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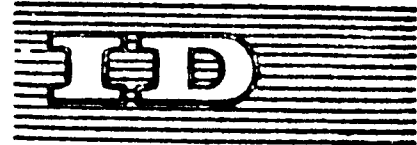
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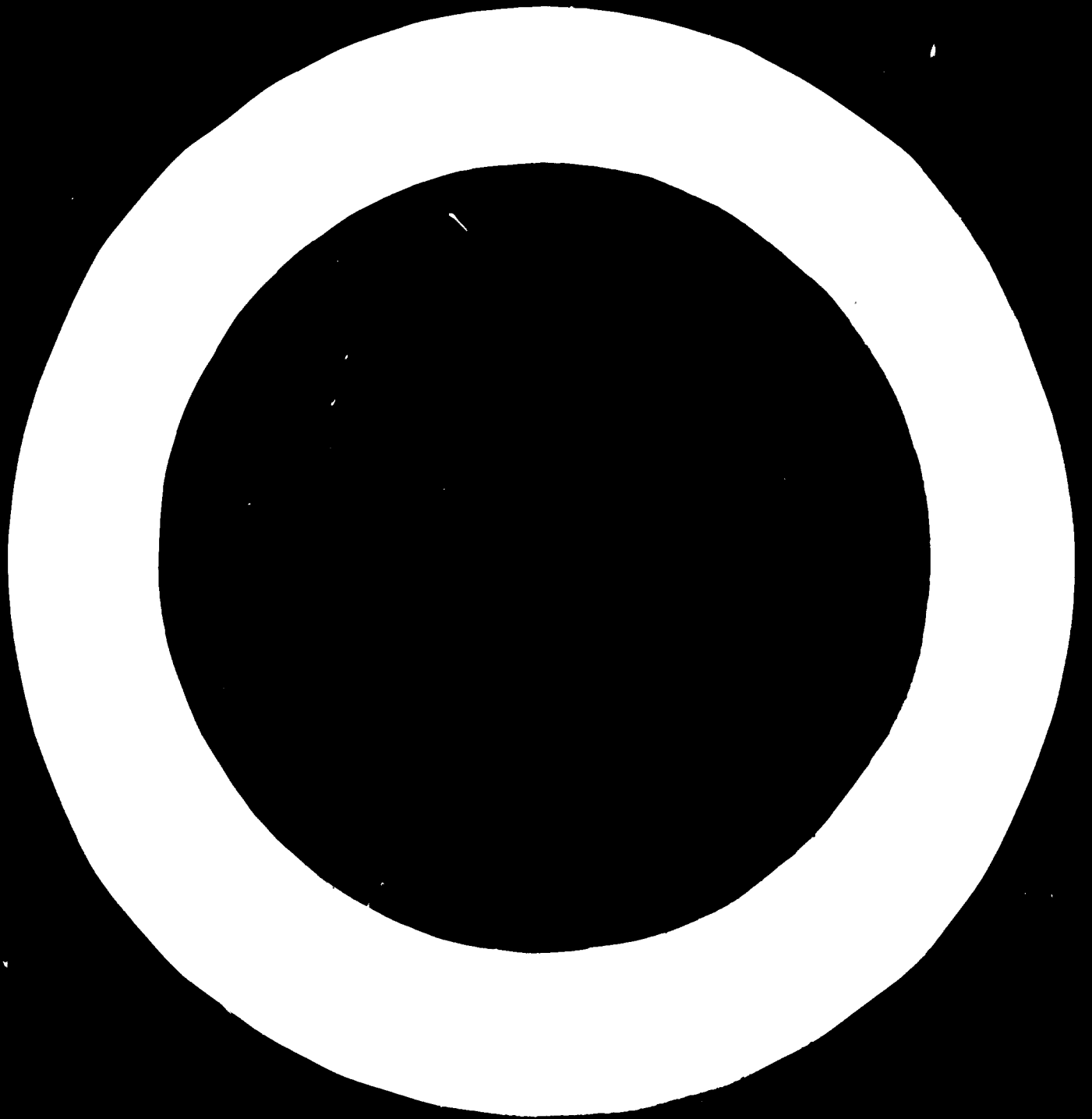
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CONSIDERATIONS ON TECHNOLOGICAL REQUIREMENTS
IN DEVELOPING COUNTRIES WITH OBSERVATIONS ON
TECHNOLOGY LICENSING AGREEMENTS ^{1/}

by

Constantine V. Vaitzos
Co-ordinator
Studies on Policies
on Sciences and Technology
of the Andean Pact

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For the purpose of generating discussion during the Symposium on Licensing organized by UNIDO, the following summarizes part of the conceptual and empirical analysis presented more extensively in other writings on the subject by the author (*).

Thus, the pages that follow do not pretend to present a thorough and exhaustive evaluation of all the relevant issues on licensing agreements. An attempt was made, though, to place the subject of licensing within a broader framework related to the needs of developing countries. In addition, in the second part of this paper some empirical evidence is provided from studies undertaken on the subject in the five countries of the Andean Pact. Finally, in the latter part appears a brief description of the articles on know-how included in the Decision No 24 of the Commission of the Andean Common Market which explain part of the orientation and instruments of policies on technology importation by the member countries.

An examination of the licensing system by itself without explicit reference to underlying causal economic factors, business practices and legal requirements would tend to portray various elements which could appear to be a priori arbitrary. For example, it need not appear immediately obvious why a parent corporation would need to receive royalties from a subsidiary when the latter operates in a tax jurisdiction with lower corporate tax rates than those in the country of the parent and where no restrictions on profit remissions exist. Similarly it need not appear a priori obvious why a company should be charging different royalties for the same know-how to non-affiliates. Or equivalently questions can be raised about the need to include export restrictive clauses in licensing contracts between a parent and its subsidiaries when the same result can be achieved through control by ownership.

One example of how the licensing process, viewed apart from other elements in the economic and legal system within which it operates, can restrict comprehension of the underlying causal factors refers to the usage of the term "technological balance of payments" of countries

(*). See for example "The Process of Commercialization of Technology in the Andean Pact: A Synthesis", document presented to the Department of Scientific Affairs of the OAS, Lima 1971.

Such a term represents the net balance of payment effects that result from the receipts as well as the outlays of foreign exchange from the sale and purchase of know-how. An example will assist us in understanding the limited explanatory value that such a term has, unless it is placed within a broader context of business practices and government policies. The following hypothetical case is presented: During a given year the subsidiary of a foreign company in Ecuador might be paying royalties to its Brazilian affiliate since the latter had during that year especially high expenditure requirements and, thus, the parent temporarily sublicensed to Brazil various patent rights. The next year the Ecuadorian subsidiary might necessitate company funds for a certain expansion and as a result royalties might be totally eliminated to take advantage of the lower corporate tax rate granted in that country as compared to that of the parent. The third, fourth, etc. years royalties could be paid to the parent or an affiliate in France for technology acquired by the Ecuadorian subsidiary several years before. That technology could have been developed or not by the parent and the process of its adaptation to Ecuador could have involved or not additional costs. Furthermore, the size of royalty payments could have been basically determined by the needs of the parent or of one of its affiliates in another country to set up, for example, new marketing projects in products completely unrelated to those of the Ecuadorian firm. The net result, for Ecuador is called its technological balance of payment.

Yet, once the licensing system is placed within a context that incorporates (a) the overall business strategy of firms, (b) the legal and regulatory requirements of governments or the constraints imposed on business options through instruments of government policies and (c) the need to maintain certain degree of bargaining power in an environment where the interdependence between licensor and licensee shifts continuously over time, then the terms and conditions of licensing appear to settle in a fairly consistent pattern which attempts to fulfil concrete objectives pursued.

We proceed to briefly refer to various factors that explain some of the elements that define behaviour within the licensing model. Several of them will refer to contracts between affiliates since in many developing countries most of the licensing agreements on technology commercialization take place between foreign parent firms and their local subsidiaries

First, under imperfect market conditions, sellers of technology are obviously maximizing their returns by taking advantage of different elasticities of demand for technology in various countries through discriminatory pricing policies. The different needs that exist among countries for a given technology as well as differences in the competence or ability of firms to search and negotiate for technology provide opportunities for different contributions to various firms (or countries) by the same know-how sold and hence for different claims on returns by the technology sellers. The elasticity of demand for technology will also depend on many other factors some of which do not necessarily have a direct relationship with the imported technology. For example, the existence of protective tariffs which create differential returns to factors of production could greatly affect the size of royalties that are agreed to be paid in licensing agreements. Another structural factor that would affect the elasticity demand for technology refers to the information already available in different countries on the effects of such technology as well as on the options available by potential substitutes. Developing countries whose knowledge in these matters is comparatively lesser, given the capacities, size and experience of their firms could find themselves in a competitive disadvantage with the technology market. Furthermore, in the formulation of the demand for information, like in all other markets, a prospective buyer needs information about the properties of the item he intends to purchase so as to be able to make appropriate decisions. Yet, in the case of technology, what is needed is information about information which could effectively be one and the same thing. Thus, the prospective buyer is confronted with a structural weakness intrinsic in his position as purchaser with resulting imperfections in the corresponding market operations.

Second, information in general and technology in particular fall within the category of what economists call a public good. This means that the usage of information or technology by a company or person does not in itself reduce its availability, present or future, as it happens with non-public goods. Thus, the incremental cost in the use or sale of an already developed technology is close to zero for someone that already has access to that technology. In cases of adaptation (due to scale, taste, local condition differences, etc.) firms incur certain costs that could be estimated and usually do not exceed a figure in the tens of thousands of dollars. From the point of view of the prospective

purchaser, though, the relevant incremental cost for developing the same type of an alternative technology with his own technological capacity might amount to millions of dollars. Given market availabilities, the price between zero or tens of thousands of dollars, on the one hand, and millions of dollars on the other, is determined solely on the basis of crude bargaining power. The range between the corresponding cost considerations is so wide that no price between them can be claimed to be more or less appropriate.

Third, technology in the process of its commercialization is usually embodied in intermediate products, machinery and equipment, people's skills, whole systems of production (like turn key plants), even systems of distribution or marketing (like cryogenic technology in ships that transport liquid gas), etc. Thus, know-how represents a part integrated in a larger whole. As a result, the market of the former is not independent but constitutes part of the market of the latter. This market integration of various inputs creates non-competitive conditions for each one of them since they are sold in a package form.

Fourth, the terms of licensing agreements have to be understood within the context of diverse government policies and the way such policies differ between the country of the licensor and that of the licensee. One of these policies refers to the tax structure that exists in both countries. For example, a subsidiary, operating in a country whose corporate profit taxes are higher than those of the home country of the parent, will be induced to increase its payments on royalties to the parent so as to maximize the net after tax profits for the corporate system. Another government policy that affects royalty payments and the overall terms of agreement in a licensing contract refers to the tariff structure of the host country. Thus, high tariffs on products imported by a subsidiary from its parent from abroad will induce, under certain conditions, the charging of lower prices than otherwise for such products so as to minimize tariff payments. This lower product prices can be compensated by higher royalty payments accruing to the parent. Similarly limits on profit remissions imposed by a host country will tend to induce higher royalties paid by subsidiaries in such countries in an attempt to bypass government restrictions on profit remittances. The above examples have indicated cases where terms of licensing agreements and payments for know-how sold were the direct result of government policies rather than

a strictly defined compensation for the contribution of technological inputs.

A fifth factor that affects terms of licensing agreements refers to the overall company strategy as to where a transnational corporation chooses to locate its productive activities and the effect that this has on the country-reported company cost structures. Thus, goods and services utilized by a subsidiary in one country might have originated from one of its affiliates elsewhere. This will affect through extra- as well as inter-affiliate charges the cost structures of the corresponding firms. If such costs incurred by a certain affiliate for activities, directed towards global operations of the corporation, exceed the revenues obtained from its sales in the local market or to non-affiliates abroad, then it will be to the overall advantage of such a corporation to transfer returns through inter-affiliate charges so as to minimize tax payments in other units which might be reporting taxable profits. This, in turn, will affect the terms of licensing agreements. Here, as in previous cases company practices and clauses of licensing contracts depend not on a strict and isolated evaluation of technological inputs but on overall company decisions on locations of productive activities. In the above case firm strategy directed towards the minimization of global tax payments for the corporate system will influence the type of licensing agreements signed.

A sixth factor that affects terms of licensing is that of time. The reacquisition of the same information during some future period involves intrinsically no additional cost since this information is already embodied in machines, processes and people's skills used in the past. This property of decreasing inputted cost over time generates conflicting interests and varying degrees of dependency among supplier and recipient of information since the worth of the latter depends strictly on the point of time that it is being evaluated. Thus a licensor could present his supply of technology taking into account his decreasing bargaining power over time in view of the possible renegotiations. Initial terms can be set higher than the average expected ones so as to offer a margin for renegotiation, or could be set up so as to avoid future renegotiations. Hence, the time horizon of the participating parties, the linkage of technology to other inputs over time (such as trademarks, sources of intermediates, commercialization) will also affect the terms included in licensing agreements.

A seventh factor involved in the determination of contractual terms relates to the existence of legislation that defines the limits within which terms can be settled in the process of private contracts. Such legislation could involve matters related to industrial property, anti-monopoly or anti-trust policies, etc. Many developed countries have created an elaborate legal system on this matter and have had a long experience in its applications and limitations. Many developing countries do not have comparable instruments of legal protection of the public interest and as such the terms agreed upon between contracting parties could reflect, through the exercise of bargaining power, such absence of legal protection for the licensees.

Finally an eighth factor that could affect the terms of agreement in a licensing contract refers to the degree of concentration involved in various markets related to the matter. Using the Chilean cases as example we will mention two forms of market concentration. One refers to the very limited competitive conditions characterizing developing countries given their small size. Such market concentration becomes particularly acute in technology-intensive industries, which generally necessitate large investments in fixed assets. In a sample taken in Chile on foreign owned subsidiaries with licensing contracts with their parents, 50% of them had a monopoly or duopoly position in the host market. Another 36.4% were operating in an oligopoly market where they had a leader's position. Only 13.6% of foreign subsidiaries in the sample controlled less than 25% of the local market. (*) Another form of market concentration refers to the very limited diversity of sources of supply of technology and capital that developing countries select in specific industries. For example Chilean licensors (national and foreign owned), with 399 contracts analyzed, paid for royalties, profit remissions, intermediates, etc. the following percentages of the total outlays by sector to the following countries (**)

(*) See CORFO "Comportamiento de las Principales Empresas Industriales Extranjeras Acogidas a la "T F L. 258", Publicación No 9-A/70, Santiago, Chile p 16

(**) See G. Oxman "La Balanza de Pagos Tecnológicos en Chile" mimeo, Sept 1971.

Sector	Countries	% of total payments by the whole sector going to the countries that appear in the previous column
Food and Beverages	Switzerland and USA	96 6%
Tobacco	United Kingdom	100 %
Industrial Chemicals	W. Germany and Switzerland	96 6%
Other Chemicals	USA, W. Germany and Switzerland	92 %
Petroleum and Coal Products	USA and United Kingdom	100 %
Rubber Products	USA	99 9%
Non-Metallic Minerals	USA	97 %
Metallic Products (except equipment)	USA	94 %
Non-electric machinery	USA	98 7%
Electric equipment	Holland, USA and Spain	92 %
Transport equipment	France, Switzerland	89 %

Clearly the country of destination of payments appearing in the above table often reflects definite firm destination and does not imply a selection from different firms within a given country

The above two cited forms of market concentration, as well as other related ones, certainly affect the terms appearing in licensing agreements. These terms, again, do not only portray payments for the technological contribution made to the licensee but in addition are highly determined by market conditions characterising a given situation

SOME EMPIRICAL RESULTS FROM STUDIES UNDERTAKEN IN THE ANDEAN PACT ON TECHNOLOGY LICENSING CONTRACTS

A study was undertaken in the Andean Pact which involved the analysis of 451 contracts of technology commercialisation so as to understand the terms of exchange in various sectors. The country break down was as follows:

<u>Country</u>	<u>No of Contracts</u>	<u>No of Sectors</u>
Bolivia	35	4 including "others"
Colombia	140	4
Chile	175	13
Ecuador	12	5
Peru	89	2 including "others"

The major clauses encountered were the following:

Export Restrictive Clauses

One of the most frequent terms included in the contracts of technology commercialization we studied was that of export prohibition. Of the 451 contracts evaluated 409 contained information on exports. Of these 317, that is 77%, explicitly prohibited exports from the technology receiving countries. In addition, others permitted exportation of products only in certain geographical areas. Contracts with complete prohibition of exports as a percentage of the total number of contracts with relevant information appear by country as follows:

Bolivia	77%
Chile	72%
Colombia	77%
Ecuador	75%
Peru	89%

With the exception of Peru, where figures were biased upwards by the large number of cases belonging to the pharmaceutical sector in the sample taken, the rest indicate similar percentages in the upper seventies.

In terms of ownership structure the following percentages were noted in the Andean countries on the various forms of export restrictions (complete and partial ones) with respect to the total number of contracts which included relevant information:

Foreign wholly owned subsidiaries:	79%
Nationally owned firms:	92%

The lower percentage figure noted for foreign wholly owned subsidiaries is of limited significance since control through ownership can dictate export possibilities. The figure, though, with a great significance is the one referring to nationally owned firms. In our sample it indicated that 92% of the contracts of Andean owned firms were prohibiting in some way or another the exportation of goods produced with foreign technology. And this occurred at the time when the Andean nations with the establishment of their common market were trying to integrate their economies by, among others, increasing

inter-country trade. Agreements reached between governments are in the case of technology commercialization greatly conditioned upon by the terms reached among private firms whose relative bargaining power is totally unequal. Also, efforts by UNCTAD and individual governments to achieve preferential treatments for the exports of manufacturing goods from developing countries have to be considered within a market structure which, among others, does not permit such exports through explicit restrictive clauses (*). Technology, an indispensable input in industrial development, becomes through the process of its present form of commercialization a major factor for limiting such development.

Tie-in Clauses on Intermediate Products and their Effects on Import Prices

A large percentage of the contracts we studied in the Andean Pact included terms which explicitly designated the purchase of intermediates and capital goods from the same source as that of know-how. More specifically 67% of the contracts studied in Bolivia, Ecuador and Peru had tie-in clauses. In Colombia 60% of the contracts studied in the chemical industry and practically 100% in the pharmaceutical industry included tie-in clauses.

Thus, benefits for the licensors and costs for the licensee include not only explicit payments such as royalties but should also consider possible implicit charges in the various forms of margins from the concomitant or tied sale of other goods and services. Furthermore, at the aggregate level flow of technologies among countries would imply directionally the joint flow of intermediates, equipment and capital. To understand the possible magnitude of the effects of tie-in clauses in technology contracts research also undertaken in the Andean Pact on the FOB prices of intermediate products imported by licensees. Defining as overpricing the following ratio

100x
$$\frac{\text{FOB prices on imports in Andean countries} - \text{FOB prices in different world markets}}{\text{FOB prices in different world markets}}$$

FOB prices in different world markets

the country results presented the following indicators. In the Colombian pharmaceutical industry the weighed average overpricing of products imported by 17 foreign owned subsidiaries amounted to a 155% while that of national firms was 19%. The absolute amount of overpricing for the

(*) Export restrictive practices have been observed by the government of Iran, El Salvador, Mexico, Chile, India, Colombia, Philippines, Kuwait, etc in the process of purchase of foreign technology. See UNCTAD "Restrictive Business Practices", TD/B/C2/93, December 1969, pp4-6

foreign firms studied amounted to a figure of six times the royalties and twenty four times the declared profits of the licensees. For national firms the absolute amount of overpricing did not exceed one fifth of the declared profits.

Samples of smaller size undertaken in Chile on 50 products indicated similar overpricing as in Colombia. Also in Peru imports corresponding to 22 pharmaceuticals firms indicate overpricing that ranges between 5% and 300%. Overpricing was noted, although in smaller percentages, in other industries. For example in the electronic industry in Colombia overpricing of components for television sets and related products ranged between 6% and 69%. In the same industry in Ecuador of 29 imported products 16 of them were imported at prices comparable to the Colombian ones, 7 had an overpricing up to 75% and 6 of them had an average overpricing of about 200%. Also studies in the rubber industry in Colombia indicated average overpricing of about 40% and in the chemical industry about 25%.

The balance of payments and fiscal charges for technology importing countries resulting from such practices of overpricing of tied products can be extremely important. For example, extra-polating from the sample in the Colombian pharmaceutical industry, which included 25% of the imports of about 40% of the industry, it could be deduced that foreign exchange payments from Colombia on account of overpricing only in this sector accounted to a figure comparable to the total royalties paid by all industrial sectors for technology in that country.

Other Type of Restrictive Clauses

To understand the meaning and repercussions of a contract one has to evaluate it in its totality. Often terms that are defined in clause No x are conditioned or modified in clause No y. Also, without explicitly stating something so as not to violate local legislation one can achieve pursued ends through indirect, legally accepted means. For example, through certain quality control clauses one can indirectly affect volume of production or control sources of intermediates. Or through control on the volume of production (which is permissible under certain patent legislations) one can control the volume of exports (which is not permitted by the same patent legislations).

Restrictive clauses in contracts of technology commercialization are of various types. For example, in Bolivia out of 35 contracts analyzed (and in addition to the export restrictions and tie-in clauses on intermediates cited above) the following terms were included: 24 contracts tied technical assistance to the usage of patents or trademarks and viceversa; 22 tied additional know-how needed to the present contracts; 3 fixed prices of final goods; 11 prohibited production or sale of similar products; 19 required secrecy on know-how during the contract and 16 after the end of the contract; 5 specified that any controversy or arbitrage should be settled in the court of the country of the licensor. Also, 28 out of the 35 cases contractually set quality control under the licensor. Similarly in Chile out of 175 contracts 98 had quality control clauses under the licensor. 45 controlled the volume of sales and 27 the volume of production. In Peru from 89 contracts 66 controlled the volume of sales of the licensee. Some clauses prohibited the sale of similar or the same products after the end of the contract. Others, tied the sale of technology to the appointment of key personnel by the licensor.

The list of clauses included in contracts of technology commercialization and the impact they have on business decisions prompt the question as to what crucial policies are left under the control of the ownership or management of the recipient firm. If the volume, markets, prices and quality of what a firm sells; if the sources, prices and quality of its intermediates and capital goods; if the key personnel to be hired, the type of technology used, etc.; if all of these are left under the control of the licensor then the only basic decision left to the licensee is whether or not to enter in an agreement of technology purchase. Technology, through the present process of its commercialization, becomes thus a mechanism of control of the recipient firms. Such control supersedes, complements or substitutes that which results from ownership of the capital of a firm. Political and economic preoccupations that have been voiced in Latin America concerning the high degree of foreign control of domestic industry can properly be evaluated not only within the foreign direct investment model but also within the mechanism of technology commercialization.

POLICIES ON TECHNOLOGY COMMERCIALIZATION INCLUDED IN DECISION No. 24
OF THE ANDEAN PACT (*)

In December 1970 the Commission of the Andean Pact, having considered the experience of the five countries in the process of purchasing foreign technology established a series of policies which, though legislative procedures as well as institutional building will regulate the mechanism of technology acquisition. These policies on technology were correctly presented jointly and in accordance with the overall philosophy and procedures which treat foreign direct investments since a large part of the contractually obtained know-how takes place through foreign owned companies. Thus, the overall direction of policies on technology cannot be adequately analyzed without a concomitant understanding of the policies towards foreign investments. For example, the progressive national participation in the ownership of foreign subsidiaries that operate in the Andean market will enable national investors to progressively join in the use of foreign technology within the subregion. Ownership of a firm does not refer to a non-functional participation in the assets of a firm but more so it implies control and profit in and from the operations and usage of such assets.

4 Similarly, the policies on technology and foreign investments in the Andean Pact can be understood properly only if one places them within the overall economic formulations and objectives of the Andean integration. For example, the scope offered by an enlarged market, fomented by special policies, changes the relative opportunities and hence affects the bargaining power of the Andean countries. This in turn, results in new formulations on related policies confronting the rest of the world. Equally, the explicit use of common planning by the five countries, within the industrial complementary projects, affords the opportunity of collective bargaining with foreign investors and technology suppliers.

An evaluation of these broader economic issues and their underlying political positions necessitate much more space than it is afforded in the present paper. We will thus, limit ourselves to a brief description of the scope of policies that were explicitly directed towards technology, acknowledging that their understanding

(*) See Junta del Acuerdo de Cartagena "Policies on Technology of the Countries of the Andean Pact", UNCTAD, TD/108, April 1972

necessitates a broader comprehension of other interrelated political and economic phenomena. We will be dividing our analysis into the following three parts (a) Institutional Structure for the Importation of Technology; (b) The Management of Technology Commercialization; and (c) Complementary Policies and Programmes for the Future.

(a) Institutional Structure for the Importation of Technology . . .

Article 6 of Decision No 24 refers to the creation of competent government agencies which, in each one of the countries will regulate and execute all relevant policies concerning technology imports together with the policies on foreign investments. In this sense previous policies in Chile and Colombia which through the respective Committees on Royalties, were primarily directed towards balance of payments effects, will be enhanced to incorporate the much broader considerations related to technology commercialization and foreign investments. For Bolivia, Ecuador and Peru Article 6 implies the creation of completely new government organization which were absent until the approval of Decision No. 24.

These government agencies are authorized, through Article 18, evaluate and approve all contracts of technology commercialization and those related to the licensing of industrial property privileges (patents, trademarks, industrial models and designs, etc.). Thus, Article 18 will enable the government to strengthen and complement the bargaining power of the nationally owned firms through the means of approving the access of foreign technology in the local market. Equally, the government will represent in negotiations the overall national interests in cases of technology contracts between foreign owned subsidiaries and their parents. In the process of negotiations, as indicated by Article 19, imported technology will be itemized in its respective parts (production manuals, factory specifications, product embodied know-how, experts' technical assistance, etc.) so as to evaluate the contractual value of each one or groups of them.

(b) The Management of Technology Commercialization

The importation of intermediate products and capital goods in the commercialization of technology and foreign direct investments were identified as a key element within the overall procedures of present industrialization programmes. As formulated in Paragraph c) of Article 6, the Andean countries will establish an information and control system that will attempt to bring the prices of such imports within acceptable ranges close to the international market prices. In so doing monopolistic structures, resulting from the joint transfer of products tied to technology and/or capital imports, will be regulated. As far as nationally owned firms are concerned these provisions, applied to standardized imported products, will have important bargaining effects by excluding prices of such imports from the negotiable terms. For highly differentiated products lacking quotations in other markets, progressive national participation in the ownership of foreign companies could, through intra-company bargaining, achieve similar results.

Importation of know-how according to Article 21, is compensated by payment of royalties from nationally owned firms to their foreign licensors and by increasing the profitability of foreign owned subsidiaries in the Andean countries. As such capitalization of imported know-how is not permitted. Through this process Decision No. 24 attempts to restrict the disnationalization of the ownership structure of national firms. In previous years such disnationalization was achieved not by direct contributions to the investment and/or foreign exchange availabilities of the host countries (since no capital was exchanged) but by the capitalization of know-how which was already remunerated by royalty payments. As far as foreign owned subsidiaries are concerned, know-how capitalization was leading, among others, to domestic tax reductions through depreciation "charges" on intangibles as well as capital repatriation claims. Thus, in the latter case capitalization of technology was constituting a depletion of the capital of the host country through repatriation of "investments" rather than a contribution to capital formation.

In addition, Article 21 does not permit the payment of royalties from a subsidiary to its parent or its affiliates. Such a policy,

which is also applied in various other nations, stems from the principle that the effect of technological inputs in a foreign owned subsidiary should be reflected in its declared profitability rather than being transferred to another country's tax jurisdiction. Royalty payments among affiliated firms achieve tax reductions in the royalty paying country and could also achieve overall tax reduction for the whole system of a transnational corporation. Tax avoidance as well as economic and overall political issues involved in the under-declaration of true profitability run counter to the interests of countries which are hosts to foreign owned subsidiaries.

In order to increase the information available on technology commercialization and, thus, enhance the bargaining power of the recipient, countries as well as improve the conditions of its use. Article 49 establishes a permanent system for the exchange of information among the five Andean countries on the terms and impact of technology purchase. This constitutes the first step towards the application of the principle of the "most favoured nation" in the purchase of technology. It is directed so as to overcome monopoly rents that accrue from market segmentation within different elasticities of demand for technology, unequal availability of knowledge and various degrees of bargaining power by the technology recipient firms.

Article 20 and 25 establish for the first time in the Andean Pact a legal base to deal with restrictive business practices that result from the purchase of technology and licensing of patents and trademarks. Export restrictions, tie-in arrangements, control of size and structure of production, hiring personnel, usage of alternative technologies, etc. are regulated by the above articles. The absence of overall and comprehensive anti-monopoly legislation which, among others, results from the lack of adequate analysis on the effects of monopoly and economic concentration in developing countries (whose markets' size often conduces to monopoly) necessitate specific legislation directed towards restrictive business practices in the sale of technology.

Article 26 and 54 set the requirement of approving by the end of 1971 new legislation which will regulate matters related to industrial property. The established inadequacy of the presently existing patent system and the international agreements that regulate it (whose

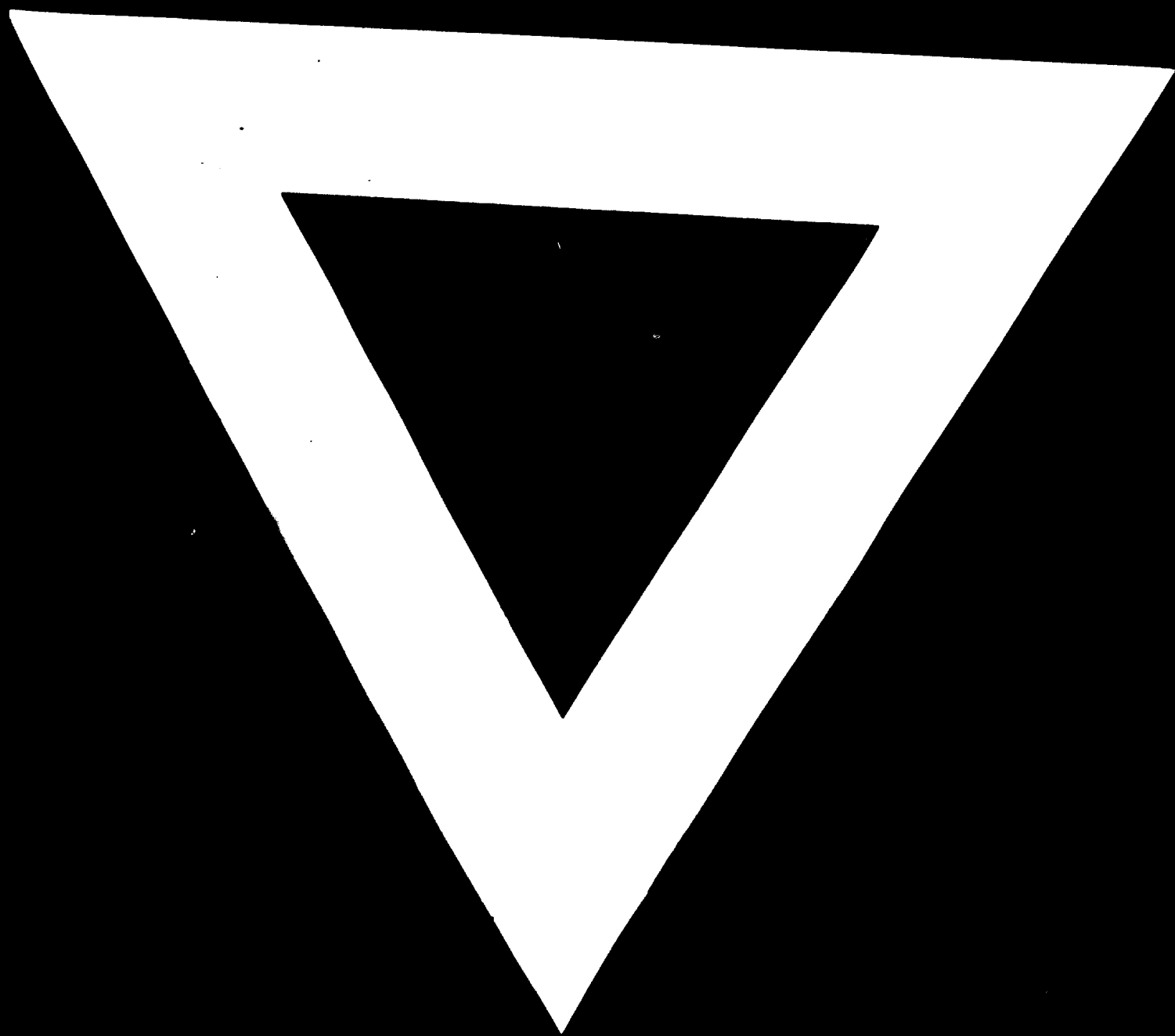
fundamentals were introduced in the last century under completely different circumstances and needs) present the need for a new approach on these matters. The interests of developing countries should be protected at least in their own legislation.

Finally, Article 51 establishes the important principle that any controversy or conflict in the purchase of technology or in foreign direct investments should be treated under the jurisdiction and competence of the national laws of the host country. (The importance of this position can also be evaluated in counterproposals offered by international organizations). Article 51 treats, in addition, issues related to subrogation.

(c) Complementary Policies and Programmes for the Future

Article 22, 23, and 55 establish the mandate to approve by November 1972 a comprehensive legislative and institutional programme on technological policies by the Andean countries. The objective of such a programme stems from the need to relate policies on importation of technology with the development and encouragement of domestic technological activities. This will imply the setting of priorities as well as the definition of types and projects related to diverse technological activities. Furthermore, such activities will be coupled with fiscal, monetary and direct incentives so as to induce and aid them. Various institutional implementations will be required which will include, among others, a systematic and continuous search in the international market for alternative technologies, the establishment of information systems, the aid to domestic efforts on technological development and the creation of an appropriate infrastructure to direct and promote related activities. Of central consideration will be the effect on development and usage of technology on employment and on the exploitation of natural resources in the Andean countries.





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