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CONFERENCE ON INDUSTRIAL PROPERTY AND TRANSFER OF TECHNOLOGY FOR ARAB STATES

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THE ROLE OF GOVERNMENT IN THE REGULATION AND PROMOTION OF TECHNOLOGY TRANSFER*

prepared by

the secretariat of UNIDO

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INTRODUCTION

During the past 10 years trading in technology gains in importance and volume rather rapidly thanks to its immediate effects on various fields in the overall economy and industry in particular of any country. Rapid industrialization both in the industrialized world as well as in the developing countries has caused a great demand for technologies, which were viewed as decisive elements for building new industries.

Such a trend holds already for a long time and analysis made covering a period from 1950 through 1970 shows that the overall volume of trading in technology grows two to three times faster than the world trade volume on a whole.

The conclusion may therefore be drawn that such trend will most probably also prevail in the course of the next 10 or even 20 years.

The share of developing countries varies from source to source but in general is estimated at something between 6 to 12 % of the world technology trade, which represented in 1972 some 6,5 billion US dollars.

No statistics are unfortunately available to analyse the growth trend of the share of developing countries in technology trading. Analysis based on individual examples shows however that the growth of technology purchase is actually similar in these countries to the overall growth of world technology trade.

On the basis of individual available statistics it might be stated that the share of developing countries in the overall world importation of technology is between 10 to 15% while their share in exportation would oscillate around 1 to maximum 2% only.

Furthermore it should be stressed that in general all developing countries are dependent on foreign technology. This dependence no doubt will continue beyond the year 2000 due to the impossibility of developing countries to meet simultaneously demands for industrialization and indigenous research and development.(1)

The existing and future industries in developing countries will rely almost exclusively on foreign technology imported primarily from highly industrialized countries, mainly USA, UK, West Germany, Japan, Switzerland and France.

It is estimated that on the average one dollar invested in technology brings ca 10 dollars in terms of production volume which alone shows the magnitude of the problem within the economics of developing countries.

It should be also mentioned that not always fair and non-restricted conditions prevail, upon which technology was and still is being imported by developing countries.

Such short and brief introductory remarks provide some indication as to the increasing government role in transfer of technonology matters, which in developing countries has resulted in the introduction of protective measures.

In a way, these and other reasons constituted the basis for motion towards the establishment of an international code of conduct in transfer of technology, which is supposed to facilitate and support governmental action in this field.

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(1) The USA is the only net exporter of technology at present.

GOVERNMENTAL REGULATION OF TRANSFER OF TECHNOLOGY IN SELECTED COUNTRIES

Some of the issues which explain government action in the field of transfer of technology are :

1. Protection of national economy and industries vis-à-vis unfair and restrictive practices of suppliers of technology as well as lowering the overall cost of technology inflow;

2. Channelling technology into preferential industrial sectors by setting up the necessary incentives and external and internal regulatory guidelines;

3. Promotion and encouragement of the flow of technology where desired securing necessary inputs into R&D efforts and simultaneously encouraging the adaptation and absorption of technology by licensees.

A historical overview of the role of governments in the process of transfer of technology shows how distinctly this role has changed in the past ten to twenty years, both in industrialized as well as in developing nations. Trends and events are showing that despite the "liberalization" of trade in general, the issue of transfer of technology is separated from the overall problems of commodity trading due to its impact on many economic and industrial fields and administrative arrangements are introduced to increase rather the firm control and regulatory role of the governments over this type of transactions.

As a matter of information, a short description of regulatory systems of some industrialized countries will be given. This will be followed by a more detailed review of government regulations in India, Mexico, Argentina, Peru, the Philippines and Libya.

In the United States government intervention in technology transfer and licensing in particular is provided through anti-trust legislation, that is mainly on the Scherman and Clayton Acts. In general, the following provisions included in licensing agreements will lead to government action as they are considered illegal in the United States :

a. Tie-in-clauses forcing the licensee to buy base material and components from the licensor;

b. Limitation and restriction on the licensee's approaches as to other products and services or to obtain competitive technology;

c. Restrictive or limited use of patented material, which would create a monopolistic situation;

d. Package licenses including patent transfer not required by the licensee;

e. Price fixing;

f. Territorial restrictions within the United States;

g. Certain types of cross licensing procedures.

A number of decisions of US courts have lead in many cases to enforce transfer of know-how by the licensor whenever a misuse of the right of patent was found. As can be seen, government intervention in the US is based exclusively on the anti-monopoly doctrine and attempts against free trade and fair competition.

A different approach was adopted by Japan in the post-war time. Its government has, together with industry, recognized that vigorous introduction of foreign technology may rapidly boost the industrial growth of the country. For this purpose, however, the government had to play a regulatory role in order to control the flow of technology and to secure its maximum benefit both for a given investor as well as for the country.

Japan adopted a system, which requires governmental approval of all technology agreements including their extension and/or modifications. Such an approval was granted by the Bank of Japan for payments not exceeding 50,000 US$. All other cases were referred to the Ministry of International Trade and Industry (MITI), which after consultation with other bodies concerned, issued a decision within a prescribed period of time. It should be indicated, however, that no rules were published or guidelines established concerning the acceptable terms and conditions in licensing agreements. All decisions were made on a case-to-case basis by the competent authorities in each respective field. Close co-operation

between the Government and industry has ensured that this regulatory policy has functioned in the best interest of industry and the country's overall economy.

In Western Europe, any government intervention is based on anti-trust legislation of the European Economic Community. Originally, anti-trust legislation in Europe has been limited to various buying and selling arrangements. Recently, however, the Commission of the Common Market in Brussels has also taken up the subject of licences and other transfer of technology agreements.

At present, the Commission of the Common Market is in the process of formulating more precisely which provisions can be included in licensing agreements and which are illegal.

The basic ground for the above-mentioned consideration is Article 85 and 86 of the Treaty of Rome, which says that practices "likely to affect trade harmfully between member states and which have the object or effect of preventing restraining or distorting competition" are not permissible and illegal.

The countries of Latin America have been particularly active during the last five years in regulating and controlling the inflow of technology into their industries.

While India is well advanced in these matters, there is the feeling that a new dimension has been introduced by some Latin American countries in this particular field.

For the purpose of this paper detailed analysis will be provided for Argentinian and Mexican systems as well as Andean legislation, in addition to a short description of the administrative system prevailing in India.

Two laws were enacted in Argentina in 1971, law n°19135, prohibiting the imposition of certain restrictive conditions on the automobile industry, and law n° 19231, which prescribes the regulation of agreements for foreign technology and patents and creates a national registry for all such agreements. These laws stipulate that contracts could not be approved if they contain clauses which, among others, force the purchase of equipment, raw materials or components from certain sources, restrict exports, include unreasonable grant-back provisions, involved trade-mark licensing without know-how, imposed jurisdiction of foreign courts or required unreasonably high payments.

A new law, n° 20794, was issued in late 1974 in Argentina replacing the earlier ones, the main provisions of which are contained in article n° 5 (stipulating which contract approvals will be rejected), and article n° 6 (enumerating restricted clauses, which cannot appear in contracts). To the most interesting provisions of the law belong the conditions stipulated in article 6, which says that "the authority of application may deny the approval of any contract governed by the present law when the acquisition of the technology in the proposed manner produces directly or indirectly any of the following effects:

(a) establishes the obligation of acquiring raw material, intermediate products or capital assets from specific origin or source of supply;

(b) regulates, alters or limits production, distribution, marketing or exploitation; or the distribution of markets or the execution of any of them;

(c) establishes resale prices to wholesalers or retailers;

(d) exempts foreign contracting parties from their liability in the event of action by third parties;

(e) prohibits the licensee from employing other designs, processes, production material, equipment or other goods different from those mentioned in the proposed contract;

(f) establishes rules limiting or subjecting to the licensor's approval the publicity or advertising;

(g) imposes on the licensee the obligation of contracting personnel to be appointed by the licensor [2]

The law provides for the obligation that contracts and their amendments or extension should be submitted within thirty days after signature to the National Registry for License Contracts and Transfer

2) The text of the law is being reproduced according to "Les Nouvelles", March 1976, Vol.No.10 no 1

of Technology (created by law no 19231 of 1971).

For non-observing the rules of the law, a number of penalties have been foreseen. An interesting novelty in this law is the article no 33, which opens the possibility of getting advice from the National Registry on agreement conditions prior to official submission for approval and registration. Thus, the legislation gives the opportunity for ample negotiations with foreign partners and local entrepreneurs.

The Mexican legislation enacted as of January 29, 1973, provides for the creation of a national registry of technology transfer. The law was prepared after extensive discussions and assessment of the experiences of other countries, i.e. Argentina, Japan, India etc.. The basic orientation of the Mexican technology transfer policy derives from fundamental criteria in economics and international relations. The Mexican legislation is oriented towards the development of an efficient and rationalized process for technology importation. Although there is recognition of the country's dependence on foreign technology an important objective of this legislation is to gain a certain degree of control over this major import, both in terms of cost and technological impact. [3)]

The law requires that all agreements must be examined by the National Registry of Technology Transfer, and it goes into considerable detail to enumerating the kind of restrictive practices that must be eliminated from contracts :

The most important article of the law (article 7) stipulates that the following contracts will not be registered :

1. When their purpose is the transfer of technology freely available in the country, provided this is the same technology;
2. When the price or remuneration does not correspond to the technology acquired or constitutes an unjustified or excessive burden on the national economy;
3. When provisions are included which permit the supplier to regulate or intervene directly or indirectly, in the administration of the licensee;
4. When there is an obligation to assign onerously or gratuitously to the supplier of the technology, the patents, trade-marks, innovations or improvements obtained by the licensee;

5. When there is an obligation to acquire equipment, tools, parts, or raw materials exclusively from any given source;

6. When the exportation of the licensee's products or services is prohibited, against the best interests of the country;

7. When limitations are imposed on technological research or development to the licensee;

8. When the use of complementary technology is prohibited;

9. When there is an obligation to sell the products manufactured by the licensee exclusively to the supplier of the technology;

10. When the licensee is required to use permanently personnel designated by the supplier of the technology;

11. When the volume of production is limited or sale and resale prices are imposed for domestic consumption or for exports;

12. When the licensee is required to appoint the supplier of technology as the exclusive sales agent or representative in Mexico;

13. When an unreasonable term of duration is established; such terms shall in no case exceed ten years;

14. When the parties submit to foreign courts for decision in any controversy in the interpretation or enforcement of the foregoing acts, agreements or contracts.

The law, however, provides for the possibility of approving contracts including clauses as stipulated under article 7, points 1 - 14. No exception, however, exists for points 1, 4, 5, 7, 13 and 14 of this article.

Mexican legislation requires compulsory registration of all contracts being in force at the date of introduction of the law and those contracts which have been concluded both before and after this date.

The National Registry is obliged to issue its decisions within 90 days of the submission date.

As may be seen from the above short review, this legislation gives the Government the power to determine the registration, evaluation and acceptance or denial of contractual transactions that take place in Mexico.

A second principle of this legislation, is to safeguard national economic and technological autonomy.[3] This explains why the basic criteria for determining the acceptance or refusal of technology contracts take into account the national objectives and legislative norms and procedures existing in the country.

The Mexican law bears a number of similarities with the legislation of Argentina, systems in Japan and decision no 24 of the Junta Cartagena. However, a basic distinction is that in the case of Mexico foreign exchange regulations do not exist and that foreign exchange is not the central issue. Contrary to the Argentinian law of 1971, Mexico registers agreements between nationals or persons settled in Mexico and agencies or subsidiaries of foreign companies.

A distinctive element of the Mexican law is that it gives the right to foreign-based licensors to request the registration of contracts of which they are parties. A most important element is that the legislation covers compulsory registration for all existing contracts (article 2 of the law).

A different approach has been adopted in India and some other countries like Pakistan, Egypt and Indonesia. India for years has operated on the basis of administrative guidelines and regulations concerning technology transfer, which has enabled the Government to exercice adequate control over technology importations. According to one source[4] something like 2,000 agreements have been signed in the past 27 years in India involving foreign collaboration, which is the term usually covering licensing and know-how agreements.

Actually, India has adopted the following administrative system and procedure for approval of all contracts involving foreign technology:

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3) "The Mexican Law of Technology and Transfer and its Impact on the National Economy" by Mr. E. Aguilar

4) "Foreign Licensing Agreements & Experience in Developing Countries w. special reference to India" by Dr. C.V.C. Ratnan, presented at UNIDO Seminar in Manila, 1974

within the Ministry of Industrial Development there is the Secretariat of Industrial Approvals composed of three committees :

(a) The Licensing Committee
(b) The Foreign Investment Board
(c) The Project Approvals Board

All applications for acquiring a licence have to go through these committees before the Government gives the so-called letter of intent to the requesting enterprise, thus enabling it to start negotiations with a foreign company. Generally, the current guidelines for foreign licensing agreements in India are as follows :

1. If a certain technology is available in the country the same technology should not be imported;
2. If a certain technology can be bought by fixed payment, this should be done. Equity participation is not encouraged;
3. License fees should be reasonable;
4. Royalties, if any, should normally not exceed a five-year period and 5% of the sales value of the product;
5. When technology is imported, the supplier of technology is obliged to associate himself with one of the national R&D institutions so that at the expiration of the agreement the country will be self-reliant with regard to the technology;
6. As far as possible, restrictive clauses concerning sub-licensing and exportation of goods manufactured under licence should be eliminated;
7. Whenever substantial exports are involved, some of the above-mentioned provisions are relaxed, as one of the important objectives of the Indian Government is encouraging exports;
8. Under special circumstances involving sophisticated technology, special conditions beyond these guidelines are possible. [4]

In Libya, transfer of technology agreements are subject to scrutiny and evaluation by the General National Organisation for Industrialisation.

This specialized office deals in principle with all industrial and technological undertakings and has developed a certain amount of expertise to evaluate and scrutinize transfer of technology agreements either within the frame of turnkey deliveries or as separate agreements.

The basis for the SIDI's consideration seems to be the principle of safeguarding national interests vis-à-vis foreign investors and technology suppliers. As far as it is known, no internal guidelines have been developed for evaluating purposes and the office carries out its duties mainly on a case-to-case basis.

GOVERNMENT REGULATION AND TECHNOLOGY TRANSFER

As may be seen from the previous chapters, a number of countries have introduced some form of institutional machinery in transfer of technology for a variety of reasons. The basic reasons behind this motion have been, to a degree, enumerated in the preceding part of this paper; these, however, are worth a closer look.

First of all the total of payments for technology by developing countries is relatively high and amounts to some 1.5 billion dollars annually, which in itself is an enormous amount. Secondly, and this element is considered as of far greater significance, the developing countries were and are going to be, for the next 20 years at least, dependent on imported, foreign technology.

Technology brought into these countries has, in many cases, been acquired on unfair and restrictive conditions. A major analysis undertaken by the Mexican Registry for Transfer of Technology (based on a review of some 2,500 technology contracts) established the following list of the most frequent restrictive and unfair contractual provisions :

1. Application of excessive prices or overpricing of the cost of technology;
2. Excessive duration of contracts related to market value and novelty of the technology in question;

5) Based on UNCTAD Statistics for 1970

3. Limitations imposed on production and on sale; fixing the prices;

4. Limitation of licences research and development activities;

5. Grant-back provisions concerning licensee improvements;

6. Limitations on export of products manufactured by the licensee.

This analysis represents the most frequent illegal and restrictive provisions and no doubt can be found in other developing nations as well.

Acquisition of technology on such conditions makes impossible the full use of technology and severely limits the advantages and merits of these transactions.

Bearing this in mind, the aim of government intervention is to protect the legitimate interest of the national economy vis-à-vis suppliers of technology by defining clearly, inter alia, the general conditions under which technology should be imported.

National industry of any developing country is usually inexpreienced in dealing with foreign companies and therefore at the early stage of its development the government could directly assist in this field.

Secondly, in the light of scarce resourcesavailable the governments could provide the direction and priority branches where technology should be channelled. This is a prerogative of any government and as such should be understood.

Furthermore, governmental intervention should also be directed towards securing that technology is being efficiently and fully adopted and absorbed by local industry. This will no doubt require great efforts and deliberate actions as well as willingness both at the end of the licensor as of the licensee. The results on the other hand might be expected only in the long run. Experience, however, has shown (Japan) that governmental support in this area could greatly contribute to the industrialization and modernization of national economy.

Last but not least governmental action is also deemed beneficial in helping to strengthen local research and development efforts.

Here in particular, support and understanding to the role of the government by the national business and scientific communities are essential and very much needed.

The government participation in this field stems from development policies and in particular from policies on technology. The latter one should be subordinated to the overall economic objectives and simultaneously form an integral part.

In industrialized countries government intervention is explained as to the need to protect the principle of free trade and free competition and here governments have an important role to play. In Japan, the government together with industry undertook a task to rebuild efficiently the post-war economy. For this purpose government protection, support and intervention have been greatly needed. In nowadays Japan, government intervention is more and more based on efforts to protect free trade and encourage competition.

Within developing countries the role of government is more oriented towards protection of its own industry and to stimulate its fastest possible growth. Objectives of such exercises are therefore more similar to Japan's experience in the early postwar days; it could be said therefore that if development will follow the same pattern (however under entirely different conditions and in a different environment), one would most likely observe that government intervention in transfer of technology forms only a temporary stage in government participation in industrial development.

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