially. In some cases, state government programs have been turned to ADMIC. ADMIC is at a crucial transition point, and the program runs the risk of becoming a political tool of the government. ADMIC officials are aware of the potential risks the program faces as it is spread throughout the country.
\textsuperscript{32}.- In 1990, ADMIC was working with 500 microentrepreneurs in Nuevo León.
believe that a program such as ADMIC alone can resolve the problem of inequality and poverty in Mexico is unrealistic.

Aside from the economic impact of ADMIC and similar programs, the current tendency to encourage the integration of the poorest members of society into the formal economy through self-employment or by becoming sub-contractors for industry has important political and social implications. Indeed, the success of ADMIC is taking place under the increasing transformation of the structure of labor. This structural transformation is an outcome of the economic crisis of the 1980s, which exacerbated the tendency of the economy to produce an oversupply of potential workers. More importantly, it is a consequence of the departure from mass production toward more flexible forms of production.

The “flexibilization” of labor has undermined the corporatist structure of labor, a result that, given the politicization of labor and the corruption of labor leaders, might not be negative per se. However, this restructuring has reinforced the increasing decline of power of organized labor. As production becomes more flexible, unionized workers can be replaced by machines or by sub-contractors. The negotiating power of the labor force (unskilled as well as skilled) is drastically reduced to the disadvantage of the employee.

In theory, production through flexible specialization could be a solution for development in Mexico as it has been in Emilia-Romagna (Italy). However, in practice, at least during the transition period, the new form of production is hurting labor politically, economically and socially. It is too early to conclude that the current tendencies inevitably imply that the model is doomed to failure. However, it is becoming increasingly apparent that the new strategy of economic growth is a double-edged sword for organized labor and for those who are attempting to integrate themselves into the economic chain. A
reevaluation of the *Ley Federal del Trabajo* is necessary to set law and labor structure in tune, in order to protect at least the basic rights of workers.

For the time being, the informal sector provides a valuable “cushion” against social upheaval at a time of economic austerity and industrial restructuring. Yet, the challenge remains of incorporating the informal sector into the economy, reducing tax evasion and reestablishing a stable labor structure.
Chapter 7: Conclusion: Implications of a North American Free Trade Agreement.

Recapitulating the Argument:

For most of this century, Mexico has been ruled by a regime whose fundamental assumption comprised the "Revolutionary Creed" and a theory of economic development by import-substitution industrialization. In this context, the relationship between the Federal government and the Monterrey industrial elite was permeated, even at times of cooperation, by mutual disdain and suspicion. Since the mid-1980s, however, the relationship between the northern elite and the Federal government has been changing, increasingly becoming an alliance to transform the political, social and economic structures of the country. This alliance is qualitatively different from the cooperation of the past, as the Mexican regime is being modified profoundly by the technocrats in power.

Indeed, since its ascendency to power in 1988, the Salinas administration has been redefining the entire map of power relations and ideological foundations of the Mexican regime. Increasingly, the official belief system of the Mexican regime resembles the long-term ideology and vision of the Monterrey elite. The current rapprochement between the Monterrey elite and the Mexican regime could be explained in terms of an ideological convergence of the regime and the northern elite. However, this ideological convergence is only part of the explanation. As I have argued in this dissertation, the current rapprochement is also the result of the success of the Monterrey elite in overcoming the economic crisis of the 1980s through the successful implementation of an alternative strategy of economic growth.

The Monterrey strategy of economic growth consists of a twofold approach: the short-term strategy entails a favorable reduction of debt and the restructuring of the firm through the elimination of unproductive businesses; the long-term strategy involves a transformation of the process of production through the implementation of programs aimed
at increasing productivity and competitiveness of the firm, and at reorienting production to satisfy the demands of the market rather than the designs of the firm. This long-term strategy is based on a vision of how the economy should work, and is introduced at the microeconomic level through a reorganization of industrial relations—requiring a multi-skilled labor force dedicated to quality and service, a more flexible production process, and a network of subcontractors. Whereas under a closed economy technological innovation was not a requirement for success, under the new strategy technological innovation is instrumental in allowing firms to become competitive by international standards. Hence, some firms have created in-house research and development centers and others have contracted for research with universities in Mexico and in the United States. The long-term success of this alternative strategy of economic growth requires a transformation of the industrial culture of the region, emphasizing competitiveness, productivity, and service to the client. The strategy is primarily introduced at the firm level; however, its macro-economic success requires the spread of the strategy throughout the region, as under this strategy the interdependence of the different layers of the economy is accentuated.

The Monterrey strategy of economic growth is still in the making, adapting to the changing economic environment. As described in Chapter 4, the short-term strategy worked well for most holdings, as innovative mechanisms for debt restructuring were set in place by the Mexican government and by the international banking community. However, the results of the long-term strategy are mixed. Some holdings such as VITRO and METALSA have been able to implement all the components of the new strategy and have thrived, but most of the firms are still struggling to reorient production and to reconvert their plants into more flexible units. As argued in Chapter 5, despite the existence of cutting-edge technology in a small number of holdings (such as HYLSA and VITRO), the level of technological innovation of the region is still quite low. It will take large
investments and several years for some firms to catch up to the level currently required to be competitive by international standards. The most successful firms are the ones that have been most willing to sub-contract parts of their production to microentrepreneurs, those members of the informal sector who run small family shops. The informal sector provides a valuable pool of potential subcontractors for industry but, as discussed in Chapter 6, not all microentrepreneurs are linked to large firms, and those that produce directly for industry run the risk of being eliminated if their contractors deem that their production does not meet the quality standard.

The Monterrey industrial elite was able to implement this alternative strategy of development because the Monterrey region already possessed the preconditions required for its implementation. These preconditions, embodied in the social foundations of Monterrey's society, are an outcome of the culture of the region which has been shaped over the years by the Monterrey industrial elite through the institutionalization of its ideology. As argued in Chapter 3, the elite used religion and other social institutions it created--such as parochial schools run by religious orders approved by the elite, recreational clubs, firm unions--to protect society from the influence of the Revolutionary regime and shape the culture of the region. These diverse sets of social institutions have generated the social grid, creating a culture that values hard work, education, loyalty to the firm, and family values. These values have produced a skilled and responsible labor force, low levels of turnover, trust (which is essential for subcontracting) and cooperation among firms. All these elements facilitated the introduction of the Monterrey strategy of economic growth in the 1980s.

The Monterrey industrial elite has been implementing this strategy at a time when the economic, political and ideological structures of the nation are themselves in flux. This alternative strategy is based on the assumption that the age of import-substitution
industrialization and closed borders is over, and that the new era is one of economic liberalization and international competitiveness. Thus, the Monterrey industrial elite is a major supporter of a North American free trade agreement (NAFTA) with the United States and Canada. Over the past decade, the Regiomontano industrialists have been positioning themselves for their eventual participation in the North American market. For some, the signing of the agreement would be a formalization of an existing integration along the United States-Mexican border. But for other industrialists, the free trade agreement would have severe consequences.

In the remainder of this chapter, I will evaluate the potential consequences of NAFTA for the Monterrey industrial elite, taking into account the emerging configuration of the region derived from the implementation of the new strategy of economic growth. First, I will discuss the existing North American cultural, economic and ideological influence in the region, then I will analyze some of the economic implications of NAFTA for Monterrey, and finally I will examine the cultural and political effects of the free trade agreement on Monterrey. At this writing, no free trade agreement has yet been signed, and many of the implications of NAFTA will depend on the specific content of the agreement. In the following discussion I will consider different scenarios based on key issues, such as the rules of origin.

I. The Monterrey industrial elite finally gets an opportunity to "live" its ideology.

Through its colonial history, Monterrey was isolated from Central Mexico. Surrounded by mountains and desert, the region was settled by Spanish families of Sephardic and Basque descent. The lack of mines, agricultural land, and a large indigenous population precluded the development of feudalism in the region. Monterrey was a small town, lost somewhere in the vast, desolate land between Mexico City and the
northern borders of New Spain. Its inhospitable climate attracted mainly refugees eager to flee from the persecution of the Viceregal Court.

The Wars of Independence (1810-1821) went almost unnoticed in Monterrey. The turning point for the region came with the Mexican-American War (1847-48) when, as a result of the war, Mexico exchanged Europe as the axis of its social and economic life for Washington, and Monterrey became the point of exchange between the two countries.

The incipient commercial role of the city was reinforced by the American Civil War (1861-65) when, in light of the Union’s blockade of Southern ports, the Confederacy turned to the merchants of the port of Matamoros and of Monterrey to trade its cotton. The American Civil War and the westward expansion of the U.S. economy offered an opportunity for *Regiomontano* merchants to widen their markets and accumulate capital. Aside from the economic benefits, the new geo-political position of Monterrey enhanced the development of close ties between Monterrey and the United States, in particular between Monterrey and Texas, a state with which Nuevo León shared a similar colonial experience.

Despite the growing migration of Europeans to the region in the last quarter of the nineteenth century, American political and economic ideas made an imprint in the region—not only in Nuevo León but also in the neighboring state of Coahuila. Indeed, the merchant-financiers of the first industrial wave followed the American path of industrialization. The new industrialists made several trips to the United States to study the methods of production and to buy the equipment that was used in the neighboring country. At the turn of the century, the *Regiomontanos* brought Taylor’s ideas to Monterrey, translating his work and attempting to put his ideas into practice.

At the same time that economic ideas were leaving their signature on Monterrey’s process of industrialization, the political ideals of North America were inspiring the
children of the emerging elite who had travelled extensively in the United States or had even been educated there. Such was the case of Francisco I. Madero, a native of the neighboring state of Coahuila and grandson of the Monterrey industrial-financier Evaristo Madero, whose call for liberal democracy ignited the Mexican Revolution. Francisco I. Madero revered the American political system and aspired to transpose it to Mexico. But after the initial battle, the Revolution took a life of its own, moving to the left with the agrarian ideals of Emiliano Zapata and the labor demands of Pancho Villa.

The incipient industrial elite of Monterrey did not support the Revolution, as the Porfirián administration shared its economic goals and help set the foundations for the industrialization of the region. Once the violent phase of the Revolution (1913-17) reached Monterrey, many members of the elite took refuge in San Antonio, Texas. The children of the elite were educated in American boarding schools and then American universities such as the Massachusetts Institute of Technology and the University of Michigan. The respected European ways of life were replaced by American styles.

During the Revolution, the Monterrey elite committed the serious mistake of supporting the dictator Victoriano Huerta (1913-14) against the regime. This act of rebellion against the emerging regime compelled key members of the elite—in particular the owners of the brewery—to move to the United States, as the relationship among Huerta, his cabinet member Enrique Gorostieta and the Garza Sada family was well known to the Carranza administration (1915-20). After the Revolution, the Monterrey industrialists returned to Mexico to reclaim their economic interests and challenge the new regime. Some members of the elite believed that they should stay out of politics, while others sought to participate

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1. Enrique Gorostieta was related by marriage to the Sada and the Rivero families. In his study of the Monterrey elite, Alex Saragoza suggests that the elite’s support for Huerta was derived more from their support for a relative than from a political desire to support Huerta. Cf. Alex M. Saragoza, The Monterrey Elite and the Mexican State, 1880-1940. (Austin: University of Texas Press, 1988) p. 103.
in the political game in order to gain some influence within the new regime. Joel Rocha headed the delegation of Regiomontanos that represented the region in the National Conference of Industrialists (1917), and eventually became the spokesman of the business elite in the negotiation over the Labor Code in the 1920s. Thus began the long period of interaction and negotiation between the Monterrey elite and the federal government.

From the Revolution onward, the relationship between the Monterrey industrial elite and the federal government was characterized by mutual disdain and suspicion. Ideological differences were not the only basis of contention. From the perspective of the Revolutionary regime, the people of Monterrey were traitors to the nation: they had supported Maximilian of Hapsburg against President Juárez in the 1860s, allied with Victoriano Huerta during the Revolution, and maintained reactionary positions at other critical junctures.

The political positions of the Monterrey elite at crucial points in Mexican modern history are not necessarily the result of a profound agreement with the reactionary party, but a combination of political shortsightedness, personal friendships and scorn towards Mexico City.² When looking at the positions upheld by the Monterrey elite against the Mexican regime from a more balanced perspective, what seems striking is the similarities in perceptions between the Monterrey elite and North Americans. For instance, the Monterrey elite has been rabidly anti-communist. This was the only business group in Mexico that was convinced that President Cárdenas was a communist. The anti-communism of Monterrey blinded the elite to the point that, in the initial stages of World War II, it supported the Axis. Monterrey is the only region in Mexico where the former Soviet

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² For instance, the reason behind Monterrey’s support for Maximilian was that the Regiomontanos were supporting the local caudillo Vidaurri who was a cabinet member of the Empire, rather than opposing President Juárez. A similar situation took place when the Monterrey industrial-financiers supported the dictatorship of Victoriano Huerta, as Venustiano Carranza was a former governor under the Porfiriato.
Union was viewed as an evil empire. These beliefs appear to have been imported by members of the elite who lived or were educated in the United States.

The political and ideological influence of the United States on Monterrey has been profound. For Monterrey, the United States is the model of political and economic liberalism that should be implemented in Mexico. Moreover, the American political system presents a Federal system that grants wider autonomy to states—an autonomy the Regiomontanos have long aspired to have. In their attempts to change the Mexican political system, the Monterrey industrial elite has been a major supporter of the right-wing opposition party Acción Nacional and has advocated a two-party system. Through the 1980s, some members of the northern elite adopted protest practices that had been developed in the United States, and in solidarity with other Norteños, even went to Washington to protest electoral fraud—an act perceived as treason in Mexico City.

Despite its free market ideology akin to that of the United States, the Monterrey industrial elite benefitted greatly from the import-substitution model of industrialization. The laissez-faire rhetoric of the Monterrey elite has consistently been in contradiction with the economic policies for which the elite has lobbied. Through most of this century, the elite took advantage, at every turn, of the possibilities offered to it by a closed economy and a captive market. At no time did the elite voice objections against the system that secured their monopolies and oligopolies. It was only when the elite had positioned itself to compete in an open economy that it began advocating the entrance of Mexico to the GATT in the late 1970s; it was only when it became apparent that the economy was going to be liberalized in the 1980s that the elite became the spokesperson for such liberalization. The Monterrey industrial elite did not fight the import-substitution model of industrialization because the long period of isolation provided the elite with the opportunity to set the most favorable conditions for it to benefit from a market economy. With the entrance of Mexico
to the GATT in the mid-1980s, with the rapid liberalization of the economy, and with the possible signing of a free trade agreement among Mexico, Canada and the United States, the Monterrey industrial elite has finally been given the challenge of "living" its ideology.

For many Regiomontanos, the signing of a North American free trade agreement is merely a formalization of the already existing integration between the northern part of Mexico and the southern part of the United States. Since the 1880s, the people of Monterrey have taken regular trips across the border to do their shopping. Many Regiomontanos send their children to American boarding schools and American universities. A large percentage of the population of the Monterrey region is fluent in English, and most Regiomontanos with a higher education have studied for a period of time in the United States.

The industrial elite has week-end villas in Padre Island. Its presence in the Corpus Christi region is so important than in 1990 it was able to call a town meeting to protest the "low morals" of college students who came down to the Island to enjoy their Spring Break. The students' break that year fell on Easter week, a time when Mexicans traditionally take their families to the beach. The Regiomontanos found the behavior of the young Americans offensive and threatened to boycott the Island. Within a week of the holiday the elite circulated a petition in Monterrey, and by the weekend the Mexicans had received an apology from the mayor of Padre Island and a pledge to avoid future annoyance. The political impact of the Monterrey elite on this small Texas town is just one indication of the growing interdependence between Nuevo León and Texas.

The interdependence of the two states covers all layers of economic interaction. The Monterrey region provides temporary skilled workers or subcontractors for the Houston area industries and Regiomontano engineers are often hired as consultants to Texas firms. This exchange provides the Mexicans with an important source of supplementary income,
as well as the opportunity to compare themselves to their North American counterparts. 
The University of Texas at Austin and the Instituto Tecnológico y de Estudios Superiores 
de Monterrey have exchange programs and cooperate on industrial and regional programs. 
In addition to the traditional biannual meetings of governors of the border region, the 
governor of Nuevo León maintains an open channel of communication with his Texas 
counterpart.

American fashion, music, television and other trends are dominant in Monterrey. The 
suburb of Colonia del Valle (Garza García) has the largest concentration of television 
satellite dishes in the entire country. As one resident of the wealthiest municipality in 
Mexico put it: “Garza García combines the best of both worlds. Here you live with all the 
amenities of the United States and all the benefits of a Third World country with none of 
the inconveniences of either.” The residents of the region can purchase American products 
at their local grocery stores, including American milk and ice-cream, which are shipped into 
the Monterrey region every morning.

The increasing interdependence of the region led to the construction of the Columbia 
Bridge in the late 1980s. The bridge provides a rapid point of entrance to the United 
States. Other sites along the border had been considered for the bridge, but the Monterrey 
elite lobbied in Mexico and in the United States for the construction of the bridge in Nuevo 
León. In the context of a possible free trade agreement, Monterrey sought to reaffirm its 
historical role as link between Mexico City and the United States.

The existing interdependence between the Monterrey region and the state of Texas 
provides a solid basis to evaluate the possible effects of NAFTA on the Monterrey 
economy, on its elite and on the culture and the politics of the region.
II.- Economic implications for Monterrey of a North American free trade agreement.

At the present time, the content of the free trade agreement is being negotiated among the governments of Mexico, the United States and Canada. Some of the most contentious issues in the negotiations include rules of origin, energy, automobiles, financial services and dispute settlement mechanisms.3 Two of the central issues that will affect the northern industrialists include the clause on rules of origin and the timing of integration.

One of the most heated debates in the negotiation is that of the rules of origin. Presumably, NAFTA will stipulate that only products made in Mexico will enter into the agreement; products assembled in Mexico will not be included in the agreement. The rule seems straightforward and simple, but the reality is far more complex. Indeed, many products assembled in Mexico have a percentage of the content of the good produced abroad. In the best case scenario, Mexico would like to see products of which 30% of the components are made in Mexico included in the free trade agreement, but this position is unacceptable to the United States and to Canada. Hence, the Mexican government is currently arguing for the inclusion of products that have 50% of their value added in Mexico, whereas the United States wants to include only products that are 60-70% Mexican.4 The Monterrey industrial elite holds a position that is closer to that of the United States government than to that of Mexico, as a wide rule of origins will benefit mostly foreign investors rather than the Monterrey elite. Indeed, most of the final products of the northern industrialists have a high percentage of Mexican input, unlike those produced by assembling plnats at the border. As we will see shortly, this clause will have crucial

3.- Dalia Estévez, “‘Make or Break’ NAFTA Meet This Week in Montreal,” El Financiero International, April 13, 1992, p. 11.
4.- Data provided by the former Minister of Finance, Hugo B. Margán in interview on February 21, 1992, as reported by Professor Peter H. Smith.
implications for foreign direct investment and for the export of some specific types of products, such as auto parts.

Another central issue is that of the timing of integration and whether some sectors will be phased in at different times than others. The three countries are demanding a slow and gradual integration of agriculture, but there are vast disagreements over the timing and stages of industrial integration. Perhaps the major point of contention is the automobile industry. The Canadians have an important automobile industry which would be in direct competition with some of the assembly plants in Mexico. Both the United States and Canada are demanding the rapid elimination of barriers to importing foreign cars into Mexico, something the Mexican government would like to avoid, as serious competition would threaten the survival of the auto industry in Mexico. To complicate matters further, the United States would like to see the opening of new markets for American cars, and protection of the jobs of American auto workers. The experiences of Ford and General Motors in Mexico have demonstrated that it might be more profitable for American firms to have plants in Mexico than in the United States; but the elimination of American jobs, especially at a time of economic recession, is a heated political issue in the United States. Other issues of concern in the negotiations of NAFTA include wages and benefits for workers and environmental norms.

Effects of NAFTA on the Regiomontano industrialists.

Almost regardless of the content of the agreement, the large holdings of the Monterrey elite will survive NAFTA. But, as discussed in Chapters 4 and 5, only a small number of firms are ready to compete in the international market. Currently, there are only two holdings that are not vulnerable to the free trade agreement and that are likely to present fierce competition for their counterparts in the United States and Canada. The first of these two holdings is VITRO, which has already acquired through a hostile take-over the second
largest glass-producing company in the United States. VITRO has also established joint
ventures with potential competitors in those areas of production in which it is not yet an
international leader in order to pre-empt its competition from taking over its domestic
market. The second company is CEMEX, which acquired Sunbelt Enterprises of the
southern United States and maintains regional leadership in cement production. Both
VITRO and CEMEX have entered the international stock-exchange market and behave as
transnational corporations with global designs.

VITRO and CEMEX are, however, two major exceptions. The majority of the
Monterrey holdings, especially those that supply the consumer market, run the risk of
being wiped out by the major producers of the United States. Hence, many of these firms
are signing joint-ventures with potential competitors, and are utilizing their distribution
channels to sell foreign goods. The most notable case is that of GAMESA, which made the
headlines in 1991 when its owner, Alberto Santos de Hoyos, sold 70% of the company’s
shares to Pepsico. Most cases are less drastic. For instance, Cigarrera la Moderna has
continued to produce its various brands but has also begun to import and distribute
American cigarettes, especially brands that are popular among the upper-class.

Other large firms hope that they will be able to survive international competition
because the importation of the goods they produce would be too expensive or because they
produce toxic goods that Americans will prefer to import from Mexico rather than produce
at home. HYLSA falls into the first category, as the cost of transporting steel renders an
imported product too expensive for the Mexican market. But relying on this disadvantage
of foreign steel producers is no long-term protection for HYLSA. With a little dumping
from one of the largest producers, the company could be destroyed. The second case is
best represented by the battery-producing company Acumuladores de México (ACUMEX)
of Grupo IMSA, which is increasingly servicing the American market. The toxicity of
battery production has led to many regulations in the United States. Even in the event of an environment clause in NAFTA, it is likely that the Monterrey firm will be able to continue to supply the domestic and the American markets.

Unlike many auto parts producing companies in Mexico, ACUMEX will not be affected by the rules of origin as over 90% of the elements that go into the production of these batteries are produced in Mexico. This is also the case of METALSA, which produces and exports chassis for cars and trucks, since the metal it uses is produced by HYLSA.

The Monterrey elite has enthusiastically supported the negotiation of a free trade agreement with the United States and Canada, for even when they are not quite competitive abroad they maintain a solid position within the domestic market through their wide distribution networks and through service to clients. However, for the medium-sized firms that do not control a substantial share of the domestic market and are not competitive abroad, the free trade agreement will probably be a death sentence, as these producers may be wiped out by foreign competitors who produce cheaper goods of higher quality. For this reason, most medium- and small-sized producers have strongly opposed the free trade agreement. Paradoxically, for some of the smallest producers, NAFTA offers an opportunity for growth and expansion, as they can aspire to become sub-contractors for American industries.

**Effects of NAFTA on investment.**

Rules of origin will have a definite impact on the flow of foreign direct investment to Mexico. If the percentage of Mexican value added is high (over 50%), some investors who had seen Mexico as a doorstep to the American market will probably not be interested in investing there. However, if the percentage of Mexican value added is low—which is
unlikely given the American position—then foreign direct investment, especially from Asia, will flow into Mexico.

Regardless of the free trade agreement, American and European investment is likely to continue to flow into Mexico, continuing a trend inaugurated with Mexico’s entrance to the GATT and the liberalization of the economy since the late 1980s. The Monterrey region is beginning to attract in-bond (maquiladora) industries, as the region offers a solid infrastructure for industrial production. Although Nuevo León has the lowest percentage of maquiladora industries in the border region, it has the highest percentage of integration between the in-bond industry and the local economy. Whereas in most states the maquiladora industry consumes less than 5% of the locally produced goods, in Nuevo León the maquiladora consumes 22%.\footnote{Data provided by Lic. Alberto A. Martinez, Asesoría y Estudios Especiales, CAINTRA, June 23, 1990.}

With or without a free trade agreement, the Monterrey industrial elite will continue to invest in the region. Increasingly, however, the selection of sectors for investment will be influenced by international considerations. Moreover, the elite will have to maintain its quality programs in order to produce goods that satisfy the Mexican consumers.

In the long run, the North American free trade agreement will be both a blessing and a curse for the Monterrey elite. With NAFTA in place, the elite will feel assured that the federal government will not return to earlier economic policies so opposed by industrialists in Monterrey. But it will also face greater competition within Mexico for investment, markets and perhaps even workers. With NAFTA, the Monterrey elite will come to live under the market economy it has been advocating for the past century. The question then will be whether all the years of protection augmented or undermined the ability of the northern industrialists to compete.
III.- Cultural and political effects of NAFTA on Monterrey.

For most of this century, the Monterrey elite has been able to control the ideology of its society and shape the culture of the region. The conflict with the Revolutionary regime was a source of cohesion for Monterrey society. As the conflict is replaced by an alliance with a regime that adheres to an ideology similar to that of the Monterrey elite, an important source of cohesion disappears. Over the past ten years, other previously homogeneous elements—such as religion, loyalty to the firm, and the role of women in society—have been changing in Monterrey. The elite is increasingly losing its grip on society. The free trade agreement, with its flow of outsiders to the Monterrey region, is likely to break the elite’s control over the local population.

Moreover, a North American free trade agreement—or even just an increasing flow of foreign direct investment into the region—is likely to have a profound political impact on Monterrey. At the firm level, the relationship between the labor force and the elite will be transformed. And, at the local political level, the demands for democracy will probably be accentuated.

Labor is a point of contention in the current negotiations of NAFTA. But even if workers’ rights and wages were not an issue at this time, they would become one in Monterrey. Indeed, as new sources of employment open up in the region, workers will have a wider selection of jobs. Loyalty to the firm will increasingly be replaced by loyalty to the trade and by a desire to further one’s career. In a world of quality production, managers will be compelled to minimize turnover and avert strikes by providing competitive wages and benefits in order to maintain a skilled labor force. The wider competition will then be beneficial to skilled workers.

However, as production becomes more flexible, workers can be more easily replaced by other skilled workers. Hence, workers will lose an important bargaining position as
employers will see them as replaceable in times of trouble. The recent cases at the Caterpillar plant in Illinois and at Cervecería Corona and Ford de México are just a few examples that, despite quality programs and other incentives to keep turnover at a minimum, under the new system of flexible specialization workers lose, in practice, their right to strike. Indeed, the American and the Mexican cases illustrate that under the new organization of production, managers are not willing to tolerate strikes because they affect the international competitiveness of the firm, and are more willing to put down the strike by giving an ultimatum to their workers either to go back to their jobs or to be replaced by new hirings. In both countries, the hiring of new labor is facilitated by the availability of a pool of unemployed skilled workers who have been laid off because of the increasing cuts in personnel or the closing of factories that have become obsolete.

In the case of Monterrey, I argued in Chapter 4 that firms were suffering from a shortage of skilled workers. But the current shortage of workers is primarily the result of extremely depressed wages that send workers into the informal sector. It is very unlikely that the United States will sign a free trade agreement with Mexico that does not include a clause demanding higher wages for Mexican workers. These higher wages will bring skilled workers back into the formal economy and will probably slow the flow of skilled Mexican workers into the United States. Hence, the pool of skilled workers in Monterrey will rise again, creating conditions for the scenario discussed above. The increasing moves towards flexibility of production are transforming labor relations in Mexico. Many entrepreneurs and business group organizations have been calling for a reformulation of the Ley Federal del Trabajo that takes into account the configuration of labor relations under flexible production. NAFTA is likely to accelerate this redefinition of the Labor Code.
The free trade agreement will probably accelerate the transformation of society, which is likely to increase its demands for democratization. Already in the 1980s, the elite’s support for Acción Nacional and its participation in electoral politics has awakened a desire for democracy in Monterrey’s society. The P.R.I. electoral fraud of the 1985 gubernatorial elections and of the 1988 presidential elections cast a shadow of failed expectations over Monterrey’s society. After the political participation of the 1980s, Regiomontanos—in particular the middle- and the working classes—returned to their characteristic political apathy. Except for a small number of entrepreneurs, the majority of the members of the elite replaced their traditional demand for liberal democracy by an argument to support the Salinas administration and its authoritarian politics, as the possibility of the arrival to power of a democratically elected left-wing administration (e.g., Cuauhtémoc Cárdenas) was more dangerous than authoritarianism. Since then, leading members of the elite adopted the position of supporting a “Chilean model” for Mexico, in which authoritarianism is necessary to set the basis for a laissez-faire economy. A leading member of the Monterrey elite summarized this view in the following terms:

Democracy is not a requirement for the functioning of the economy. I do not think that democracy is a requirement in the short term. On the contrary, we have to strengthen the President first, in order to create the conditions for economic change, but it is necessary to cut the umbilical cord with the party [the P.R.I.]. We have to transform the electoral law, in order to eliminate the scheme that grants more votes to minority parties; then we can have cleaner elections.

At the same time that the elite has been redefining its position on democracy, it has been demanding that its workers participate more in the decision-making process of the firm at

8.- Interview with a leading member of the Monterrey industrial elite and member of the P.R.I., spring 1990.
the shop-floor level, creating a profound contradiction between the worker’s persona in the plant and the worker’s persona outside the plant. This contradiction is noted by some workers, political organizers and local commentators. As greater integration with the United States takes place, the working-class is likely to increase its demands for democracy.

The free trade agreement could have a profound effect on national politics. Indeed, once the agreement is signed and implemented, the Monterrey elite might feel less compelled to court Mexico City. The Regiomontanos could lead the call for greater state autonomy, and would most likely look toward Washington for support and direction. With the free trade agreement, Mexico will integrate the United States further into its internal politics, an influence that the regime has fought to limit for the past eighty years. Likewise, Mexico might acquire greater influence on American politics, especially as Hispanics (many of whom are of Mexican descent) become the largest minority in the United States.

If NAFTA is signed, and if, as I argue, it attracts more investment to Monterrey, the economic, technological, social and even ecological limits of the region will be exposed. Currently, Monterrey is experiencing a skilled labor shortage and higher levels of turnover than it has had historically. The level of technological sophistication is quite low by international standards, limiting the competitiveness of local firms. The city is already the eighth most polluted city in the world and has very serious water shortages which affect not only industry but the local population as well. If NAFTA brings about a rapid inflow of industrialists into the region, Monterrey could face in the medium-term similar urban problems as the ones developed in maquiladora towns such as Ciudad Juárez or even Tijuana.

Finally, the free trade agreement might undermine the position of the Monterrey elite in the region as new industrialists invest in the region and build power and prestige. But, at
the national level, the Monterrey elite will have acquired the political power and respect it
yearned for so many years.

Conclusion:

The Monterrey industrial elite is at a crossroads. After a century of demanding the
implementation of a market economy, the Monterrey elite will be given the opportunity to
participate in a wider market, run by the laws of supply and demand and complicated by the
new emphasis on quality, service and efficiency. Whether at the national level or at the
international level, the government is still defining the bases of this market economy. The
Monterrey industrial elite has had the foresight to position itself to compete in this new
economic and political map. The stakes are quite high for members of the elite, who would
like to think that the country has the potential of becoming the “Japan of the 21st century”.

Culture is essential for a country to have an economic advantage. The Norteña culture emphasizes work, but even then compared to
other parts of the world such as Japan or Germany, Mexico has a lot to do still. However, with the raw potential of the country, it can be
foreseen that if everything goes according to plan, within twenty years, Mexico will occupy a privileged position. It will be a Japan.
Mexico ought to be a country of entrepreneurs, like Japan, a conquerer rather than the conquered.

However, the basis of the current success of Monterrey lies in the elite’s ability to
shape the culture of the region and transmit its ideology to the working class. As the city
grows and as a new system of industrial relations is implemented, the elite is losing its grip
on the very element that generated its economic success. It seems ironic that the
implementation of a long-held ideal might mark the decline of the Monterrey elite.

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9.- Most entrepreneurs were very optimistic about the future of the Monterrey region. I was quite surprised
to hear in a few interviews that Monterrey had the potential of becoming the “Japan of the 21st century.”
Even though this view was expressed by a minority of entrepreneurs and managers, I decided to quote it
here, as it captures the optimism of Monterrey’s society.
Appendix 1: Interviews and plants visited.

The following list contains the names and positions of all the persons who were kind enough to grant me formal interviews for my research. In most cases, I was granted permission to tape the interview. Sometimes, the interviewee would ask me to turn the tape off while he discussed a point. Some interviewees preferred that I take notes. Only a few did not allow me to tape them or take notes; in those few cases the interviewee responded very candidly to my questions and showed me confidential information.

This list does not include the names of many workers whom I interviewed on the shop floor, the people I spoke with in the recreational clubs for workers or for the elite, the microentrepreneurs who preferred to remain anonymous, or some members of the elite who spent long hours discussing their lifestyle, beliefs and values.

Formal Interviews in Monterrey, Nuevo León:

A) Heads of Corporations.

- Lic. Eugenio Clariond Reyes-Retana, Director General del Grupo IMSA, member of the Grupo de los Diez, member of the P.R.I., 3/12/1990.
- Ing. Andrés Marcelo Sada, Presidente del Grupo CYDSA, current ideologue of the Monterrey industrial elite, member of the Grupo de los Diez, co-founder of the Unión Social de Empresarios Mexicanos, former president of COPARMEX, supporter of Acción Nacional although not a formal member, 5/14/1990.
- Lic. Alberto Santos de Hoyos, President of Grupo GAMESA, member of the Grupo de los Diez, member of the P.R.I., former federal deputy, 5/16/1990.
- Jorge Chapa, Director Valores Corporativospresidente de Casa Chapa, former president of CONCANACO and of the CCE, 3/9/1990.

B) Top managers.

- Lic. Benjamín Clariond Reyes-Retana, Director División Sistemas Constructivos de IMSA, federal deputy, member of the P.R.I., 3/12/1990.
- Ing. Carlos G. Segovia, Director General de FAMA, Director de Envases de Vidrio y Tecnología, Grupo VITRO, 6/15/1990.
- Lic. Carlos Salazar Lomelín, Director de Planeación Comercial VISA, 7/30/1990.
C) Other members of the Industrial elite.

- David Garza Lagüera, Founder and President of ADMIC, President of CONEK, a Caterpillar sub-contractor, 7/12/1990.

D) Members of the political or social elite.

- Lic. Eduardo Elizondo, former governor of Nuevo León (1967-72), former president of the Universidad Autónoma de Nuevo León, current director of Seguros Monterrey, 7/24/1990.

D) Mid-level managers.

* From Grupo Alfa:
- C.P. Enrique Flores Rodríguez, subdirector de Coordinación Financiera del Corporativo, 6/4/1990.

*From VITRO:
*From IMSA:*
- Ing. Sergio Malacón, Acumuladores de México (ACUMEX), 7/17, 7/18/1990.
- Ing. Felipe Muzquiz, General Director of CUPRUM, 7/18/1990.
- Lic. Rafael Villareal, Planeación Estratégica de IMSA, 7/18, 7/24/1990.
- Ing. Patricio Gonzalez Ch., Gerente de Planeación Estratégica, Corporativo Grupo IMSA.

*From VISA:*

*From METALSA:*
- Ramón Rodríguez, Export Manager.

E) Academics.

- Dr. Fernando Jaimes, Director CETEC, ITESM, 3/15/1990.
- Dr. García Gardea, Director del Centro de Manufactura, CETEC, ITESM, 5/29/1990.
- Dr. Germán Otalora Bay, Director del Programa de Administración, ITSM, 4/17/1990.
- Ing. Mario Luna, Centro de Manufactura, CETEC, ITESM, 5/30/1990.
- Prof. Israel Cavazos, Director del Archivo del Estado, 4/19/1990.
- Prof. Sydney Weintraub, University of Texas at Austin, 3/16/1990.

F) Cámara de la Industria de la Transformación de Nuevo León (CAINTRA).


G) Asesoría Dinámica para la Microempresa (ADMIC).

- Lic. Garza, member of the staff of ADMIC, 6/21/1990.
-Aaron Aguilar Gonzalez, microentrepreneur (ceramics) and Protestant minister, 6/5/1990.
-Cecilio Serrano, microentrepreneur (molds), 6/20/1990.
-Mrs. Farias, microentrepreneur (clothing), 6/20/1990.

The microentrepreneurs listed without names allowed me to visit their shops and interview them but declined to be identified. In most cases, they were disappointed with their achievements. Other microentrepreneurs allowed me to interview them without taking notes or allowed me to visit their shops but refused to be interviewed. The latter group of entrepreneurs represent about ten people interviewed on various dates in June and July 1990.

Other interviews that are not formally recorded are my conversations with all the members of ADMIC. The director of ADMIC, Lic. Benito Cabello, provided me complete access to the program and to the members of the staff. On three occasions, I was allowed to join one of the staff members on his visits to the entrepreneurs. On two occasions (5/30, 5/31/1990), I was introduced to them as a new member of the team.

H) Newspaper El Norte.


I) Federacion Nacional de Sindicatos Independientes.

-3 other persons requesting anonymity.

I) Other Regiomontanos.

-Dr. José Lobo, consultant to PROTEXA and VITRO, 3/13/1990.
-Lic. Gerardo Puertas Gomez, Professor of Law at the Facultad Libre de Derecho,

J) Social Clubs.

-Sociedad Cuauhtemoc y Famosa, SCyF.
In addition to the formal interviews, Lic. Vásquez showed me the facilities of the club, invited me to have lunch at the club on two occasions and allowed me to visit on my own and talk to members.

-Vitro club

-Casino de Monterrey.
I was able to visit the Casino de Monterrey once when a member of the elite invited me there for dinner.

-Club Campestre
I was able to attend the elite’s country club on several occasions.
I was invited to two Sunday brunches with members of the elite.
I was invited for lunch by a friend who showed me around the club.

K) Conferences attended.

“Mesa Redonda sobre el Movimiento Obrero en México” organized by Oficina de Información del Movimiento Obrero (OIDMO), May 25-26, 1990.
-Dr. Pablo González Casanova, moderator.
-Dr. Sergio de la Peña, “Perspectivas del Movimiento Obrero en México”
-Ing. Emilio Rodríguez, “Programa Cultural de las Fronteras”
-Dra. Sacristina Laurel, “El proceso Sicartsa: De polo de desarrollo a sucursal Japonesa”
-César Gutierrez, “El 29 de Julio de 1936 en Monterrey”
-Jesús Ibarra, “Sobre la Coyuntura de las Holdings de Monterrey”

“Tecnología y Sociedad” lecture by Dr. Juán Aguirre, sponsored by USEM at the Club Campestre, 7/17/1990.

L) Presentations.

While in Monterrey, I was invited to present work-in-progress to a group of professors, engineers, and researchers, at the Universidad Regiomontana del Noroeste on June 2, 1990.
I received valuable feedback from:
-Dr. Ernesto Alatorre, engineer and former member of CONACYT.
-Lic. Nora Cortés de Melo, researcher.
-Lic. Juan Francisco Rivas, researcher at DINAMICA.
-Ing. Alfonso Sanchez Losano, Director del Programa Emprendedor, ITESM.

M) Plants Visited.

The visits to the plants consisted of interviews with the director of the plant and/or the director of engineering of the plant, the director of human resources, the director of quality, and a visit of the plant in which I studied the production process, observed the level of
technology used, the type of technology, the lay-out of the plant and talk to workers at the shop-floor level. In some cases, I had the opportunity to talk freely with workers, but at other times I was constantly followed by a manager which made interviewing difficult. The names provided above include most but not all the managers and workers who granted me formal interviews. In the case of FAMA, I conducted six formal interviews, but all the names and titles are with

held upon request.

**In the Monterrey Metropolitan Area:**

*From ALFA:

**HYLSA: Aceros Planos.**

**Alimentos Libay, in Monterrey, Nuevo León.**
- Ing. Alvaro Madero, Director Regional Zona Norte, 7/12/1990.

*From VITRO:

**Vidriera Monterrey**

**Fábrica de Máquinas (FAMA)**
- Sra. Lozano de Guerra, 6/18/1990.

*From VISA:

**Cervecería Cuauhtémoc**

*From PROEZA:

**METALSA**

* From IMSA:

**Industrias Monterrey**
- Directora del Cedyr, centro de capacitación de IMSA, 3/7/1990.
CUPRUM (3 plants)
Ing. José Antonio González, Gerente de Control de Calidad, 7/18, 7/19/1990.

ACUMEX
Ing. Segio Malacón, Director de ingeniería de la ACUMEX, 7/18/1990.

*From PULSAR:

Cigarrera la Moderna

Luxor
-ing. Jerónimo Villareal, Director de la planta, 7/16/1990.

Plant Visits in Central Mexico.

*From ALFA:

HYLSA: Aceros Planos, in Xoxtla, Pue.

Alimentos México, in Xalostoc, Mex.
-Ing. Fernando Orozco, Director Regional Zona Metropolitana, 8/6/1990.

*From VITRO:

Vidriera Los Reyes, in Los Reyes Ixtacala, Mex.
-Ing. Eduardo Sauceda, Director general de la planta, 8/15/1990.

* From IMSA:

Acumuladores del Centro, in San Francisco Popotla, Tlax.
-Ing. Luis Casas Morales, 8/14/1990.

Stabilit, in Tlanepantla, Mex.
-C.P. Francisco Senciero López, 8/7/1990.

Cuprum, in Naucalpán de Juárez, Mex.
-Ing. Miguel Angel Paredes, 8/7/1990.

*From PULSAR:

Cigarrera la Moderna, in San Luis Potosí, SLP.
Aluprint, Sanl Luis Potosí, SLP.

Luxor, in Texcoco, Mex.
-Eugenio Lanz, 8/17/1990.
Appendix 2 (cont.): Firm Ownership by Family

Grupo de los Diez:

<table>
<thead>
<tr>
<th>FIRM</th>
<th>FAMILY</th>
</tr>
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<tbody>
<tr>
<td>ALFA</td>
<td>Garza Sada</td>
</tr>
<tr>
<td>CYDSA</td>
<td>Sada Zambrano</td>
</tr>
<tr>
<td>VISA</td>
<td>Garza Lagüera</td>
</tr>
<tr>
<td>VITRO</td>
<td>Sada Treviño</td>
</tr>
<tr>
<td>AXA</td>
<td>Garza (related to VITRO)</td>
</tr>
<tr>
<td>CEMEX</td>
<td>Zambrano</td>
</tr>
<tr>
<td>IMSA</td>
<td>Clariond Reyes-Retana/Canales Clariond</td>
</tr>
<tr>
<td>GAMESA</td>
<td>Santos de Hoyo</td>
</tr>
<tr>
<td>PROTEXA</td>
<td>Lobo Charles</td>
</tr>
<tr>
<td>RAMIREZ</td>
<td>Ramirez</td>
</tr>
</tbody>
</table>

Other major related holdings:

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<tr>
<th>FIRM</th>
<th>FAMILY</th>
</tr>
</thead>
<tbody>
<tr>
<td>LADRILLERA</td>
<td>Elosúa (married to Murguerza)</td>
</tr>
<tr>
<td>PROEZA</td>
<td>Zambrano (related to CEMEX)</td>
</tr>
<tr>
<td>PULSAR</td>
<td>Romo Garza (married to daughter of Alejandro Garza Lagüera)</td>
</tr>
</tbody>
</table>
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Several issues of Nuestra Gente (IMSA), Trabajo y Ahorro (VISA), Transferencia (ITESM).

Newspapers and periodicals:


LOURDES MELGAR was born and raised in Mexico City where she attended the Lycée Franco-Mexicain, obtaining in 1981 a Baccalaurèat série D in Natural Sciences and Mathematics. She attended Mount Holyoke College where she double majored in International Relations and Romance Literatures. She graduated in 1985 magna cum laude and was elected a member of the Phi Beta Kappa society. In 1985 she entered the master’s program of the Political Science department of the Massachusetts Institute of Technology, and was admitted into the Ph.D program in 1986. In May 1988, she received a Master of Science in Political Science from MIT with the thesis “Mexico in the 1980s: the Paradox of Political Liberalization”, and completed the doctorate in May 1992 with the thesis “Economic Development in Monterrey: Competing Ideas and Strategies in Mexico.” Through her graduate school years, she received several fellowships including a fellowship from the Ford Foundation for the academic year of 1986-87, a summer MacArthur-CIS fellowship in 1990, a dissertation fellowship from the Institute for the Study of World Politics for the academic year of 1990-91, as well as five fellowships from the MIT department of Political Science.