

UNITED NATIONS
ECONOMIC COMMISSION
FOR LATIN AMERICA
AND THE CARIBBEAN - ECLAC



Distr.
LIMITED
LC/L.613
12 November 1991
ENGLISH
ORIGINAL: SPANISH

INDUSTRIAL MODERNIZATION IN MEXICO

Results of a questionnaire administered to the largest
foreign-owned companies in the manufacturing sector
during May/June 1990

This report was prepared by the Joint ECLAC/CTC Unit on Transnational Corporations in Santiago, Chile. Staff members Michael Mortimore and Torben Huss devised and applied the questionnaire. The authors wish to express their thanks to the Centre for Economic Studies of the Private Sector for arranging the interviews.

CONTENTS

	<u>Page</u>
Abstract	1
1. Conceptual framework	2
2. Characteristics of the questionnaire	5
3. Characteristics of the sample	7
4. Results of the questionnaire	10
5. Conclusions	21
Notes	23
Annex 1: UNIVERSE OF MAJOR FOREIGN-OWNED MANUFACTURING FIRMS IN MEXICO, 1987	25
Annex 2: BASIC INFORMATION ON THE FACTORS OF ANALYSIS	28
Annex 3: THE QUESTIONNAIRE	29

Abstract

The Mexican industrialization process underwent a severe adjustment during the 1980s, and one clear result of that experience was that the role of private capital, especially foreign capital, was redefined and strengthened. The aim of the questionnaire discussed in this report was to establish direct contact with executives of the largest of the foreign-owned firms operating in the Mexican manufacturing sector in order to gather information concerning their opinions and experiences as regards the crisis, the policy changes implemented to promote economic modernization and the new role assigned to transnational corporations.

The 27-page questionnaire was directly administered to 63 of the 103 largest manufacturing firms in which at least 25% of the share capital was foreign-owned. The qualitative part of the questionnaire consisted of four sections dealing with these executives' experiences in terms of the crisis of 1982-1989, their opinions regarding changes in public policy with respect to the industrialization process, the need to promote the export of manufactures, and regulations relating to foreign direct investment and foreign technology. In general, the purpose was to gain an understanding of how they had coped with the crisis and to contrast public policy during the pre-crisis period (1973-1982) with that of the crisis period (1982-1989). These businessmen had very clear ideas about these concerns.

Without going into great detail, it was evident that these managers felt that their success in dealing with the crisis was more clearly a result of their own efforts than of any particular changes in government policy, although they were very much in agreement with the objectives of those policy changes. Their achievements in terms of increasing production efficiency in order to honour financial commitments undertaken within a different macroeconomic context and to improve their ability to compete internationally were regarded as their own doing.

With respect to public policy, these executives were clearly in agreement that, in general, it was the State's duty to provide an adequate macroeconomic context for industrial modernization without entering into the day-to-day operations of these companies. In this sense, they were pleased by the relaxation of administrative regulations on foreign direct investment and foreign technology (although the majority would have preferred to see changes made in the law itself); however, they did complain that

the Government's policy for promoting the export of manufactures did not provide sufficient support. Furthermore, most of them thought that more changes were needed in the areas of intellectual property and trademarks within the context of the Government's policy on foreign technology. For a more detailed discussion of these matters, the reader is referred to the report itself, which examines these issues in terms of 11 factors of analysis.

Finally, it was evident that this group of companies had attained great success in terms of industrial modernization. The heavy concentration of concrete achievements in a small number of very large motor vehicle-related enterprises which had substantial levels of exports, however, raises some question as to the scope and durability of the success of industrial modernization in Mexico.

1. Conceptual framework

For most developing countries, the industrialization process is composed of two stages: the easier phase of import substitution (ISI), in which goods involving relatively low levels of technology are produced locally with a limited degree of efficiency, and a more difficult phase in which the substitution of imports (now with a higher degree of technological complexity) is combined with the export of manufactures. In Mexico's case, there was no clear transition from the first to the second phase in spite of the fact that by the beginning of the 1970s there were clear signs that the opportunities offered by the primary ISI model had nearly been exhausted. The abundance of external bank credits and the discovery of massive petroleum reserves gave the Mexican Government the luxury of ignoring the structural requirements of the second phase of industrialization, especially in so far as the export of manufactures was concerned. The external debt crisis and the subsequent decline of the international price of crude petroleum—events which characterized the 1980s—forced the country to re-evaluate its macroeconomic situation and its industrialization process.

From the Second World War until the 1970s, Mexico was engaged in an intensive process of consumer and intermediate goods, import substitution and this was reflected in annual growth rates in excess of 6%. Central policy elements of this first phase of ISI were tariff and non-tariff protection and industrial integration instruments, such as the production programmes for intermediate goods in effect at that time, national product lists, industrial profiles and the local content requirements for the motor vehicle industry.¹

A host of industrial development problems—including the heterogeneity existing in terms of production and incomplete linkage with other sectors (particularly agriculture), the unequal

generation and incorporation of technical progress, the relative underdevelopment of local capital goods, a lack of international competitiveness and deficient export performance, inter alia⁻² were symptomatic of the exhaustion of the first phase and the need to begin the transition to the second phase at the start of the 1970s. Some of the initiatives in this regard, such as new incentives for exports of manufactures and efforts to improve international competitiveness and to promote the development of a capital goods sector, did not meet with favourable macroeconomic conditions and, in fact, private investment tended to flow into commercial and service endeavours.

Mexico's severe shortage of foreign exchange during the 1980s as a consequence of the international debt crisis and the fall in the international price of petroleum highlighted the need to stabilize the economy. The annual growth rate of GDP, which had averaged almost 7% for decades, flattened out in 1982 and shrank by 5% the following year. Inflation, which was minimal during the 1960s, accelerated during the 1970s and surpassed 100% in 1983 as measured by consumer prices. The public-sector deficit (measured as a percentage of GDP) had grown to twice its 1973-1976 level by 1982 (17.6%). The external debt (also as a percentage of GDP) surpassed 40% in 1983, and over 40% of the income shown on the balance-of-payments current account went to service that debt. This macroeconomic situation, which was complicated by the need to begin making the transition to the second and more difficult phase of the industrialization process, prompted the conclusion in government circles that a return to sustained growth would require not only economic stabilization, but the implementation of fundamental structural reforms as well.³

The emphasis of Mexican economic policy shifted away from economic and financial stabilization and towards structural reforms in the course of the 1980s following the outbreak of the debt crisis. The National Development Plan defined the country's three basic strategies as follows: i) to carry forward the stabilization of the economy; ii) to increase the quantity of resources available for productive investment; and iii) to modernize the economy.⁴

The essence of the concept of economic modernization is best captured by the words of the President of Mexico:

"We realize that modernization demands that stability be accompanied by a policy which encourages efficiency in production. Therein lie the foundations of international competitiveness. This is why we have resolutely followed a course of action aimed at opening up the economy to trade, promoting foreign and domestic private investment and deregulating major areas of the economy. These policies have substantially increased the competitive capacity of our production sector, and this is already being reflected in new employment opportunities. The liberalization of trade and the rationalization of protection have, in a very short

period of time, made us one of the most active countries in the sphere of foreign trade. We have eliminated the vast majority of our quantitative restrictions and have replaced them with tariffs. Today, the maximum tariff is 20% and the average tariff is less than 10%. Thus, Mexico has made a firm commitment to modernize its economic structure by means of an effective penetration into international markets. This demands an unprecedented export effort. It calls for a new outward-oriented stance geared to opening up markets, obtaining technology and securing trade opportunities under changing global circumstances."⁵

Mexico's economic modernization during the 1980s was implemented through specific plans and programmes, including the National Development Plans for 1983-1988 and 1989-1994, the National Programme for Industrial Development and External Trade (PRONAFICE) and the Integral Export Promotion Programme (PROFIEX). By the late 1980s the manufacturing sector had regained its historical rate of economic expansion and exports of manufactures had grown to four times their 1982 level (measured in United States dollars); this was largely a consequence of productive investment by both the foreign and domestic private sectors.⁶

Given the particular emphasis being placed on the new role of foreign capital as a leading agent of economic modernization, it is worth taking a moment to clarify some of the general aspects of the changing role of foreign capital during the process of industrialization before going on to examine specific aspects of the present Mexican situation.

Ranis, for example, in referring to what he calls the "import substitution" and "export substitution" phases of a country's life cycle, notes that "... during import substitution investment is channelled mainly into the industrial sector of the LDC, with the main contribution of the MNC [multinational corporation] being one of adding to industrial savings, capital accumulation, and management capacity. At this point in time, when the market, the role of relative prices, efficiency, and so forth have been put aside, at least temporarily, in order to ensure as rapid a rate of industrial growth as possible, foreign capital and management can provide an important assist. This is usually a period when technology choice generally consists mainly in the act of turn-key borrowing from the "shelf" of advanced country technology... In this period, the watchword is getting the job done as quickly as possible, with relatively little concern for efficiency -certainly not at international prices".

As the industrial sector advances, "... the role of appropriate technology and output mixes in penetrating international markets becomes much more important. One can now conceive of a benign and productive combination between the advantages of the MNC ...and the growing domestic expertise based on the specificity and peculiarities of the local resource

endowment and institutional factors. ...Under generally more competitive conditions there is an increasing need for coming up with the right amalgam of imported and adaptive technologies and output mixes to ensure the continued outward-looking expansion of the industrial sector".⁷

From this standpoint, it seems clear that the new role for foreign capital in Mexico is intimately related to opening up the economy to trade and to promoting more efficient industry.⁸ Evidently, the Mexican authorities expect that foreign capital will be accompanied by new technologies and will promote exports of manufactures. Furthermore, given the general macroeconomic situation since the outbreak of the 1982 financial crisis, they also hope that foreign capital will provide solutions for problems usually associated with the first phase of the industrialization process, such as raising investment and obtaining foreign exchange. In order to facilitate the inflow of foreign capital and technology, the corresponding regulations were substantially liberalized in May 1989 and January 1990, respectively.

Accordingly, the specific objective of the questionnaire was to provide information on how the principal foreign-owned manufacturing companies have perceived and reacted to the Mexican situation, industrial modernization and the new role assigned to transnational corporations.

2. Characteristics of the questionnaire

Placed within the context of the conceptual framework described above, the main focuses of the questionnaire were the competitive position of the principal manufacturing firms which have foreign shareholders, the changes they implemented in their corporate strategy during the 1980s and their perception of the changes made in public policy during that period. In order to gather information on these matters, a 27-page questionnaire consisting of five sections was designed and administered to a large sample of such companies. The principal characteristics of the questionnaire are discussed below.

The quantitative part of the questionnaire was based on the year 1987. It served to define numerous aspects of corporate behaviour for purposes of analysis. The information thus collected was also used to form a picture of central aspects of these companies so as to substantiate the opinions expressed in other sections of the questionnaire.

The qualitative part consisted of four sections in which the respondents were asked to give their views on the 1982-1989 crisis, industrial policy and the promotion of exports of manufactures, the policy on foreign direct investment, and the policy on the transfer of foreign technology and subcontracting. With regard to the

1982-1989 crisis, the first aim was to differentiate between the respondents' views concerning the country's financial crisis and their opinions regarding problems experienced by their firms. An attempt was therefore made to define how the company's domestic market share and its ability to compete internationally had changed. To that end, respondents were asked for their opinions on the financial crisis, new investments, changes in production efficiency, and the principal means used to cope with the crisis; finally, they were also asked to give their opinion as to which economic agents or social groups had been most negatively affected by the crisis.

In the remaining sections of the qualitative part of the questionnaire the businessmen were asked to compare the central elements of public policy during the pre-crisis (1973-1982) and crisis (1982-1989) periods. They were also asked to define and evaluate the new regulations on foreign investment and technology. Their identification and evaluation of the principal objectives of industrial policy and of efforts to promote exports of manufactures during the above periods were also requested, as were their views on which sectors, export groups, economic agents and social groups benefited the most from the industrial policies prevailing during these periods. With respect to the promotion of exports of manufactures and the impact on their firms' performance, the respondents were asked to give their views as to the effect of specific policy tools in terms of the results obtained. Finally, the major impediments to a better export performance were identified and ranked by these executives.

The section dealing with the policy on foreign direct investment sought to identify the central features, according to these managers, of that policy in terms of the principal objectives of the country, their impact on the firms during the periods in question and the degree to which they were successful. The businessmen were asked to indicate any major changes in the ownership of their companies' capital stock and to offer their opinions on the new regulations which entered into effect in May 1989. Finally, they were invited to evaluate Mexico's role as a recipient of foreign direct investment in 1973-1982 and 1982-1989.

The last section, which dealt with public policy on foreign technology, also was designed to elicit businessmen's viewpoints on the chief objectives of the policy and its impact on each company during the relevant periods, as well as on its successfulness. Their opinions on the new regulations which entered into force in January 1990 were requested as well. Also of interest was the identification of the national origin of the foreign technology, the contractual objectives of its transfer, the reasons why that technology was selected and the principal benefits in the case of each enterprise. Some questions on subcontracting practices within the domestic economy helped to shed light on the technology transfer situation.

With very few exceptions, the executives who were interviewed were the firms' president or general manager, or held some other senior management position. This was necessary in order to ensure that the responses to the questionnaire were both complete and correct. The logistical support of the Centre for Private-Sector Economic Studies of the Entrepreneurial Coordinating Council and the keen interest shown by respondents were crucial to the success of this endeavour.

3. Characteristics of the sample

A special effort was made to identify, classify and rank the universe of the principal manufacturing enterprises having foreign shareholders. The original aim was to identify the 100 largest companies in terms of sales in order to choose the firms to be interviewed. Although a great deal of relevant information was available, no one source provided complete information and, in fact, many gaps and contradictions were encountered when data, from different sources were combined. Thus, the assembly of the basic information needed to define the universe of such business enterprises, proved to be a substantial task.

The main national sources that were consulted included agencies in both the public and private sectors. Among the former, official information from the Ministry of Commerce and Industrial Development (SECOFI), the Central Bank (Banco de México) and the Institute of Statistics, Geography and Information Sciences (INEGI) was the most useful. In the private sector, the weekly Expansión, business organizations (the Entrepreneurial Coordinating Council, The National Chamber of Manufacturing Industries, the American Chamber of Commerce of Mexico), sectoral associations (the Automotive Association of Mexico) and specialized directories (e.g., Industridata-empresas grandes, 1990) were among the more valuable sources. Foreign sources of information, primarily those available to the United Nations Centre on Transnational Corporations ("One Billion Dollar Club" and "Family Tree") and specialized directories (e.g., Dun and Bradstreet, Principal International Businesses and America's Corporate Families, International Directory of Corporate Affiliations: Who Owns Whom, and Uniworld, Directory of American Firms Operating in Foreign countries) were also very useful. The results of this information-gathering effort are found in the list of the 103 largest foreign-owned manufacturing enterprises given in annex 1.

The three basic factors used to define the universe were the following: i) 50% or more of the firms' sales corresponded to the manufacturing sector, ii) their sales volume in 1987 exceeded 43 billion pesos and iii) more than 25% of their total share capital was foreign-owned. The reason for the first criterion is obvious in a questionnaire on industrial modernization. The other two merit some comment. The year 1987 was selected as the base year

because it was the one for which the most recent information was available when the task of defining the universe was begun. Also, it is an "intermediate" year between the start of the crisis in 1982 and the application of the questionnaire in 1990. It was, furthermore, considered to be a relatively "normal" year within the context of this variable and the changes which occurred during the period in question. The figure of 43 billion Mexican pesos corresponds to the 1987 sales of company number 100 of the original universe; subsequently, three more firms were identified and added.

The cutoff limit for foreign-held share capital -25%- was chosen so as to include in the universe the category of "mixed" enterprises in which there was a substantial but not majority foreign presence. At first, the limit had been set at 20%; however, it was found that numerous companies with incomplete or contradictory information fell within the 20%-25% range. By raising the limit to a convenient round number (in this case 25), the companies with questionable information were eliminated and the category of major mixed enterprises was consolidated.

The resulting list of the principal manufacturing companies having a sizeable amount of foreign-owned share capital was presented to the Centre for Private-Sector Economic Studies (CEESP), which proceeded to schedule 50 interviews for the purpose of administering the questionnaire. The efficiency of the Centre made it possible to conduct a far greater number of interviews (in which at least one official from the Joint ECLAC/CTC Unit and one CEESP staff member participated) than had originally been anticipated. Valid replies were obtained from 63 firms in the universe. These enterprises were the first to reply acceptably to the questionnaire within the stipulated period. It should be pointed out that the level of the executives who responded to the questionnaire was more than sufficient: one-third were the firms' presidents, general managers or the equivalent, and another third were directors of finance or their equivalent. The firms which formed part of this "sample" of the universe of 103 companies are marked with an asterisk in annex 1.

Perhaps the most important characteristic of these 63 companies is their size. Their combined sales in 1987 amounted to 16.2 trillion pesos (around one-third of the value of the manufacturing sector's total output, although the comparison is not perfect); their exports added up to over 6 trillion pesos, or more than US\$4.3 billion (almost 42% of the total value of exports of manufactures during 1987); and they employed over 154 000 persons (more than 6% of the total for the manufacturing sector).⁹ The average firm in the sample had sales on the order of 250 billion pesos and exports of around 100 billion pesos (or almost US\$70 million) and employed about 2 500 persons in 1987. The categories of analysis designed to provide a clearer picture of the characteristics of this sample are detailed below.

The 11 factors that were used to analyse the information collected for 1987 can be grouped into three basic categories: i) factors related to the size or presence of the company in the domestic market, ii) those that refer to special characteristics of the firms, and iii) those having to do with their export performance. Table 1 contains the basic information which corresponds to these factors of analysis.

The first category consists of five factors related to the size or presence of the firms interviewed. First and foremost, there was a clear and notable concentration of exports, sales and personnel in the largest enterprises (the top 10), primarily those in ISIC group 384 (especially those related to the motor vehicle industry) and in firms with relatively small domestic market shares for their principal product. Almost 80% of the total value of exports and 60% of the total value of sales of the sample as a whole are concentrated in the 10 largest companies, and five of these 10 firms (General Motors, Chrysler, Ford, Volkswagen and the maquiladora Deltrónicos de Matamoros) are part of the motor vehicle industry. In fact, the relatively small domestic market shares of the firms accounting for two-thirds of the total value of the sample's exports and 45% of the total value of its sales are a consequence of the competitive market for automobiles and trucks. These five factors provide a clear picture of the size and market presence of the enterprises in the sample.

The factors referring to special characteristics of these companies included the type of foreign-investor involvement (majority shareholder or mixed), the home country of the source of foreign direct investment (United States or other), and whether the firm offers its shares on the national stock market. These factors tell us certain things about the nature of foreign involvement in the manufacturing sector, at least in terms of this sample. Generally speaking, it is evident that the firms in which the majority shareholder's home country is the United States and which are not listed on the national stock exchange are the ones that control the lion's share of the sample's exports, sales and personnel, while the exports, sales and staffs of the mixed firms, companies with shareholders from other countries and enterprises listed on the national stock exchange represent a disproportionately small percentage of the total. Subsidiaries of United States-based TNCs dominated the sample in these respects.

Three factors were selected in order to analyse the export performance of the sample: the absolute volume of exports (five levels), the share of total sales represented by exports (six levels) and the principal export market (United States, other, none). One striking fact that was brought out in this connection was that over 55% of the total value of the sample's exports and almost one-third of the total value of its sales came from just three subsidiaries of United States TNCs active in the motor vehicle sector, whereas 41 of the 63 companies of the sample either

did not export at all or had exports amounting to less than 32 billion pesos in 1987. The sample included only 12 export firms (those for which exports represent more than 50% of the value of their sales), yet these firms accounted for more than three-quarters of the total value of the sample's exports and 43% of the total value of its sales. The sample's 31 non-exporters (those that export less than 10% of their total sales), on the other hand, accounted for only 2% of its total exports; however, they did provide one-quarter of all sales and employed 30% of the personnel. Finally, the 38 enterprises whose principal export market is the United States accounted for 85% of the sample's total exports in terms of value, made 73% of its total sales and employed two-thirds of the total staff. Hence, the export activity of this sample is heavily concentrated in the hands of a very small group of subsidiaries of United States-based TNCs, most of which are in the motor vehicle industry and export to their home country.

4. Results of the questionnaire

a) The 1982-1989 crisis

The executives of the 63 respondent companies were asked to characterize the crisis and their reaction to it. With regard to the crisis, the situation of the Mexican economy as a whole was distinguished from the experience of the enterprise itself. These businessmen had very clear opinions on this matter.

The three factors which they felt had the strongest impact on the performance of the Mexican economy in 1982-1989 were, in order of importance,¹⁰ the external debt (21), the international price of crude petroleum (17) and the national political system (15). Evidently, the burden of servicing the external debt was considered to be the central feature of the crisis which erupted in Mexico in 1982, while the steep decline in the international price of crude petroleum in 1985 further aggravated the already difficult situation. The third factor --the national political system-- was interpreted in two ways: one, as bad policy-making during the 1970s and early 1980s which paved the way for overborrowing; and two, as good policy-making during the 1980s which provided structural reforms needed to cope with the crisis.

The situation at the enterprise level was equally clear, if more specific in nature. The three factors which were regarded as having had the strongest impact on the performance of these firms were internal demand (30), the exchange rate (13) and the domestic interest rate (10). The collapse of local-market demand was by far the most serious impact of the crisis for these firms and was a key factor in the difficult adjustment process required of them in order to survive. The sharp devaluation of the exchange rate of the Mexican peso to the United States dollar and the steep rise in domestic interest rates represented two critical elements as

regards the crisis management efforts of these firms in that these elements played an important role in determining the companies' ability to export and their chances of controlling their financial disequilibria.¹¹ The following discussion will focus on the particular ways in which these firms dealt with the grave crisis they faced during 1982-1989.

When asked to define the three most essential components in their survival strategy during 1982-1989, these firms responded that industrial/production changes had been the most important (34); they ranked financial operations as the second (23) and trade initiatives as the third most significant components (21). Thus, they clearly defined the challenge of industrial modernization in Mexico as being the need to improve the production efficiency of firms in order to enable them to meet the financial obligations they had assumed within the quite different macroeconomic context that had existed prior to the crisis and to improve their international competitiveness so that they could export a larger proportion of their output. For many companies, their very survival depended on their success in each of these endeavours.

There was not one company among the 63 interviewed that did not consider itself more efficient now than it had been before the crisis. Almost all (59 of the 63) had made major investments during this crisis period, such as opening new plants, starting new lines of production or entering new markets. According to these firms, the three most effective elements in helping them to weather the crisis were the reduction of production costs (27), a new corporate strategy (16) and improvements in product quality (15). This shows that industrial or production changes were very active elements in their reaction to the crisis.

In respect of the financial crisis, 56 firms admitted that they had encountered difficulties with their foreign-currency debt, and 30 stated that their peso debt had caused them some problems. Foreign-currency debt weighed more heavily in the accounts of these companies; the three principal instruments they used to deal with this type of debt were the Foreign Exchange Risk Coverage Trust Fund (FICORCA) programme (35),¹² a negotiated agreement with creditors (12) and the direct capitalization of the debt (8). Twenty-eight enterprises (mainly mixed firms not in the motor vehicle industry which have low levels of exports and a static share of the domestic market) made use of a three-part type of operation which consisted of entering the FICORCA programme, renegotiating their foreign liabilities and then prepaying them in pesos. Another 14 companies (mainly subsidiaries of United States-based TNCs having relatively small debt loads and high levels of exports) were able to make use of the mechanism made available for converting public-sector debt into new investments at a premium (swaps).¹³ In this respect, the particular situation of each firm seemed to dictate their selection of instruments from among those devised to help firms cope with the financial crisis.

A more detailed look at the trade initiatives utilized by these enterprises will be offered in the next section of this report. For the moment, it is sufficient to note that 45 of the 63 companies felt that they are now more capable of competing internationally, i.e., of exporting a larger proportion of their total sales. Fourteen indicated that their ability to compete internationally had not changed and only four thought that it had decreased. In sum, trade initiatives at the enterprise level played an important role in the firms' reaction to the crisis.

Another way of looking at how the major foreign-owned manufacturing firms reacted to the crisis is to try to define who were the winners and losers in this process. For example, it seems clear that those companies which were able to divert into exports a substantial part of the output that they normally sold on the domestic market, to increase their domestic market share or to establish new export operations were better able to weather the crisis. Twenty-two firms exported 25% or more of their output in 1987. Sixteen enterprises increased the domestic market share of their principal product. Most surprisingly of all, 10 companies achieved both of these things simultaneously, i.e., during the crisis they were able to export at least one-quarter of their output and to increase their domestic market share at the same time. The characteristics of these "winners" varied, but for the most part they did have some features in common, since they were generally very large firms with small or medium-sized market shares which export primarily to the United States.

Clearly, the major foreign-owned manufacturing companies operating in Mexico have made enormous adjustments in order to cope with the crisis of 1982-1989. This adjustment was based on three principal components: industrial production, finance and trade. The central aims of the adjustment were to improve the efficiency of the firms, to deal with existing external liabilities and to increase the proportion of output directed towards exports. To some degree, the success of these enterprises in modernizing their operations was affected by Government policy on industry, export promotion efforts and regulations on foreign direct investment and on the transfer of foreign technology. The opinions of executives of these 63 companies with regard to these topics are presented in the following sections.

b) Industrial policy and the promotion of exports of manufactures

The purpose of this section of the questionnaire was to define how these businessmen interpreted the chief objectives of industrial policy, how they ranked its successfulness and what main sector or agents they felt had been favoured during the 1973-1989 period and, more specifically, the 1973-1982 and 1982-1989 subperiods. The overall objectives of industrial policy during these subperiods were clearly defined by the firms interviewed.

Fifty-two of the 63 enterprises saw import substitution in more technologically complex industries as being the principal objective during 1973-1982, and 56 felt that the export of manufactures was the main goal of industrial policy during 1982-1989. Thus, the shift which occurred in policy objectives was clearly perceived by these executives. Nevertheless, when asked about the most important objective during the whole of the period 1973-1989, 37 felt it to be the export of manufactures and 21 interpreted it as being the substitution of imports in technologically complex industries (five companies selected both options or neither of them). This lack of definition for the longer period clearly reflects the radically changing nature of industrial policy.

The executives felt that the degree of success enjoyed by industrial policy during the subperiods in terms of the defined objectives was low (2.7) for 1973-1982 and only fair (3.4) for 1982-1989.¹⁴ These values seem to reflect two separate judgements. First, the 1973-1982 period (in which the aim was that of substituting industrial imports in the more complex sectors) was not viewed at all positively by these businessmen even though it coincided with a time of rapid economic expansion in the manufacturing sector. Second, they rated the period in which the export of manufactures dominated industrial policy as being more successful in spite of the fact that it was a time of crisis and severe adjustment.

These executives held exceptionally clear opinions as to who or what had been favoured by the differing industrial policies pursued during these periods. With regard to both industrial sectors and export groups, they were requested to select just one alternative, whereas in respect of economic agents or social groups, they were asked to select and rank three choices. In the category of industrial sectors, the petrochemicals industry was selected by 20 firms for the 1973-1982 period (the motor vehicle industry came in second with 15 "votes") whereas for 1982-1989, 42 enterprises marked the motor vehicle industry as their choice (10 chose the petrochemicals industry). In fact, many companies—mainly subsidiaries of United States-based TNCs in the motor vehicle sector that export substantial volumes to the United States—felt that the motor vehicle sector was the most favoured industry during both periods in spite of the radical changes made in industrial policy. In any case, the two most favoured sectors overall were identified as being the automotive and petrochemicals industries.

The results with regard to export groups were equally interesting. For the first period, 36 of the enterprises indicated that non-exporting industries were favoured, whereas for the second, 41 thought that maquiladoras were favoured. These opinions clearly reflect the fact that major changes were made in industrial policy during the 1973-1989 period and that, in terms of the export groups favoured by the policy, non-exporters were displaced by

maquiladoras and companies that exported large proportions of their output.

In a question similar to that included in the previous section concerning the economic agents and social groups most negatively impacted by the crisis, the executives were asked to identify those most favoured by industrial policy during the above-mentioned subperiods; to this end, they were instructed to select and rank three alternatives. Very little dispersion was evident in their replies. For the 1973-1982 period, they felt that large Mexican firms (21), State enterprises (17) and the State in general (15) had been the most favoured. For the following period (1982-1989), they identified mainly commercial groups (22), national financial groups (20) and foreign firms (17). Again, two distinct judgements are apparent here. First, foreign enterprises apparently felt that they had access to very limited benefits during 1973-1982, most probably due to the strong presence of the State via the then more interventionist industrial policy. Second, and surprisingly enough, foreign companies did indeed receive relatively greater benefits from industrial policy during 1982-1989, but the most favoured groups, according to the 63 companies consulted, were not industrial enterprises but rather commercial and financial firms. What these entrepreneurs may have been trying to communicate is that the move to open up the economy to imports and the financial restructuring process had more of an impact on them than industrial policy did in the period 1982-1989.

With respect to the policy to promote exports of manufactures, the respondents were asked to indicate the three most important instruments which had affected the economy as a whole and those which had most impacted their own firms, the changes which had occurred in their firms' export performance during the two periods, and the obstacles they faced in terms of further expanding their exports. The instruments which they cited as having had the greatest effect on the industrial export behaviour of the economy as a whole were fiscal incentives (21), the exchange rate (21) and the maquila programme (8) during 1973-1982 and, for the 1982-1989 period, the exchange rate (29), the maquila programme (18) and the new liberalized trade policy (14). It should be pointed out that for the first period many respondents refrained from answering the question (24), whereas the replies for the second period were less disperse and more consistent. One interesting detail about the second period is that non-exporters did not select the exchange rate as a major instrument; instead, membership in GATT was more important for them.

As regards the public policy tools which had the most impact on the export performance of each firm, it was significant that a very large number of respondents (85) left this section blank for the 1973-1982 period. In general, the majority opinion was that there was no policy on promoting the export of manufactures during

this period; some even suggested that disincentives were more prevalent. Policy tools for promoting exports of manufactures were cited mainly by firms that had export commitments in connection with sectoral development programmes designed by the Government (primarily large companies in ISIC groups 384 or 382 or in motor vehicle-related industries which had high export levels and which later increased their domestic market share during the crisis).

The instruments which most affected the firms' export performance during 1982-1989 were the exchange rate (16), access to the United States market (10) and changes in the strategies of parent companies (9). Even though there was considerable dispersion in the replies, it became clear that, aside from the exchange rate, these companies considered export gains to be a result primarily of their own efforts and not directly related to any policy on the promotion of exports of manufactures.

These companies experienced significant changes in respect of their export performance. Only 13 of the 63 enterprises exported an increased proportion of their output during 1973-1982, but 51 firms did so in 1982-1989. It is highly significant that although, in terms of volume, exports were heavily concentrated in the group of large subsidiaries of United States-based TNCs operating in the motor vehicle sector which exported to the United States, in terms of the number of enterprises, changes in export volumes were concentrated among smaller companies outside of the motor vehicle industry (particularly in ISIC groups 352 and 382) which had also significantly improved their domestic market share. In other words, above and beyond the obvious export success achieved by the motor vehicle sector (which, to an important degree, is directly related to the Government's sectoral programmes for the industry), many companies have indeed been successful in increasing their exports or in exporting for the first time. This last factor may, in fact, be the more significant one overall.

Finally, there was a great deal of dispersion in the responses to the question on impediments to a further expansion of exports. The greatest obstacles were the high cost or bad quality of domestically-produced inputs (11), the very competitive nature of foreign markets (10) and the lack of exportable surpluses due to increased local demand (9). The second factor was cited mostly by subsidiaries of transnational corporations which already had subsidiaries operating in neighbouring markets (especially the United States). Many non-exporters indicated that restrictive clauses in their contracts regarding foreign technology was a major limitation. In general, it would appear that the principal impediments to greater exports by these companies are not ones that could easily be dealt with by means of public policies on the promotion of exports of manufactures.

The fact that these businessmen have perceived the major changes which have taken place in industrial policy and in policies

for the promotion of industrial exports is indicated by their opinions on policy objectives, favoured groups, policy tools and the obstacles facing them. Furthermore, they have reacted in the fashion desired by the corresponding public policy-makers; nonetheless, these same executives also feel that their own efforts have played a more important role than policy changes have in bringing about the desired results.

c) The policy on foreign direct investment (FDI)

One of the policies having a very direct influence on the performance of foreign-owned companies is the policy on foreign direct investment. The 1973 law governing this matter in Mexico ¹⁵ was essentially restrictive in character and was not very favourably viewed by these firms even though inflows of foreign capital to the Mexican manufacturing sector during the 1970s were relatively large. The executives interviewed felt that, as a recipient of foreign investment, Mexico had done poorly (2.3) during 1973-1982 but had improved to "fair" (3.2) during the following period even though it was a time of crisis.

These changes are also reflected in the opinions held by the representatives of these 63 firms as to the objectives of the policy on FDI in general and its influence on their company during the two subperiods in question. For the 1973-1982 period, they defined the general objectives of the policy as making sure that FDI was complementary to domestic investment (17), limiting FDI in certain sectors (motor vehicle parts, petrochemicals, etc.) (12) and limiting external remittances of profits, royalties, interest, etc. (12). The general objectives for the subsequent period were to promote industrial modernization (16), to help cope with the debt crisis (11) and to encourage foreign direct investment (10). Obviously, these businessmen perceived a radical change in this policy in terms of its general objectives. What is not so obvious is whether these changes have been interpreted as a response to needs arising out of a specific state of affairs (e.g., the need to deal with the debt crisis), as was suggested by most of the very large firms in the motor vehicle-related industry which engage in a substantial volume of export activity, or whether they are seen as resulting from a permanent change in orientation (e.g., towards promoting industrial modernization), as was maintained by the smaller companies, many of which are mixed enterprises in industries not related to the motor vehicle sector and export more limited volumes of manufactures.

There was considerable variation in the opinions of these executives when it came to identifying the objectives of FDI policy which had most strongly impacted the performance of their companies. For the 1973-1982 period, a relatively large number of respondents did not answer the question (24). The objectives selected for that period were to make certain that FDI was

complementary to domestic investment (10), to limit external remittances of profits, royalties, interests, etc., (9) and to improve the transfer of foreign technology (7). One interesting difference of opinion was that many enterprises with large domestic market shares and low levels of exports selected the reduction of monopolies in the domestic market as the primary policy objective, whereas many companies with high levels of exports, especially the 10 largest firms, selected the promotion of exports of manufactures.

For the 1982-1989 period, these businessmen indicated that the three principal objectives of the FDI policy in so far as it directly affected the performance of their companies were to promote exports of manufactures (15), to improve the trade balance of foreign enterprises (9) and to complement the trade liberalization programme (8). Although there was considerable dispersion in these responses, relatively few respondents refrained from answering the question (9). The above-mentioned objectives were ranked as more important by subsidiaries of United States firms than they were by non-United States mixed enterprises, especially those listed on the national stock exchange. Companies with low levels of exports referred more to factors such as improving the transfer of foreign technologies, helping to deal with the debt crisis and encouraging FDI.

Although these executives felt that the policy on FDI had in general produced rather poor results, many of their firms underwent concrete changes because of the policy. For example, during the restrictive phase of the policy (1973-1982), nine of the 63 companies were "Mexicanized" in order to obtain apparent benefits offered under the existing policy. In the following period, 13 of these firms took advantage of the liberalization of the policy to increase the percentage of their share capital that was foreign owned. Interestingly enough, five companies did both of these things.

The businessmen felt that the policy on FDI had improved, since they rated it as having "partially" (2.6) achieved its goals in 1973-1982 but said it had met "about half" (3.1) of its goals in 1982-1989. Although it is true that there was a major swing in opinion on the part of the subsidiaries operating in the motor vehicle industry, the general opinion changed little in spite of the major changes made in the policy. Nevertheless, 31 of the 63 enterprises, particularly those with large domestic market shares and low levels of exports, indicated that the new FDI regulations of March 1989 would encourage new investments by their companies. The principal benefits of the new regulations were defined as the new non-restrictive approach to FDI (23), the new regulation which allows foreign investors to increase their equity holdings in a firm (14) and the deregulation and simplification of administrative procedures (12). Thus, it seems to be the case that the new regulations on FDI are ascribed more importance by firms

whose performance depends more directly on the domestic market, whereas the international and national macroeconomic situation seems to have a more direct influence on firms which rely more heavily on export earnings.

d) The transfer of foreign technology and subcontracting

In this section of the questionnaire the executives indicated which policy goals they saw as having had the biggest impact on technology transfer; in addition, they were asked whether they considered these goals to have had a positive or negative effect.

These businessmen had a very critical opinion of the objectives of the policy on the development and transfer of technology and its effect in terms of the acquisition of foreign technology in Mexico during the two subperiods concerned. For example, 72% felt that the restrictive measures taken during the period 1973-1982 had a negative effect on the acquisition of foreign technology in Mexico.¹⁶ The three goals identified as having a negative effect were, in order of importance, placing limits on royalty payments per contract (30), the mandatory registration of each contract with the National Technology Transfer Registry (11), and the measures taken regarding the protection of intellectual property (or the lack thereof) (11). Only 12% of the executives who were interviewed had a favourable opinion of the policy goals relating to the development and transfer of foreign technology in this period. The rest (16%) did not answer.

Thanks to the deregulation of technology transfer during the 1982-1989 period and the initiatives that were launched to promote the nation's technological development (such as "Programme Mexico"), 42% of the businessmen had a positive opinion of the policy's goals during this period. The specific goals that prompted this change of opinion were the deregulation and simplification of administrative procedures (17), "Programme Mexico" (8) and specific enterprise-level programmes on the assimilation of foreign technology (5). In spite of this notably more favourable opinion, 49% of the executives still thought that the policy goals had an adverse effect on the acquisition of foreign technology in Mexico. The three principal policy goals they described as having a negative impact were the limits on royalty payments per contract (18), the measures taken regarding intellectual property protection (or lack thereof) (10) and the mandatory registration of each contract with the National Technology Transfer Registry (6). It is worthwhile mentioning that there was a notable split in opinion with respect to the measures taken regarding intellectual property protection.¹⁷ Many enterprises in the chemical sector (ISIC 351 and 352) mentioned the lack of measures in this area as an important obstacle, while most manufacturers of non-electrical machinery (ISIC 382) felt that during 1982-1989 measures were taken that had a positive effect on the acquisition of foreign technology. In any

case, the majority of the executives felt that the policy goals during the more recent period still had a negative impact, although their views had softened considerably as compared with the previous period.

Regarding the influence of technology-transfer policy goals on the acquisition of foreign technology by the enterprises themselves, it is surprising that 44% of the enterprises reported that they were not affected by the policy during 1973-1982 and 32% responded in the same way for 1982-1989. This is quite remarkable considering that only nine (14%) of the 63 enterprises did not have a registered technology contract for their principal product. Only 13% of the enterprises felt that the policy pursued during the first period facilitated the acquisition of foreign technology by their company, but this figure rose to 23% in the following period. The reasons for this increase primarily had to do with specific enterprise-level programmes concerning the assimilation of foreign technology (6) and the deregulation and simplification of administrative procedures (6). In general, the majority of the enterprises which had been adversely affected expressed the same reservations about the policy's effect on their enterprises as they had in the preceding question referring to the country as a whole.

It is significant that the subsidiaries in the sample had a more unfavourable opinion of the policy goals than the mixed enterprises did (56% versus 23%). Another notable fact is that enterprises in the motor vehicle-related industry had a more favourable opinion than did the rest about the policy in both periods, especially in terms of the number of such firms which said that specific enterprise-level programmes on the assimilation of foreign technology had a positive effect on its acquisition.

With respect to the new January 1990 regulations on technology transfer, 53 of the 63 respondents felt that it would facilitate the acquisition of foreign technology by their enterprise. The three most important advantages of the new regulations were thought to be the simplification of administrative procedures regarding contract registration and authorization (31), the elimination of limits on royalty payments (28), and the increased flexibility as regards the selection, negotiation, assimilation and development of technology (21). Enterprises that did not have a very favourable opinion of the previous policy (such as subsidiaries, in general, and companies in the chemical sector) apparently have better expectations with regard to the new regulations. Furthermore, the new regulations seem to be accorded more importance by enterprises with large domestic market shares and low levels of exports.

Of the 54 enterprises having registered technology contracts, the three contractual objectives that were ranked as most important were, first, the transfer of technical knowledge through plans, diagrammes, models, instructions, formula, specifications, personnel training or other modalities (26); second, licensing of

trademark usage (24); and third, technical assistance in whatever form (23). There was not much difference among the various factors of analysis except that licensing or trademark usage was seen as a more important contractual objective for subsidiaries (31) than for mixed enterprises (12). For mixed enterprises, the transfer of technical knowledge (30) and technical assistance in whatever form (27) were more important.

Asked why they had chosen the principal technology they ultimately selected, the three main reasons cited were instructions from the parent company (18), the transfer of technical knowledge (15), and quality factors (14). The mixed enterprises were not under the same obligation to use the technology of their foreign associates (6). The source of the technology used for the principal product was, in the case of subsidiaries, almost exclusively the parent company (90%), while for mixed enterprises the main source was foreign associates (75%). Of the mixed enterprises, only one (4%) possessed its own technology, while five (21%) had international suppliers outside the enterprise. The enterprises that cited quality factors the most were the 10 largest enterprises (25) and enterprises that export a large proportion of their output (29). The reputation of the supplier was the principal reason for the firm's choice of technology in the case of the mixed enterprises (16), those with large domestic market shares (26) and those producing food products (ISIC 311-2) (33).

The three chief benefits of the technology transfer for these enterprises were increased competitiveness in the domestic market (25), improved international competitiveness (16) and the incorporation of new products (16). Cost reduction was also mentioned by many enterprises as a significant benefit (14).

The last part of the questionnaire concerned the subcontracting activities of these companies, i.e., their contracting of other local firms to produce parts or components for their final product. Of the 63 enterprises consulted, 37 used Mexican subcontractors. Of these, 15 used subcontractors for 1%-10% of the total value of their output, 11 subcontracted 11%-25%, six subcontracted 26%-50%, and five subcontracted more than 50%. The three principal reasons for subcontracting were to simplify plant operations by reducing the number of components produced (29), to reduce costs (23), and to take advantage of small and medium-sized enterprises' greater flexibility as suppliers (14). Other reasons that were mentioned were the avoidance of the need to carry large stocks by receiving inputs just in time (9) and the necessity of complying with explicit regulations designed to implement public sectoral policies (8).

The enterprises that used subcontracting the most were the 10 largest firms (70%) and those using advanced technology, such as manufacturers of non-electrical machinery (100%) and transport equipment (75%). It is interesting to note that only 38% of the

mixed enterprises subcontracted nationally, while 72% of the subsidiaries did so. The subsidiaries' three principal reasons for subcontracting were of logistic character: to simplify the operation of the plant by reducing the number of components produced (32), to reduce costs (24) and to take advantage of small and medium-sized enterprises' greater flexibility as suppliers (12). Few of the subsidiaries subcontracted nationally because of regulations which required them to do so (11).

Of all the enterprises that subcontracted, 87% felt there were obstacles that hindered them from increasing their level of national subcontracts. These were primarily that Mexican subcontractors were perceived as not being competitive in terms of quality control (20), not being price competitive (18), and not possessing the necessary technology to provide inputs (14). For the mixed enterprises, the impediments which discouraged them from utilizing Mexican subcontractors more intensively were principally that they believed these subcontractors did not possess the adequate technology (33), and were not competitive in terms of either quality control (17) or price (15).

Almost all of the 37 enterprises that used national subcontractors imparted some kind of training to them. In all, 32 enterprises trained subcontractors in quality control, 25 provided technical assistance, eight offered financial assistance and six gave administrative assistance. It is notable that only four of the nine mixed enterprises that subcontracted in Mexico provided technical assistance to their subcontractors, whereas 21 of the 28 subsidiaries furnished such assistance to their suppliers.

In synthesis, the executives felt that the policy on technology transfer during the 1973-1982 period had a negative impact on the acquisition of foreign technology even though their enterprises were, for the most part, not strongly affected by the policy. To a certain extent, the deregulation and simplification of administrative procedures during 1982-1989 was more of a factor in facilitating the acquisition of foreign technology. Nevertheless, the policy is still considered to be somewhat restrictive and, according to these executives, it is particularly necessary to take steps in the area of intellectual property and trademarks.

5. Conclusions

During the 1970s the Mexican Government did not meet the structural challenge of making the transition to the second phase of the industrialization process due to the general availability of external credit and the discovery of massive reserves of petroleum in the country. However, the severe, prolonged crisis of the 1980s obliged the authorities to establish a new framework for the industrialization process, one in which the private sector and,

especially, foreign capital were to play a greater role. The responses of executives from major foreign-owned manufacturing enterprises indicate that, in general, they approve of the changes which have been made in both economic policy and the Government's administration and are prepared to take up the challenge of industrial modernization and international competitiveness.

The businessmen made it clear that they felt that their own efforts were more influential in this regard than any particular changes in public policy and that the State should therefore devote itself to providing an adequate macroeconomic context to back up the efforts of the private sector. It was appropriate that a more flexible policy had been instituted during the 1980s in the areas of imports of production inputs, performance requirements for foreign investors, the transfer of foreign technology and new facilities for the export of manufactures. The majority of these large, foreign-owned enterprises were in agreement with these changes because they gave the firms more freedom of action to confront the crisis and meet the industrial challenge.

The results have been impressive. The value of exports of manufactures has soared, significant inflows of new foreign investment have been channelled to the industrial sector, and the manufacturing sector has apparently regained its historical growth rate. Nevertheless, two unresolved questions could tarnish this apparent success.

First, although the level of exports of manufactures has been very high compared with historical rates, these exports are heavily concentrated in activities governed by sectoral policies, specifically the motor vehicle sector. Among the universe of firms responding to the questionnaire, the four motor vehicle producers accounted for 60% of the total value of their exports of manufactures in 1987. These firms are totally integrated into the international automotive industry. The results of the questionnaire suggest that the remaining enterprises are making a major effort to improve their international competitiveness; however, concrete results are still not that evident. We are obliged to ask ourselves: How important is the export success of those companies which are not in any way associated with the sectoral programme for the motor vehicle industry?

Second, there is some concern regarding the continuity of these achievements. The majority of the big automobile companies which engage in a substantial level of export activity interpret the policy changes as a conjunctural measure (most of their major investments were made before the crisis), while the remaining enterprises see them as being more permanent. For example, most of the relatively smaller firms with low export levels felt that the new regulations concerning foreign investment would prompt them to undertake new investments. This view was not shared by the big automobile exporters. Thus, more thought should be devoted to the

question of the durability of the achievements of these larger enterprises, since it is their activities which have by and large defined the nature of industrial modernization in Mexico to date.

Notes

¹ Jaime Ros, "El debate sobre industrialización: el caso de México", Elementos para el diseño de políticas industriales y tecnológicas en América Latina, Cuadernos de la CEPAL series, No. 63, Santiago, Chile, 1990, p. 122.

² Ibid., p. 120.

³ World Bank, "Mexico after the oil boom: Refashioning a development strategy", Report No. 6659-ME, Washington, D.C., 23 June 1987.

⁴ Estados Unidos Mexicanos, Poder Ejecutivo Federal, Plan nacional de desarrollo, 1989-1994, Mexico City, June 1989, p. 57.

⁵ "Discurso del Presidente Carlos Salinas de Gortari en CEPAL", Micronoticias, ECLAC, Santiago 29 March 1990 (unofficial translation).

⁶ See Centro de Estudios Económicos del Sector Privado (CEESP), "Información básica para la toma de decisiones", Mexico City, May 1990; and "1980-1988 Anual", Mexico City.

⁷ See Gustav Ranis, "The multinational corporation as an instrument of development", in D. Apter and L. Goodman (eds.), The MNC and Social Change, Praeger Publishers, New York, 1976, pp. 99 and 101.

⁸ See Héctor Hernández Cervantes, "Apertura comercial y proteccionismo: fomento industrial e inversiones extranjeras", El mercado de valores, No. 10, 15 May 1988; and Jaime Serra Puche, "Fomento industrial, comercio externo e inversiones extranjeras", El mercado de valores, No. 3, February 1989.

⁹ Figures for the manufacturing sector are taken from Banco de México, Indicadores económicos para producción y exportaciones and Institute of Statistics, Geography and Information Sciences (INEGI), Boletín trimestral de información económica para empleo.

¹⁰ In the questionnaire the executives were asked to choose three factors and to rank them according to their importance. In the calculation of these results the first selection was multiplied by three, the second by two, and the third by one. The values in parentheses correspond to the total "votes" for that answer. The three factors mentioned here represent 53% of all the registered responses, and in this sense there was relatively little dispersion in these businessmen's opinions on this point. The percentage represented by each factor, the dispersion of the three most important factors, and the analytical value of the 11 factors mentioned in the previous section are all elements that should be taken into consideration in this type of question.

¹¹ The scarcity of external credit made it necessary to invent a mechanism which permitted the payment of external liabilities in local currency.

¹² FICORCA gives private enterprises the possibility of converting their external debts and paying them in local currency. It has been calculated that in the case of 94% of the registered private external debt, debtors opted for this procedure. See A. Guillen (ed.) La deuda externa grillete de la Nación, Editorial Nuestro Tiempo, Mexico City, 1989, p. 62.

¹³ The first swap programme in Mexico operated from 1986 to October 1987; after that date, new applications were no longer accepted. Investments in connection with applications submitted prior to this date were carried out afterward, however. See the Department of Communications of the Ministry of Finance and Public Credit, "Manual operativo para la capitalización de pasivos y sustitución de deuda pública por inversión", Mexico City, June 1986.

¹⁴ The five alternatives offered to the executives ranged from "none" to "very successful". The results are a simple average of the responses. The value in brackets is this average, using a scale of "none"=0 and "very successful"=5.

¹⁵ See "Ley de promoción de la inversión mexicana y de regulación de la inversión extranjera" of 9 March 1973.

¹⁶ From 1973 to 1982, the technology transfer policy was based on a law known as the "Ley sobre el control y registro de la transferencia de tecnología y el uso y explotación de patentes y marcas" (the technology transfer and patent and trademark control and registration act). It states that all contracts and agreements related to technology transfer must be registered with the National Technology Transfer Registry.

¹⁷ The Government of Mexico has taken some steps in the area of intellectual property and trademarks, such as the 1987 reforms of certain aspects of the Invention and Trademarks Act. For example, new fields were opened up to patenting, the term of patent and invention certificates was lengthened from 10 to 14 years, and administrative procedures were simplified.

Annex 1

UNIVERSE OF MAJOR FOREIGN-OWNED MANUFACTURING
FIRMS IN MEXICO, 1987

<u>Rank</u>	<u>Company</u>
1	* General Motors de México, S.A. de C.V.
2	* Chrysler de México
3	* Ford Motor Company, S.A. de C.V.
4	* Volkswagen de México, S.A. de C.V.
5	Nissan Mexicana, S.A. de C.V.
6	* Celanese Mexicana, S.A.
7	* Kimberly Clark de México, S.A. de C.V.
8	* IBM de México, S.A.
9	* Cía. Nestlé, S.A. de C.V.
10	* Industrias Resistol S.A.
11	* Deltrónicos de Matamoros, S.A. de C.V.
12	* Grupo San Cristóbal, S.A. de C.V.
13	* Productos de Maíz, S.A.
14	Colgate Palmolive, S.A. de C.V.
15	* Cigarros La Tabacalera Mexicana, S.A. de C.V.
16	Partes de Televisión de Reynosa, S.A. de C.V.
17	* Spicer, S.A. de C.V. y subsidiarias
18	* Teleindustria Ericsson, S.A. de C.V.
19	* Procter & Gamble de México, S.A. de C.V.
20	Sabritas, S.A. de C.V.
21	* Du Pont, S.A. de C.V.
22	Tereftalatos Mexicanos, S.A.
23	* Industria Fotográfica Ineramericana, S.A. de C.V.
24	* Fibras Químicas, S.A.
25	Anderson Clayton & Co., S.A.
26	* Cementos Tolteca, S.A. de C.V.
27	* Ciba-Geigy Mexicana, S.A. de C.V.
28	* Smurfit Cartón y Papel de México, S.A. de C.V.
29	* Petrocel, S.A.
30	* Philips Mexicana, S.A. de C.V.
31	* Cía. Hulera Euzkadi, S.A.
32	* Policyd, S.A. de C.V.
33	* Bacardi y Compañía, S.A. de C.V.
34	* Avon Cosméticos, S.A. de C.V.
35	* Ind. Purina, S.A. de C.V.
36	Cupro San Luis, S.A. de C.V.
37	The Coca Cola Export Corporation's Suc. en México
38	Renault Industrias Mexicanas, S.A. de C.V.
39	Hules Mexicanos S.A.
40	* Syntex, S.A. de C.V.
41	* Nylon de México, S.A.
42	Nacional de Cobre, S.A. de C.V.
43	* Unicarb Industrial, S.A. de C.V.

- 44 * Cementos Anahuac del Golfo, S.A. de C.V.
- 45 Bayer de México, S.A. de C.V.
- 46 * Almexa, Grupo Aluminio, S.A. de C.V.
- 47 Industrias Vinícolas Petro Domeco, S.A. de C.V.
- 48 * Hewlett Packard de México, S.A. de C.V.
- 49 * Mexinox, S.A. de C.V.
- 50 * Vitro Flex, S.A.
- 51 * General Tire, S.A. de C.V.
- 52 * Richardson Vicks, S.A. de C.V.
- 53 * Ind. John Deere, S.A. de C.V. y subsidiarias
- 54 * Ici de México, S.A. de C.V.
- 55 Uniroyal, S.A. de C.V.
- 56 * Química Hoechst de México, S.A. de C.V.
- 57 Transmisiones y Equipos Mecánicos, S.A. de C.V.
- 58 Islo S.A.
- 59 General Foods de México, S.A. de C.V.
- 60 Polimeros de México, S.A. de C.V.
- 61 * Conek, S.A. de C.V.
- 62 Kellog de México, S.A. de C.V.
- 63 * Moresa, S.A.
- 64 * Cummins, S.A.
- 65 Gillette de México y Cía de C.V.
- 66 * Conductores Latincasa, S.A. de C.V.
- 67 Hulera el Centenario, S.A.
- 68 * Acumuladores Mexicanos, S.A. de C.V.
- 69 * Ideal Standard, S.A. de C.V.
- 70 Cementos Veracruz, S.A. de C.V.
- 71 * Chicle Adams, S.A. de C.V.
- 72 * Productos Carnation, S.A. de C.V.
- 73 Siemens, S.A. de C.V.
- 74 Mobil Oil de México, S.A. de C.V.
- 75 * Cyanamid de México, S.A. de C.V.
- 76 Elizondo, S.A. de C.V.
- 77 Panasonic de México, S.A. de C.V.
- 78 * Bask Mexicana, S.A. de C.V.
- 79 * Industrias Químicas de México, S.A. de C.V.
- 80 Tetraetilo de México, S.A.
- 81 * Química Fluor, S.A. de C.V.
- 82 Tetra Pak, S.A. de C.V.
- 83 Tapetes Luxor, S.A. de C.V.
- 84 Envases Generales Continental, S.A. de C.V.
- 85 * Metalsa, S.A.
- 86 * Cosbel, S.A. de C.V.
- 87 Focos, S.A.
- 88 Pond's de México, S.A. de C.V.
- 89 Black & Decker, S.A. de C.V.
- 90 Cerámica Regiomontana, S.A. de C.V.
- 91 Square D. de México, S.A. de C.V.
- 92 Kraft Foods de México, S.A. de C.V.
- 93 * Farmacéuticos Lakeside, S.A. de C.V.
- 94 * S.C. Johnson and Son, S.A. de C.V.
- 95 Aditivos Mexicanos, S.A. de C.V.

96	* Industrias Alimenticias Club, S.A. de C.V.
97	* Beiersdorf de México, S.A. de C.V.
98	* Eli Lilly y Cía de México, S.A. de C.V.
99	* Singer Mexicana, S.A. de C.V.
100	Olympia de México, S.A. de C.V.
101	Sandoz de México, S.A. de C.V.
102	Rimir, S.A. de C.V.
103	* Aga de México, S.A. de C.V.

* Firms that were interviewed and are part of the sample.

Source: Joint ECLAC/CTC Unit on Transnational Corporations.

Annex 2

BASIC INFORMATION ON THE FACTORS OF ANALYSIS

Enterprise	Top 10 (by sales)	Eco- nomic sector (ISIC)	Rel. to motor vehicle industry	Domestic market share (%)	Increased domestic market share	% Foreign held (>25)	Home country (FDI)	Shares listed on stock exchange	Export volume (billions of dollars)	Export category (% sales)	Principal export market
General Motors de México	x	384	x	01-25	x	>50	US		>500	50-79	US
Chrysler de México	x	384	x	01-25		>50	US		>500	>80	US
Ford Motor Company, S.A.	x	384	x	01-25	x	>50	US		>500	50-79	US
Volkswagen de México	x	384	x	01-25		>50	Other		126-500	25-49	Other
Celanese Mexicana, S.A.	x	351		>50		Mixed	Other	x	126-500	25-49	Other
Kimberly Clark de México, S.A.	x	341		26-50		Mixed	US	x	032-125	10-24	US
IBM de México, S.A.	x	382		26-50	x	>50	US		126-500	50-79	US
Nestlé, S.A. Cía.	x	311		>50		>50	Other		01-31	01-09	US
Ind. Resistol, S.A. (IRSA)	x	351		>50		Mixed	US	x	032-125	10-24	US
Deltrónicos de Matamoros	x	383	x	0		>50	US		126-500	>80	US
Grupo San Cristóbal		341		26-50		Mixed	US	x	032-125	10-24	US
Productos de Maíz, S.A.		311		>50		>50	US		01-31	01-09	US
Cigarros La Tabacalera Mexicana		314		26-50		Mixed	US	x	0	0	None
Spicer y Subs.		384	x	26-50		Mixed	US	x	032-125	10-24	US
Teleindustria Ericsson		383		>50		>50	Other	x	01-31	01-09	Other
Procter & Gamble de México		352		26-50		>50	US		01-31	01-09	US
Dupont		352		>50		>50	US		032-125	25-49	Other
Ind. Fotográfica Inter.		352		01-25		>50	US		032-125	50-79	Other
Fibras Químicas, S.A.		351		26-50		Mixed	Other		032-125	25-49	US
Cementos Tolteca, S.A.		369		01-25	x	Mixed	Other	x	01-31	01-09	US
Ciba-Geigy Mexicana		352		26-50		>50	Other		01-31	01-09	Other
Smurfit Carton y Papel de México, S.A.		341		01-25		>50	Other		01-31	10-24	US
Petrocel		351		>50		Mixed	US		032-125	50-79	Other
Philips Mexicana, S.A.		383		26-50		>50	Other		01-31	01-09	US
Cía. Hulera Euzkadi		355	x	26-50		Mixed	US	x	01-31	01-09	US
Polycyd, S.A.		351		26-50		Mixed	US		032-125	50-79	US
Bacardi y Cía., S.A.		313		26-50	x	>50	Other	x	01-31	01-09	Other
Avon Cosmetics		352		26-50		>50	US		0	0	None
Industrias Purina		312		26-50		Mixed	US	x	0	0	None
Syntex		352		26-50	x	>50	Other		01-31	10-24	US
Nylon de México, S.A.		351		26-50		Mixed	US		01-31	10-24	US
UNICARB Industrial		369		>50		Mixed	US	x	01-31	10-24	Other
Cementos Anahuac del Golfo, S.A.		369		01-25	x	Mixed	Other		032-125	50-79	US
Almexa		372		26-50	x	Mixed	US	x	01-31	01-09	Other
Hewlett Packard de México		382		01-25	x	>50	US		032-125	25-49	US
Mexinox		371		26-50	x	>50	Other		032-125	50-79	US
Vitro Flex, S.A.		362	x	0		Mixed	US		032-125	>80	US
General Tire		355	x	01-25		>50	US	x	032-125	25-49	US
Richardson Vicks		352		26-50		>50	US		01-31	01-09	US
Ind. John Deere, S.A.		382		>50	x	Mixed	US	x	01-31	01-09	US
ICI de México		351		26-50	x	>50	Other		01-31	01-09	Other
Química Hoechst de México, S.A.		351		01-25		>50	Other		0	01-09	None
CONEK		382		01-25	x	>50	US		01-31	25-49	US
Motores y Refacciones, S.A.		384	x	26-50		Mixed	US		01-31	01-09	US
Cummins de México, S.A.		384	x	>50		Mixed	US	x	01-31	25-49	US
Conductores Latincasa		383		26-50		Mixed	Other	x	01-31	01-09	US
Acumuladores Mexicanos, S.A.		383	x	>50		Mixed	US		0	0	None
Ideal Standard		361		26-50		>50	US		01-31	10-24	US
Chicle Adams		311		>50		>50	US		01-31	01-09	US
Productos Carnation		311		>50		>50	Other		0	0	None
Cyanamid de México		352		01-25	x	>50	US		01-31	25-49	Other
Basf Mexicana, S.A.		351		>50		>50	Other		01-31	01-09	Other
Ind. Químicas de México, S.A.		351		01-25	x	>50	US		01-31	25-49	US
Química Fluor		351		01-25	x	Mixed	US		032-125	80	US
Metalsa, S.A.		384	x	>50		Mixed	US		01-31	01-09	US
Cosbel		352		01-25		>50	Other		0	01-09	None
Farmacéuticos Lakeside		352		>50		>50	Other		01-31	01-09	Other
S.C. Johnson and Son		351		01-25		>50	US		01-31	01-09	US
Industrias Alimenticias Club		311		26-50		>50	Other		0	0	None
Beiersdorf de México		352		26-50		>50	Other		01-31	01-09	Other
Eli Lilly y Cía. de México		352		>50		>50	US		01-31	10-24	Other
Singer		382		01-25		>50	US		01-31	01-09	US
Aga de México		351		26-50		>50	Other		0	0	None

Source: Joint ECLAC/CTC Unit on Transnational Corporations.

Annex 3

THE QUESTIONNAIRE

1. The modernization of Mexican industry: opinions
of the principal foreign-owned
manufacturing firms

The industrialization process of most developing countries has taken place in two phases: the easier import substitution phase, in which goods involving a relatively low level of technology are produced locally, and a more difficult phase which combines the substitution of technologically more complex imports with a drive to export manufactured goods. In the transition from one phase to the other "the role of appropriate technology and output mixes in penetrating international markets becomes much more important. One can now conceive of a benign and productive combination between the advantages of the MNC...and the growing domestic expertise based on the specificity and peculiarities of the local resource endowment and institutional factors...Under generally more competitive conditions there is an increasing need for coming up with the right amalgam of imported and adaptive technologies and output mixes to ensure the continued outward-looking expansion of the industrial sector".¹ Hence, the transition from the first to the second phase of the industrialization process depends to some extent on the role of transnational corporations.

The Mexican industrialization model did enjoy a great deal of success, as measured by the growth rate of the manufacturing sector, between the end of the Second World War and the 1970s. In fact, one of the largest stocks of foreign direct investment in a developing country was built up in that sector. Nonetheless, structural problems associated with this transition to the second phase of the industrialization process did arise, and it was only thanks to the availability of massive amounts of external credit and the country's new petroleum exports that growth continued until the 1980s. That ended, however, when the international debt crisis began and Mexico could not service its external obligations. The harsh adjustment implemented by Mexican authorities was aimed at solving both problems -i.e., at making the transition to the second phase of the industrialization process while at the same time shouldering the country's debt burden. In spite of the fact that the recession caused flows of foreign direct investment to the region to evaporate, the Mexican authorities regarded foreign

¹ See Gustav Ranis, "The multinational corporation as an instrument of development", in D. Apter and L. Goodman (eds.), The MNC and Social Change, Praeger Publishers, New York, 1976, p. 101.

investment and foreign technology as essential to the economic adjustment and the industrial transition. Consequently, transnational corporations became doubly important as economic agents associated with the Mexican process of industrialization.²

The aim of this questionnaire was to examine the relevant viewpoints and reactions of executives of the major foreign-owned manufacturing firms. We were particularly interested in their opinions about the pre-crisis (1973-1982) and crisis (1982-1989) situations; their assessments of public policies on industry, foreign investment, the promotion of exports of manufactures, technology transfer and subcontracting; their ideas about Mexico as a recipient of foreign investment; and their evaluation of the changes which have taken place in their own companies. This avenue of approach made it easier to examine the Mexican experience because the basic information came directly from the principal economic agents involved.

* * *

The information requested in this questionnaire is totally confidential and the results will be disclosed only in aggregate form. Moreover, the first version of the analysis will be sent to the interviewees for their comments before the general distribution of the document. It should be mentioned that the administrative assistance provided by the Centre for Private-Sector Economic Studies (CEESP) was invaluable in organizing the interviews with representatives of the principal foreign-owned manufacturing firms in Mexico.

² See for example, Héctor Hernández Cervantes, "Apertura comercial y proteccionismo: fomento industrial e inversiones extranjeras", El mercado de valores, No. 10, 15 May 1988, and Jaime Serra Puche, "Fomento industrial, comercio externo e inversiones extranjeras", El mercado de valores, No. 3, February 1989.

2. The questionnaireI. The crisis, 1982-1989

1. Select and rank the three factors that in your opinion have most forcefully impacted the performance of the Mexican economy in 1982-1989. Briefly explain the reasons for your choices in the space provided.

Internal demand

☐

International oil prices

☐

Exchange rate

☐

External debt

☐

Local interest rate

☐

International interest rate

☐

Availability of foreign reserves

☐

Imports

☐

US trade laws

☐

Domestic (peso) debt

☐

"Maquila" programme

☐

Foreign direct investment (FDI)

☐

Transfer of foreign technology

☐

Exports

☐

Real wages and salaries

☐

Access to the US market

☐

Demographic pressure

☐

National political system

☐

Local credit

☐

Other:

☐

Other:

☐

Other:

☐

2. Select and rank the three factors that in your opinion have most forcefully impacted the performance of your company during 1982-1989. Briefly explain the reasons for your choices in the space provided.

Internal demand	<input type="checkbox"/>	_____
International oil prices	<input type="checkbox"/>	_____
Exchange rate	<input type="checkbox"/>	_____
External debt	<input type="checkbox"/>	_____
Local interest rate	<input type="checkbox"/>	_____
International interest rate	<input type="checkbox"/>	_____
Availability of foreign reserves	<input type="checkbox"/>	_____
Imports	<input type="checkbox"/>	_____
US trade laws	<input type="checkbox"/>	_____
Domestic (peso) debt	<input type="checkbox"/>	_____
"Maquila" programme	<input type="checkbox"/>	_____
Foreign direct investment (FDI)	<input type="checkbox"/>	_____
Transfer of foreign technology	<input type="checkbox"/>	_____
Exports	<input type="checkbox"/>	_____
Real wages and salaries	<input type="checkbox"/>	_____
Access to US market	<input type="checkbox"/>	_____
Demographic pressure	<input type="checkbox"/>	_____
National political system	<input type="checkbox"/>	_____
Local credit	<input type="checkbox"/>	_____
Other: _____	<input type="checkbox"/>	_____
Other: _____	<input type="checkbox"/>	_____
Other: _____	<input type="checkbox"/>	_____

3. a) How big is your firm's share of the domestic market (including imports) for the principal product it sells?

less than 25% ☐ 25% - 50% ☐ more than 50% ☐

b) Has its share (percentage) of the market changed substantially during the crisis period?

yes ☐ no ☐

4. During the crisis period (1982-1989), your ability to compete internationally, i.e., to increase exports as a percentage of total sales, has:

- ☐ improved
☐ worsened
☐ remained the same

Please explain: _____

5. Has your firm undertaken any major new investments (e.g., new production facilities, new product lines, new markets, etc.) during the crisis period?

yes ☐ no ☐

Please explain: _____

6. Do you feel that your company is more efficient now than before the crisis period began?

yes ☐ no ☐

Please explain: _____

7. Since 1982, which instruments has your company used to deal with the financial crisis?

a) Debt originally contracted in pesos:

- ☐ Direct capitalization
- ☐ Negotiated restructuring of terms
- ☐ Restructuring imposed by creditors
- ☐ Prepayment
- ☐ Other: _____

b) Debt originally contracted in foreign currencies:

- ☐ Direct capitalization
- ☐ Negotiated restructuring of terms
- ☐ Restructuring imposed by creditors
- ☐ Negotiated restructuring with parent company
- ☐ Restructuring imposed by parent company
- ☐ Prepayment
- ☐ FICORCA (preferential access to subsidized pesos)
- ☐ Conversion of debt to pesos
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

c) Which has been the most important instrument? _____

d) Has your company used the Mexican debt equity conversion programme?

yes ☐

no ☐

8. What have been the most important factors in accounting for your company's ability to survive during the crisis period? Select three and rank them. Briefly explain the reasons for your choices.

New export opportunities	<input type="checkbox"/>	_____
"Maquila" programme	<input type="checkbox"/>	_____
Reduced production costs	<input type="checkbox"/>	_____
Use of foreign technology	<input type="checkbox"/>	_____
Financial help from parent company	<input type="checkbox"/>	_____
Improved product quality	<input type="checkbox"/>	_____
New trade liberalization policy	<input type="checkbox"/>	_____
New corporate strategy from parent company	<input type="checkbox"/>	_____
New FDI policy	<input type="checkbox"/>	_____
Increased access to the US market	<input type="checkbox"/>	_____
Debt-equity conversion programme	<input type="checkbox"/>	_____
Financial help from national groups	<input type="checkbox"/>	_____
Financial help from the State	<input type="checkbox"/>	_____
Technological improvements from parent company	<input type="checkbox"/>	_____
New corporate strategy of own firm	<input type="checkbox"/>	_____
Own technological innovation	<input type="checkbox"/>	_____
Export promotion policy	<input type="checkbox"/>	_____
Other: _____	<input type="checkbox"/>	_____
Other: _____	<input type="checkbox"/>	_____
Other: _____	<input type="checkbox"/>	_____

9. In summary, you would say that your company has coped with the 1982-1989 crisis primarily by means of the following types of measures: (select three and rank them).

- ☐ Industrial/production
- ☐ Financial
- ☐ Administrative/managerial
- ☐ Technological
- ☐ Trade-related
- ☐ Political
- ☐ Other: _____

Explain the reasons for your choices _____

10. In your opinion, which economic agents or social groups have been most adversely affected by the crisis? Rank your three choices.

- ☐ Small and medium-sized Mexican firms
- ☐ The State in general
- ☐ Foreign companies
- ☐ Large Mexican firms
- ☐ The working class
- ☐ Mexican financial groups
- ☐ Foreign financial groups
- ☐ State enterprises
- ☐ Companies involved in wholesale/retail commerce
- ☐ The bureaucracy
- ☐ Joint ventures
- ☐ The middle class
- ☐ Other: _____

II. Industrial policy and export promotion, 1973-1989

1. a) If you could separate the goal of substituting imports in technologically more complex industries (complex isi) from the promotion of exports of manufactures (x manuf.), which goal would you say has been met more fully?

_____ Import substitution in technologically more complex industries

_____ Promotion of exports of manufactures

b) Separating the 1973-1989 period into two subperiods (1973-1982 and 1982-1989) which goal do you feel has been met more fully in each subperiod?

1973-1982

1982-1989

_____ complex isi

_____ complex isi

_____ X manuf.

_____ X manuf.

c) In your opinion, what have been the results of the policy to promote a transition from the simpler import substitution phase to the more difficult import substitution/export of manufactures phase of the industrialization process?

During 1973-1982?

☐

☐

☐

☐

☐

none

little

good

successful

very successful

During 1982-1989?

☐

☐

☐

☐

☐

none

little

good

successful

very successful

2. Which economic sectors have most benefited from the Government's industrial policy? Select one for each group and each period.

a) Industrial sector:

1973- 1982-
1982 1989

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Food products (including beverages and tobacco) |
| <input type="checkbox"/> | <input type="checkbox"/> | Textiles |
| <input type="checkbox"/> | <input type="checkbox"/> | Paper and paper products |
| <input type="checkbox"/> | <input type="checkbox"/> | Chemicals (except petrochemicals & pharmaceuticals) |
| <input type="checkbox"/> | <input type="checkbox"/> | Petrochemicals |
| <input type="checkbox"/> | <input type="checkbox"/> | Pharmaceuticals |
| <input type="checkbox"/> | <input type="checkbox"/> | Non-metallic mineral products |
| <input type="checkbox"/> | <input type="checkbox"/> | Basic metals |
| <input type="checkbox"/> | <input type="checkbox"/> | Metal products |
| <input type="checkbox"/> | <input type="checkbox"/> | Machinery (except automotive) |
| <input type="checkbox"/> | <input type="checkbox"/> | Motor vehicles |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: (specify) _____ |

b) Type of good:

- | | | |
|--------------------------|--------------------------|------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Consumer goods |
| <input type="checkbox"/> | <input type="checkbox"/> | Capital goods |
| <input type="checkbox"/> | <input type="checkbox"/> | Intermediate goods |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: (specify) _____ |
- (continued on next page)

c) Export sector:

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | "Maquila" industries |
| <input type="checkbox"/> | <input type="checkbox"/> | Export industries (50%-79% of output) |
| <input type="checkbox"/> | <input type="checkbox"/> | Non-export industries (<10% of output) |
| <input type="checkbox"/> | <input type="checkbox"/> | Intermediate exporters (11%-49% of output) |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: _____ |

3. Which economic agents or social groups have benefited the most from the industrial policy? Select and rank your three choices by period.

- | <u>1973-</u>
<u>1982</u> | <u>1982-</u>
<u>1989</u> | |
|-----------------------------|-----------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Foreign companies |
| <input type="checkbox"/> | <input type="checkbox"/> | The State in general |
| <input type="checkbox"/> | <input type="checkbox"/> | The working class |
| <input type="checkbox"/> | <input type="checkbox"/> | Small and medium-sized Mexican firms |
| <input type="checkbox"/> | <input type="checkbox"/> | Large Mexican firms |
| <input type="checkbox"/> | <input type="checkbox"/> | Mexican financial groups |
| <input type="checkbox"/> | <input type="checkbox"/> | Foreign financial groups |
| <input type="checkbox"/> | <input type="checkbox"/> | State enterprises |
| <input type="checkbox"/> | <input type="checkbox"/> | Companies involved in wholesale/retail commerce |
| <input type="checkbox"/> | <input type="checkbox"/> | The bureaucracy |
| <input type="checkbox"/> | <input type="checkbox"/> | Joint ventures |
| <input type="checkbox"/> | <input type="checkbox"/> | The middle class |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: _____ |

4. In general, which have been the most important policy instruments used to promote exports of manufactures from Mexico? Choose three and rank them.

<u>1973-</u> <u>1982</u>	<u>1982-</u> <u>1989</u>	
<input type="checkbox"/>	<input type="checkbox"/>	Exchange rate
<input type="checkbox"/>	<input type="checkbox"/>	Fiscal incentives (e.g., drawbacks)
<input type="checkbox"/>	<input type="checkbox"/>	Financial incentives: (specify) _____
<input type="checkbox"/>	<input type="checkbox"/>	"Maquila" programme
<input type="checkbox"/>	<input type="checkbox"/>	Latin American integration schemes:
		- Complementarity agreements
<input type="checkbox"/>	<input type="checkbox"/>	- Tariff preferences
<input type="checkbox"/>	<input type="checkbox"/>	Access to US market
<input type="checkbox"/>	<input type="checkbox"/>	Obligations linked to sectoral Government programme
<input type="checkbox"/>	<input type="checkbox"/>	Other bilateral trade agreements
<input type="checkbox"/>	<input type="checkbox"/>	Membership in GATT
<input type="checkbox"/>	<input type="checkbox"/>	Changes in strategy of parent company
<input type="checkbox"/>	<input type="checkbox"/>	Liberalized trade policy
<input type="checkbox"/>	<input type="checkbox"/>	Other: (specify) _____
<input type="checkbox"/>	<input type="checkbox"/>	Other: _____
<input type="checkbox"/>	<input type="checkbox"/>	Other: _____

5. What percentage (in terms of value) of your firm's total output is exported?

0%	<input type="checkbox"/>	1%-10%	<input type="checkbox"/>	11%-25%	<input type="checkbox"/>
26%-49%	<input type="checkbox"/>	50%-79%	<input type="checkbox"/>	80% or more	<input type="checkbox"/>

6. Have exports increased as a proportion of your company's total sales during:

	<u>yes</u>	<u>no</u>
1973 - 1982?	<input type="checkbox"/>	<input type="checkbox"/>
1982 - 1989?	<input type="checkbox"/>	<input type="checkbox"/>
1973 - 1989?	<input type="checkbox"/>	<input type="checkbox"/>

Choose and rank the three most important factors that account for these changes.

<u>1973-</u> <u>1982</u>	<u>1982-</u> <u>1989</u>	
<input type="checkbox"/>	<input type="checkbox"/>	Exchange rate
<input type="checkbox"/>	<input type="checkbox"/>	Fiscal incentives (e.g., drawbacks)
<input type="checkbox"/>	<input type="checkbox"/>	Financial incentives: (specify) _____
<input type="checkbox"/>	<input type="checkbox"/>	"Maquila" programme
<input type="checkbox"/>	<input type="checkbox"/>	Latin American integration schemes:
		- Complementarity agreements
<input type="checkbox"/>	<input type="checkbox"/>	- Tariff preferences
<input type="checkbox"/>	<input type="checkbox"/>	Access to US market
<input type="checkbox"/>	<input type="checkbox"/>	Obligations linked to sectoral Government programme
<input type="checkbox"/>	<input type="checkbox"/>	Other bilateral trade agreements
<input type="checkbox"/>	<input type="checkbox"/>	Membership in GATT
<input type="checkbox"/>	<input type="checkbox"/>	Changes in strategy of parent company
<input type="checkbox"/>	<input type="checkbox"/>	Liberalized trade policy
<input type="checkbox"/>	<input type="checkbox"/>	Other: (specify) _____
<input type="checkbox"/>	<input type="checkbox"/>	Other: _____
<input type="checkbox"/>	<input type="checkbox"/>	Other: _____

7. What prevents your enterprise from (further) increasing its exports? Choose three factors and rank them.

- ☐ High cost and bad quality of domestically-produced inputs
- ☐ Overvalued exchange rate
- ☐ High tariffs on imported inputs or machinery
- ☐ High cost of necessary foreign technology
- ☐ Lack of access to appropriate technology
- ☐ Difficulties in contracting for technologies because of restrictive national policy
- ☐ Restrictive clauses in present technology contract (or license to use trademarks)
- ☐ Lack of knowledge of foreign markets
- ☐ Lack of sufficient financing for exports
- ☐ Lack of an exportable surplus due to growing domestic market demand
- ☐ Lack of an exportable surplus due to small scale of production
- ☐ Lack of capital or high cost of domestic credit hinders expansion of production
- ☐ Level of real wages in Mexico is not internationally competitive
- ☐ Incapacity to compete internationally in terms of quality control
- ☐ High cost of transport to export markets
- ☐ High cost of domestic energy
- ☐ Insufficient skill or technical training of labour force
- ☐ Other: (specify) _____
- ☐ Other: _____
- ☐ Other: _____

III. FDI policy

1. In your opinion, what have been the principal overall objectives of the FDI policy during the period 1973-1989 within the following subperiods? Choose three and rank them.

1973- 1982-
1982 1989

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | To channel foreign investment to specific sectors or activities |
| <input type="checkbox"/> | <input type="checkbox"/> | To direct new industry away from three major cities |
| <input type="checkbox"/> | <input type="checkbox"/> | To limit remittances of profits, royalties, interest, etc. |
| <input type="checkbox"/> | <input type="checkbox"/> | To make certain that FDI is complementary to domestic investment |
| <input type="checkbox"/> | <input type="checkbox"/> | To promote mixed enterprises |
| <input type="checkbox"/> | <input type="checkbox"/> | To reduce the frequency of monopolistic positions in the domestic market |
| <input type="checkbox"/> | <input type="checkbox"/> | To improve the transfer of foreign technologies |
| <input type="checkbox"/> | <input type="checkbox"/> | To support industrial modernization |
| <input type="checkbox"/> | <input type="checkbox"/> | To promote exports of manufactures |
| <input type="checkbox"/> | <input type="checkbox"/> | To complement the trade liberalization programme |
| <input type="checkbox"/> | <input type="checkbox"/> | To encourage FDI |
| <input type="checkbox"/> | <input type="checkbox"/> | To attract external credit |
| <input type="checkbox"/> | <input type="checkbox"/> | To discourage the transfer pricing of imports |
| <input type="checkbox"/> | <input type="checkbox"/> | To favour new FDI over reinvestment |
| <input type="checkbox"/> | <input type="checkbox"/> | To reserve local credit for Mexican enterprises |
| <input type="checkbox"/> | <input type="checkbox"/> | To improve the trade balance of foreign enterprises |
| <input type="checkbox"/> | <input type="checkbox"/> | To reduce industrial capital concentration |

(continued on next page)

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | To obtain a better understanding of the forms of foreign ownership |
| <input type="checkbox"/> | <input type="checkbox"/> | To deregulate and to simplify administrative procedures |
| <input type="checkbox"/> | <input type="checkbox"/> | To limit FDI to certain sectors (motor vehicle, parts petrochemicals, etc.) |
| <input type="checkbox"/> | <input type="checkbox"/> | To help cope with the debt crisis |
| <input type="checkbox"/> | <input type="checkbox"/> | To coordinate foreign shareholders' actions with the goals of the country's economic policy |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: (specify) _____ |

2. Which aspects of the Government's policy have most influenced the performance of your enterprise during the following two subperiods? Choose three and rank them.

1973- 1982-
1982 1989

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | To channel foreign investment to specific sectors or activities |
| <input type="checkbox"/> | <input type="checkbox"/> | To direct new industry away from three major cities |
| <input type="checkbox"/> | <input type="checkbox"/> | To limit remittances of profits, royalties, interest, etc. |
| <input type="checkbox"/> | <input type="checkbox"/> | To make certain that FDI is complementary to domestic investment |
| <input type="checkbox"/> | <input type="checkbox"/> | To promote mixed enterprises |
| <input type="checkbox"/> | <input type="checkbox"/> | To reduce the frequency of monopolistic positions in the domestic market |
| <input type="checkbox"/> | <input type="checkbox"/> | To improve the transfer of foreign technologies |
| <input type="checkbox"/> | <input type="checkbox"/> | To support industrial modernization |
| <input type="checkbox"/> | <input type="checkbox"/> | To promote exports of manufactures |
| <input type="checkbox"/> | <input type="checkbox"/> | To complement the trade liberalization programme |
| <input type="checkbox"/> | <input type="checkbox"/> | To encourage FDI |

(continued on next page)

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | To attract external credit |
| <input type="checkbox"/> | <input type="checkbox"/> | To discourage the transfer pricing of imports |
| <input type="checkbox"/> | <input type="checkbox"/> | To favour new FDI over reinvestment |
| <input type="checkbox"/> | <input type="checkbox"/> | To reserve local credit for Mexican enterprises |
| <input type="checkbox"/> | <input type="checkbox"/> | To improve the trade balance of foreign enterprises |
| <input type="checkbox"/> | <input type="checkbox"/> | To reduce industrial capital concentration |
| <input type="checkbox"/> | <input type="checkbox"/> | To obtain a better understanding of the forms of foreign ownership |
| <input type="checkbox"/> | <input type="checkbox"/> | To deregulate and to simplify administrative procedures |
| <input type="checkbox"/> | <input type="checkbox"/> | To limit FDI to certain sectors (motor vehicle, parts petrochemicals, etc.) |
| <input type="checkbox"/> | <input type="checkbox"/> | To help cope with the debt crisis |
| <input type="checkbox"/> | <input type="checkbox"/> | To coordinate foreign shareholders' actions with the goals of the country's economic policy |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: (specify) _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: _____ |

3. Do you think that the administrative system for evaluating, authorizing, registering and channelling foreign investment achieved its goals?

a) During the 1973-1982 subperiod?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
completely	mostly	about half	partially	not at all

b) During the 1982-1989 subperiod?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
completely	mostly	about half	partially	not at all

4. During the period prior to the liberalization of the policy on FDI, was your enterprise "Mexicanized", i.e., was it converted into a mixed enterprise (with less than 50% foreign share capital)?

yes ☐

no ☐

5. Has the amount of foreign-held shareholders equity in your enterprise increased in recent years?

yes ☐

no ☐

6. Will the May 1989 regulation result in a significant amount of new FDI on behalf of your enterprise?

yes ☐

no ☐

If you answered "yes", which of the following aspects of the new regulations will encourage new investments on behalf of your enterprise? Choose three and rank them.

☐

The automatic authorization of foreign investment up to US\$100 million

☐

The new regulation which permits foreign investors, under specific conditions, to increase their holdings in the enterprise's equity

☐

The reduction of requirements concerning national integration or local content

☐

The introduction of the "neutral investment" concept

☐

The new non-restrictive approach to FDI

☐

The new regulation which permits foreign investors to invest in previously restricted economic sectors

☐

Deregulation and simplification of administrative procedures

☐

The explicit definition of six different categories of foreign capital, each of which is to be treated differently

☐

The possibility of converting mixed enterprises into subsidiaries

(continued on next page)

<input type="checkbox"/>	Other: _____
<input type="checkbox"/>	Other: _____
<input type="checkbox"/>	Other: _____

IV. Transfer of foreign technology and subcontracting

1. In your opinion, which of the explicit goals of the policy on technology transfer have affected the acquisition of foreign technology in Mexico? Choose three and rank them.

<u>1973-</u>	<u>1982-</u>
<u>1982</u>	<u>1989</u>

<input type="checkbox"/>	<input type="checkbox"/>	Limits on royalty payments per contract	
<input type="checkbox"/>	<input type="checkbox"/>	Mandatory registration of each contract with the National Technology Transfer Registry	
<input type="checkbox"/>	<input type="checkbox"/>	Establishment of a fixed period for the technology transfer	
<input type="checkbox"/>	<input type="checkbox"/>	Specific enterprise-level programmes on assimilation of foreign technology	
<input type="checkbox"/>	<input type="checkbox"/>	Support for "Programme Mexico" (national technological development)	
<input type="checkbox"/>	<input type="checkbox"/>	Measures taken regarding intellectual property protection	
<input type="checkbox"/>	<input type="checkbox"/>	Deregulation and simplification of administrative procedures	
<input type="checkbox"/>	<input type="checkbox"/>	The reorientation of demand for technology towards national sources	
<input type="checkbox"/>	<input type="checkbox"/>	The prohibition of restrictive clauses in the contracts, such as:	
-		Limitations on technological research and development	<input type="checkbox"/>
-		The obligation to purchase equipment and inputs from a specified source	<input type="checkbox"/>
-		Restrictions on exports	<input type="checkbox"/>

(continued on next page)

- Obligation of the buyer not to disclose technical information after the date of expiration of the contract ☐

☐ ☐ Other: _____

☐ ☐ Other: _____

☐ ☐ Other: _____

2. In your opinion, which of the explicit goals of the policy on technology transfer have affected the acquisition of foreign technology by your firm? Choose three and rank them.

1973- 1982-
1982 1989

- | | | | |
|--------------------------|--------------------------|--|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Limits on royalty payments per contract | |
| <input type="checkbox"/> | <input type="checkbox"/> | Mandatory registration of each contract with the National Technology Transfer Registry | |
| <input type="checkbox"/> | <input type="checkbox"/> | Establishment of a fixed period for the technology transfer | |
| <input type="checkbox"/> | <input type="checkbox"/> | Specific enterprise-level programmes on assimilation of foreign technology | |
| <input type="checkbox"/> | <input type="checkbox"/> | Support for "Programme Mexico" (national technological development) | |
| <input type="checkbox"/> | <input type="checkbox"/> | Measures taken regarding intellectual property protection | |
| <input type="checkbox"/> | <input type="checkbox"/> | Deregulation and simplification of administrative procedures | |
| <input type="checkbox"/> | <input type="checkbox"/> | The reorientation of demand for technology towards national sources | |
| <input type="checkbox"/> | <input type="checkbox"/> | The prohibition of restrictive clauses in the contracts, such as: | |
| | - | Limitations on technological research and development | <input type="checkbox"/> |
| | - | The obligation to purchase equipment and inputs from a specified source | <input type="checkbox"/> |
| | - | Restrictions on exports | <input type="checkbox"/> |

(continued on next page)

- Obligation of the buyer not to disclose technical information after the date of expiration of the contract ☐

<input type="checkbox"/>	<input type="checkbox"/>	Other: _____
<input type="checkbox"/>	<input type="checkbox"/>	Other: _____
<input type="checkbox"/>	<input type="checkbox"/>	Other: _____

3. Do you think that the administrative system for evaluating, authorizing and registering technology transfers achieved its goals?

a) During the 1973-1982 subperiod?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
completely	mostly	about half	partially	not at all

b) During the 1982-1989 subperiod?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
completely	mostly	about half	partially	not at all

4. If you feel that the new regulations (January 1990) on the control and registration of technology transfers will facilitate the acquisition of foreign technology by your enterprise, which of the following elements are most important? Rank your three choices.

- | | |
|--------------------------|---|
| <input type="checkbox"/> | The elimination of limits on royalty payments |
| <input type="checkbox"/> | The extension of confidentiality provisions beyond contract expiration |
| <input type="checkbox"/> | The increased flexibility as regards the selection, negotiation, assimilation and development of technology |
| <input type="checkbox"/> | The simplification of administrative procedures regarding the registration and authorization of contracts |
| <input type="checkbox"/> | Technical assistance from SECOFI to promote the selection, contracting, adaption and assimilation of foreign technology |
| <input type="checkbox"/> | Other: _____ |

5. What is the origin of the basic technology of your principal product?

- ☐ Own enterprise
- ☐ National suppliers outside enterprise
- ☐ Parent company
- ☐ International suppliers outside enterprise
- ☐ Other: _____

6. If this technology has been acquired via contract, what are the three central contractual objectives?

- ☐ Licensing of trademark use
- ☐ Licensing of patent or related elements
- ☐ Licensing of models or industrial designs
- ☐ Licensing of brand name use
- ☐ The transfer of technical knowledge through plans, diagrammes, models, instructions, formulas, specifications, personnel training or other modalities
- ☐ Technical assistance in whatever form
- ☐ Provision of basic or detailed engineering
- ☐ Managerial or administrative services
- ☐ Consultancy or supervisory services furnished by foreign persons or companies or their subsidiaries, regardless of their place of residence
- ☐ Other: _____

7. Why was this technology chosen? Choose three alternatives and rank them.

- ☐ Price
- ☐ Quality
- ☐ Reputation of supplier
- ☐ Instructions from parent company
- ☐ Provision of imported inputs
- ☐ Transfer of technical knowledge
- ☐ Use of patents
- ☐ Use of registered trademark
- ☐ Leasing, franchising
- ☐ Technical assistance: preinvestment
- ☐ Technical assistance: administration/management
- ☐ Technical assistance: marketing
- ☐ Technical assistance: training
- ☐ Technical assistance: equipment repair and/or maintenance
- ☐ Technical assistance: quality control
- ☐ Turnkey plant
- ☐ Associated financing
- ☐ Meets requirements of the national administrative system that registers and controls technology transfer
- ☐ Access to foreign markets
- ☐ Payment arrangements
- ☐ Other: (specify) _____
- ☐ Other: _____
- ☐ Other: _____

8. What have the chief benefits of the technology transfer been for your enterprise? Choose three alternatives and rank them.

- ☐ Reduced production costs
- ☐ Increased competitiveness in domestic market
- ☐ Increased international competitiveness
- ☐ Increased production capacity
- ☐ Incorporation of new products
- ☐ Rationalization of production process
- ☐ Increased employee skills
- ☐ Maintenance of production line
- ☐ Access to specific export market
- ☐ Replacement of products and/or production processes
- ☐ Transfer of funds to parent company
- ☐ Other: (specify) _____
- ☐ Other: _____
- ☐ Other: _____

9. a) What proportion of the total value of your company's output corresponds to domestic subcontracting, i.e., to the contracting of other local firms to produce parts or components for the final product?

- | | | |
|------------------------------------|------------------------------------|--------------------------------------|
| 0% <input type="checkbox"/> | 1% - 10% <input type="checkbox"/> | 11% - 25% <input type="checkbox"/> |
| 26% - 49% <input type="checkbox"/> | 50% - 79% <input type="checkbox"/> | 80% or more <input type="checkbox"/> |

b) Does your enterprise or parent company directly own any of the shareholders' equity of the subcontracting enterprise?

- yes ☐ no ☐

c) If your enterprise subcontracts, what are its principal reasons for doing so? Choose three and rank them.

- ☐ To simplify plant operations by reducing the number of components produced
- ☐ To reduce costs (e.g., by means of specialization)
- ☐ To avoid the need to carry large stocks by receiving inputs just in time
- ☐ To take advantage of small and medium-sized enterprises' greater flexibility as suppliers
- ☐ To attain greater efficiency
- ☐ To utilize domestic market for up to 20% of "maquila" production
- ☐ To comply with explicit regulations designed to complement public sectoral policies
- ☐ Other: _____

d) What prevents your enterprise from using even more Mexican subcontractors? Choose three alternatives and rank them.

- ☐ Mexican subcontractors are not price competitive
- ☐ Mexican subcontractors are not competitive in terms of quality control
- ☐ Mexican subcontractors are not reliable with respect to timely delivery of inputs
- ☐ Mexican subcontractors do not possess the necessary technology to provide inputs
- ☐ The manufactured inputs come with the foreign technology contract
- ☐ The market is not large enough to specialize by means of subcontracts
- ☐ Your company is only interested in selling in the domestic market

- ☐ Export markets are covered by other enterprises of the same group
- ☐ Other: (specify) _____
- ☐ Other: _____
- ☐ Other: _____

e) Does your enterprise train its Mexican subcontractors in any of the following areas?

- ☐ Administration/management
- ☐ Technical assistance
- ☐ Quality control
- ☐ Financial assistance
- ☐ Other: (specify) _____

V. Mexico as a recipient of foreign direct investment

1. How would you rate Mexico as a recipient of foreign direct investment?

a) During the subperiod 1973-1982?

☐ ☐ ☐ ☐ ☐
 excellent good fair poor very poor

b) During the subperiod 1982-1989?

☐ ☐ ☐ ☐ ☐
 excellent good fair poor very poor

Final Comments

We would appreciate any opinion or information that you consider relevant to the crisis and its solution, public policies on industry, foreign direct investment, promotion of exports of manufactures, technology transfer, etc., or regarding Mexico as a recipient of foreign investment or any other matter related to the subject of foreign involvement in Mexican development.

Many thanks

CONFIDENTIAL INFORMATION REQUIRED TO CHARACTERIZE THE
SAMPLE OF ENTERPRISES
1987

1. Value of total sales: \$ _____
2. Principal products (% output)
 - a) _____
 - b) _____
 - c) _____
3. Value of total exports: \$ _____
4. Principal exports (% exports)
 - a) _____
 - b) _____
 - c) _____
5. Principal destination of exports: (countries) (% exports)
 - a) _____
 - b) _____
 - c) _____
6. Destination of exports: _____% parent company
 _____% affiliated enterprises _____% non-affiliated
 enterprises
7. Value of total imports \$ _____
8. Composition of shareholders' equity: _____% private
 Mexican _____% State _____% foreign (_____)
 country
9. Total employment _____ (number of persons)
 =====

Person interviewed	Position
--------------------	----------

Company

Address

Telephone

Fax

Note: The first draft of the results of this questionnaire will be sent to the person who was interviewed at the address given here.