CONTINUITY AND CHANGE IN THE MEXICAN PETROLEUM INDUSTRY

By

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CONTINUITY AND CHANGE IN THE MEXICAN OIL INDUSTRY

By

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This thesis analyzes significant background characteristics of Mexican oil policy, examines the transformations of the petroleum industry in 1938 and 1976, and suggests a new transformation in the decade of the 1980s. The research first focuses on the period immediately following the 1938 nationalization of the petroleum industry, when President Lázaro Cárdenas implemented fundamental changes to oil policy in response to the foreign enclave period. Next, the focus turns to the López Portillo sexenium (1976-1982), when Mexican oil policy shifted from the traditional nationalistic role of serving the public sector to a profit-seeking role. This dramatic metamorphosis in the industry's history resulted from a new strategy of oil resource exploitation adopted to resolve the existing social, political, and economic predicaments.

The analysis concludes with the central argument of the paper: that policies pursued during the administrations of Miguel de la Madrid and Carlos Salinas de Gortari suggest that a new transformation is occurring. The changes include, but are not limited to, opening the industry to domestic and foreign
investment, privatization of segments of PEMEX, and the liberalizing of contracts to private firms. These important developments must be understood in the context of the debilitating effects of the debt crisis and the liberalizing trend currently taking place in Mexico.
CHAPTER 1
INTRODUCTION

Since the turn of the century, the petroleum industry has occupied a special place in Mexico. During the much heralded "Porfiriato," foreign pioneering efforts were encouraged and carried out by a number of private oil companies, mostly English and American. This foreign enclave period coincided with a much larger drama, the Mexican Revolution. If there was any agreement among the disparate elements vying for reform, it was in the growing disdain with which they regarded the favoritism granted foreign oil barons who exploited Mexico's petroleum resources. In the words of Robert F. Smith, "the revolution stimulated Mexican nationalism in many ways and helped to spread national feeling throughout the country" (Smith, 1972:78). It was the assertion of national control over natural resources which captured the essence of the struggle. The subsequent articulation of this fervent nationalism reached its denouement with the expropriation of the oil companies by President Lazaro Cárdenas in 1938.

The nationalization of the oil companies was a watershed event in the history of Mexico. It represented the "fundamental step toward consolidation of the nationalist spirit that had given rise to the Revolution of 1910" (Meyer, 1972:173). More importantly, and part of the focus of this paper, is the impact that this bitter history had on the formulation of oil policy in post-expropriation Mexico. The attitudes resulting from the historical evolution of the industry
under foreign domination catalyzed a shift towards nationalistic petroleum policies. In a word, "the expropriation and the events that preceded it placed an indelible imprint on the development of Mexico's petroleum sector" (Grayson, 1980:22).

The Problem and its Significance

As the nationalized petroleum industry evolved in the post-expropriation period, a conglomeration of difficulties beset the nascent firm. The organization of Petróleos Mexicanos (PEMEX) was not deliberately planned. Instead, it was "born out of a social struggle and given national form by the vision of the men who shared its problems and progress" (Bermúdez, 1963:127). The new managers, technicians, and governmental administrators were able to overcome the initial problems and set out to establish policies consistent with the industry's revolutionary roots. The historical antecedents to the adopted policies were embodied in Article 27 of the 1917 Constitution which ascribed a "public interests" role to the industry. The focus of the ensuing period was conservation of the national patrimony and a move towards self-sufficiency. Following this path of nationalist self-assertion, the Mexican administrations "preferred to withdraw from the international oil system to the greatest possible degree and to concentrate instead upon fostering domestic industrialization on the basis of cheap oil" (Philip, 1982:145). The official policy of PEMEX was best described as follows:

The adequate supplying of the national market is the main objective of PEMEX. Consequently, only surpluses are exported, despite the higher yield that can be obtained from sales abroad. (Director's Report, 1951, cited in Philip, 1982:336)
The taboo associated with the export of petroleum became the subject of much controversy, particularly during the López Mateos administration, when attempts to increase exports to rectify the industry's financial insolvency resulted in nationalist attacks on the administration. Debate also erupted when attempts were made to allow foreign investment back into Mexican petroleum. All attempts to change the conservative policy direction were subsequently negated by the strong opposition. The industry settled into a normal path of operation, that of supplying the public sector with its energy needs. During Mexico's adoption of import-substitution-industrialization (ISI), this policy came under sharp focus, as PEMEX supported the rapid industrialization push with provisions of oil at anemic prices.

The adherence to the "nationalist-conservationist" doctrine eventually resulted in a dilemma for PEMEX. With the confluence of the philosophy of limiting exports and moderation in exploratory drilling, the oil industry found itself incapable of adequately meeting the increasing demands of the domestic market. This caused Mexico to increase its dependence on foreign petroleum supplies, and by 1968 the nation became a net importer of hydrocarbons.

The 1970s ushered in a new stage in the evolution of the national oil company. Having served in the role of adjunct to industrialization, the industry was best described "as a supplier to the local markets and as the government partner in the new type of joint enterprise agreement" (Schurr, 1971:129). In 1972, PEMEX's discovery of the Reforma field (in the Tabasco and Chiapas area) ultimately changed the policy direction of the oil industry. This discovery of "new oil" in the southern fields "was decisive in the complete transformation of PEMEX's position in the Mexican economy" (Philip, 1982:353). The
Echeverría administration took bold steps to make Mexico self-sufficient in oil by increasing public investments in the oil sector. This new emphasis resulted in Mexico becoming a net exporter of oil in 1974.

The significant transformation of the petroleum industry did not take place until López Portillo assumed the presidency in 1976. Caught in a serious crisis of legitimacy extending throughout the social, political, and economic spheres, López Portillo transformed the role of the petroleum industry with a vigorous program designed to exploit and export this newly found oil wealth. Oil resource exploitation was based on the contention that oil could become the panacea to Mexico's economic woes. Rapid expansion of this sector became the keynote since the "oil card" seemed to be the only outlet available for Mexico.

The decision to continue this strategy was accelerated in 1981 when international oil prices increased dramatically. By this point, oil exports accounted for over 75 percent of Mexico's foreign exchange earnings (Grayson, 1983:415). The increased importance attributed to petrodollars facilitated the growth of the gross domestic product (GDP) by approximately 8 percent each year between 1978 and 1981 (Teichman, 1988:151). Continued reliance on this strategy led to an overheated economy fueled by huge oil earnings and later accentuated the debt crisis of 1982.

This important metamorphosis in the role of PEMEX from adjunct to industrialization to the engine of growth for the Mexican economy went beyond the realm of economics. The importance attributed to PEMEX's revenue potential influenced a transformation in the national political arena as well. The "new oil" linked the President and the firm's director general as key figures in the formulation of oil policy while the state assumed a more
centralized role in the planning process. Additionally, the emergence of the "técnico" garnered new importance for the criteria used for the selection of the nation's President. Suffice it to say, PEMEX became the center of attention in the 1970s. As its role in the national economy increased, so did the role of the political actors at the national level with respect to the formulation of oil policy.

In the decade of the 1980s there have been indications that a new transformation is occurring, beginning under the Miguel de la Madrid administration and accelerating under the current administration of President Salinas de Gortari. Despite the continued practice of politicians invoking the memory of the revolution to protect the oil industry, the promulgation of oil policy seems to be taking on more pragmatic trends. The Mexican leadership's historically rooted passion for the protection and control of its natural resources for reasons of public utility may perhaps be more rhetorical than a true reflection of nationalist intentions. With the oil boom, "the López Portillo administration decided to alter Mexico's traditional oil policies" (Zoraida Vázquez and Meyer, 1985:189), in response to the 1976 crisis inherited from Echeverría. Moreover, as the debt crisis emerged as a result of the "petrolization" of the economy, the Mexican polity has been awakened to the limitations engendered by over-subscribing oil as the panacea for Mexico's economic predicaments. Oil policy has thus become a central focus for Mexican policymakers in recent times, and it will be interesting to analyze the current shift in policy to determine whether the petroleum sector is experiencing yet another transformation.

The purpose of this study is to examine the historical evolution of petroleum policy in Mexico, to describe the 1938 and 1976 transformations of the industry, and to indicate the extent to which a new transformation is
occurring in the 1980s. It is necessary to examine the controversial period prior to the expropriation in order to understand how the deeply entrenched "petroleum nationalism" guided the initial policies of the nationalized industry. Furthermore, several important factors that account for the continuity and change in the industry's evolution require investigation. These so-called independent variables include the ideology of the revolution, the international environment, internal politics, and the emergence of the oil card as the dominant economic instrument. The confluence of these factors has helped to shape policy and, more recently, has made oil the center of political debate.

Investigation of the Mexican petroleum sector is desirable due to the growing economic importance of Mexican oil. With the oil sector providing three-fourths of the nation's export revenues after the oil boom, petroleum policy has become one of the most critical aspects of public policymaking in Mexico. Moreover, PEMEX's importance has transcended its economic importance. PEMEX's pervasive sphere of influence touches various political and social sectors (See Figure 1-1), giving the industry a certain dynamic quality. The current situation in the Middle East adds emphasis to the importance of this inquiry.

Thesis

Public policy making is a very complex, dynamic process whose various components make different contributions to it. [It] formally aims not only at achieving what is in "the public interest," but at doing so by the best means. [It] involves many values...identifying a 'good' best policy and executing it are two different phases; the second does not necessarily follow from the first" (Yehezkel Dror, cited in Megateli, 1980:XXV). These words can best be
Figure 1-1. PEMEX's Sphere of Influence

applied to López Portillo's attempt to use oil as the springboard for Mexico's economic development. As noted, the execution of this strategy proved disastrous for Mexico. Upon President Miguel de la Madrid Hurtado's assumption of office, intimations were made that a re-evaluation of petroleum policy was necessary in order to recover economically and to avoid repeating the previous failure of oversubscribing oil. A systematic review of the available literature has convinced me that, beginning with de la Madrid, and accelerating under Salinas de Gortari, a new transformation is occurring in the formulation of oil policy. Current changes include the opening of the industry to domestic and foreign investment, privatization of segments of PEMEX, the diversification of exports, trimming of subsidies and the workforce, and the liberalizing of contracts to private firms. In the words of George Grayson, "the world oil glut and Mexico's subsequent need to avoid bankruptcy have injected a rare element of pragmatism into Mexican energy policy" (Grayson, 1983:415).

Summary

The Mexican petroleum industry bears the stamp of its origin. After a long period under foreign control, the oil sector was nationlized and became a symbol of the revolution. The enclave period conditioned subsequent policy to reflect a nationalist attitude in the fulfillment of its constitutionally mandated social mission. The oil resource exploitation strategy adopted by President López Portillo in 1976 changed the industry's role from supplying the public sector to a national revenue-seeking firm. The full effects of this program are still being felt as a result of the debt crisis, but there are indications of a "new PEMEX" evolving under Mexico's current administration.
In the following chapter, the historical evolution of the industry, leading to the expropriation, will be presented to reveal how the industry's infancy chartered a conservationist approach to oil policy. Chapter 3 will analyze the inherent problems facing the newly nationalized industry. The evolution of nationalistic oil policy and its subsequent transformation will also be addressed. The proposed new transformation will be evaluated in Chapter 4, relating such factors as the debt crisis, the opening of the economy by President Salinas, and the crisis in the Middle East. Additionally, my findings and informed speculation on the future will be presented in the concluding chapter.
CHAPTER 2
THE FORMATIVE YEARS OF THE MEXICAN OIL INDUSTRY, 1900-1938

Introduction

Studies of Mexico leave little doubt that the early history of its oil industry played an important role in the genesis of oil policy. The early development of the industry began to grow under the control of foreign companies, coinciding with the most dramatic revolution in the history of Latin America. In the words of many scholars, the oil industry seemed ripe as a target of opportunity for the proponents of revolutionary nationalism, as "every facet of petroleum development in Mexico was replete with the grievances most often cited as causes of the Revolution" (Balridge, 1971:32). The use of concessions, favoritism, and inducements to lure foreign capital did attract foreign entrepreneurship, but also served to fuel growing discontent in Mexico over the rightful ownership of Mexican oil and property.

The foreign domination of the petroleum sector was especially relevant to the policy making decisions made concerning the industry prior to and following the expropriation of the foreign oil interests on March 18, 1938. Analysis of the petroleum industry in its infancy gives some support to the view that attempts to formulate policy, regardless of intent, were overshadowed by its history. The industry inherited "the status of a sacred symbol of dignity for a highly nationalistic people" (Grayson, 1980:xvii). It seems a safe assumption that this distinctive quality played a significant part in both the development of the industry and in the making of future oil policy decisions.
The Birth of the Industry

The first significant oil discoveries were made by foreign companies in Mexico at the turn of the century. The oil development was encouraged by the overall policies of the Porfirio Díaz administration (1876-1910). His policies were a direct reflection of Mexico's lack of indigenous capital. "Early in his presidential career Díaz had decided that the development of Mexico depended upon large-scale foreign investments, and he instituted a variety of policies to make Mexico safe and attractive for business" (Smith, 1972:2). The favorable climate for investment provided by this policy included low taxes, physical protection, subsidies, legal guarantees, and governmental concessions to public lands and waters.

A potentially controversial concession which reflected this opening to foreign influence was the Mining Law of 1884, which gave subsurface development rights to the owners of the land. The law, which favored well-endowed foreigners who could lease or buy up land cheaply, reflected the emergence of Díaz' "scientific" approach to policy. His advisors, the so-called "científicos," "were imbued with Herbert Spencer's Social Darwinism and August Comte's positivism, and believed in the inestimable value of technology, the advancement of the country through investment in mines, railroads, factories, and harbors, and the superiority of white men over Indians and mixed-breeds" (Grayson, 1980:4). This group of men freely granted favors to foreign interests. According to J. Richard Powell, the "científicos" were materialists of great ability who "became progressively more the agent of foreign capital" (Powell, 1956:8). Within the framework of the areas emphasized for investment, Porfirio Díaz particularly favored the foreign development of the petroleum industry because he desired to end the country's dependence on coal as the
principal source of energy for the railroads and the mining and electric power industries (Meyer, 1972:4).

Foreign participation in the petroleum industry encouraged by incentives came primarily from British and American interests. In 1900, Weetman Pearson, a British engineer, formed the Mexican Eagle (El Aguila) Petroleum Company. Shortly thereafter, Edward Doheny, a wealthy American oilman, founded the Mexican Petroleum Company. The latter produced the first commercial oil well in Mexico the following year. In his book The United States and Revolutionary Nationalism in Mexico, 1916-1932, Robert Freeman Smith noted that the Mexican elite's granting of concessions and enactment of laws favoring the foreign companies were based on their "simplistic belief that government cooperation with private enterprise would automatically lead to progress and modernization" (Smith, 1972:4). The two oil interests did indeed make progress at an alarming pace; however, it was accomplished at the near-exclusion of a number of Mexican independent oil companies. In the words of Lorenzo Meyer, "the small independent enterprises belonging to both foreigners and Mexicans and numbering in the several hundreds were insignificant" (Meyer, 1972:5). The output of the Mexican independents never exceeded three percent of the national total from the onset of petroleum development until the historic nationalization of the industry in 1938 (Meyer, 1972:5).

The rapidly-acquired importance of Doheny and Pearson diminished the significance attributed to the participation of Mexican capital. On April 3, 1904, Doheny produced the most promising find in Mexico, a well yielding fifteen hundred barrels per day (bpd) at a depth of 1,650 feet (Grayson, 1980:7). The success of this find sharply increased output, and led Doheny to form the
Huasteca Petroleum Company to explore areas not included in his original holdings.

Pearson also profited greatly from the Díaz administration's assistance in land acquisition, helpful legislation such as the right to import all necessary drilling and refining equipment tax free, and the exemption from virtually all other federal taxes. It is believed that Pearson garnered more profits from Mexico than any other man since the Spanish conquest (Rippy, 1959:101). He and Doheny ushered in a new wave of foreign capital to Mexico thereby assuring foreign domination of Mexican petroleum. The petroleum monopolies included the main oil firms of Royal Dutch-Shell, Standard Oil of New Jersey, Gulf Oil Corporation, Sinclair, Cities Service, Warner-Quinla, Continental Oil, Union Oil, South Penn, Mexican Seaboard, and Pierce Oil. Between 1901 and 1938, these firms produced more than 90 percent of the petroleum extracted in Mexico (Meyer, 1972:5).

One common theme throughout the last ten years of the Díaz administration was the extensiveness with which foreign interests, governed by little or no regulation, exploited the favorable concessions granted by the Mexican government. The companies were, in essence, protected by a series of laws facilitating their pursuit of profit. The first of these laws, the Petroleum Law of 1901, enabled the Díaz administration to permit concessions in zones belonging to the state to companies established in Mexico. This law allowed Doheny and Pearson and other private companies to extend their operations to vast expanses of vacant public lands. Díaz wasted little time in introducing legislation reaffirming the subsoil rights of the surface owner by enacting the November 25, 1909 Mining Law. The impact of this law would be felt in subsequent years as it became the basis for the oil interests' resistance to the nationalization of Mexico's oil (Bermúdez, 1963:3).
Foreign oil companies were being favored by the conscious objectives of Porfirian policies, producing growing objections in a country burgeoning with the spirit of reform. The early development of the industry left a historical legacy which reflected a strong sense of national identity rooted in a genuine distrust of the oil barons. The virtual lack of government regulation or restriction on the activities of the foreign oil interests would soon come to an impasse after Francisco I. Madero, the first national leader of the Revolution, seized power from Díaz on 25 May 1911. According to Smith, the Díaz policies propelling oil development in the decade from 1900 to 1910 served to intensify Mexican nationalism and heightened the concern over the foreign monopoly of Mexican oil and property (Smith, 1972:8). By the use of such congenial policies towards foreigners throughout that decade, it is quite clear how the assertion of national control over the nation’s natural resources would become a major concern in the revolutionary period which followed.

The Oil Controversy

Paul E. Sigmund aptly summarizes in the following passage the conflict which consumed Mexico with respect to the petroleum industry prior to the expropriation in 1938:

The picture that emerges from the disputes of the 1920s and 1930s is a rather consistent one. A weak Mexican government continually threatened by internal revolts was attempting to reassert the principle of national ownership of mineral resources, which it viewed as a fundamental law that had been violated by Porfirio Díaz. The oil companies, on the other hand, took advantage of the financial and political weakness of the government to prevent new government controls on their operations or the establishment of the principle that the oil wells were in any sense national property. They were able to enlist the support of the United States government in their behalf, both because they could point to the Porfriano laws under which their original investments had been made and because American
diplomats considered it their duty under international law to extend diplomatic protection to the property of American citizens, whether agricultural or mineral. In defense of American property, the United States possessed a powerful battery of weapons, including denial of diplomatic recognition, control over the flow of arms, withholding of loans, and in extremis armed intervention. (Sigmund, 1980:54)

While differing factions staged a bloody revolution, the Madero administration levied the first tax on oil production in 1912. More efforts to increase fiscal revenue occurred under subsequent administrations (see Table 2-1). Nevertheless, efforts to obtain the taxes per ton of oil produced were not enforced as the years of bitter civil war followed "during which time it could not be said for certain that any particular individual controlled the government" (Gordon, 1975:59).

The oil tax decree imposed by Madero came at a time when Mexico was in dire need of revenue due to rising military costs and general economic distress. This act marked a definite change in the Mexican government's dealings with the oil companies and sparked a vigorous campaign of hostilities between the companies and the government. According to Lorenzo Meyer, "the oil companies' real objection was not to paying the tax itself but rather to setting a precedent whereby the Mexican government could change fiscal policy unilaterally in the future" (Meyer, 1972:31). The short-lived Madero administration, in an attempt to assume a modicum of control over the foreign enclaves, adopted a law requiring all oil companies to register with the government. In addition, the companies were to submit declarations regarding the value and makeup of their enterprises. If the oil companies did not abide by the decree, the Mexican government threatened to fine them 5 percent of the value of the property (Meyer, 1972:32). These actions produced the "catalytic
Millions of Barrels

Source: Powell, 1956:53.

Figure 2-1. Crude Oil Production in Mexico, 1910-1950
"agent," to borrow Robert F. Smith's phrase, which developed the oil companies' hostility towards the Mexican government.

Concern grew out of the fear that Mexico was increasing attempts to assume more control over the operations of foreigners in their country. The restlessness created was more evident among the American oil companies who had already felt the anti-North American sentiment present in Mexico. This feeling originated during the latter years of the Porfirio Díaz administration as he began to offer more attractive concessions to the British in order to prevent American companies from monopolizing the oil market in Mexico. Due to concern for their interests, the American companies turned to the State Department for protection of these interests.

Despite the concern created by Madero's policies regarding the oil companies, his reformist moves did not come to fruition. On February 19, 1913 he was forced to resign and was later assassinated. The long period of internal strife, which followed for more than a decade, prevented the development of the regulatory measures he had introduced. The period that followed was characterized by civil war and the appearance of provisional presidents who "adopted, rescinded and readopted a number of oil laws according to the position of those who happened to be in power with regard to the oil companies and their backers" (Bermúdez, 1963:4). Although early efforts by the Mexican government to change the Porfirián era's policies favoring foreigners gained momentum, the nation was not in a position to break the monopoly foreigners had attained. Raymond Vernon aptly summarized the Mexican reform measures in the Madero administration when he said: "although there were allusions to the need to bring the foreign companies to heel, there was no real substance in these allusions" (Vernon, 1963:61).
The intransigence of the oil companies worsened with each regulatory move adopted by the Mexican government. The Mexican legislations were labeled confiscatory by the oil companies, and their fear of loss of their interests created a series of diplomatic parries and thrusts between the Mexican government and the United States government which did not amount to much of anything. The preoccupation with the international events in Europe also tended to displace the attention of the United States away from Mexico. Nevertheless, the State Department intervened to protect the oil companies whenever measures were adopted that seemingly threatened their interests.

Carranza and the Constitution of 1917

It was not until the administration of Venustiano Carranza (1914-1920), an old Porfirian politician converted to the Madero movement, that a Mexican president proved capable of confronting the oil companies. He was the first president since Diaz who was able to "unleash the forces of the Revolution and bring down the buttress of what was left of the system held over from the Porfirian era" (Meyer, 1972:42). In an effort to capitalize on the growing nationalist sentiment in Mexico, Carranza was determined to assert "the principle that Mexico is free to repeal or modify its laws which must be obeyed by foreign interests, who ought to accommodate their activities to our laws instead of using their influence with their governments in order to force Mexico to accept legislation which is convenient to them" (Philip, 1982:203).

As the war in Europe took hold in 1914, Carranza set forth his policies to modify Mexico's position with respect to its oil resources. His policies from early on in his administration became increasingly important in the future promulgation of the 1917 Constitution, involving changes that eventually transformed the destiny of the Mexican petroleum industry. Carranza
considered oil and other petroleum products to be the property of the nation, and he ordered several decrees and regulations, much like his predecessors, to comply with his petroleum policy. This policy had two purposes: "(1) to return to the nation by means of adequate laws, a mineral wealth of which it had been deprived thoughtlessly and without cause; and (2) to conserve this same wealth by means of strictest regulations based upon sound technical and economic principles" (Bermúdez, 1963:6). He therefore emphasized reforms "which were concerned largely with regulation of foreign enterprise and the promotion of domestic business interests" (Smith, 1972:19).

His policies further exacerbated the already tense relations between the Mexican government and the oil companies backed by the United States government. Carranza was seeking the legal compliance of the foreign oil companies by enacting policies that promoted Mexican participation in the industry. However, he intended to "control--not eliminate--foreign enterprises" (Smith, 1972:76). The use of taxes, drilling permits, and the application of the Calvo clause (whereby the firms had no right to diplomatic protection in the event of a dispute with the government) to titles and leases (Meyer, 1972:46), reflected Carranza's intentions to change the legal status of the industry that was gaining prominence at the hands of foreigners. Again, the oil companies began to worry that the Mexican government was attempting to deprive them of holdings they deemed as having been legally obtained during the Díaz administration. The host of decrees designed to assert national control over the industry foreshadowed much that followed.

Despite the efforts by Carranza to control foreign economic influence during the revolutionary turbulence, the oil companies continued to extract petroleum resources from Mexico between 1914 and 1917. The demand for oil surged during this period due to World War I and the expansion of the
automobile. By 1917, oil had become Mexico's leading export. The world war had created such a demand for fuel that 3,700 bpd on the average were being produced from the 174 wells in operation, which placed them among the most productive wells in the world (Meyer, 1972:61). However, much to the anguish of the Mexican administration, almost all of the wealth attributed to this production left the country. The taxes collected for 1917 contributed less than 4 million dollars (Meyer, 1972:61). To make matters worse, the oil companies aggravated the government's position by paying rebel leader General Manuel Peláez for protection of the oil fields against the forces of Carranza.

There was no shortage of politicians willing to exploit the domestic discontent fomented by the actions of the oil companies. Carranza's determination to maintain pressure on the oil companies in order to gain vested interests by the state culminated in the promulgation of the 1917 Constitution on May 1, 1917. The new Constitution, in the words of Robert F. Smith, "represented an amalgamation of diverse views about reform and the nature of the revolution" (Smith, 1972:7). Its principles are summarized by J. Richard Powell in his work *The Mexican Petroleum Industry: 1938-1950* as follows:

1. to break down the large estates, destroy the system of peonage, and restore communal lands to villages;
2. to give workers greater participation in industry and a greater share in both its benefits and its responsibilities;
3. to overthrow the system of special privilege and industrial monopoly fostered by Díaz;
4. to restore the ownership of subsoil deposits to the state;
5. to control foreign economic influence in industry and agriculture;
6. to exercise controls in production, distribution, and agriculture;
7. to set up a genuinely national transportation system with less emphasis on export and import facilities;
8. to correct the social and political problems arising from the impingement of the two cultures of agricultural feudalism and industrial capitalism so as to form a modern nation-state with equality of rights and;
9. to make effective the separation of Church and state and to destroy the Church's influence in economic life and in education (Powell, 1956:11).

From this point forward, Mexican administrations attempted to make effective the aims expressed in the constitution. However, it is important to qualify that the intention of these administrations was not to expropriate what was considered national territory. Instead, their aim was merely to assert control over the proper use of national property by means of government regulations. Their instrument, as we shall see, was the granting of concessions as opposed to relinquishing full property rights. According to E. David Cronon, "the federal government might grant concessions to develop mineral resources, but the legal capacity to acquire ownership of Mexican land was carefully hedged by some stiff constitutional requirements" (Cronon, 1960:37). In that vein, the provisions centered around altering the status of foreign investments in Mexico. The two most consequential provisions with respect to the oil industry were articles 27 and 123 because they addressed the ownership of subsoil deposits and the status of labor. These two articles became the critical points of contention between Mexico and the oil companies for the next two decades.

Article 27 represented the culmination of various attempts by the nationalist revolutionaries to formulate a new policy which reasserted the principle of sovereignty over subsoil deposits. The lengthy article has been
aptly summarized as follows by Wendell C. Gordon in his work *The Expropriation of Foreign-Owned Property in Mexico*:

In the nation is vested direct ownership (*dominio directo*) of all minerals or substances which in veins, layers, masses or beds constitute deposits whose nature is different from the components of the land, such as . . . petroleum and all hydrocarbons-solid liquid or gaseous. . . .

Only Mexicans by birth or naturalization and Mexican companies have the right to acquire ownership in lands, waters and their appurtenances, or to obtain concessions to develop mines, water or mineral fuels in the Republic of Mexico. The nation may grant the same right to foreigners, provided they agree before the Department of Foreign Affairs to be considered Mexicans in respect to such property, and accordingly not to invoke the protection of their Governments in respect to the same, under penalty, in case of breach, of forfeiture to the nation of property so acquired. (Article 27, May 1, 1917, cited in Gordon, 1975:60)

This provision infuriated the foreign oil companies, who denounced claims that rights to the subsoil could be retroactively applied. This question of retroactivity would be bitterly contested for years to come.

The labor issue also became a focal point of disagreement between the oil companies and the government. Article 123 outlined the basic labor code for workers. It stipulated that the work day would be limited to eight hours and limited night work, it outlawed the performance of dangerous or unhealthy night work by women and children, and mandated one day of rest for six days of work. Additionally, it called for the establishment of a minimum work wage, and granted employers and workers the right to organize as well as legalized nonviolent strikes for cases that were intended to better the rights of workers with respect to management (Powell, 1956:12-13). The Mexican workers, although receiving salaries well above the national average, were treated harshly by exhausting work, shabby living conditions, and unrelenting discipline. The dichotomy existing
between the conditions of the workers compared to those enjoyed by their foreign managers sharply increased the revolutionary fervor of the Mexican populace.

The Sonora Group

The attempts to implement the constitutional provisions by law, particularly Article 27, were met with fierce opposition by the United States and the oil companies. The American concern engendered by this legislation is best captured in the following words:

If Mexico could successfully establish the legal principle that private real property was only a conditional grant, held at the pleasure of the state and easily revokable, then foreign ownership might be questioned in any debtor nation where caprice or malice dictated a drive against alien holdings. If permitted to stand, this principle would threaten foreign investment capital wherever an underdeveloped country might become infected with the virus of revolutionary nationalism. More was at stake than the holdings of foreigners in Mexico, substantial though they were. (Cronon, 1960:43)

The United States' hegemonic response to the retroactive clause embodied in Article 27 included the withholding of diplomatic recognition and the threat of armed intervention to protect American interests in Mexico. Fortunately, the interventionists led by Senator Albert Fall, could not sway public opinion sufficiently to warrant the use of gunboat diplomacy.

The dispute continued to preoccupy the minds of Mexican politicians even after the overthrow and assassination of Carranza in May of 1920. Although a more cooperative phase in company-state relations followed, "Mexican officials did not intend to surrender all hopes of recovering some control of petroleum resources" (Smith, 1972:183). The oil companies feared that the retroactive application of Article 27 was a clear threat to their established rights to the subsoil obtained under previous laws. The administrations which followed the overthrow
of Carranza were composed of the so-called Sonoran dynasty of northern generals under Alvaro Obregón and Plutarco Elías Calles (Durán, 1985:162), who sought to obtain recognition by the United States government in spite of the litany of regulatory decrees and the constitution which they had inherited.

Under Alvaro Obregón (1920-1924), the focus of diplomatic recognition took center stage in an effort to stabilize his government and improve Mexico's position in the eyes of the international community. Meanwhile, oil output began to decline gradually after peaking in 1921. The daily yield for 1921 was an all-time high of 193,398 bpd, but a conglomeration of factors mitigated against investments in exploration and development (Grayson, 1980:13). The oil companies' uncertainty over ownership rights, prompted by the 1917 Constitution, caused them to extract oil vigorously through 1921, resulting in the near depletion of existing wells. Drilling permits, which had been banned under Carranza, were reinstated by Obregón in an effort to revive exploration. However, the stalemate in negotiations concerning the ownership of subsoil deposits spoiled the introduction of large investments by the oil companies.

The Bucareli Agreement of 1923 marked the high point of the Obregón administration's efforts at forging an oil policy that would quell ongoing disagreements between the state and foreign companies. This agreement prescribed that the oil companies had the right to explore for and produce petroleum in the subsoil deposits as long as "positive acts," acts that showed the intention of the owner to exploit oil (Powell, 1956:14), existed prior to the promulgation of the 1917 Constitution.

The Mexican government succeeded in regaining diplomatic recognition prior to the signing of the agreement, but due to the informal nature of the subsequent discussions of Article 27 no headway was made on this divisive issue. As the question of ownership remained unanswered, the controversy ensued in the
face of continued intransigency by the oil companies. The oil men unwillingly complied with the host of regulatory decrees while protesting that the taxation measures were confiscatory. Additionally, the requirement of confirmatory concessions was viewed as a violation of international law. For both complaints, the oil companies followed the common practice of seeking diplomatic protection of their interests. Again, Washington stood firmly behind the oil company position as evidenced in the words of Secretary of State Frank B. Kellogg: "The government of Mexico is now on trial before the world, and we cannot countenance violation of her obligations and failure to protect American citizens" (Secretary of State Kellogg, cited in Cronon, 1960:47-48).

On December 1, 1924, Obregón's right hand man, General Plutarco Elías Calles was elected as Mexico's president. In the words of Antonio J. Bermúdez, "petroleum matters from 1918-1925 were mostly settled by an anomalous system of presidential rulings which often produced disconcertion and provoked difficult and even contradictory situations, as each ruling was handed down for a single case but nevertheless might serve as a precedent for other but never identical cases" (Bermúdez, 1963:9). The situation changed when President Calles passed the Petroleum Law of December 29, 1925, which implemented Article 27 of the Constitution. With this legislation, Mexico proclaimed "the oil industry a public utility, and oil concessions were henceforth to be granted separately for exploration and for production" (Durán, 1985:166). The affirmation of direct national ownership of the oil deposits in the form of a bylaw to the Constitution went beyond the rhetoric of revolutionary nationalism expounded upon by Calles' predecessors, and remained the foundation of the petroleum law in force up to the time of the expropriation in 1938.

The new law stated that all contracts made prior to 1 May 1917 were still valid, but limited them to fifty years from the date production started. The oil
companies once again sought the protection of their government. The aggressive elements in the State Department led by the new ambassador to Mexico, James Rockwell Sheffield, proposed an international embargo on oil shipments from Mexico. Furthermore, these quintessential hardliners in Washington insisted "that in the event Mexico did not give in, war was the logical terminal point of this policy" (Smith, 1972:235). Fortunately, the lack of a national consensus in the United States mitigated against adopting an interventionist policy. Nevertheless, Calles revised the law in 1928 under increasing pressure from the United States government.

The revision embodied in the decree of January 3, 1928 revoked the time limit of fifty years, thus making the oil companies concessions' indefinite. The amendment was a great victory for the oil companies in their struggle with the Mexican government. Nevertheless, due to the constant pressures of successive Mexican administrations, the incentives for increased exploratory drilling waned in the face of a political climate of rising nationalist tendencies. It is understandable therefore, that drilling began to decline precipitously, the old wells obtained during the Porfirian era began to give out, and the oil companies began to turn their efforts to Colombia, Venezuela and the Middle East where the risks were not as great.

As reflected in Figure 2-1, oil production had reached a peak of more than 193 million barrels in 1921 and fell off during the remainder of the controversy. The decline, as mentioned, was attributed to the exhaustion of the old oil fields, uncertainty engendered by Mexican laws and decrees, and high taxes (Powell, 1956:15). Despite this decrease in oil production, the controversy continued after the Calles administration. During the subsequent Portes Gil, Ortiz Rubio, and Abelardo Rodríguez administrations, the debate centered around the issues of
Figure 2-1. Crude Oil Production in Mexico, 1910-1950

Source: Powell, 1956:53.
taxation and drilling permits. These presidents adhered to the 1928 agreement which had modified the Petroleum Law of 1925, and the oil reforms envisioned by their revolutionary predecessors would remain on hold during this period. The Depression of 1929 was one contributing factor which put to rest the insistence on nationalization for the time being.

**Lázaro Cárdenas and the Expropriation**

The election of Lázaro Cárdenas in 1934, a young intellectual considered to be more radical than the older generation of revolutionary leaders, changed the program of enforcing the Constitution of 1917 which had not been fulfilled by his predecessors of the Sonora group. His staunch reformist tendencies "were especially sensitive to the decline in Mexican idealism throughout the last years of Calle's domination, and he believed that his country needed a restorative dose of Mexican nationalism" (Mancke, 1979:51). President Cárdenas was an advocate for the reinvigoration of nationalism. It is against this backdrop that the oil controversy must be understood. Cárdenas' incessant desire to fulfill the ideals of the Mexican revolution and implement the precepts promulgated in the 1917 Constitution, became the foundation upon which he sought to rekindle Mexico's revolutionary nationalism. The following words extracted from Cárdenas' private diary state his feelings regarding foreign presence in the Mexican oil industry:

Today Mexico has its great opportunity to shake off the political and economic yoke that the oil companies have placed upon us while exploiting one of our most important resources for their own benefit and holding back the program of social reform set forth in the Constitution. Various administrations since the Revolution have attempted to do something about the subsoil concessions being enjoyed by foreign firms, but up until now domestic problems and international pressure have mitigated
against this effort. Today, however, the circumstances are different: there are no internal struggles and a new world war is about to begin. (Lázaro Cárdenas, 1938, cited in Mancke, 1979:54)

President Cárdenas' first step in this effort was the passing of legislation in 1936 granting the Mexican government the right to expropriate any property for public use with appropriate compensation granted to the oil companies. The compensation to be paid would be based on the fiscal value of the property as determined by an appropriate court. Additionally, the previously mentioned labor question addressed in Article 123 soon became the main focus of his actions against the oil companies.

The emerging labor conflict became the main threat to the oil companies in early 1936 when the various oil unions united into one, Sindicato de Trabajadores Petroleros de la República Mexicana (Union of the Oil Workers of the Republic), or STPRM. Before this took place, the oil workers were organized in thirty-two locals with little or no uniformity. In fact, labor contracts, wages and working conditions varied within the same company (Durán, 1985:168). Cárdenas wasted little time in affiliating the STPRM with the Confederación de Trabajadores de México (CTM), the government-controlled workers union created in 1936, thus placing the STPRM under government influence.

By cementing the oil workers under the control of the government, Cárdenas proceeded to arbitrate labor difficulties between the workers and the oil companies. Shortly thereafter, STPRM convened a general assembly resulting in the first collective contract covering all oil workers. A series of demands directed towards the oil companies was also drafted, which included better wages, fringe benefits, and working conditions. It was this set of
demands which turned out to be the deciding factor in the dramatic steps taken by Cárdenas in the expropriation of the oil companies.

The workers' foremost demand was an increase in wage and welfare benefits in the amount of 26,329,393 pesos. The new concern was not over the payment of the specified sum, as was the case in previous administrations over taxation measures, but rather "about the possibility that a precedent would be established in Latin America of intervention in their finances" (Philip, 1982:222). The companies therefore resisted, as they had always done, this time pleading for an injunction on the union's demands. The Mexican government interpreted the companies' protests as a refusal to comply. The STPRM followed with instructions to the workers to cease work. The workers strike increased the already tense relations between labor and management, and became more so when the Mexican government insisted that wages should still be paid to the workers while they remained away from their jobs. Furthermore, Cárdenas warned that if an agreement was not reached, the federal government would be forced to intervene directly, placing the industry in Mexican hands. This threat, although later denied by Cárdenas, was not taken seriously by the oil companies who "did not think that Mexico would dare to intervene or expropriate" (Meyer, 1972:158).

The controversy reached a stalemate on the issue of the wage increase. The representatives of the big companies, in meetings with Cárdenas, agreed to an increase of 20-million-pesos, and threatened to close down their operations if forced to pay the 26-million-peso increase. This obstacle prevented the two sides from reaching an agreement. The intransigence of the oil companies in late 1937 and early 1938 towards the wage problem "did no more than hasten the effective oil nationalization" (Philip, 1982:224). This is
precisely what prompted President Cárdenas to expropriate seventeen American and European oil corporations on March 18, 1938.

Summary

The dramatic step taken by Cárdenas was the culmination of a controversy that had resulted from a succession of events dating back to the Porfirian era. Until the announcement of expropriation, the act which transformed the Mexican oil industry from a foreign enclave to that of national ownership, most of the official acts had been designed to regulate the industry rather than steps toward nationalization (Powell, 1956:24). The constant pressures placed upon foreign interests, against the backdrop of the rising antagonism of the revolutionary leaders, were either resisted or ignored. The Cárdenas administration finally took the decisive step to fulfill the social reform provisions of the Constitution after the seeds had been sown in previous administrations.

The oil companies' strategy of requesting the United States government's intervention to resolve the conflict further heightened the opposition in Mexico, as it was considered a threat to national sovereignty. In the words of J. Richard Powell, "the expropriation was a consummation of the reaction to the Porfirian free-for-all, open-door policy toward foreign capital, and the more immediate objective of the expropriation was to assert once and for all the supreme authority of Mexican law and legal procedures" (1956:25).

Perhaps most important to the future of the petroleum industry and part of the focus of this paper is the shift in the formulation of oil policy that would transpire as a result of its historical evolution. The attitudes which developed as a result of the history of foreign domination of the petroleum industry laid the foundation for a nationalistic oil policy. Since the reform-minded
administrations up to this time had been opposed to the exploitative export policies of the foreigners, subsequent administrations set out to change the structure of the industry. Their agenda became part of a move towards self-sufficiency, and conservation of their newly acquired industry.
CHAPTER 3
FROM THE FORGING OF A NATIONAL OIL COMPANY TO THE OIL BOOM, 1938-1982: THE FIRST TRANSFORMATION

Introduction

The year 1938 marked a turning point in the history of Mexico. The nationalization of Mexican oil was a transcendental event marking the expulsion of foreign oil interests in the name of national sovereignty. The nearly four decades of controversy between the oil companies and the Mexican government accentuated this growth of nationalist sentiment. The consequences resulting from the triumph over the foreign enclaves played a large role in the determination of oil policy in the years that followed. The deeply entrenched disregard for foreign domination exhibited by previous administrations conditioned the conservationist policies of subsequent administrations.

The expropriation itself did not arise from a deliberate, well-thought out economic development plan in which the oil industry was designated a specific role. Instead, "state control of the industry became a triumph of the revolution with nationalist ideals of the revolution providing an overall policy umbrella" (Durán, 1985:171). The policies which developed out of this particular history however, soon provided Mexican presidents with the political and economic vehicle to fulfill social reform provisions of the Constitution by the use of natural resources finally under direct government control. Before these policies could be implemented, the government had to come to grips with an industry that "was
pretty much a hodgepodge that needed extensive reorganization to form a rational national system" (Powell, 1956:36). The oil industry prior to the expropriation included up to 447 companies (Megateli, 1980:16-17), operating more or less independently. Mexico thus faced a period of transition and needed to coalesce this "hodgepodge" into an adequate and efficient organization.

The Formation of the National Oil Company

The post-expropriation stage of the Mexican petroleum industry did not begin without difficulties. The burden of taking control of an industry that had been managed by foreigners for so long presented a host of new problems to the Mexican government and the oil industry. As previously noted, wells dating back to the Porfirio Díaz administration were literally depleted, and foreign company investments had declined in the late 1930s, partly due to their anticipation of the expropriation measure. The petroleum facilities required extensive upgrading and repair parts. Additionally, existing refining and transport facilities were designed to facilitate export requirements, as pipelines led to Gulf ports rather than to the industrial urban centers in the interior. The newly nationalized industry "was deformed and there were difficulties with transportation equipment and a serious lack of refineries in a suitable condition to supply the increasingly important domestic market" (Philip, 1982:320). The country had obtained the basic infrastructure for the industry, but lacked the modern technology that would guarantee continuous operations in the manner envisioned by the Cárdenas administration.

Management of the newly nationalized industry also posed difficulties for Cárdenas. The withdrawal of qualified foreign technicians and administrators at the time of expropriation left a vacuum to be filled by a handful of technically
proficient Mexicans. The Mexican government, however, was not totally unfamiliar with the operation of the industry. As early as 1933, Cárdenas formed a semi-private enterprise called *Petróleos de México* or *Petromex* to obtain some control over the domestic market for oil. This organization was charged with "fulfilling the government's oil needs, especially for the National Railways, and . . . training a technical staff to run the petroleum industry" (Durán, 1985:174).

The inspiration to form this organization had come ten years prior to nationalization. In 1928, Cárdenas attended a speech by Mosconi, an Argentine general, at the National University in Mexico, where the general lashed out at the international oil companies, calling them "exploitative trusts." According to Carl E. Solberg, Cárdenas "espoused an ideology of petroleum nationalism similar to that of the Argentine general" (Solberg, 1979:182). The fortunate outcome of this inspiration was the creation of an institution devoted to the training of technicians, a decision that would reap great benefits upon nationalization of the oil companies.

Two other rulings, both of which were enacted at the time of the creation of *Petromex*, also contributed to the preparedness of managers and technicians who became the heirs of the nationalized industry. The Labor Law of 1931 required that at least 90 percent of the workers in any company should be Mexicans. Equally important was the immigration ruling of 1933 which specified that foreign technicians doing contractual work in Mexico were required to train the locals to replace them. These decisions were important for Cárdenas in the long term, as they provided for some expertise in overcoming the initial obstacle of managing such a complex industry. Moreover, President Cárdenas benefitted from a smooth transition by silencing international opposition, as well as domestic critics who deemed nationalization a failure for
Mexico. Cárdenas was keenly aware of the many skeptics who accused Mexico of acting strongly. To discredit the critics, "the government needed to demonstrate that Mexicans could assume full responsibility for an entire industry and thus make economic nationalism more than a political platitude" (Mancke, 1979:77).

The workers' union, armed with the aforementioned experience, first took charge of operating the industry by creating administrative councils (consejos de administración). These sections of the labor syndicate were organized locally on a company basis. At the national level, the Mexican government established an administrative council to supervise the operation of the industry and to formulate plans for permanent organization. In an apparent response to an earlier promise made by President Cárdenas that the industry would be turned over to the workers as he had done with the railways, STPRM took the reins "with about the same administrative autonomy in technical matters as had the managements of the foreign companies" (Lewis, 1959:164-5). The industry took on a "commitment to syndicalism: that is, a belief that the workers employed in the petroleum sector should have the right to operate it through their labor organization" (Grayson, 1980:19).

Ironically, the same labor organization which played such a pivotal role in the expropriation, now became immersed in conflict with the government it assisted in that endeavor. The strains between labor and government evolved as the locals began to take autonomous action in the management of their companies as did their foreign predecessors. In the words of J. Richard Powell, "it was this tradition of independent action which presaged ill for future centralized control" (Powell, 1956:36).

This independent action was a direct result of the labor leaders' demands for control and management of the industry. Cárdenas, however,
departed from his earlier promise because the nationalized railway system's service had declined since its placement under the control of the worker's union. Cárdenas feared that the same debilitating effects would befall the oil industry, and thus formed Petróleos Mexicanos (PEMEX) on June 7, 1938. PEMEX was charged with managing the exploration, production, and refining aspects of the industry. A second public corporation, the Distribuidora de Petróleos Mexicanos, was also formed by Cárdenas to conduct the marketing of petroleum and its derivatives. These public corporations, operated jointly by labor and government, would fulfill Cárdenas' contention that the "petroleum industry operated for the benefit of all Mexicans, not simply the ones working in it" (Grayson, 1980:20).

The formation of the two public corporations did not quell the conflict between the Oil Workers' Union and the government. Between 1938 and 1946, the union contested the following government-supported policies:

1. restructuring the industry on a nationwide basis, eliminating duplication of functions carried out by the expropriated firms--e.g., advertising, sales, engineering, accounting, and medical services;
2. reorganizing the Oil Workers' Union to reflect the new structure of the industry;
3. conferring upon PEMEX the right to appoint "confidential personnel" to key positions;
4. authorizing PEMEX to eliminate positions it deemed unnecessary, limit the number of permanent employees, and reduce the number of temporary employees to no more than 10 percent of the permanent work force;
5. holding the line on pay increases, reducing administrative salaries to equitable levels, and limiting such benefits as allowances for housing;

6. emphasizing merit over seniority in making promotions;

7. demanding greater efficiency and output from workers;

8. allowing management a free hand in reassigning workers to other parts of the country (Powell, 1956:129).

Management of the industry by the two public corporations resulted in increased expenditures due to duplication of effort, poor coordination, and excessive hiring by locals. Bloating of the work force was evident as employees increased from 15,895 in April, 1938 to 19,316 by January, 1940 (Grayson, 1980:20). As the local labor leaders "were enjoying a period of unsurpassed prestige and power and were rapidly building vested interests in local control" (Powell, 1956:40), the board of directors of PEMEX and the Distribuidora found it difficult to bring local activities under control. It must be remembered that this transpired at precisely the same time as production was falling and the government was facing international pressures in the form of boycotts and compensation disputes. Richard B. Mancke, in his book Mexican Oil and Natural Gas: Political, Strategic, and Economic Implications, aptly summarizes this initial hardship facing the Mexican government over control of the industry:

The resulting diffusion of responsibility led to the duplication of effort and wasted expenditures. What was even more harmful was that it proved impossible to control the power of the local labor unions. By early 1940, the strains between PEMEX and the Distribuidora, on the one hand, and between labor and government agencies, on the other hand, were so debilitating that President Cárdenas ordered abolishment of the Distribuidora and transferred its assets and functions to PEMEX. (Mancke, 1979:78)
With this action, President Cárdenas designated PEMEX as the controlling body of the Mexican petroleum industry. From this point forward, PEMEX set out implanting its mark by coordinating the local labor councils and making important structural changes as an organization of the government.

Several factors exacerbated the disputes which plagued labor-government relations. In addition to the previously mentioned run-down state of the industry, the government was required to pay an indemnity to the expropriated companies, to pay salaries for a work force that had grown precipitously since nationalization, and was also faced with a series of international retaliatory acts which included economic boycotts. The prospects for a smooth transition were not encouraging.

The struggle over expropriated property proved as difficult for the Mexican government as the pre-expropriation conflict over control of the industry. The affected oil companies, which had developed a trademark of intransigence, adamantly refused to discuss a settlement with the Mexican government. Instead, the oil companies relied upon a series of retaliatory acts that were designed to pressure the Mexican government into reversing its decree. In the words of Robert Engler, "the international oil companies began a "'private war,' lasting many years, against the Mexican government by boycotting Mexican crude oil and attempting to restrict access to petroleum equipment and credit" (Engler, 1961:193-97). The loss of foreign markets coupled with embargoes orchestrated by the oil companies on critical petrochemical, technical and other material supplies disrupted Mexico's efforts to forge a national oil company (Gentleman, 1984:76).

The State Department, having tacitly recognized Mexico's right under international law to expropriate, took issue only with the amount and method of compensation. The unwillingness of the companies to pursue an
accommodation with the Mexican government complicated the State Department's efforts on this issue. To make matters worse, the Mexican government and the State Department haggled simultaneously over the thorny issue of compensation to American landowners whose property had also been expropriated. All the while, President Cárdenas expressed a willingness to settle these issues, but to no avail. He contended that Mexico would not pay for the subsoil oil, nor return the property. The diplomacy of the period which grew out of the expropriation question thus became a very delicate series of exchanges "complicated by the seemingly irreconcilable stands taken by the two sides" (Cronon, 1960:230).

The general position of the oil companies is summarized in the words of W. C. Farish, President of Standard Oil of New Jersey:

> It is our opinion, as previously observed, that the only possibility of a successful operation of the properties for the benefit not only of Mexico but of the United States and all the parties concerned is to reinstate company management under a long-term contract which will give to Mexico and her people that economic advantage which Mexico has sought. A settlement not based on this principle would leave the matter in a worse position than it is now. (Farish, August 27, 1941, cited in Cronon, 1960:263)

These words expressed the intention of the oil companies to return to the old order of doing business in Mexico. Furthermore, their position implied that they had not accepted the fact that Mexico could legally expropriate property. The companies' views did not reflect the attitudes of the times either in Mexico or in Washington. The two countries had finally come to terms on the agrarian question in November, 1938, further weakening the oil companies' position of hard-line tactics. It soon became apparent that the oil companies were more concerned with whether their assets in other Latin American countries would suffer the same fate than they were in reaching a settlement in Mexico.
Suffice it to say, all subsequent initiatives of the oil companies were initiated with the purpose of seeking the return of oil properties in Mexico, investing new capital, and preventing the setting of a precedent throughout Latin America with respect to other company assets.

The State Department and the Roosevelt Administration soon became impatient with the nonconformity of the oil barons. The initial loss of American and British markets for Mexican oil, due to boycotts and embargoes, were soon recouped by Mexico as a result of increased trade relations with Germany, Italy, and Japan. Mexico's turn to the fascist bloc in the face of the oil companies' retaliatory acts troubled the U.S. Administration, which feared an impending war with these nations. Moreover, the Roosevelt administration "was committed--ideologically and strategically--to fostering inter-American solidarity through its Good Neighbor Policy" (Cronon, 1960:231). These factors did cause some internal political realignments in Washington, favoring closer ties with the Mexican government. In the words of Lorenzo Meyer, "Roosevelt did not appear to be willing to sacrifice inter-American unity on the eve of a world conflict for the return of the companies' property" (Meyer, 1972:187).

The dispute continued unresolved into President Ávila Camacho's administration despite a change of tune in Washington. The State Department, by this time, declined to identify itself with the companies' position and instead "took into account the different positions within the U.S. administration as well as the world situation" (Meyer, 1972:185). With continued pressure from Ambassador Daniels in Mexico, the Roosevelt administration and the State Department became convinced that the time had come for the two governments to work out a solution. This was particularly true since, with the outbreak of war, navy strategists advocated the use of Mexican ports for strategic naval bases.
Josephus Daniels, as recorded in a letter to President Roosevelt, was keenly aware of the importance of settling the oil dispute:

There is a general desire here that the negotiations reach a satisfactory settlement of old controversies. The lion in the path has been--it may be now--the greed of the oil companies. Mexico will never return the subsoil to private companies. They ought to be satisfied with fair payment of the real values. Doheny and Cowdray took many millions from the oil fields for which they made little return. The present owners ought to be paid, but up to now they have not been very cooperative. Quite the contrary. I know that you will not permit the more important matters to fail because the oil companies insist upon the old status quo. It is as dead as Julius Caesar. (Daniels, March 11, 1941, cited in Cronon, 1960:259)

The eventual "global settlement," to borrow E. David Cronon's phrase, came on November 19, 1941 when Secretary Hull and Ambassador Castillo Nájera agreed to the compensation terms. The four year dispute had provided many interesting lessons on the art of diplomacy, but more importantly for the Mexican government, it surpassed critical hurdles in the early stages of the nationalized industry. Furthermore, the constant machinations of the oil companies in their efforts to return to past policies served as a reminder to the Mexican government of the controversial history that led to expropriation.

Throughout the oil dispute, the management issue between labor and the Mexican government loomed in the background. Hostilities continued to plague the Cárdenas administration precisely at a time when the industry was beset with financial difficulties, economic embargoes, and the indemnity issue. The political weapon of a strike, an act that would devastate the crippled industry, became commonplace, as certain factions of the union were known "to call for a strike and even to commit sabotage" (Silva Herzog, 1941:281). These threats remained despite the designation of centralized control of the industry under the tutelage of PEMEX.
With remarkable resiliency in the face of both internal and external pressures, the Mexican government overcame an assortment of obstacles to nationalization of the industry. The Cárdenas administration coped with these hurdles for three reasons: "the government as a matter of policy had long required the oil companies to train Mexican personnel in the industry; second, the government had actively participated in the industry; and third, the labor syndicate and Mexicans in general received the announcement of the expropriation with such enthusiasm and support as to contribute to success" (Powell, 1956:34).

The expropriation and the events which preceded and followed it certainly left an indelible mark on the development of the petroleum industry. Most important with regard to policy formulation, the bullying and conniving of the foreign oil companies during this period "convinced Mexican leaders as well as the public at large that foreign capital should play an emphatically restricted role in Mexico's emancipated petroleum sector" (Grayson, 1980:23).

**Incorporation of Petroleum Nationalism**

With the opposition effectively silenced, the industry set about making its mark on Mexico. By this time, the dilemma facing the new management of industry was the "enclave" character that it inherited in 1938, with its predominantly export policy inclination. "The export orientation of the industry was clearly felt to be unsatisfactory by the new management group that later came to be known as PEMEX's 'Generation of '38'" (Gentleman, 1984:76), the engineers, technicians, and managers of the state corporation. In response to the historical legacy of the industry under foreign domination, the "'Generation of '38' consistently advocated conservation of Mexico's national patrimony lest output plummet again, as it did following the 1921 production peak, or the
industry once more would become the focus of foreign aspirations" (Grayson, 1980:22-23).

Allegiance to the ideals of the revolution conditioned the role of PEMEX by devoting production to serving the public sector, as opposed to a profit-seeking role. The initial aims of the industry included: furnishing subsidized fuels to mines, farms, factories, villages, state agencies such as the railroads, the military, and the state electric-power company (Grayson, 1980:23). This principle generally guided Mexican presidents from 1938 through the mid-1970s when the country experienced an unprecedented oil bonanza. It was during this interim period that Mexico witnessed conscious attempts by policymakers to ascribe to nationalist oil policies.

The election of General Manuel Ávila Camacho as President in 1940 ushered in a new era of political change in Mexico. Mexican politics during the 1940s presented a sharp contrast to the radicalism of the preceding decade. Ávila Camacho's election represented a move to the right when contrasted with the radical government of Cárdenas which brought about the 1938 oil nationalization. Beginning with his reference to inter-American solidarity in his inaugural address, Ávila Camacho's administration reflected a more cooperative phase in relations between the United States and Mexico. The two nations, despite a history of hostile relations, came to terms on important defense and economic issues.

In 1941, Assistant Secretary of State Sumner Welles and Castillo Nájera signed an agreement granting both nations the right of transit and the use of airfields for military aircraft. The United States also contracted to buy eleven strategic minerals from Mexico, a surprising move considering that the oil dispute over compensation remained unresolved. Additionally, Ambassador Daniels reported to the United States government that Mexico was cooperating
in the American Embassy's efforts to disrupt German subversive activities in Mexico. The most telling sign of Mexico's attempts at rapprochement with the United States came with Ávila Camacho's announcement that "Mexico would go to war if the United States were attacked" (Cronon, 1960:260).

The dispute between the Mexican government and the oil companies, as previously described, was also settled during the Ávila Camacho administration. His policies with respect to the industry were naturally influenced by the political change of direction; however, "he was more concerned to balance rival pressures than to take a pronounced position of his own and so reversal of policy was muted" (Philip, 1982:330). The passage of the petroleum law of 1941 by presidential order on December 16, 1941 exemplifies this point.

The basic law asserted the "inalienable" ownership rights of the state over all petroleum deposits, and also declared the industry a "public utility." These declarations obviously denoted the strong influence of nationalist dogma from the pre-expropriation era. Further solidifying government control over the industry was the detailed regulation stating that the industry was subject to exclusive federal jurisdiction, including the levying of taxes. Exploration and production of oil was permitted by only three types of agencies: "(1) direct dependencies of the government, (2) government corporations created by law for that purpose, and (3) private interests on a contractual basis under certain circumstances" (Powell, 1956:44-45). Furthermore, with regard to contracts, authorization could only be granted to Mexican nations, companies of Mexican nationals, or to companies of "mixed capital" in which the Mexican government held a majority of the controlling stock (Powell, 1956:45).

The aspect of the law which indicated that Mexico might be willing to allow the return of foreign investment into the oil industry was its provision "for
joint ventures between the Mexican state and foreign capital in oil exploration, provided that the state took 51% of any partnership" (Philip, 1982:74). In this matter, it can be seen that Ávila Camacho was an astute politician. Even though he was committed to earlier political openings with the United States, he realized that severe political repercussions would erupt if such measures evolved. In the words of E. David Cronon, "President Ávila Camacho feared to break with the Cardenistas" (Cronon, 1960:266). The "ávilacamachista" administration found itself unable to pursue an inclination towards foreign investment in the petroleum industry as the left, including Cárdenas, "were able to block any real reversal of policy" (Alemán Valdés, 1977:491).

The threat of a political backlash obviously influenced the laws regulating petroleum development after expropriation. The left adamantly contested any policy initiatives which directly threatened their nationalistic position. The political ramifications of pursuing such measures were best expressed in the words:

Uncertainty in the law and hostility among labor groups created serious obstacles to participation in the industry by foreign capital. The law limited the ownership of petroleum deposits to the nation itself, and exploration for and exploitation of oil deposits were hedged around with many restrictions which laid a haze of illegality over foreign participation in oil development. Labor groups sought to maintain the nebulous legality because they opposed anything even remotely resembling foreign economic imperialism. It is likely that domestic capital, at least tacitly, supported labor in this hostility because Mexican capitalists opposed foreign competition. (Powell, 1956:50)

Due to the likely political consequences of a foreign oriented oil policy, PEMEX under President Ávila Camacho occupied itself with infrastructure projects and with reorganization efforts begun under Cárdenas. One important project which entailed foreign involvement was the U. S. $10 million loan
obtained from the Export-Import bank in 1943. The loan was earmarked for a refinery at Atzcapotzalco for the purpose of improving Mexico's capability to supply the domestic market. This was in line with the expressed goals of nationalist oil policy.

The most problematic issue facing Efraín Buenrostro, PEMEX Director General for Ávila Camacho, was the restoration of harmony between PEMEX and the STPRM. Tensions were high during this administration over wage scales, hiring and firing practices, and general workers' benefits. In the face of union strikes and unrest spurred on by spiralling inflation, Ávila Camacho instructed PEMEX to award an increase in wages. "The result was that the portion of PEMEX's budget devoted to compensation shot up from 90 million pesos in 1943 to 123 million in 1944" (Grayson, 1980:21), an extremely burdensome increase for the industry. Moreover, the government granted the union greater autonomy in filling vacancies, and awarded workers better holiday pay and a forty-four hour work week. These compromises ushered in a short-lived period of calm, before the petroleum workers' union once again emerged as a player on the national political scene during the next administration.

On 1 December 1946, Miguel Alemán Valdés, the first civilian president since the Mexican Revolution, took over the presidency from General Ávila Camacho. His victory "spelled the demise of what socialist programs still survived from Cardenism" (Zoraida Vázquez and Meyer, 1985:164). Alemán embraced the same political change to the right as his predecessor. His inclination towards better cooperation with the United States and his staunchly pro-Washington stance on Cold War issues was highlighted by the symbolic first visit of an American president to Mexico in March, 1947. President Harry S. Truman's visit was presumed to presage "a new era of cooperation in Mexican-
American relations ushered in by World War II" (Castañeda, 1988:23).
Nevertheless, the undoubtedly nationalist flavor of the nation's petroleum policy, outlined in the law of 1941, "did not change significantly despite Alemán's sympathy for the United States" (Philip, 1982:330).

President Alemán's right hand man in oil matters, Director General Antonio J. Bermúdez, became perhaps the most influential individual in energy matters in the industry's history. The fact that Bermúdez had served twelve years as Director General, longer than any other director, was representative of his ability to persevere during trying times for the industry. Bermúdez developed a reputation for honesty while amassing a fortune as a businessman and by cleaning up a corrupt Ciudad Juárez as its mayor. Alemán viewed Bermúdez as the likely choice for the job of taming union opposition and setting the ailing industry into motion.

The businessman-turned-politician was a "key figure in persuading Alemán not to make major changes" (Philip, 1982:330) to the law governing oil policy. Alemán was keenly aware of the necessity for holding the line on foreign investment in the oil industry, when he said that the Mexican petroleum law (which could not be changed because of political consequences which would follow any tampering with it) made it impossible for any other than Mexican companies to operate in Mexico except under such contractual terms as were contemplated (Miguel Alemán cited in Philip, 1982:330).

His position was further influenced by the long-standing problem between labor and management. While his predecessor's inclination was to reach a compromise with labor syndicate leaders, Alemán resorted to "using and refining the mechanisms of authoritarian political control to keep the demands of labor to a minimum" (Zoraida Vázquez and Meyer, 1985:164). In reaction to illegal union activities, Alemán mobilized the armed forces to break
up striking oil workers, claiming that "it was his duty to maintain order in accordance with the law, to protect the institutions of the country, and to prevent individuals or groups from undermining the constitutional regime" (Powell, 1956:148).

The stormy relationship between labor and the administration served as a deterrent to any change in policy. These circumstances made it clear that Alemán did not wish to add to his problems by inviting foreign investment back into oil. Instead, Alemán and Bermúdez joined forces to maintain order in the industry with two objectives in mind, the reduction of trade union power and the strengthening of managerial control. The two leaders found it necessary to play the nationalist card in order to deter radical, left-wing opposition within the union ranks.

First on the agenda for this administration was negotiation of an agreement with labor leaders who Bermúdez claimed were threatening the well-being of the industry. The following list of grievances was the preface on which Bermúdez based his contention:

1. the financial crisis faced by PEMEX resulted from its heavy responsibilities under the existing labor contract. The work contract caused expenses to exceed revenues;
2. this disequilibrium prevented the organization from meeting its obligations and paying indemnification claims;
3. financial imbalance prevented the industry from carrying out necessary exploration and refinery expansion;
4. an excess of personnel, due to vested interests in the syndicate, weighed heavily upon the industry and the country;
5. extreme disorder in the system of job classification was an obstacle to efficient development of the industry;
6. the syndicate had wrested from the administration powers necessary for a program of conservation, maintenance, and development;

7. the effectiveness of management was reduced by the contractual requirement that certain classes of confidential employees needed for administration and supervision be chosen from syndicate personnel (Powell, 1956:147).

Bermúdez, with Alemán's backing, acted swiftly by firing fifty syndicate leaders, including the entire executive committee, after an STPRM-initiated strike in December, 1946. The strike was precipitated by the syndicate's eight year attempt to obtain an average salary of twenty-four pesos a day, approximately ten to twelve times the national rate. The petroleum workers' strategy of eliciting support for the wage increase by claiming "hero status" in the "battle against imperialism" backfired, as resentment spread to other powerful elements of organized labor and public opinion was generally "disgusted with the odorous conditions of their national oil industry" (Cline, 1965:253). The two year accord, resulting from Bermúdez' efforts to resuscitate the industry, gained PEMEX more autonomy in trimming the workforce, transferring workers, and contracting with private firms. The last item "ended the STPRM's exclusive right to serve as contractor for pipelines, refineries, offshore drilling, roads, schools, or any other project" (Grayson, 1980:25), which up to this point had given impetus to corruption by syndicate leaders who would line their pockets through the practice of hiring confidants. What is most interesting with regards to the elimination of this contracting privilege is that it somehow slipped back into the purview of the oil union. Although a definite date cannot be established, it would appear that official tolerance of the union by future president López Mateos might have facilitated its return.
Under the same agreement, the STPRM managed to gain an acceptable wage increase, thus allowing the administration to concentrate on issues directly related to the acceleration of the industrialization process instituted under Alemán's predecessor. "PEMEX came to be seen as one, indeed the most important, of the many state enterprises which had been entrusted by Alemán with the task of providing the infrastructure and inputs to aid the import-substituting industrialization with which Alemán's presidency was most closely associated" (Philip, 1982:335).

His first priority was the manufacturing of goods that would serve as a substitute for foreign imports. The industry would serve as the adjunct to this import-substitution-industrialization plan by fulfilling the nations' energy requirements at low cost. In the words of Antonio J. Bermúdez, "the economic course that nationalization had given the industry meant development of all of its branches with the aim of keeping its production well ahead of national demand" (Bermúdez, 1963:41). With this goal in mind, Bermúdez instituted the most extensive exploration program since 1930. Petróleos Mexicanos drilled only 38 exploratory wells between 1938-1946, but during Bermúdez' first term as Director General (1946-1952) a total of 758 wells were drilled. Additionally, the number of developmental wells increased from 221 to to 2,478 (Grayson, 1980:26).

Bermúdez' most important achievement, with direct connections to supplying the domestic market, was the pioneering of the natural gas industry. The Director General noticed the need to capture this vital source of energy which, to this point had to be "flared" because the nation lacked the structural system necessary to transport it to urban areas for industrial use. Of the many valuable uses for natural gas, the following three critical purposes stood out in Bermúdez' objectives: (1) to use dry gas to generate heat for industrial and
household use; (2) to generate thermal-electric power and; (3) as a raw material in the petrochemical industry (Bermúdez, 1963:91). Ironically, one advantage gained by the development of natural gas use was that it eventually freed up excess fuel for exports, an undertaking which contradicted this period's policy initiatives.

The structural changes instituted by Alemán's administration weighed heavily on the PEMEX budget. In 1947, the industry failed to publish a financial balance sheet of its annual operations. It soon became apparent that the administration would be forced to tread the politically sensitive line of foreign capital involvement. Alemán's official export policy stipulated that only surplus oil could be exported. The driving force behind this policy was PEMEX's main objective of adequately supplying the national market. This market had witnessed an eightfold increase in per capita consumption between 1940 and 1947 (Grayson, 1980:27). Naturally, a modification of policy would have been necessary to attract a limited amount of foreign capital without disturbing the nationalist constituency which called for low-cost oil supplies to Mexican industry.

Nevertheless, the restrictive export policy was not significantly modified despite an increase in oil exports for the years 1950 and 1951. This increase was attributed to a rise in surplus crude as a result of Bermudéz's drilling program. The decline in 1952, although partially influenced by an international surplus, returned Mexico to its consistent levels. The combination of low-cost subsidies to industry and general prohibition of exports left the administration with little freedom to maneuver. The unsatisfactory financial position of PEMEX forced Alemán to levy a modest but controversial increase in domestic oil prices. Equally controversial was the $30 million loan PEMEX was able to negotiate from private sources in the United States. This loan was the first
PEMEX was able to obtain since the conclusion of the indemnity controversy, a period in which United States government policy forbade loans to PEMEX.

In 1949, in an effort to complement Mexican oil exploration, the Alemán administration signed a series of risk contracts with small United States oil firms. These contracts indirectly allowed foreigners to reenter the oil sector to assist in the drilling of new wells. The companies would only receive payment for productive wells, but were not entitled to any oil found. "To circumvent the legal prohibition on oil exploitation by foreign interests, PEMEX agreed to supervise carefully each contractor's work and take charge of all completed wells" (Bermúdez, 1963:32). Again, Alemán came under sharp criticism for allowing foreign capital into the oil sector. This attack on the administration, spurred on by the entrance of U.S. capital into an area of the economy "particularly sensitive to the influence of Mexican nationalism" (Zoraida Vázquez and Meyer, 1985:165), caused the eventual cancellation of the contracts by the Mexican government.

President Alemán's hand-picked successor, Adolfo Ruiz Cortines, was elected in 1952. His administration saw the continuation of the same pattern of activity in the oil industry as his predecessor. He adamantly supported the policy of low prices and energy subsidies to other areas of the economy. The policy of exporting surplus petroleum was also not explicitly modified. In fact, Ruiz Cortines was opposed to unrestricted exporting. His adherence to the conservationist dogma of the period was reflected in Bermúdez' 1953 "Director's Report" which mentioned, for the first time, that "PEMEX was maintaining as a matter of policy a 20-year reserve-production ratio" (Philip, 1982:337).

Bermúdez, serving his second term as Director General, found his modernization efforts hindered by the administration's policy of self-sufficiency
and limited exports. Furthermore, the financial impact from the previous administration was being felt as "Alemán had spent public monies with so much abandon that a policy of economic retrenchment was unavoidable" (Grayson, 1980:30). Despite these factors, substantial progress was made in the industry's refining capacity and in the natural gas industry. PEMEX completed construction of three refineries during this period, raising the number of operating facilities to eight. Considering that private firms had constructed five refineries before 1938, Mexico's erection of three facilities in such a short period is a testimonial to their aggressive determination to build a modern, progressive industry. In 1947, PEMEX could refine 153,000 bpd, but by the end of 1958, its capacity had more than doubled to 328,000 bpd (Bermúdez, 1963:66).

The potential to handle a greater volume of natural gas was made possible by the construction of three processing plants and 977 miles of gas pipelines to transport the fuel to urban areas. The first "gasoducto" completed in 1950 connected Mexico City with the source of this vital energy source some 162 miles away. The second pipeline, completed in 1958, extended to the northern reaches of the nation, providing year-round gas supplies to Mexico's industrial center. A third gas line measuring 663 miles was in the process of construction when Bermúdez' second term in office came to a close.

In addition to the positive impact that natural gas provided the administration's policy of industrialization, it played a secondary role in the development of related industries. Private manufacturers sprang up to produce the pipe, gauges, compressors, and other related items necessary for the construction of pipelines. By 1958, PEMEX obtained half its required materials from Mexican industry, while in 1947 imports accounted for virtually all supplies (Hickey, 1960:73).
Perhaps the most difficult situation facing Ruiz Cortines and his Director General was that the modernization efforts of the industry were becoming increasingly expensive. The opportunity to earn substantial foreign exchange by a policy of exporting was literally closed by the administration's own policy of minimal exports. Its central function was relegated to producing and selling oil at anemic prices to domestic industries. The financial difficulties were compounded by the resumption of hiring practices by PEMEX management. After Bermúdez' conscious effort to trim the work force under Alemán, the number of employees increased from 28,822 in 1947 to 45,532 in 1958 (Petróleos Mexicanos, Anuario estadístico, 1978:14). Efforts to tackle this financial hardship, which included the export of natural gas to the United States, were met with stiff resistance from nationalists who continually advocated the conservation of Mexican resources for domestic consumption.

In true political form, Ruiz Cortines took the necessary step to increase domestic oil prices in his last days in office. To counter this politically sensitive move, he appeased the nationalists by amending Article 27 of the Constitution to prevent foreign penetration of the oil sector via the aforementioned risk contracts. This was the new Regulatory Law which completed the nationalization of oil resources, and confirmed the government's position previously embodied in the 1941 Petroleum Law (no longer in effect). The 1941 Law did not fully delineate the boundaries between the state and private enterprise with respect to exploiting oil resources, although the latter was confined to Mexicans or to contractual arrangements where the government retained majority control. The new law however, clearly stated that only the nation could exploit oil resources.

Equally important was this law's treatment of the petrochemical industry. This industry, pioneered by Bermúdez, had long been the subject of a behind
the scenes struggle between the state and private capital. Private enterprise, both Mexican and foreign, desired this branch of the petroleum industry to be free of state control. Nevertheless, the legal mandate ascribed the basic petrochemical industry to the state to fulfill the government's policy of "incorporating all facets of the industry in the service of the nation's collective interest" (Bermúdez, 1963:37). This legislation, marking Bermúdez' last act as Director General, was finally passed by Congress during Adolfo López Mateos' first year as president.

By 1958, the mold was set for the function that PEMEX would take on as a state institution. After successive administrations had used the petroleum industry to promote industrialization with the provision of cheap oil, PEMEX steered a more normal path. The years between 1958 and 1974 saw fewer departures from nationalistic policy. All initiatives which threatened political fallout were quickly dropped under the pressure of nationalist attack. In fact, during this period there was a conscious effort by both the president and director general to put PEMEX's finances in order.

Upon assuming office in 1958, Adolfo López Mateos appointed Pascual Gutiérrez Roldán as director general of PEMEX. Roldán was a trained economist and banker who held a host of critical government appointments, including a post in the Department of Treasury and the director of the national steel industry. The Director General's credentials were well-suited to the administration's priority of balancing PEMEX's finances. After Roldán's appointment, López Mateos' first act was to put PEMEX, the Federal Energy Commission, the state steel industry, and other agencies under the jurisdiction of a newly formed ministry: National Patrimony. This ministry was charged with coordinating the development of the nation's natural resources.
PEMEX was on the brink of bankruptcy in 1958. Roldán began by trimming the more than 45,000 member workforce. His intention was to cut the $100 million payroll by $20 million. He began a widely publicized campaign against waste, inefficiency, and corrupt labor practices, which combined were draining PEMEX's budget with unnecessary public expenditures. The seemingly endless allegations directed toward the STPRM leadership included the selling of jobs, vendeplazas, wrongful estimates on contracts, and collusion with private firms. The most consequential method of curbing these practices was the dismissal of a number of political appointees. This was not completely effective since corruption was so widespread.

President López Mateos' close political ties with the head of the STPRM, Joaquín Hernández Galicia, seemed to explain the administration's hesitation to be more vigorous in changing these labor practices. Hernández Galicia, known as "La Quina," had backed the election campaign for the new president and kept the workers passive throughout his administration. In exchange for this political loyalty, López Mateos supported the union leader, who would later obtain unprecedented power as a strongman in labor activities in the 1970s. According to George Philip, "there was a price to be paid for official tolerance of a union structure which was efficient at preventing disruption, but also increasingly corrupt and willing to resort to illegal measures" (Philip, 1982:340). The price, of course, was the continued practice of union leaders enriching themselves at the expense of PEMEX investment capital.

Meanwhile, strides were being made at improving the industry's financial position by seeking long term foreign loans. Private American banks provided two loans amounting to $90 million for the completion of the gas pipeline begun under the Ruiz Cortines administration. These loans were backed by a determined amount of natural gas exports. Additionally, PEMEX was granted a
$100 million loan by the French government for the expansion of the petrochemical industry. Naturally, granting PEMEX permission to contract loans from foreign sources precipitated controversy for the government as "Mexican nationalists and Communists were highly critical of these loans and accused the oil industry of selling out to foreigners" (Bermúdez, 1963:12). Although the publicity campaign against the unscrupulous labor practices may have been more political rhetoric than a genuine crackdown, these loans were legitimate manifestations of an industry in trouble. If anything, the policies advocated by the nationalists of granting cheap fuel to Mexican industry, limiting exports, and allowing the union liberal hiring powers, in essence prompted the government to secure loans as the only viable solution to making ends meet.

As a government corporation in the eyes of the law, PEMEX was a decentralized agency of the government; as such it had to pay taxes as did private corporations. Getting PEMEX on stabler financial grounds was López Mateos' rationale for excusing the firm from tax payments. The following year, the president converted PEMEX's outstanding debt to the state into 99-year, 8% bonds. In 1960, PEMEX began paying a single tax of 12 percent of its annual income to the federal treasury (Petróleos Mexicanos, Informe del Director General, 1960:12-14). Roldán's shrewd, business-like management practices paid dividends as revenues grew 23 percent his first year, debt fell from 3,839 to 3,110 million pesos during his six years, and the first annual financial statement since 1947 reappeared (Grayson, 1980:36).

While Roldán's tenure as director general appeared to have been focused on the firm's finances, infrastructural progress was also made with the help of increased revenues. The pipeline system greatly expanded PEMEX's capability to supply Mexico's urban areas. Drilling of wells increased; however, the preponderance of wells were developmental rather than exploratory.
Criticism surfaced as reserves were slowly depleted by demand. The new justification for less exploration dated back to the government's policy of limited exports. The argument can also be made that during the López Mateos administration, the oversupply of oil in the international market mitigated against prioritizing exploratory activities. De-emphasis on exploration during this period was also hampered by the initial lack of financial resources. Suffice it to say, failure to continue exploration drilling caused depletion of reserves and eventually led Mexico to become an oil importing nation in 1968.

Roldán pursued the development of the petrochemical industry with much enthusiasm, particularly because of its appeal to foreign investors and its potential fiscal value to PEMEX. In the words of F. J. Bullard, "a turning point in the financial position of PEMEX was Mexico's nascent petrochemical industry's attractiveness to investment capital" (Bullard, 1968:124). The industry was also "favoured by the technocrats of PEMEX because this branch was free from the labor constraints of oil production" (Philip, 1982:344).

The extensive work accomplished in petrochemicals did not transpire without a wave of criticism. Roldán tinkered with the legal mandate reserving production in this sector to PEMEX by attempting to conclude contracts with foreign companies. This reconsideration of policy was short-lived, as nationalist opposition charged the administration with "attempting to deliver the basic petrochemical industry to private interests, including foreigners" (Bermúdez, 1976:71). Joint ventures with Dow Chemical and DuPont were subsequently cancelled during the presidency of Díaz Ordaz.

The incoming presidency of Gustavo Díaz Ordaz was a marked contrast from the previous administration in the arena of petroleum politics. Díaz Ordaz' selection of Jésus Reyes Heroles (a lawyer and politician) as director general, returned PEMEX to its historical roots of strident nationalism. Reyes Heroles
was a nationalist politician cast in the mold of the technocrats of the "Generation of '38." As a loyal disciple of the Mexican Revolution, Reyes Heroles shaped oil policy to reflect a public-service role for PEMEX, self-sufficiency, and adherence to a conservationist doctrine. Consistent with this outlook, Reyes Heroles opposed importing crude oil, as it would put his nation's destiny under the influence of foreigners. Likewise, to export large quantities would represent a return to the "feverish over-exploitation" of the 1921-1924 period.

The Director General's firm devotion to self-sufficiency was evident in his commitment to exploratory drilling. As previously mentioned, the López Mateos administration handicapped the industry's ability to meet domestic energy demand by placing a low priority on exploration. Despite the increase from 15.2 to 30.1 percent of exploratory wells drilled (Grayson, 1980:40), crude production failed to keep pace with internal demand. The long time lag required for the proper development of exploration operations proved too great to overcome the immediate needs of the nation. The ultimate irony is that in 1968, during the tenure of one of the most fervent nationalist directors of PEMEX, Mexico was consigned to the status of an oil importing nation.

Despite this setback, Reyes Heroles proceeded to implement his revolutionary-inspired task of undoing the work of Roldán. It was during Díaz Ordaz' "sexenio," under Reyes Heroles' advisement, that the risk contracts of the last decade were finally terminated. PEMEX made prompt payment to the affected American companies to avoid the return to unnecessary conflict similar to that of the post expropriation period. Further acts along these lines included the elimination of twenty-two agreements concluded during the López Mateos administration that allowed independent producers to drill for oil. Additionally, PEMEX took complete control of basic petrochemicals, leaving little doubt that Roldán's forays with foreign investors were a thing of the past.
Perhaps one of the most enduring problems facing Reyes Heroles was the ever-increasing corruption of the labor union. He was cognizant of the fact that if corruption was left unchecked, PEMEX would proceed on a course of rampant inefficiency. His intense clean-up campaign, focused on the selling of jobs to workers by district labor leaders, led to the eventual resignation of Hernández Galicia and other notable patrons of this strongman. Nevertheless, Hernández Galicia's pervasive influence on the system prevented any real advances in the curbing of corrupt practices. At the conclusion of the Díaz Ordaz and Reyes Heroles term, "La Quina" re-emerged on the labor scene.

The creation of the Mexican Petroleum Institute (Instituto Mexicano del Petróleo-IMP) by Reyes Heroles was a significant accomplishment along the lines of his nationalist program. This research and development organization was designed to improve Mexico's technical capabilities at both the technical expert and worker level. The institute's growing international reputation and the training of a professionally competent workforce, obviated the need for foreign contracted experts. The organization was, therefore, not only a success in the nationalist sense, but also in the realm of modernizing the state monopoly with the latest advances in technology and engineering.

True to historical precedent, this director general was no different in contributing to the expansion of the workforce. Despite initial efforts by both Bermúdez and Roldán at trimming employees, the ultimate outcome was similar to that of previous administrations. Reyes Heroles was no exception. By using the industry as a source of patronage, the firm witnessed a 33 percent expansion in personnel between 1965 (53,973) and 1970 (71,062) (Grayson, 1980:46).

In summary, the petroleum industry since nationalization was oriented towards Mexico's internal needs. Successive administrations clung to a
conservationist doctrine influenced by nationalist opponents who were not quick to forget the export policies emphasized by foreign oil companies prior to 1938. The only possible exception to this general policy direction was the Gutiérrez Roldán period, which flirted with politically sensitive dealings with foreign firms. However, the subsequent appearance of Reyes Heroles brought a return to PEMEX's revolutionary path.

The confluence of several factors, including financial insolvency, a lack of exploratory drilling during the López Mateos administration, and an unprecedented increase in domestic consumption, consigned Mexico to the status of an oil importing nation in 1968. It was under this stigma that the next administration would take the reins. What followed this period of PEMEX's evolution was the introduction of policies that would contribute to the most dramatic transformation in the oil industry since the expropriation.

The Roots of PEMEX's Transformation

When the administration of Gustavo Díaz Ordaz came to a close in December 1970, Luis Echeverría Alvarez inherited a host of problems that had begun to take their toll on the political system. The most damaging on the list was the traumatic massacre of university students at Tlatelolco in 1968. This repressive act of Mexican authoritarianism was a watershed event in the erosion of the regime's political legitimacy. The heightened opposition from important segments of the middle class and to a lesser degree, urban workers and peasants, began to erode the legitimacy of the ruling one-party system, the Partido Revolucionario Institucional (PRI). This crisis also initiated mass public protests directed at other divisive issues, including maldistribution of income, unemployment and underemployment, stagnating agricultural production, and the high rate of migration from rural to urban areas. Much criticism emerged,
particularly from the left, of the stabilizing development model pursued up to this point, which had abandoned traditional populist programs in favor of economic growth through industrialization. The serious political ramifications of the 1968 crisis were best put into perspective by Kevin J. Middlebrook: "most of these problems were not new, and in some cases they took on important dimensions only after the 1968 crisis in public confidence" (Middlebrook, 1986:78).

President Echeverría, who served as Secretary of Government during the "massacre," was well aware that the state's response to the strike violated acceptable government behavior and required an immediate remedy. The new program that emerged under the rubric of "shared development," favored redistributing income, increased spending on social welfare measures, and emphasized small and ejidal agriculture. Additionally, the state sought to stimulate economic growth by increasing investments in agriculture, energy, and heavy industrial and capital goods. The reformist program adopted by Echeverría was thus designed as a response to urgent political concerns. His administration found it "politically wise to break with the past administration" (Grindle, 1977:74), in order to restore confidence in the regime.

Consistent with this policy direction, Echeverría increased federal government expenditures to PEMEX. The subsidies were geared toward the established policy of reducing energy prices of oil and fuel for domestic use (Looney, 1985:59); however, the magnitude of the subsidies reflected the ambitious scope of the government's efforts. Echeverría likened the role of petroleum to a "vigorous column" of the economy that would allow Mexico to achieve economic independence (Megateli, 1980:39). The government announced an eighteen billion peso investment plan designed to locate new reserves, raise oil and gas production 8 percent annually, attain self-sufficiency in petroleum, and quadruple the output of petrochemicals (Grayson, 1980:47).
The subsequent discovery of vast quantities of oil in the Chiapas and Tabasco areas in 1972 marked a dramatic turn of events for the industry.

Mexico continued to import crude oil at the rate of 33,884 barrels per day in early 1974, but by the year's end, the daily export rate had reached 60,000 barrels per day, thus changing Mexico's status as a net importer to one of a net exporter of oil. Additionally, total annual production of 238.3 million barrels for that same year enabled Mexico to exceed, for the first time, the 1921 production level (Velasco-S., 1983:59). The surprising aspect of the newly found oil wealth, and one of the great unanswered questions is that President Echeverría refrained from using the oil card while immersed in a major crisis. The most likely reason for holding back is that he had lost control of the political crisis. The combined pressures from the old guard conservationists and the business sector opponents of shared development, may have muted any radical changes in export policy.

What appeared to be a timely blessing for the regime's quest for "shared development" soon became the center of debate amongst the PEMEX technocracy. Conservative elements within the firm were reluctant to make public the true potential of the newly discovered oil fields. Their nationalistic bent imposed strict husbandry of reserves for future generations. The other faction, composed of younger technocrats, pressed for further investment in exploration as they considered the exploitation and export of petroleum to be a profitable venture. The latter viewpoint, adopted by López Portillo in the next administration, gained strength during the Echeverría sexenium. The debate and speculation produced by these discoveries, unbeknownst to its participants, ironically became the historical antecedent to a much wider issue, oil resource exploitation which catalyzed a major transformation of the industry.
The government's ambitious investment program in the public sector did not achieve any of its objectives. The combination of declining export rates and heavily increasing import rates, forced the state to rely on foreign borrowing. During the six years of "shared development," "the foreign debt grew in U.S. dollars from $4.5 billion to $19.6 billion, while the public deficit rose in Mexican pesos from 4.8 billion to 42 billion between 1971 and 1975" (Teichman, 1988:49). A variety of international factors contributed to the failure of "shared development": the reduction of Mexican exports as a result of President Nixon's ten percent surcharge on imports, the decline of American tourism, the 1972 world food crisis, and the 1973 oil shock. To make matters worse, the populist themes of economic reform alienated the business class, which precipitated disastrous levels of capital flight, thus generating continued borrowing to curb the deficit.

Concomitant with the failure of "shared development," the growth of the petroleum industry during Echeverría's term proved a mixed blessing. The newly found oil weath was overshadowed by the fact that by 1975 almost 50 percent of government expenditures went to state enterprises, with PEMEX receiving the larger share (Teichman, 1988:48-49). Additionally, PEMEX's difficulty in supplying the domestic market in the early 1970s was exacerbated by the 1973 world oil shortage, leading to further oil imports. These factors accentuated Mexico's problem of a negative balance of payments, since revenues obtained through exports and loans were tied to public deficit shortfalls. To make financial matters worse, Director General Dovalí Jaime capitulated to union demands for a larger workforce. The number of PEMEX employees increased by over 30 percent, from 71,737 in 1970 to 94,501 in 1976 (Grayson, 1980:49), further aggravating the strain on the federal budget.
Nevertheless, the decision to push development of the petroleum industry set the stage for a new era. The increased emphasis on exploration and production during this period gave birth to a new strategy to confront the failures of "shared development." This strategy brought about a fundamental change in the role of PEMEX, from that of a state industry supplying domestic fuel needs to one of prime mover in national economic decisionmaking. Beyond the economic realm, PEMEX's importance also spawned a transformation in the role of political actors at the national level.

The Transformation of Mexican Petroleum

When President López Portillo came to power in 1976, the state's maneuverability had become increasingly restricted as a result of the previous administration's external dependence on foreign capital, which further exacerbated an array of serious economic and social problems. With the failure of the shared development program, President Echeverría had also "precipitated one of the deepest political crises in modern Mexican history" (Sanderson, 1986:40). Mexico's foreign debt had reached the historically high figure of $20 billion (Looney, 1985:70), and the nation's capacity to repay seemed nonexistent. For López Portillo, the "oil card" appeared to be one of the few options he still possessed to find a solution to Mexico's problems.

López Portillo envisioned two political priorities at the beginning of his administration: the restoration of the business community's confidence in government, and increased support for the regime by the popular classes. He adopted the strategy of rapid exploitation and export of petroleum to achieve his two objectives. The export strategy marked an important change in the role of petroleum in the national economy--from export enclave to industrializing impetus--now to the panacea of the Mexican economic crisis. Although
President Echeverría had laid the foundation for the petroleum industry's expansion by providing 17 percent of total investment to PEMEX (Levy and Székely, 1983:92), the new administration hastened the growth of this sector by adopting "an ambitious $15.5 billion six-year program to accelerate petroleum exploration, development, and production" (Mancke, 1979:61).

The Six-Year Plan (Plan sexenal) for the petroleum industry set a production goal of 2.25 million barrels of crude oil per day to be reached by 1982 (Meyer, 1983:182). This lofty objective was reinforced by three principal factors: rising international oil prices, ample foreign credit, and the unveiling of a technical report by Director General Díaz Serrano which sharply upgraded Mexico's proven reserves. The highly publicized deposits "attracted hundreds of bankers, who literally elbowed each other out of the way to offer the federal government and PEMEX loans on increasingly generous terms" (Grayson, 1983:415). The influx of petrodollars, combined with the rapid expansionist program, augured well for López Portillo's goal to restore public confidence in the regime.

The dramatic increase in oil exports provided immediate success in improving Mexico's trade balance and permitted the nation to settle in advance its very unpopular 1976 International Monetary Fund (IMF) loan. Mexico exported $800 m worth of oil in 1977, $1,800 m in 1978, $3,986 m in 1979, and $10,402 m in 1980, while production exceeded the goal outlined in the Six-Year Plan two years faster than planned (Philip, 1982:358). Emboldened by the petrolization strategy, López Portillo resorted to foreign loans to finance much-needed United States' technology to drill new wells. PEMEX's share of the public-sector foreign debt went from 11.3 percent in 1976 to 29.2 percent by 1981 (Teichman, 1988:66).
Although the oil strategy did result in higher growth rates at an average of 8.5 percent per year, as well as increasing the certification of reserves from 20 billion barrels to 50 billion barrels between 1978-1981 (Teichman, 1988:74), the program's ultimate effects were disastrous for Mexico. As rapid expansion became the keynote, Mexico resorted to borrowing heavily against oil still in the ground. Moreover, technological requirements necessary for further exploration dictated an increase in imports. The confluence of these factors contributed to a larger amount of outlay than could be covered by export receipts. The massive influx of petrodollars distorted other segments of the economy while debt grew immeasurably. Manufactured goods and foodstuffs declined as exports in the face of increased oil exploration. (See Table 3-1).

Beginning in 1980, a host of international factors accentuated the Mexican economic crisis. The combination of a major economic down-turn in the United States and the rise of international interest rates, severely hampered

| Table 3-1 Petroleum and the Mexican Economy, 1976-1982 |
|-------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Crude Production average millions B/day | .8 | 1.0 | 1.3 | 1.5 | 1.9 | 2.3 | 2.8 |
| Crude Oil Exports millions B/day | .094 | .202 | .365 | .533 | .828 | 1.098 | 1.492 |
| % Total Taxes Paid by PEMEX | 5.0 | 8.3 | 9.6 | 13.8 | 24.0 | 24.9 | 47.3 |
| Oil as a % of All Exports | 35.9 | 34.0 | 42.0 | 32.3 | 19.3 | 14.4 | 15.9 |

Mexico's ability to pay its scheduled debt obligations. Furthermore, with the advent of the Iranian revolution, the Organization of Petroleum Exporting Countries (OPEC) tripled the price of oil from $13 per barrel to $36. As a result, Mexico succumbed to the lure of windfall revenues, resulting in more than doubling public expenditures by 1981 (Kuczynski, 1988:79). When the world oil frenzy peaked and an international surplus was created, Mexico was in no economic position to follow suit. By this point, Mexico relied on petrodollars for 75 percent of its export earnings (Grayson, 1983:415). Combined with an overvalued peso, and increasing internal inflation, Mexico could not remain competitive in a buyer's market. In 1982, Mexico's financial woes were exacerbated by the suspension of new commercial loans, subsequently precipitating the debt crisis.

**Political Implications of the Petroleum Expansionist Strategy**

PEMEX, as a matter of basic policy since the expropriation, had generally been defined as a vehicle for subsidizing domestic industrialization through the provision of cheap energy. Consistent with this policy, only surplus oil was permitted for export. In that vein, the industry did not occupy the leading role or impetus for the nation's overall economic development. With the dramatic change in oil resource exploitation in the 1970s, came the perception that the industry's revenue potential would become the panacea for Mexico's economic woes. In spite of the unfortunate economic effects of "petrolization," the industry's unprecedented growth and potential for revenues as a state industry gained it new importance as a prime mover in national economic planning. The industry's prominence resulting from this new status as the "engine of growth" for the economy, catalyzed a series of political changes within the organization and at the national level.
One of the first examples of change emanating from PEMEX's ever-increasing significance was in the area of the policy-making process. Prior to the oil boom, the President of the Republic indirectly shaped oil policy by using his appointment powers to select key individuals. These individuals included the director general and six of the eleven members of PEMEX's board. The President also maintained overall budgetary control over the firm. Nevertheless, pre-boom administrations delegated authority to the Ministry of Patrimony, established by López Mateos, to govern PEMEX as a decentralized industry. As a result of this arrangement, PEMEX enjoyed a large degree of autonomy on such issues as gas versus oil exports and priorities given to petrochemicals. Although the lines of communication between the President and the director general were open at all times, the central government generally respected the legal mandate outlining the Ministry of Patrimony's governance.

The acquired importance of petroleum in the growth of Mexico's economy as a result of the oil boom changed this scenario. Energy matters became vital to economic growth, which in turn affected domestic and foreign policy initiatives. This occurrence resulted in heightened presidential involvement in oil policy and subsequently led to a more direct relationship between the President and the director general. They became the key figures in the formulation of petroleum policy at the expense of the Ministry of Patrimony. Patrimony was effectively removed from the decisionmaking process, despite remaining above PEMEX on the organizational flow charts.

The enhancement of PEMEX's status ironically led to the diminution of its autonomy. Since PEMEX activities had become essential for the President in national economic policymaking, close coordination and careful scrutiny of the firm developed, essentially limiting the degree of autonomy once enjoyed by the
industry (Williams, 1979:114). More centralized control by the President was required because PEMEX's transformation into a major earner of foreign exchange "involved a balance of interests and not simply those within a single agency" (Philip 1982:363). The development of tighter government monitoring of the firm's operations reinforced the point made earlier concerning the more direct relationship established between the President and the PEMEX director. It would appear that this relationship, as well as the increased regulation, will remain constant in light of the economic crisis of 1982. Indeed, as one analyst of PEMEX's newly developed importance proposed "there would be less reason for review and control of the oil industry if the rest of the economy reached PEMEX's importance in providing exports" (Randall, 1989:194).

The increased presidential concern with PEMEX also demanded careful scrutiny in the selection process of the director general. In addition to finding a loyal ally to fill the office, technical requirements dictated a change from lawyer-politicians to more technically specialized administrators. This trend of "technical bureaucracies" and "técnicos" gained importance during Mexico's import substitution model, but was accelerated by the effects of the oil boom (Sanderson, 1983:328-29). For that reason, López Portillo chose Díaz Serrano, a close friend and political supporter, with significant administrative and technical experience.

Díaz Serrano was a mechanical engineer trained at the National Polytechnic Institute in Mexico City. He later studied at the University of Maryland in a program sponsored by the United States Department of Commerce's Inter-American Training Administration, where he gained expertise in administration and in the technology of petroleum manufacture. He accumulated a large fortune in the petroleum industry by putting his acquired
skills to work in building machinery for PEMEX. He later formed the Golden Lane Drilling Company, which drilled offshore wells for Mexico's oil industry.

Through these ventures, Díaz Serrano developed many contacts within PEMEX, but more importantly, he gained the necessary exposure which led to his selection as technical advisor to López Portillo on the assessment of the nation's hydrocarbon wealth. Many argue that Díaz Serrano's report, which maintained that it was feasible for Mexico to become a major exporter, earned him the director-generalship (Teichman, 1988:60).

Once in office, Díaz Serrano surrounded himself with this new group of technocrats, the so-called "técnicos," who advocated expansion and rapid petroleum development. He placed loyal subscribers to this belief in positions as subdirectors and technical advisors in the industry's major branches (see Figure 3-1). The designation of these new positions prompted many of the old guard "políticos" of the "Generation of '38" to retire or to accept other positions of lesser importance within the firm. This leadership swing from "político" to "técnico" contributed to the important shift in policy direction characteristic of PEMEX in the wake of the oil boom.

The evolving trend of the technical bureaucracy also spilled over into the realm of national politics. The new emphasis of oil-based development, concomitant with the erosion of traditional populism in Mexico, has "technified" the Mexican polity at the highest levels. In a sense, the need for specialization at the presidential level has arisen as a result of the increasing interest in oil policy. The ultimate irony of this "político" versus "técnico" dichotomy is that the attempted depoliticization of the system resulted in a return to equally adept politicians. The new criteria of political recruitment based on technical and administrative experience did not cause these new leaders to behave any differently.
Source: Grayson, 1988:60.

Figure 3-1 PEMEX Organizational Chart
Domestic Criticism of the Oil Boom Strategy

The decision to push petroleum development and export also triggered substantial internal controversy in Mexico. The opposition reflected a resurgence of old political issues which struck at the very core of Mexican nationalistic thought. These disputes included the rejection of exploitation policy, the rate and destination of exports, and the reliance on foreign borrowing. The most revealing aspect of domestic criticism was its all-encompassing nature. The wider array of opposition ranged from peasants to state governors, thus posing real challenges to the Mexican political system.

The first significant case of domestic opposition concerned López Portillo's decision to construct a natural gas pipeline ("gasoducto") to the United States. The rapid expansion of oil production created much more gas than Mexico could consume. This left the administration with two options: either continue to flare the surplus gas or reduce oil production. The practice of flaring was considered a blatant waste of natural resources. The curtailment of production was obviously an unacceptable alternative. With the absence of a viable choice, the administration chose to export the gas to the United States via an 800 mile pipeline. This decision was seen as a foolproof method of obtaining foreign exchange, and the economic arguments in favor of the pipeline were compelling. "In less than two years the pipeline would have more than paid for itself, and the foreign exchange earned over its first six years would top 10 billion dollars" (Fagen and Nau, 1979:396).

Nevertheless, the Mexican government misjudged the intensity of the opposition. The critics of the "gasoducto" emerged in great numbers, led by their most vocal opponent, Heberto Castillo, the leader of the Mexican Workers' Party (PMT). The core objection to the pipeline owed its origins to the larger
issue of the rapidity with which petroleum was being exploited. Castillo's leftist political opposition (including the academic community) held to the historical conservationist argument. They argued against rapid exploitation of the nation's non-renewable natural resources, particularly when exports were destined to their northern neighbor. The pipeline connecting the two nations suggested a quality of permanence which further exacerbated the nationalists' anti-Yankee sentiments. The physical link to the United States conjured up old anti-American charges, including "dependence, " and capitulation to pressures from the United States. Critics also feared that, in the event of a threat, a United States' military occupation could result to protect its strategically critical source of gas.

What followed these charges was a series of arguments and counterarguments between the anti-Yankee left and the administration. The government twisted the critics' charges by claiming that the pipeline signified United States' dependence on Mexico. This obvious plea to Mexican nationalism did not quell further attacks, so López Portillo and Díaz Serrano responded with other gestures to justify their position. Díaz Serrano went so far as to appear on national television before the houses of the nation's legislature to debate on the "gasoducto" issue. López Portillo, during his annual State of the Nation address in 1977, offered an apology for the gas pipeline. Nevertheless, in an effort to put the issue to rest, the President made the bottom line declaration: "If we are able to compensate our commerce with gas, we are going to do it" (López Portillo, cited in Williams, 1982:43).

As previously described, the López Portillo administration relied heavily on foreign loans, especially American, to finance the oil expansionist policies. In addition to the many who questioned the economic wisdom of such a policy, others charged that the government and PEMEX were delivering the nation into
the hands of foreign lenders. In their nationalist bent, the left and dissident "políticos" within PEMEX argued that oil policy was being dictated by the United States and the IMF.

The government was explicit in its denunciation of this criticism, while remaining staunch in defense of its policy. The administration claimed that the decision to pursue the petroleum expansionist strategy was its own responsibility. Moreover, governmental policymakers responded that the financial problems were short term. However, the subsequent "overheated economy" caused further reliance on foreign creditors to curb deficits, thus making the short term promise a long term reality.

These cases of domestic controversy reflect the profound impact that the change in petroleum policy had on the Mexican nation. When the nation's leaders made the conscious decision to alter the industry's primary social mission, significant debates ensued in the political arena. These debates elicited strong objections to the increasing power of PEMEX, the financial burden of expanding the industry, and the decisions to exploit and export hydrocarbons. As we have seen, the concern over these changes in turn forced policy makers to offer counter-arguments, and to some extent to extend national apologies to justify their policies. Despite this degree of responsiveness, the steadfast pursuit of the expansionist policy serves as a testimonial to the importance placed on the new oil by the nation's leaders.

**Summary**

The year 1938 marked the end of a long struggle for Mexico in its efforts to regain ownership rights over subsoil deposits. The expropriation represented a victory with a very special connotation to a nation with strong claims of nationalism. Since the expropriation of foreign enclaves, successive
presidential administrations have guarded the industry from foreign economic penetration. The state's policy focus for PEMEX from 1938 through 1975 imposed the conservation of petroleum to fulfill an essential social mission. The allegiance to the ideals of the revolution and the Constitution of 1917 determined the role of PEMEX by devoting production to serving the public sector as opposed to a profit-seeking role.

Throughout this period, PEMEX was challenged by internal strife, particularly from the oil workers' union, which sought greater control over management of the industry. Foreign pressures also existed in the aftermath of the expropriation in the form of boycotts and diplomatic exchanges over indemnity of the nationalized oil companies. Mexico was able to overcome this litany of problems during the firm's infancy, and the industry took a more normal path until the mid-1970s. While remaining in the background of Mexico's overall development strategy, PEMEX served as an adjunct to industrialization by providing low cost fuel to Mexican industries.

Strict adherence to the "nationalist-conservationist" philosophy relegated the industry to maintaining a moderate emphasis on exploration and drilling. This policy coincided with a rise in domestic demand which left PEMEX unable to keep pace with domestic consumption. The confluence of these factors led Mexico to the onerous status of net importer of crude in 1968.

The large oil discoveries in the Tabasco-Campeche basin in 1972 put Mexico on the threshold of a new era. These discoveries coincided with the declining political legitimacy of the regime and serious economic problems accentuated by the failure of President Echeverría's shared development program. When López Portillo assumed power in 1976, the newly found oil wealth was envisioned as the springboard for overall economic growth and as a possible solution to the existing social and political predicaments. López
Portillo turned to a new strategy of rapid exploitation and export of petroleum, marking the first important transformation in Mexican oil policy since the expropriation. Initially, the new focus seemed to work, but with economic growth, came the beginnings of "petrolization." This "neologism connoting an overheated economy" (Grayson, 1983:415), was continued with reckless abandon thus contributing to the debt crisis of 1982.

Despite the disastrous economic effects of this strategy, PEMEX gained national prominence in the process of economic development planning. The President and the director general forged a new relationship as the key figures in oil policy as the importance of the new oil gave the state a more centralized role in the planning process. As we turn to the post-boom era of the Mexican petroleum industry, new challenges will be in evidence for the Mexican leadership. Suffice it to say, with the advent of the debt crisis, which resulted from policies of their own doing, difficult choices will have to be made as to the role PEMEX will play in the national economy.
CHAPTER 4
THE CHANGING FACE OF PEMEX IN THE 1980s

Introduction

In the 1970s, the rapid increase in oil revenues followed by a chaotic borrowing binge fueled an economic boom in Mexico. The petroleum industry became a leading producer and exporter of oil and its derivatives. Due to the significance of PEMEX’s new role, it emerged as the dominant component in Mexico’s economic development planning. In fact, the industry had become so important that other economic sectors were ignored. When oil prices fell in 1981, this over-reliance on oil turned the bonanza into the worst economic crisis in recent Mexican history. Perhaps the most important lesson of the oil strategy’s failure was that policymakers could no longer pursue policies which reflected mostly short-term economic and political considerations. Instead, a re-evaluation was necessary that emphasized cross-sectoral planning to achieve economic growth in the long term.

Consistent with this line of thinking, Mexico has learned that planning for the future entails a decline in the importance of oil in the context of the total economy. This is not to say that tax revenues and foreign exchange earnings from exports would not continue to play an important role in the nation’s economy. However, previous emphasis on oil resource exploitation has made leaders more conscious of the inherent distortions created by such a policy. To avoid a similar situation, the administrations of Miguel de la Madrid Hurtado (1982-1988) and Carlos Salinas de Gortari, Mexico’s current president, have
exhibited restraint and more careful planning in the use of the nation's petroleum resources. The more restricted role for PEMEX was also influenced by the government's need to limit public expenditures. In a word, the nation's ominous debt made economic retrenchment inevitable.

The preoccupation with meeting increased export levels in the shortest possible time during the oil boom also contributed to the inefficient management of the nation's oil industry. Domestic sales remained below cost, fields were overworked, flaring increased, and expansion required technological imports. The confluence of these factors meant that the energy sector could not generate sufficient revenue to pay for its own expansion. This predicament forced PEMEX further into debt as foreign loans were obtained to finance operations. The combination of PEMEX's insolvency and the nation's debt burden spawned considerable changes in Mexican oil policy of the 1980s.

As previously mentioned, the world oil glut and Mexico's subsequent need for international assistance in tackling the debt crisis have injected a rare element of pragmatism into Mexican energy policy. The decade of the 1980s witnessed some new departures in Mexican energy policy which suggest that a new transformation is occurring. Beginning under the de la Madrid administration, efforts were undertaken to promote efficiency, to cooperate closely with OPEC to support oil prices, and to add value domestically to Mexico's energy resources. Subsequently, under the current Salinas sexenium, continuing advances have been made to open the industry to both domestic and foreign investment, to privatize certain segments of PEMEX, and to liberalize the practice of contractual agreements with private firms. These changes have coincided with the government's recent tendency towards more privatization of the economy. This chapter describes the ongoing
metamorphosis of the petroleum industry, focusing on the new direction which oil policy is taking.

The de la Madrid Administration and the "New PEMEX"

On December 1, 1982, Miguel de la Madrid Hurtado took the presidential sash from López Portillo. His assumption to office marked the continuation of a recent trend in Mexican politics: that of selecting a "técnico." This move substantiates the argument that "for the new president to be successful as a manager of the complex economic issues facing the state, he has to offer substantial technical expertise, in contrast to previous presidents whose legitimation functions--and recruitment--were more expressly linked to party criteria" (Sanderson, 1983:331-32). Miguel de la Madrid had vast administrative experience and therefore met this criteria. After earning a master's degree in public administration at Harvard University, he served as the advisor to the administrator of the Central Bank of Mexico, in various positions, including director general of credit in the Finance Ministry, and subdirector of finances for PEMEX.

Miguel de la Madrid replaced most nationalist populists with "técnicos" in all of the important policymaking posts in the government to include his new director general of PEMEX, Mario Ramón Beteta. Beteta was a quintessential technocrat who obtained a master's degree in economics at the University of Wisconsin. He later spent more than twenty-five years in the financial bureaucracy occupying key posts in the Bank of Mexico and the Finance Ministry. His uncle had been a finance secretary and professor who strongly influenced the new generation of technocrats that gained prominence in the PRI in the early 1980s. His managerial skills, proclaimed honesty, and conservative
economic philosophy were well-suited for the task at hand, directing PEMEX into a more efficient enterprise.

Having established a team dominated by technocrats, de la Madrid set forth an "economic reorganization program" which emphasized, not surprisingly, the need for austerity and structural changes in the Mexican economy. The aim of developing a "mixed economy" stemmed from his rejection of his predecessor's oil-led development strategy. De la Madrid sought to trim public subsidies, eliminate inefficient government-owned firms, pursue realistic prices, and decrease the state's role in the economy (Grayson, 1988:47). These commitments were in keeping with the prescriptions outlined in the November 1982 accord between Mexico and the IMF.

Parallel to the president's stated economic objectives, the focus for the oil industry took on new directions. Miguel de la Madrid's statement in the 1984-1988 National Energy Program (Programa Nacional de Energéticos) conveyed his general policy guidelines with respect to his vision of a "new PEMEX:"

The development policy adopted by our country reaffirms that we must avoid the petrolization of the economy and this signifies that structural change in energy must march to the rhythm of the structural change of the entire society and that, in the long term, the sector should lose weight in an economy that is more diversified, more modern, and more efficiently linked to the exterior. (Miguel de la Madrid Hurtado, cited in Weintraub, 1990:114)

The president's objectives for the role of the petroleum industry are aptly summarized by Sidney Weintraub in his work, A Marriage of Convenience: Relations Between Mexico and the United States as follows:

1. Limiting production of crude oil to conserve this resource as long as possible;
2. Restricting exports for the same reason;
3. Cooperating with OPEC to support crude prices;
4. Diversifying markets for crude oil, even if this involves some price sacrifice because of higher transportation costs to destinations other than the United States;
5. Recognizing the need for crude-oil export revenue to meet Mexico's external debt burden and to carry out its development program;
6. Using natural gas produced in associated wells efficiently at home;
7. Facilitating conservation of these depletable natural resources by encouraging development of other energy resources, such as nuclear, and by pricing and other policies that discourage profligate use of energy resources;
8. To the extent possible, adding value domestically to Mexico's petroleum and gas resources, such as through further development of the petrochemical industry, and;
9. Above all, not repeating the previous experience of petrolizing the Mexican economy, both directly by exploiting oil reserves and indirectly by mortgaging Mexico's future development to borrowings predicated on the existence of oil in the ground (Weintraub, 1990:127).

Several of the outlined objectives reflect the new administration's adherence to previous nationalistic policies, particularly the taboo of selling oil abroad to facilitate conservation of the national patrimony for future generations. However, certain elements of the policy guidelines detract from earlier policy. The emphasis on pricing energy resources to encourage conservation is one example of a deviation from traditional Mexican oil policy. As far back as the nationalization of the industry, domestic oil prices were kept low as a politically
necessary doctrine. In spite of some attempts by previous administrations to increase prices, "no government in power could bring on itself the political suffering that domestic price increases would inevitably cause" (Baker, 1984:153). Domestic energy price subsidies had simply been too deeply entrenched an element of nationalistic thought.

The political basis of the oil price decisions seems to have been overshadowed by the realities of economic necessity and the need for efficiency. The implementation of this new pricing policy was aimed at promoting the conservation of energy so that "the waste of a nonrenewable resource is avoided and the rationalization of consumption is achieved" (Perez-Gazga, 1983:27). Prior to 1983, the domestic prices of oil products remained well below those on the world market. The price of the most widely used gasoline in Mexico was equivalent to 16 cents a liter compared to 32 cents in the United States and 58 cents in the United Kingdom. Liquid gas sold for 6 cents a kilogram in Mexico while the cost in the United States was 32 cents. The comparison for diesel was 9 cents a liter in Mexico and 32 cents in the United States (Weintraub, 1990:122). However, by year's end, prices had increased at 2.5 percent each month (Randall, 1989:49).

Laura Randall, in The Political Economy of Mexican Oil, likens previous administrations' attempts to raise prices to a predictable occurrence in the latter years of the presidential term. The cyclical modifications would take place in the last two years of the sexenium in response to lobbying by PEMEX. Nevertheless, the various interest groups prior to the de la Madrid administration had mustered sufficient political influence to mitigate against price increases. The concept had been discussed for years and very modest increases had occurred, but the practice had generally been muted to prevent
rising prices from becoming a major political issue. This change in oil policy resulting from the government's inability to support the subsidies, coupled with other austere measures adopted in 1982, unfortunately "turned out to be an issue delayed until the worst possible time" (Weintraub, 1990:122). De la Madrid's attempted justification for the change in pricing policy was geared to prevent a conflict with the nationalistic and egalitarian principles that had previously guided Mexican energy policy. However, his concept that the Mexican people "have an obligation to nurture the financial health of their nationalized industries" (Miguel de la Madrid, cited in Baker, 1984:76), is evidence of the shift in emphasis from support of the individual consumer to support of the nation's financial exigency.

A second change of direction in Mexican oil policy, initiated by President de la Madrid, was his emphasis on seeking cooperation with OPEC to stabilize the world petroleum market. Previously, Mexico had remained aloof from OPEC as "Mexicans in general, and PEMEX officials in particular, have not desired to sacrifice the autonomy that has earmarked their petroleum operations and transnational commerce" (Joyner, 1982:96). PEMEX has been traditionally hesitant to associate itself with any organization that would restrict its ability to set petroleum prices, production and export limits, and independence in international relations. PEMEX has resisted joining OPEC and has enjoyed virtual freedom in setting petroleum prices at a higher level than those of OPEC. Following OPEC price hikes, Mexico's prices have ranged from $1.00 to $2.00 per barrel more than OPEC (Joyner, 1982:97). Non-membership was also motivated by Mexico's fear of losing "the tariff benefits under the United States generalized system of preferences" (Weintraub, 1990:122).
In spite of the Mexican government's continued policy of nonmembership, the de la Madrid administration replaced competition with cooperation. This new focus, intended to avoid conflicts with other oil producing countries, is evidence of Mexico's desire to fashion an "international energy policy" that would "maintain stability in the petroleum market and contribute to avoiding sudden changes in prices that would damage the international economy" (Baker, 1984:187). The director general proclaimed that Mexico would abstain from the irregular commercial practices of discounts and involvement in speculative maneuvers (Beteta, 1987:78), that had characterized the latter years of the López Portillo administration upon the collapse of world oil prices.

In 1983, PEMEX embarked upon a new era by forging closer ties with OPEC. Mexico agreed to hold off quoting prices to buyers until OPEC fixed its price. When OPEC announced that the cartel had set lower limits on prices and export quotas, Mexico followed suit by bringing its price in line and placing an export ceiling consistent with the cartel's guidelines. In 1986, as a response to the "third oil shock," Mexico agreed to reduce its crude-oil export ceiling from 1.5 to 1.35 million barrels a day and then again in 1987 to 1.32 million barrels (Weintraub, 1990:122). An example of further cooperation is the action taken by Mexico in 1988, along with five other non-OPEC nations (Egypt, China, Colombia, Malaysia, and Oman), to cut oil production by 5 percent if matched by OPEC nations. Although this OPEC initiative never materialized, Mexico's participation reflected a dramatic change in the direction of PEMEX policies. For a nation which had for so long considered the relegation of pricing matters to foreign refiners to be anathema to its revolutionary tradition, these new priorities signalled a new wave of change in Mexican oil policy.
Pursuant to the new drive towards better efficiency, de la Madrid attempted to challenge corruption in the oil union. His strategy for the creation of a "new PEMEX" entailed the elimination of waste and fraudulent activities which infested the STPRM. The so-called anticorruption theme, "moral renovation," was regarded as the first real challenge to the historically corrupt union. Previous Mexican presidents had regularly vowed to curb corruption in the union ranks, but each had fallen short on their promises.

Perhaps the most dramatic accomplishment of this program was the imprisonment of former director general Díaz Serrano for the embezzlement of U. S. $34 million in connection with the purchase of two foreign-built natural gas tankers. Several other union officials were removed for corrupt practices. In 1984, the government terminated the concession which awarded the STPRM 40 percent control over the subcontracting or selling of public contracts to third parties for onshore drilling (Grayson, 1988:64). The drilling contracts were centralized in the union-dominated National Commission of Contracts with Joaquín Hernández Galicia (La Quina) at the helm. Hernández Galicia subcontracted the projects to companies owned by loyal union officials, thus feeding the system of racketeering and featherbedding that had become such a common occurrence in trade union practices. One of the most flagrant abuses was the drilling of needless wells in which there was no evidence of petroleum presence. Nevertheless, Hernández Galicia's confidants could enrich themselves through these unjust ventures.

President de la Madrid and his director general deemed it necessary to combat the inefficient and corrupt system that diverted resources from a government strapped for funds. Although their efforts led to some small victories against the self-serving union leadership, the administration could not
overcome the extensive influence of union groups who "were determined to hinder or even sabotage those measures that threatened to undermine their power or interfere with their interests" (Boltvinik, 1988:549). Nevertheless, the de la Madrid administration marked a distinct change from previous executives who were known to adopt anticorruption crusades, but failed to execute a program of any substance. De la Madrid's "moral renovation" program was more than a political sideshow. His anticorruption initiatives were legitimate, no-nonsense attempts to use resources prudently in a sector of the economy whose own practices undermined the stated objective of efficiency.

As previously discussed, foreign participation in the oil sector has been inherently unpopular in Mexico. Throughout the history of the industry since the expropriation, all efforts to allow foreign interests back into the sector have catalyzed domestic political opposition cloaked in such terms as dependency, nationalism, and sovereignty. Beginning with de la Madrid, however, a change seems to have taken place, as evidenced by his initiatives in petrochemicals.

Basic petrochemicals had been reserved solely for PEMEX by legal mandate, while private interests, both foreign and domestic, were permitted to manufacture secondary petrochemicals as long as Mexican companies maintained majority ownership. By using an expansive definition of basic petrochemicals, Mexican presidents to this point imposed state control over the majority of the sector. De la Madrid significantly altered the sector by reclassifying thirty-six basic products as secondary, thus permitting private production. With this action, de la Madrid set the stage for additional reclassifications under his successor, Carlos Salinas de Gortari.
PEMEX Restructuring Under Salinas

President de la Madrid faced the herculean task of confronting the debt crisis when he took office in 1982. His two-fold strategy of reducing the economic role of the state through privatization ("desincorporación") and commercial liberalization demonstrated by Mexico's accession to the General Agreement on Tariffs and Trade (GATT) in 1986, resulted in virtually no growth during his term in office. The debt had grown to over $100 billion, real wages had declined by at least 40 percent between 1982 and 1988, and the nation was exporting 5 percent of its GDP for debt service (Smith, 1989:397). Certainly, the economic prospects were not encouraging when Carlos Salinas de Gortari assumed the presidency on December 1, 1988.

President Salinas, a Harvard-educated economist, wasted little time implementing dramatic steps to open and modernize the Mexican economy. In keeping with his predecessor's policy of reducing the economic role of the state, Salinas has privatized key state enterprises including both national airlines, the telephone company, mines, steel mills, and the national insurance company. Additionally, he obtained congressional approval to return the previously nationalized banks back into private hands in an effort to repatriate flight capital. In order to pressure Mexican producers to become more efficient, President Salinas has relaxed import restrictions. In May of 1989, a new code was adopted which liberalized foreign investment regulations. These revolutionary achievements in a nation known for advocating a highly protectionist philosophy, made clear President Salinas' intentions to fashion an efficient and competitive system.

In keeping with Mexico's acceleration into the world economy under President Salinas, the oil industry is undergoing changes which differ
significantly from its traditional nationalistic policies. Devastated by the 1986 oil shock, the industry experienced a 60% reduction in net oil export revenues which in turn aggravated PEMEX's mounting debt burden (Niering, 1988:328). The oil-price collapse also forced PEMEX to cut spending in such key areas as exploration. Concomitant with a lack of diversification, an overstaffed and corrupt bureaucracy, and continued low international oil prices, the industry faced a severe financial crisis in 1988.

President Salinas has pledged to restructure the financial base of the state oil company to correct these financial exigencies. Consistent with the overall economic reform program, he has instituted new policy alternatives that have opened the industry to private participation. There are indications that PEMEX is developing a more international focus as evidenced by the rise of joint venture agreements, and the formation of Petróleos Mexicanos Internacional (PMI), the international marketing arm of PEMEX. This organization is charged with buying, selling, and taking advantage of trade opportunities to obtain new technology for the diversification of the industry. In light of these efforts, PEMEX's role appears to be changing to one resembling that of an international oil firm. Perhaps the most revealing indicator of Salinas' resolve to restructure the oil industry, was his use of military force to arrest the union's strongman and known Salinas opponent, La Quina.

The Petrochemical Sector

The liberalization measures espoused by President Salinas crystallized much debate and speculation concerning the role of the private sector in Mexico's oil industry. Many analysts have conjectured, in light of PEMEX's staggering debt, limited capital for exploration and development, and inherent
inefficiencies, that the oil industry would soon become a prime candidate for private (including foreign) competition. To quell this speculation, the President and Francisco Rojas, director general of PEMEX, vehemently denied that the oil industry would take the path of privatization. They countered that "ownership and control of PEMEX is irreversible" (Jacob, 1990:76).

Nevertheless, these official denials have been followed by new openings to private capital, causing the director general to proclaim, "the company is interested in uniting the forces of PEMEX with those of innovative initiative in the private sector" (Rojas, cited in Oil Daily, June 1, 1990:4). Evidence of this change of direction in oil policy was the Salinas administration's reclassification of another 14 "basic" or "primary" petrochemicals as "secondary." Combined with de la Madrid's previous reclassification of 36, the total number on the "secondary" list increased to 66 while the "basic" list (reserved exclusively for PEMEX) decreased to 20 (Turner and Layton, 1989:25).

The reduction of state activities in the petrochemical sector signifies a deepening of the pragmatic nature of oil policy that began to emerge under Miguel de la Madrid. The liberalizing of this sector through the redefinition of these products had allowed PEMEX to redirect investments to other key areas of the industry. Moreover, the fact that the law governing petrochemicals was modified to allow private investment reflects a significant change in the nationalistic tendencies which previously guided policies.

In addition to the major reduction in the number of petrochemical products that can be manufactured by the state oil monopoly, the Mexican government has stepped up efforts to allow private investors to enter the "basic" sector. To obtain the needed finance and technology for expansion of the primary sector, Mexican law has been revised to enable investors to own 100%
of a venture for a 10-20 year period, 40% through direct investment and 60% through special trust funds. Investors are offered the option to either enter into a build-lease agreement with ultimate ownership or purchase futures in petrochemical products (Petroleum Intelligence Weekly, October 30, 1989:3). Since the implementation of the new policy, two private Mexican chemical companies concluded an agreement with PEMEX to build basic feedstock plants in exchange for the financing of the project (World Oil, April 1990:13). These "joint ventures" demonstrate the potential avenues available for PEMEX and the Mexican government to obtain much needed capital investment in other sectors while operating within the framework of the constitution.

OPEC Solidarity

The Salinas administration has also maintained the policy of setting official export prices in solidarity with OPEC. Beginning under de la Madrid, the oil industry sought a new relationship, based on dialogue, to restore stability in the highly volatile oil market. In 1989, PEMEX announced that its export quota would be reduced by 68,000 barrels per day (5% of the nation's export goal) to support the world oil stabilization efforts between OPEC and the independent oil producing nations (Platt's Oilgram News, March 6, 1989:1). The continuation of this policy reflects Mexico's new political desire to participate actively and responsibly in the world oil market. Beyond the symbolic gesture of global cooperation, these decisions stem directly from lessons learned about the debilitating effects of the industry's inconsistency in its oil export pricing policy of 1981.
International Outlook

In keeping with the recent trend for an outward oriented petrochemical industry, and continued cooperation with OPEC, PEMEX has made further strides towards a more international outlook. Many scholars have criticized PEMEX in the past for its lack of diversification and integration into the international market. This criticism is best captured in the words of Gabriel Székely:

The Mexican government's reluctance to diversify the international operations of the oil industry is regrettable. PEMEX has failed to become a modern and aggressive trading agent in world markets commensurate with the size of its oil reserves, its assets, and its relative weight both in terms of production and exports. (Székely, 1989:1783)

Critics have found fault with Mexico's adherence to oil policies which emphasize the export of crude oil while hesitating to venture seriously into downstream operations such as refining and petrochemicals. Several reasons for Mexico's hesitancy to deal with foreign companies have been presented. The unsatisfactory origin of the industry under foreign control has consistently discouraged executives from pursuing international agreements, particularly with the United States. Mexico has also coped with a rapacious oil union whose indomitable power and corrupt practices have withstood any attacks generated by past administrations. In a word, "the highly restrictive domestic political environment has obstructed efforts at diversification" (Székely, 1989:1783).

As noted, the oil industry has made significant inroads into the chemical sector by cleverly redefining products to foster partial privatizations and expansion of the industry. PEMEX has also established strong international
links in Europe and the Far East. The Salinas administration has recently decided to forge "strategic alliances" with Japan and Spain to gain better access to the world oil market and to seek foreign capital for downstream operations. PEMEX decided to purchase 10% of Spain's state controlled oil company Repsol (Oil and Gas Journal, January 8, 1990:11). The partial acquisition of this Spanish refinery bodes well for PEMEX's new international ventures, particularly since Spain joined the European Economic Community in 1986. Furthermore, Repsol has indicated a desire to participate in PEMEX's downstream projects as part of its overseas expansion.

In early 1990, Japan invested U. S. $15 million in the "Pacific Petroleum Project," a pipeline, storage, and refining system connecting Mexico's Gulf facilities with the Pacific Coast (Oil Daily, June 1990:B-5). This joint venture will provide Mexico with greater capacity to transport oil along the trans-Mexican pipeline, increase crude storage capacity, expand refinery capacity, and provide a plant to export liquified gas. Japan will benefit from a long-term supply of oil through 1995, and Japanese importers will be able to bypass the Panama Canal. These examples of "joint ventures" represent significant achievements in Mexico's recent efforts to diversify its international operations.

In addition to the expansion of crude export clients, the new alliances hold particularly bright prospects for foreign investment ventures in the Mexican petroleum industry. More importantly, PEMEX's investment in Repsol, if successful, could convince the Mexican government of the value of using company revenues to fund the industry's expansion. These investments also enhance the industry's efficiency by "isolating PEMEX managers from such quagmires as government controls and union corruption" (Székely, 1990:1784).
Oil Union Confrontation

Perhaps the most monumental act reflecting President Salinas' vow to clean up corruption in the oil union was his ordering of a military raid and the subsequent arrest of Hernández Galicia. This commando assault on the oil union's "cacique todo-poderoso" and several of his loyal disciples left little doubt that the practice of turning a blind eye to corrupt union practices was a thing of the past. With his most powerful union enemy defeated, Salinas sent a clear message to other organizations "that they must change or commit suicide peacefully" (Lorenzo Meyer, cited in Conger, 1989:185). President Salinas' decisive action against the "petroleros" removed perhaps the greatest obstacle to his plans for modernizing the Mexican economy.
CHAPTER 5
CONCLUSION

In light of the ongoing nature of the changes in oil policy, it is still premature to posit with certitude the precise course which the petroleum industry will take. Yet, one realization remains strikingly evident: PEMEX's recent policies and programs, when viewed in the context of Mexico's political and economic experience to date, have taken on new dimensions. Upon nationalization, Mexican presidents withdrew from the international oil system and emphasized instead the fostering of domestic industrialization with provisions of cheap oil. In the 1970s, the oil industry's role was transformed as oil export revenues were envisioned as the cure-all for Mexico's political, economic, and social problems. Unfortunately, this oil resource exploitation strategy ignored other sectors of the economy and subsequently resulted in the 1982 debt crisis when oil prices plummeted. In both periods, the industry was guarded from private participation, particularly that of foreign investors.

The recent approaches allowing partial privatizations in the petrochemicals sector, as well as the internationalizing of the industry through "joint ventures" or "strategic alliances," and the forging of ties with OPEC, represent a swing away from the highly nationalistic policies of the industry's past. The de la Madrid and Salinas administrations have apparently not allowed revolutionary ideology to undermine the necessity of private capital investments, whether domestic or foreign.
According to a recent report in Petroleum Intelligence Weekly, "foreign participation in the previously taboo upstream oil sector will be necessary to alleviate PEMEX's financial crunch" (Petroleum Intelligence Weekly, January 15, 1990:4). Despite official denials of upstream investments, the Mexican government has conducted a cost study to target primary areas for foreign direct investment. It would seem that the exploration and development sectors would be viable candidates for consideration, as they are the most costly and risk-filled areas. Efforts in these areas would also make sense particularly when one considers that a lack of investment in refining relegated oil-rich Mexico to import gasoline in 1989. Moreover, as one PEMEX analyst contends: "if current conditions prevail, and PEMEX continues to have little or not capital reinvestment, Mexico will no longer be an exporter of oil by 1997" (Reier, 1990:50).

Recent discussions have also taken place to divide PEMEX into separate companies, operating under the direction of a holding company controlled by the Mexican government (Senzek, 1990:B-6). This restructuring would divide PEMEX along operational lines creating five subsidiaries in charge of exploration and production, refining, basic petrochemicals, domestic sales, and exports. The working group headed by Fernando Hiriart, minister of Energy, Mines and Parastate Industries, left open the possibility of private sector participation in each subsidiary on a minority basis. This option resembles the Brazilian example of reserving oil to the nation, with a majority of the shares in the national oil firm owned by the government and a minority offered to the private sector (Randall, 1990:10-A). Nevertheless, it seems doubtful for the time being that the Mexican government will allow partial privatization of the oil monopoly which remains "canonized as a 'strategic sector' in the constitution"
Nationalistic resistance to foreign participation in the oil industry remains strong, even when foreign investors are invited.

Salinas' margin of victory in the 1988 election could inhibit his ability to follow through on any radical ideas about restructuring the national oil company. The blistering attacks levied against the president's moves to create a greater role for private investors in the petrochemical sector serve as a constant reminder of nationalistic ideology. The revamping of existing regulations which forbids private investment requires a two-thirds vote in Mexico's Congress. Because the PRI only holds a simple majority, President Salinas will have to proceed cautiously in this matter to prevent a political backlash. Suffice it to say, Salinas will have to garner sufficient political support to implement the policies effectively.

In spite of silencing his most salient opponent in the labor union, Salinas must still contend with the unified left led by Cuauhtémoc Cárdenas. This son of the infamous Lázaro Cárdenas has a strong showing in the 1988 presidential election, and continues to challenge the economic liberalization measures enacted by Salinas. The opposition on the right provides a further challenge to the administration by advocating that the opening and privatization moves have been too timid. According to Sidney Weintraub, "Salinas has only limited time to consolidate his position, possibly until the mid-term congressional elections in 1991" (1990:37). This political cycle argument may deter any further meddling in petroleum matters at least until 1992.

Another interesting development in which oil is playing a significant role is in the ongoing dialogue between Mexico and the United States over bilateral free trade. The United States is insisting on the opening of the petroleum sector to investors, while Mexico remains non-committal. It will be interesting to see whether Salinas concedes a petroleum investment as the carrot for better terms
with other products. This scenario is obviously threatened by the
aforementioned political climate, but Salinas' bold acts to this point suggest that
he may use oil as a diplomatic card anyway. His other option is to say no. In
view of the upcoming elections, Salinas may find it politically necessary to hold
the oil card for better days.

What appears more likely, is that the Mexican government will continue
to seek private capital under the guise of "joint ventures." The Japanese and
Spanish cases offer the Mexican petroleum industry the opportunity to open
new investment opportunities in the downstream sector without sullying
Mexico's revolutionary principles. If these ventures prove successful in the long
run, the opposition may concede that upstream activities such as drilling may
become feasible options. Foreign capital might then have another heyday, but
undoubtedly on a plane considerably below that enjoyed during the genesis of
the oil industry.
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Arts.

Steven E. Sanderson, Chair
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Arts.

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