

# TRANSFER OF TECHNOLOGY AND THE MEXICO-UNITED STATES-CANADA FREE TRADE AGREEMENT

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The author discusses the transfer of technology between Mexico, Canada and the United States. He explains that because Mexico is evidently underdeveloped regarding science and technology, it hopes for a substantial transfer of technology from its future trading partners.

He then describes the conditions under which Mexico should be permitted to sign the agreement. For example, the negotiation process must not involve the entire Mexican economy but only certain important sectors, and Mexico must demand an underdeveloped country's treatment during negotiations.

L'auteur souligne combien la question du transfert de technologie est importante pour le développement économique du Mexique et il indique la nécessité de créer un climat favorable à cet égard. Il pense ce pendant que l'Accord ne doit pas englober tous les niveaux de l'économie mexicaine mais seulement certains secteurs bien définis.

Il explique enfin que le Mexique doit, au cours des négociations, demander un traitement de faveur en sa qualité de pays en voie de développement.

## I. INTRODUCTION

Undoubtedly a very interesting subject in the negotiations being carried out for the celebration of a Free Trade Agreement is the transfer of technology. This subject, as well as others, will be a hotly debated question of great importance for Mexico, a country which *vis à vis* the northern nations, is evidently underdeveloped regarding science and technology. Mexico hopes, according to the constant declarations from governmental spokesmen, for a substantial transfer of technology from the countries that are to be its trading partners. However, this is not going to be an easy matter, because technology is an object of competition internationally, and, of course, depends on optimum internal conditions in order to adapt it, develop it, and even to create new technologies.

In this essay, we are interested, albeit in a succinct fashion, in presenting an overview of the meaning of technology for Mexico, and the United States, which although evidently important has not been dealt with by academicians.

## II. BACKGROUND

Mexico, as well as the rest of Latin America, is inserted in the great problem of dependence with regard to developed countries in the areas of science and technology. This subordination or dependence constitutes a heavy weight on the shoulders of the country, and is an obstacle for its development. Scientific or technological independence has been a cherished

aspiration throughout many years, and, in Mexico's case, has supported a series of political, economic and legislative strategies. In any case, in spite of the efforts and strategies, scientific and technological independence has not been achieved.

Current times are very meaningful in this respect by virtue of the fact that we find ourselves in an ongoing restructuring process of international economic relations (albeit, not in the direction that underdeveloped countries would desire) the sign of the times is characterized by the fact that underdeveloped countries, traditionally lacking in technology, have had to face new competitors, among them the countries from the former socialist block, who are in a better position, in light of their more developed industrial structure and an established scientific technological tradition, to participate in the competition for the acquisition of technology which is adequate for their development needs.

With respect to Mexico, it is only during the last part of the seventies decade when there began to be an awareness of the negativity of the existing policy of technological procurement, which for the country entailed a very poor competitive position of national industries in international markets, in addition to the fact that the technology that was imported, and continues to be imported, was and is inadequate for the country's conditions (for example, a large manual labor force) or was old-fashioned and obsolete.<sup>1</sup>

1 Regarding this question we recommend the interesting work of Wioncsek, Miguel S., from which we selected two examples: *Política tecnológica y desarrollo socioeconómico*, Mexico, SRE, 1975, 293 pp., and *Capital y tecnología en México y América Latina*, Mexico, 1981, 413 pp.

In 1972, Mexico began to regulate the transfer of technology; the Mexican government enacted, in 1972, the Law on the Registration of Transfer of Technology and the Use and Exploitation of Patents and Trademarks. Through the Registry, which was created under said law, Mexico's government sought to "render the adaptation process of imported technology more efficient, to gradually develop Mexican technology and stimulate production units in the country, and to acquire technologies which were adequate for the existing national productive factors".<sup>2</sup>

The 1972 Law was repealed by the 1982 Law, which was for the first time regulated by the Bylaw also enacted in 1982. The Law and its Bylaw or Regulations, basically give the State control and decision-making powers over the transfer of technology within the country. However, this situation does not last very long. With the new Regulations, published in the Official Gazette of the Federation on the 9th of January of 1990, which repeal the 1982 Regulations, the State shies away, somewhat, and allows private enterprises to play the main role in the acquisition of technology.<sup>3</sup>

It in addition to the aforementioned strategic body of legislation, we also have the Law of December 8th, 1970, which created the National Council of Science and Technology (CONACYT), the Law to

2 Álvarez Soberanis, Jaime, "La política mexicana en materia de traspaso tecnológico: una evaluación crítica del reglamento de la ley"; *Comercio Exterior*, Mexico, Vol. 40, No. 8, August, 1990, p. 768.

3 *Idem*, p. 771.

Coordinate and Promote Scientific and Technological Development, of November 13th, 1984; the Regulations for the maquiladora industry published in the Official Gazette of the Federation on December 22, 1989, and currently, the legislative branch debates a bill regarding industrial property. The tenor of this new legislative wave regarding the transfer of technology can be inferred from an analysis of the National Science and Technology Modernization Program for 1990-1994, drafted by the current administration of President Salinas. The outstanding points of this Program are the following:

The private productive sector is given a large responsibility in the creation of technology (it acknowledges that producers have a fundamental responsibility in deciding which technology is to be used); it seeks to achieve transfer of technology through foreign investment; it plans to bring the higher education institutions into closer contact with the needs of the productive sectors and social demands; it seeks to protect industrial property in a more effective fashion (a constant demand from transnational enterprises and their governments).

In other words, the current administration seeks to create an adequate climate to attract capital in order to obtain the necessary technology and create an internal infrastructure for the development of science and technology.

We underscore that the two spearheads in the strategy for the procurement of technology, and also for integration with the north, are foreign investment and the maquiladora industry.

### III. THE MAQUILADORA INDUSTRY AS A KEY FACTOR OF THE INTEGRATION PROCESS

In the ongoing process which has been defined as Mexico's "silent integration" to the United States, maquiladoras play a highly important role.<sup>4</sup>

Regarding the maquiladora industry, we face the use of cheap Mexican manual labor, foreign investment, transfer of technology, and consumption of national resources. The combination of the latter elements can produce an ideal result, highly favorable for Mexico if we consider it from a theoretical point of view, where the maquiladora is a center of attraction for investment (and here governmental policy places great emphasis), creating jobs (the maquiladora serve as check to the migratory flow of workers who travel north seeking jobs), in addition transfers technology (and as a side-effect produces a skilled labor force of Mexican workers) and, finally, promoting the consumption of national products.

However, the latter is an ideal scheme which is quite distant from reality. To begin with, foreign investment which was so eagerly awaited, has not come, and this is one of the reasons which is behind the proposal of a Free Trade Agreement. Not even the economic reform orchestrated by the previous and the current Mexican governments has achieved the repatriation of the totality of the enormous sums of national capitals which fled the country (foreign observers

<sup>4</sup> Cfr., Castro Martínez, Pedro, "México y la política comercial estadounidense, 1982-1988", *Foro Internacional*, Mexico, Vol. XXX, No. 3, January-March 1990, p. 495.

calculate it amounts to about 50 thousand million dollars,<sup>5</sup> which is equivalent to an important part of the foreign debt).

On the other hand, regarding the labor policy of the maquiladora industry, it has been seriously questioned by American observers. Firstly, cheap manual labor is what our country presents as a magnet to attract foreign investors, but on the other side of the Rio Bravo it is seen as a ploy (*sabotage*) against American workers. The same problem exists in the case of pollution,<sup>6</sup> because it is said that highly polluting enterprises can migrate south of the border where the environmental protection laws are flexible and lax.

It is evident that in the negotiation of the Free Trade Agreement, national interests and benefits should be taken into account, for this reason some Mexican academicians have already expressed their minds stating that the Free Trade Agreement negotiation process must not involve the whole economy, but only certain important national development sectors:

1) Mexican products which already have a notorious proven competitiveness in the American market;

2) Areas where there are possibilities of placing

5 Cfr., Samuelson Robert, J., "Mexico's Initiative", *Washington Post*, June 20, 1990.

6 Cfr., Rothstein, Richard, "Sour Notes in Free Trade with Mexico", *Los Angeles Times*, Los Angeles, June 25, 1990.

Mexican exports and haven't been exploited or where voluntary restrictions apply;

3) Sectors that present a high content of Mexican capital and sectors which make it feasible to transfer technology.<sup>7</sup>

#### IV. THE US POSITION IN THE AREA OF TRANSFER OF TECHNOLOGY

We believe that it can result interesting and useful to know what strategy is used by the holders of technology, concretely in the United States which is going to be our most important trading partner in so far as its technological power; thus, we have reviewed several essays from authors, mainly Americans, who analyze the problem of the transfer of technology from the international perspective, as well as from the US position on the subject, and we have identified the following traits of said policy:

A) American provisions on transfer of technology at the internal level have an extraterritorial validity;

B) The United States confronts other industrial powers, in dealing with transfer of technology issues, as if it were a trade war;

C) On many occasions the interests of the holders of technology, in this case the United States, and the interests of those who acquire it are in great conflict.

We shall now analyze each one of these questions.

A) Frequently we find that the internal legal provisions

<sup>7</sup> Ramos, José María, "Limitaciones sociales de la integración comercial México-Estados Unidos", *Comercio Exterior*, Mexico, Vol. 40, No. 7, July 1990, p. 665.

of the United States are enforceable outside the country. These are cases in which the country establishes transfer of technology restrictions due to political considerations. Here we note that political strategy is tied with foreign trade.

The American government and Congress have enacted legal provisions under the Export Administration Act, which have affected American enterprises not only within the country, but in foreign markets too. Control is applied:

1) to all foreign enterprises controlled by American enterprises.

2) to any foreign enterprise which uses parts, equipment or technology —under a licensing contract— of American origin.

A concrete case is that of the Soviet gas pipe to Europe, where, under the Export Administration Act, the sale of technology to the Soviets was barred at an international level. For example, the sale of 30 McDonnell Douglas DC-9's through the Alitalia Airline was banned should Italy sell equipment and technology for the Soviet gas pipe.<sup>8</sup>

Another type of control is to be found in the organizations of technology exporting countries like COCOM, (Coordinating Committee on Export Controls) which banned all member countries from selling strategic technology to socialist block countries (and which still stands despite the disin-

<sup>8</sup> Lindstrom, Talbot, "High Technology and Institutional Affairs: Three Conversations", *Proceeding of the 81st Annual Meeting*, Boston, Massachusetts, April 8-11, 1987, Washington, American Society of International Law, 1990, p. 3.

tegration of this block, and with the open opposition from Japan and Germany. Still in force, also, is the Jackson-Vanek Amendment which prohibits the sale of technology to said block). This American control policy which spreads to extraterritorial boundaries is opposed by high technology industrialists who argue that they lose competitiveness and sales opportunities in international markets (for example, it is mentioned in a critical fashion that "the United States lost 300 to 600 millions in exports to the USSR, as a result of the December, 1981, export controls on oil and gas equipment and technology").<sup>9</sup>

Another example is to be found in the Canada-US, Free Trade Agreement where, as a vestige of the Cold War we find the prohibition of trading with Cuba (Import and Export restrictions...) Where either country prohibits imports from a third country, it may similarly prohibit the pass-through of imports from that country through the Free Trade Agreement partner. This provision preserves the right to enforce embargoes for foreign policy or other reasons —e.g., embargoes against Cuba or Iran— .

Will Mexico also be forced to sign such an anachronism?

B) Trade regarding technology is like a veritable war where the contenders use any means available to them to defeat the enemy. The most outstanding

<sup>9</sup> Blair, Homer O, "Export Controls on Nonmilitary Goods and Technology: Are we Penalizing the Soviets or Ourselves", *Texas International Law Journal*, Austin, Vol. 21, No. 2, 1986, p. 366. Also see McFadden, W. Clark, "Export Restrictions : Their International Extent" (Remarks), *Proceedings...*, *op. cit.*, pp. 4-7.

example is the trading rivalry between the United States and Japan. The United States accused Japan, until a few months ago, for not having access to the Japanese markets and that therefore, the only way to gain access to it "is through the use of the force of sanctions".<sup>10</sup>

This point is directly related with the following consideration.

C) The distance between northern and southern countries, is measured not only according to the distance which exists between countries which hold technology, and countries which lack it, or have it in insufficient manner, but refers, rather, to different interests which many times are antagonistic.

A case which exemplifies this situation is that of the United States and Brazil. The former country requires; "an adequate payment for the technology it has developed and an adequate protection for this technology". The latter country needs to assimilate that technology, and maintain its independence jointly with a payment capacity for the limited technology".<sup>11</sup>

In the case of the conflict between the northern and the southern country, Brazil was accused because it allegedly did not recognize or comply with the regulation regarding industrial property and in addition was described as being arrogant. Who can result victorious in a conflict between the holders of technology and its purchasers? I believe the answer to this question is obvious.

10 Barton, John, "Economic Targeting and Import Restriction", (Remarks), *Proceedings...*, *op. cit.*, p. 19.

11 Mirabito, Jason, "Intellectual Property Issues: North and South", (Remarks) *Proceedings...*, *op. cit.*, p. 9.

Curiously enough, the United States-Brazil case is not unique, due to the fact that in the area of industrial property, the United States has had differences with Canada also, which are the source of frictions between the two countries (disagreement has emerged or surfaced in matters of licensing for pharmaceutical products).

With Mexico, the differences have been greater. Americans complain about trademark piracy, infringement of patent laws, and have constantly pressed Mexico to modify its regulations regarding industrial property.<sup>12</sup>

It is foreseeable that this point will be the object of heated debate during the discussions for the Mexico-US-Canada Free Trade Agreement.<sup>13</sup>

## V. CONCLUSIONS

Regarding technology in the domestic arena, it is necessary to create new mechanisms so that the maquiladora industry will integrate itself to the national industry, in order for there to be an authentic transfer of technology. In addition, it is necessary to create the needed infrastructure to retain, and adopt foreign technology and to establish a climate to create it.

One can conclude, from the technological policy of the United States, that technology is an interna-

12 Bueno, Gerardo, "El Tratado de Libre Comercio entre Estados Unidos y Canadá", *Comercio Exterior*, Mexico, Vol. 37, No. 11, November 1987, pp. 926-935.

13 United States International Trade Commission; *Review of Trade and Investment Liberalization Measures by Mexico and Prospects for Future United States Mexican Relations*, Washington, April 1990, p. VII.

tional power element. Transfer of technology implies the loss of control of markets and the spawning of competitors. Mexico must not neglect legal controls in order to sponsor a modern transfer of technology which is adequate for the country's development conditions.

– Mexico, when negotiating an FTA should dig negotiation trenches, and not open itself unnecessarily if conditions do not warrant it.

– Mexico will achieve trading maturity when it has a diversified market. Commercial dependence on one single country, results in a political and economic dependence with a country which has political, economic and military interests throughout the entire world.

– There is a need for efficient, immediate and trustworthy information regarding the negotiation of the Free Trade Agreement, which is aimed to all social sectors of the country. The importance and scope of an agreement of such a nature, cannot be left in the hands of a privileged group of people in the government.

– Mexico must demand an underdeveloped country's treatment during the negotiation of an FTA.