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TECHNOLOGY TRANSFER POLICY
- SOME CONSIDERATIONS -

TURKEY^{1/}
(TE/TUR/76/011/A)

Report findings and recommendations^{1/}

Mission report prepared for the Government of Turkey

by

Hubert A. Janiszewski
for the
United Nations Industrial Development Organization

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SUMMARY

The present report contains the analysis of current praxis of approval procedures being in force in Turkey, concerning foreign proposals related to various technology arrangements.

Moreover, mission findings and comments on the actual situation in Turkey in this respect are also included in the report.

The two last chapters of the report cover areas of potential concern of the Turkish Government in the field of regulation of transactions related to technology transfer as well as mission recommendations.

..... Attached to the report are several annexes who form the integral part of the report.

The recommendations of the report are based on extensive discussions with Government officials met during the mission and draw on the experience of other developing countries who encountered problems similar to Turkey in the area of regulation and promotion of technology transfer.

INTRODUCTION

The Government of Turkey requested the United Nations Industrial Development Organization (UNIDO) to send an exploratory mission to review the existing institutional and legislative machinery dealing with technology transfer.

During its stay in Turkey the mission, which was carried out by Mr. H.A. Janiszewski, UNIDO staff member (IIS/ISID), has met and discussed with representatives of the Ministry of Industry and Technology, the Ministry of Finance, the Ministry of Commerce, the State Planning Organization (SPO) and the State Investment Bank.

Unfortunately, due to the limited period of time the mission was not able to conduct consultations with representatives of State Economic Enterprises (public industrial sector) and private industrial. The present report including the annexes reflects the main decisions and opinions drawn from consultations with counterparts and takes into account views and suggestions of Turkish officials.

The mission wishes to express its sincere gratitude to the SPO, the Ministry of Industry and Technology, the Ministry of Finance and the Ministry of Commerce for the most useful information and orientation given by them. It is on this basis that the mission was able to formulate various recommendations and suggestions contained in this report.

The mission is especially grateful to :

- Mr. AGAH GUNER - Undersecretary at the Ministry of Commerce
- Mr. HIKMET CETIN - Head of the Economic Planning Department, State Planning Organization
- Mr. ICEM BORTUCENE - Head of the Social Planning Department at the State Planning Organization
- Mr. NECAT TURKBAS - Deputy Undersecretary at the Ministry of Industry and Technology;
- Mr. UMUR URIS - Assistant Undersecretary at the Ministry of Industry and Technology;
- Mr. TARIK KIVANC - Deputy Director General of State Investment Bank

- Mrs. BEYHAN BERTAN - Director of Manpower and Training Department, Ministry of Industry and Technology
- Mr. Ibrahim YURT - State Planning Organization
- Mr. MUSTAPA BILGINER - Director of Science and Technology Department at the Ministry of Industry and Technology
- Mr. SABAHATTIN BEYAZ - Director of Investment Encouragement Department, Ministry of Commerce
- Mr. ORKAN DURUKAN - Deputy Director of Science and Technology Department, Ministry of Industry and Technology
- Mr. ENGIN - Head of Technology Section, Ministry of Finance
- Mr. TERCAN - Head of Private Foreign Capital Section, Ministry of Finance
- Mrs. NURAN ONCEL - Department of Industry at the Ministry of Industry and Technology
- Mr. SAMAP AYDEMIR - Chief of Industrial Property Section, Ministry of Industry and Technology

The mission would also like to express its gratitude for the excellent assistance received and overall orientation given in Ankara by the UNDP Office and in particular by the Resident Representative, Mr. A. SWALLOW, Assistant Resident Representative, Mr. B. RADOVIC and Mrs. INCI KURNUS, Programme Officer.

Due appreciation is also given to UNDP Office in Ankara for all assistance and arrangements made prior and during the mission.

Under the country's Third National Development Plan (1973 - 77) and a long-term forecast covering a period of 20 years, the ultimate goal of Turkish technological policy is to decrease the overall dependence on foreign technology and to gradually increase the local technological capabilities, those of industry and the research and development facilities. The long-term plan foresees the joining of the European Common Market by Turkey in 1992 and for this purpose major importance is being attached to the acceleration of industrialization and modernization of the economy.

One of the problems encountered at the present and future planning cycles is the unemployment which through, inter alia, technological policies is to be considerably reduced if not totally liquidated.

For this purpose priority objectives in a sense of introduction of capital intensive technologies and labour intensive technologies have been established for certain specified industrial sectors which take due consideration to unemployment problems. This policy, however, has on a long term encountered major difficulties in the past in a sense that industry did not necessarily follow the Government's intentions.

It is to be noted that the complex problems related to technology transfer, technology adaptation and technology development, would largely have to be solved through a national conscientiousness of the nature of these problems, the political support to solve them and the introduction of concrete measures for implementing a plan of action in this field.

It should be recognised that for a successful and efficient regulation of policies in the field of technology, joint efforts are required on the part of government institutions and particularly of public and private enterprises.

The report is divided into three chapters :

- Chapter I covers mission findings related to the existing situation in Turkey in the field of technology inflow;
- Chapter II reviews the areas of concern in the definition of a governmental policy and strategy in this area;
- Chapter III provides recommendations and suggestions for the consideration of the Turkish Government for possible action in this field.

I. EXISTING SITUATION IN TURKEY IN THE FIELD OF INFLOW OF FOREIGN TECHNOLOGY - MISSION FINDINGS

1. The overall ultimate goal of the present Turkish development policy may be described in short as joining the European Common Market by 1992.

To achieve such a target, the development planning has been subordinated in a way to enable Turkey to reach such a level of overall development so that full membership of the Common Market will be possible and beneficial to the country.

Within the framework of overall development policy, Turkey's technological policy is oriented towards the gradual decrease of dependence on foreign technology and the gradual increase of indigenous technological capabilities both existing in industry and in local research and development institutions. The present report, due to the limited character of the mission, will deal primarily with problems of decreasing the dependence on foreign technology.

2. Usually the inflow of foreign technology - considered also as one of elements of foreign capital - is carried out on the basis of special government regulations like the Foreign Investment Encouragement Law n° 6224 dating back to January 18, 1954 ⁽¹⁾ as well as the Petroleum Laws n° 6326 and 6987. Certain regulations concerning per se licencing and know-how agreements are covered by the decree n° 17 relating to Invisible Transactions Notifications.

The employment of foreign personnel, which in view of the Turkish Government may also bring into the country certain know-how or technology, is subject to regulations by laws n° 2707 and 2880.

3. For the sake of clarity, a description of the existing legislation and administrative procedure will be given with particular emphasis on evaluating and approval process as imposed by various laws.

(1) The full text of the law is reproduced in Annex II of this report.

4. On the basis of the laws n^{os} 6224, 6326 and 26987 the foreign capital may come to Turkey in the form of technology as described for example in article II of law n^o 6224 in the form of "intangible rights such as licences, patent rights and trade marks and services".

Because of a special attention given to the petroleum industries a special legislation has been enacted enabling investment in this sector also in the form of capitalized patents, licences and know-how (see article 3, para 30, sub-para c, section 4 of the law n^o 6326).

The legislative acts as above apart from enabling investment in the form of technology inflow required the Government's approval of all contracts, subject matter of all above-mentioned laws.

The Government's approval procedure is combined with scrutiny and evaluation procedure, which may be described in detail as follows : as regards the law n^o 6224, a local entrepreneur is obliged to submit a special application in 5 copies to the concerned department of the Ministry of Commerce. After a preliminary evaluation by the Ministry of Commerce the application in 4 copies is being passed along with the comments and opinions to the State Planning Organisation for final assessment and recommendations. On the basis of the SPO assessment, the Council of Ministers issues, published in the Government gazeta, a decree concerning particular cases, which is the formal basis for the start of a particular undertaking. Table n^o I gives a graphical picture of the procedure described above.

The main concern of the Ministry of Commerce is the evaluation of the project taking into account the following main criteria :

- (a) The novelty of technology being brought into the country
- (b) Increase production capacity
- (c) Minimum export output (usually 15 %)

The SPO and particularly its ad hoc Foreign Investment Committee - taking into consideration findings of the Ministry of Commerce - undertakes the detailed project evaluation by taking into account

also the project relations and compliance with development planning, effect on employment situation and economical viability of the project. The SPO also undertakes certain consultations as to the technological contents of the project with respective sectorial sinisters as well as to a certain degree with the Ministry of Finance.

Because of the law provisions enabling capitalization of intangible rights, it is allowed to calculate it on the basis of capitalised value of technology at 0-year of a given project. The issue of the decree of the Council of Ministers usually specifies in detail allowed rates of royalty payments to foreign parties in addition to transfer of profits. The described procedure is valid both for private and public sector industries.

As a number of public sector undertakings are being financed by credits obtained through the State Investment Bank, such undertakings should be included in the annual investment programme provided that at least a 51 % share of their capital belongs to the Turkish party. The State Investment Bank before granting any credit carries out its own evaluation of the project irrespective from above-mentioned procedure.

As mentioned earlier, due to the particular place the petroleum industry occupies in the Turkish industry, a special legislation has been enacted for such ventures. In accordance with this legislation applications are submitted to the Petroleum Administration, which after the necessary evaluation issues respective decisions.

5. On the basis of the actual legislation in force in Turkey, all per se contracts related to acquiring licence, patent rights, trade marks and know-how are subject matter of approval procedure in accordance with decree n° 17 (Invisible Transaction Notification).

Accordingly, appropriate applications are submitted by would-be Turkish licences to the Ministry of Finance, which after consultation with the Ministry of Industry and Technology (respectively Ministry

of Agriculture or Ministry of Health) approves or rejects particular transactions. Table II shows a graphical picture of the approval procedure in detail.

Within the Ministry of Finance, its Division of Foreign Economical Relations carries out financial analysis of all submitted agreements. Its areas of concern are considerations of rate of exchange applicable on payments and availability of foreign currencies. In addition to this general consideration, there exists a detailed checklist according to which each contract is being scrutinised. The following criteria are being applied and scrutinised in such evaluations :

- The period of agreements should not exceed 5 years (for extension, the approval of the responsible authorities should be sought).
- The royalty rate should not be more than 4% gross.
- The agreement should be implemented in accordance with the Turkish Law.
- No lump payment should be made.
- Taxes and other dues are to be paid in Turkey from the royalty amounts by the Licencor.
- The current rate of exchange should be applicable at the time of transfer (no guarantee of rate of exchange).
- Payments should be made in one of the convertible currencies.
- The local firm should continue production without the use of foreign registered mark after the termination of the agreement.
- The know-how should not be limited to certain restricted fields but also include possible improvements over the period of the agreement.
- The sale of the product, produced in Turkey under licence should not have any export limitations.
- The licencor warranties should include provisions that the production by the licensee is of the same quality as that of the licencor.

- The net sales price should be taken as the base for computation of royalties and all packaging, transportation, insurance, reduction, expenses, taxes, import price should be deducted from this.

- The technicians of the licensor visiting Turkey should not be paid extra, that is in addition to accommodation, daily subsistence and transportation, expenses.

- In case of conflicts arbitration of the Paris International Chamber of Commerce should be sought.

It is the usual praxis of the Division to consult with the interested party the certain conditions of the evaluated contract. Licensing fees are subject matter of 23% tax deducted from payments due to the foreign licensor.

6. The Ministry of Industry and Technology and in particular its Industrial Department carries out the bulk of economic and technical screening of the agreements. Here, in consultation with the Science and Technology Department and the Industrial Property Section a technical screening is being made as well as the economical evaluation of the contract. The internal guidelines (unpublished) have been elaborated to scrutinise the contracts and are divided into 3 main groups : The general evaluation takes the following elements into consideration :

- (a) Whether similar technology is already being operated in the country;
- (b) Novelty of the technology, subject matter of the agreements;
- (c) Value-added factors in terms of foreign exchange earnings, manpower and income creation factors;
- (d) Share of foreign inputs in total output of a particular project.

The following group of provisions are in principle not allowed in the contracts :

- (a) Export limitations;

- (b) Tied-in provisions;
- (c) Price fixing of final and intermediate product provisions;
- (d) Annual minimum royalty provisions;
- (e) Excess of payments in relation to the value of technology;
- (f) Limited utilization of local raw material, spare parts and components (unjustified quality control arrangements);
- (g) Limitation on production and export quantities;
- (h) Limitation on use of technology after expiration of agreements;
- (i) One-sided grantback provisions;
- (j) Lack of licensor's warranties as to validity of patents and third party infringement;
- (k) Limitation on trademark use;
- (l) Other provisions related to the nature of agreements.

The other group consists of following provisions, which in principle should be included in all agreements :

- (a) Duration of contracts should in principle not exceed 5 years;
- (b) Licensor should warrant the validity of patents and the defence against third party infringements;
- (c) Each party should have the right to terminate a contract prior to notification;
- (d) Maximal royalty rate at 1% on net sales;
- (e) Licensor should guarantee the same quality of products manufactured by the licensee;
- (f) Preference is given to the licensor with large network of licensees. When comparing the check list of the Ministry of Finance with that of the Ministry of Industry and Technology, the similarities are obvious.

7. As might be seen from the above review of the legislative and administrative procedures prevailing actually in the country, there exists in principle relatively broad in scope a legislative basis enabling the Government to play a regulatory role in the process of flow of foreign technology into the country.

According to the mission's opinion, there is, however, some degree of inconsistency regarding two sets of legislation (one covering technology contracts *sensu stricto* and the other related to technology contracts in the frame of foreign investment), which lessens the efficiency of the system considerably.

Secondly, the evaluation and administrative procedures of the contracts are accordingly subjected to separate analyses without much interlinkages and therefore does not guarantee effective and consistent decisions.

The mission was able to review the amount of applications processed at each governmental department concerned as well as staffing. In addition, the mission was given some information as to the administration and information - reference system applied.

Table III

STAFFING AND PROCESSED APPLICATIONS BY ALL GOVERNMENTAL DEPARTMENTS CONCERNED WITH SCREENING OF TECHNOLOGY

	<u>Number of Evaluations PER YEAR</u>	<u>Number of Professionals</u>
I. EVALUATION BODIES		
1. Foreign Economics Relations Division	60 - 70	5
2. Industries Department	ca 100	6
3. Investment and Encouragement Department	" 30	8
4. Ad-hoc Foreign Investment Committee	not available	3 - 4 (?)
5. NPG	"	4 - 8 (?)
II. CONSULTATION BODIES		
1. Industrial Property Section		?
2. Science and Technology Department		3

9. Generally, the available records of agreements processed go back to 1969-70 - with simple cross reference systems as regards the licensee and subject matter of the agreement.

The Science and Technology Department is among other things in charge of maintaining working contacts with TUBITAK (Scientific and Technical Research Council) and TUDCK (Turkish Documentation Centre) as well as with other research centres in order to be kept updated on the newest developments in all technological fields and with the evaluation bodies respectively.

No efforts have, however, been made to increase the direct access of evaluating bodies to information centres, particularly abroad.

There is also a rather limited, if any, exchange of information between systems of evaluations made at the Industry Department, the Investment and Encouragement Department as well as the relevant departments of the Ministry of Health, the Ministry of Agriculture and the Petroleum Administration, which is the result of lack of adequate inter-linkage among government agencies.

10. No effort has been observed as to promotional and information services available to industry both private and public by governmental bodies concerned with the approval and evaluating procedures.

The internal guidelines and checklists as described above are developed on the basis of experience of the departments themselves and on a case by case analysis made by separate departments.

According to the mission's findings, no effort has been made for analytical and research studies aimed towards the elaboration of generally applicable sectorial evaluation methodology which might be applied in a systematic way by all governmental departments concerned.

11. The guidelines and checklists as presented are of pretty general nature without much scientific and analytical support and therefore though they serve in a limited degree its purpose, they can hardly be considered as a useful and effective tool for thorough and in depth financial, economical and technical analysis of agreements. The agreements are subject matter of screening procedures, which due to limited experienced staff lack the in-depth methodology, which should support specific objectives of technological policy of the Government.

The majority of the mission's counterparts commented about lack of access to up-to-date information on methodology on economical, technical and financial analysis of licencing and know-how agreements. It seems that knowledge of this subject within the industry is even far lower.

II - MAIN AREAS OF CONCERN IN THE REGULATORY ROLE OF GOVERNMENT IN THE PROCESS OF FOREIGN TECHNOLOGY INFLOW

12. On the basis of knowledge and experience accumulated so far it is possible to say that transfer of technology policy should be subordinated to overall economic and social development objectives. Yet such an explicit policy may take into consideration such fields as science, economics, employment, education and industry.

In summary, the formulation and implementation of technology transfer policy should be oriented towards the following main objectives :

- (a) A more efficient process for the selection of foreign technology
- (b) The development of negotiating skills conducive to obtain better contractual conditions;
- (c) A more efficient process for the adaptation and absorption of imported technology;
- (d) The gradual development and creation of local technological capabilities.

To achieve these objectives, the mission wishes to recommend for consideration of the Turkish Government the introduction of explicit, regulatory and promotional measures in the field of technology transfer, which will include among others the consolidation of functions of existing governmental bodies into one central efficient organization.

It should be stressed that an adequate strategy will call for institutional support and Government guidance in order to enable local enterprises to become more efficient and to gradually achieve a degree of self-reliance. In addition to the framework of the transfer of technology policy, there will be a need to identify the requirements of the local entrepreneurs and to differentiate the various types of industries within the country, including :

- (a) State economic enterprises
- (b) Large private national enterprises
- (c) Small and medium national enterprises
- (d) Foreign subsidiaries or joint ventures

13. Taking as a basis the objectives outlined previously, the mission wishes to suggest the reorganization and consolidation of functions of existing government agencies into one organisation that would have the sole responsibilities in the following areas :

A. Selection of foreign technologies :

The mission acknowledges the existence of Government skills in the negotiation of foreign proposals in the industrial field. The responsibility of this lies at present with the Ministry of Industry and Technology, the Ministry of Commerce, the Ministry of Finance, the State Planning Organisation and the Petroleum Administration. On the other hand, it was possible to ascertain that this experience is up to a certain degree kept within limits and without much interexchange between particular organisations. It is suggested that the scope of responsibilities of the central government agency will include such agreements where the main objective relates to :

- i. Use or exploitation of trade-marks;
- ii. Use or exploitation of patents;
- iii. Use or exploitation of secret non-patented know-how;
- iv. Technical information in form of plans, diagrammes, models, operating manuals, formulas, specification and training of personnel
- v. Consulting agreements of any type;
- vi. Supply of basic or detailed engineering
- vii. Management or administrative systems;
- viii. Franchising agreements.

For the sake of clarity certain definitions concerning the scope of international licencing agreements are presented in Annex I of the present report.

The identification of international sources of supply for technology will require support of information facilities in order to maintain and update the reservoir of technical data on available process or products which are of particular interest to industry. Furthermore, evaluation of alternate technologies will certainly require the strengthening of the evaluating capabilities of such a central agency. Government institutions should also have to assist the productive units in the country in improving their capabilities for evaluating and negotiating various contractual provisions. It should be underlined that proper co-ordination among responsible institutions working in this area is essential in order to reach a solution which is both technically and economically sound. In this light the upgrading of technical skills through adequate training programmes at the planning and implementation stages of the project is of particular importance.

B. Improvement of negotiating skills

The mission was able to ascertain that at present there are no explicit policies for the regulation of technological transactions in an effective and co-ordinated manner. From the experience of other countries, in particular Brazil and Mexico, it was found that the absence of specific policies and institutions to deal with the screening and approval of foreign licencing proposals generally results in undesirable contractual arrangements due to weaker bargaining

position of recipient enterprises in these countries. Furthermore, without the proper guidance many technical collaboration and services agreements are contracted without due consideration to the top priorities of the country. Drawing further from the experience of these countries, as well as highly industrialized countries like Japan, it should be recognized that local enterprises both public and private have a central role and responsibility not only for the implementation of specific projects but also in the decision-making process to formalize licencing arrangements.

In this context the mission wishes to recommend the need for development guidelines for the acceptance of technology transaction with foreign enterprises and the need for the Government to provide guidelines and institutional support to improve the negotiating skill of recipient companies.

As mentioned earlier, the regulatory functions of the central agency would have to be complemented by not less important promotional efforts to adequately encourage the import of technology in priority sectors of the economy. It should be noted that the introduction and successful implementation of a regulatory policy in the field of technology would require the highest Government support at the political and institutional level.

C. Criteria for the evaluation of technological agreements:

The mission wishes to submit for consideration of the Government broad guidelines for the acceptance or denial of international licencing proposals as well as some recommendations concerning the methodology that may be introduced for this purpose and to highlight some of the aspects that require attention from the part of the Government agency dealing with these matters.

Furthermore, the mission recommends to undertake important additional work in this field preferably coupled with expert assistance from UNIDO in order to assist in the definition of methodology and criteria for evaluation

These are preliminary suggestions and by their nature not exhaustive.

The work of a responsible body within the government in the area of scrutiny and appraisal of technology agreements calls for a multidisciplinary approach and should be provided in an integrated manner.

The degree of authority to be invested in the government agency will have to be properly defined, and foreign proposals would have to be submitted to a detailed legal, economic, financial and technical scrutiny.

The purpose of this evaluation is not only to ascertain that contracts comply with all related legal provisions existing in the country as it took place so far, but also to critically evaluate, if the technology or services as well as the obligations and responsibilities to the parties, are acceptable both, to the recipient enterprise and to the Turkish economy.

In addition to legislative acts enumerated earlier, a number of juridical and administrative provisions existing in the country require special attention, i.e. industrial property legislation and fiscal and tariff policies, etc..

An important aspect that requires further consideration from the part of the government will be to explicitly define the conditions under which technology transfer arrangements into Turkey can be concluded.

In line with the above, two important requirements were identified :

1. That all agreements involving the transfer of technical know-how, services and other kinds of intellectual property (involving foreign equity participation or not) would be reviewed by a competent body within the Ministry of Industry and Technology.

2. That specific Guidelines for internal use should be developed.

Some of the basic elements to be incorporated in these guidelines are described below :

- Foreign licencing arrangements should include a provision whereby the recipient enterprise or the Government of Turkey could acquire explicit rights to the use and exploitation of the technology licenced, and the period of these rights should be clearly specified in the agreements.
- "Prior disclosure" of technology from potential licensor to licensee should be encouraged so that the government agency and the recipient enterprise could judge upon the suitability of the know-how and ascertain the type of improvements and services required for the implementation of a specific project.
- In order to properly evaluate foreign proposals, the agreement should clearly define the main features of the process or product to be licenced.
- In cases, where the licensee is mainly acquiring the right to practice a process, the term know-how should be clearly expressed and defined in the agreement. In this connexion, the concept of "technical information" and/or "technical services" should only be treated as a complement to the know-how. Similar considerations concerning a more explicit definition of the "field of use" will be important.
- The remuneration for the various elements of a contract is to be related to the most essential component of the licencing agreement in order to properly ascertain the value of the licensor's contribution.
- Whenever various elements are involved in a technology agreement, each one should be evaluated separately and the corresponding remuneration determined, not only to ascertain the relative value of each, but also to provide the basis for determining the licensor's responsibility concerning performance in any of these elements.

- In projects of special importance, the concept of net present value should be introduced as a tool for evaluating the remuneration, together with other economic and technical considerations.
- Where the main element of an agreement relates to an industrial process, the licensor should provide process performance guarantees and/or warranties, as applicable, in order to critically identify its adequacy.
- Process guarantees should be covered by the licensor's financial responsibility and his liability would have to be in close relation to the value of know-how.
- Where process guarantees or warranties are negotiated, provisions should be made for the licensor's discharge of liability by introducing certain provisions for process correction. If the option to pay liquidated damages is available, there should be a provision for licensee to exercise this right in an independent manner.
- On a selective basis a "most favoured licensee clause" should be incorporated in agreements related to new technologies, to compensate the licensee in the event that in future the licensor licenses his know-how to a third party in another country on a more favourable basis.
- To ensure a dynamic flow of information between the licensor and the licensee during the life of the agreement. This should provide for the licensee's access to the licensor's plants and related R&D facilities.
- Obtain that the licensor informs the licensee on "improvements of technology" and ensure that the licensee has the option to use such improvements commercially, including those, that are not commercially practised by the licensor.

To define the know-how licensed; as the know-how in use or in position by the licensor during the life of the agreement in order to prevent arbitrary separation of know-how from process improvements.

Concerning paid-up licences, it would be in the interest of the recipient company in Turkey to extend the duration period of the agreement to the maximum possible, as the licensor's new technical information could be acquired without further compensation.

The provisions outlined above, are only descriptive and are meant to highlight some areas of concern from the point of view of the Government. These provisions could assist in attaining some of the following results :

- that there is a continuous and efficient transfer of know-how from a foreign licensor to a licensee in Turkey;
- that the recipient company acquires the technology with adequate knowledge of all the critical and competitive aspects, so that it can master its operation;
- that a clear definition of "know-how", "technical information", etc. is incorporated in contracts;
- that remuneration to the foreign licensor is determined in relation to the main elements that form the licensing transactions (i.e. know-how, patents, etc.);
- that the remuneration and other forms of compensation bear a close relationship to the technology or services acquired, and is kept in line with international norms in specific sectors;
- that the recipient company in Turkey is adequately oriented concerning the technical performance of processes through the introduction of explicit process guarantees and/or warranties;

- that the agreement clearly specifies the responsibilities of the foreign licensor and the recipient company, in achieving performance of the technology;
- that the recipient company in Turkey will be able to effectively operate in the market-place by negotiating all technology aspects related thereto;
- that a dynamic flow of information on technological improvements is secured;
- that the absorption of the technology occurs within a reasonable period of time;
- that the recipient company in Turkey will be in a position to efficiently operate the plant after the agreement ends.

D. Evaluation and Payment for Technology

An important element in the evaluation and negotiation of foreign technology proposals is the payment for technology. This question is dependent on the scope of technical know-how or services to be required : The criteria for its analysis will have to be developed over a certain period of time. Nevertheless because this is an issue of special importance for the future work, various considerations are presented in order to highlight certain features and possible requirements at the governmental level.

It should be recognized that the evaluation of the cost of technology or services is a complex exercise. However, one of the main responsibilities of the central government agency would be to develop the necessary skills to judge the direct cost of licencing transactions and its effect upon the national economy. Drawing upon the experience of other developing countries in this area, two basical considerations emerged :

i. From the point of view of the recipient company the rate of compensation is normally determined on the basis of a cost benefit analysis at the enterprise level.

ii. From the point of view of economy, additional to the cost benefit criteria at the level of the enterprise, it is important to judge upon the cost of technology in relation to its value adding potential, that is upgrading local capabilities, employment of labour, foreign exchange and fiscal considerations etc..

The analysis becomes most complicated in view of the fact that in the case of the new ventures the analysis of cost and profit is not certain and involve a certain amount of risk. What is complicating this matter still further is that the remuneration can be earned through different modalities such as running royalties, lump-sum fees, paid-up licencing fees or a combination thereof.

Perhaps the most convenient form of looking at royalties is to consider them as licensor's share of licensee's profit. In fact, a royalty or profit would be the simplest form of compensation statement were it not for the difficulty of defining profit. Royalties on sales and production can be looked upon as derived expressions of the profit criterion. Thus, sales royalty can be looked upon as follows :

$$\frac{\text{Licensor's profit}}{\text{Licencee's sales value}} = \text{sales royalty} = \frac{\text{Licensor profit}}{\text{Licencee profit}} \times \frac{\text{Licencee profit}}{\text{Licencee sales value}}$$

Thus, if the licensor wants a 20% share of the licensee's profit and the licensee's profit is estimated (by the licensor) at 30% of sales, his royalty rate expectation would be 6%.

Similarly, royalty on product-unit could be seen as :

$$\text{Royalty on product} = \frac{\text{Licensor profit}}{\text{Licencee profit}} \times \frac{\text{Licencee profit}}{\text{Unit product}}$$

Sales royalties preponderate in licencing agreements because the licensor can better estimate licencee's profit-on-sales than on unit product. For unit-product royalties, the licensor's trend is to first work out the sales royalty and then derive from it product-unit royalty.

The licensor's expectation of royalty is also in terms of the length of time involved - the duration period of the agreement. In the sales-royalty calculation made above, the 6% royalty may only hold for a 10 year period with plant operating at 100% of designed capacity. However, in regulated technology programmes, the Government is equally interested in knowing the cost of the technology over the duration of the agreement (for this is expenditure of foreign exchange).

Establishing the absolute cost of technology and relating it to industry norms becomes a necessary part of the Government's regulatory exercise. Where there is a deviation from "industry norms", specific "tests" need to be applied to the transacted technology, such as raw material savings, export-earnings, etc. to determine its allowability.

Where the licensor applies a straight-forward fixed-fee to the technology (as often happens in chemical process technology), its absolute cost becomes evident but the difficulty introduced is its comparability to "industry norms" which are usually term-royalties. The question arises : what is the acceptance criteria to be used for fixed fees, paid-up fees, "out-off" fees, etc.. Where the licensor applies "running royalty" (term royalty), comparison to "industry norms" becomes easier. However, the absolute cost of the technology becomes difficult to establish.

It is the recommendation here that the concept of Net Present Value (NPV) be used, for converting term-royalties to paid-up royalties and vice-versa.

NPV is essentially from the compound interest formula :

$$R = R_0 \left(1 + \frac{r}{100}\right)^n$$

where,

R = royalty payment made in n-th year

R₀ = NPV of future royalty payments

r = discounting rate

n = year from "base-year" on which payment is received

For example, if the following is the sales forecast and royalty payment liability on a 6-year contract at 3% royalty on sales :

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Sales value ('000 \$)	100	150	200	250	250	250
Royalty payments (P) ('000 \$)	3.0	4.5	6.0	7.5	7.5	7.5

The 1975 NPV for each payment at a 10% (r=10) discount factor is :

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
NPV ('000\$)	3.0	3.72	4.5	5.1	4.15	4.35

The "paid-up" assessment of royalty, in terms of 1975 value, is thus \$ 25,320 against the undiscounted payment of \$ 36,000.

The NPV assessment method can be used to reverse the process, thus obtaining the term-royalty equivalent of a fixed fee.

The applicable formula would be :

$$R = R_0 \left(1 + \frac{k}{100}\right)^n$$

Where, R = undiscounted total royalty payment over duration of contract = S.t.

R₀ = Paid-up fee, fixed fee, etc.

k = discounting rate, (10 if rate is 10%)

n = term of agreement, years

R = S.t. where,

s = aggregate sales value over contract period of n years

t = average royalty rate (to be determined)

Thus, if \$ 25,320 were the fixed fee on a 6-year contract where, aggregate sales value is \$ 1,200,000 and $K = 10\%$ (discount factor), the formula would be re-expressed by :

$$(1,200,000) (t) = 25,320 \left(1 + \frac{10}{100}\right)^6, \text{ in which case}$$
$$t = 3.7\% = \text{average royalty rate}$$

It is important to note that in the reversing process "t" does not equal 3% (of the first example) because "t" here is an average royalty rate and assumes that royalty income will be (or is) the same in every year of the contract i.e. a plant operated to capacity, common in the process industries.

The NPV value of a licence fee can then be gauged against licensee investment, licensee's sales over duration of agreement, etc. as is currently being done with undiscounted royalties.

B. Capitalization of Intangible Rights

The present legislation existing in Turkey allows the importation of foreign capital also in the form of capitalised intangible rights.

So far the present praxis was that the value of capital in the form of capitalised intangible rights has been calculated on the basis of the value of technology or know-how at a 0-year of a given project. It seems, however, - as has been proved by the experience of other developing countries, that capitalisation of intangible rights being a complex question has both positive and negative aspects. The positive elements may occur when local companies do not have access or do not have financial resources for financing a given industrial undertaking. Sometimes also when technologies are available only from one source, there is no other choice as to agree to equity participation where foreign capital is brought in a form of capitalised know-how. On certain projects capitalisation of the know-how may prove to be a desirable contract in order to secure greater involvement from the licensor in the project field and for an assured period of time. On the other hand, however, in number of instances capitalisation of know-how may lead as a final effect to excessive payments for technology.

A situation as this occurs usually because of depreciation of the real value of technology in the course of time on one hand, and on the other because of increase of the shares value over the same period of time. Therefore if, let's say, the value of technology at the 0-year of a project has been estimated at 500,000 US\$ and this know-how has been capitalised for equity capital constituting 50% of the total capital, such a situation holds only for the 0-year of the project. The real value of technology in the, let's say, 7th year of the project will be some 200 or 300,000 \$, while at the same time the real value of the 50% of the joint capital of the company may reach some 7 or 800,000 \$. Table n. VI reproduced below shows clearly the situation described above.

Capitalization of intangible rights is therefore of a particular importance and belongs to the most complicated issues, particularly when an extension of a project is foreseen in the form of capitalization of intangible rights supposed to increase the capital of a given company.

III - RECOMMENDATIONS FOR VARIOUS ACTIONS IN THE FIELD OF TRANSFER OF TECHNOLOGY

Within the framework of previously described findings and areas of concern, the mission wishes to recommend for consideration of the Turkish Government the following :

1. The need for the establishment of a central agency for the regulation and promotion of foreign technological and licensing transactions.

Such an agency should combine the existing facilities and agencies in the Government and might be located at the Ministry of Industry and Technology. Table IV shows for the consideration of the Government the organisational lay-out of such a central evaluating agency. It is strongly recommended that the central regulating agency will consolidate existing functions of departments

of SPO, Ministry of Finance, Ministry of Commerce and Ministry of Industry and Technology. The central agency once it starts functioning and consisting of staff from all above-mentioned departments, will assume total responsibilities of evaluating, screening and approving of agreements related to technology transfer. It should be mentioned that specific UNIDO assistance may be secured for the smooth organisation and putting into operation of such an agency.

The central evaluating agency should in principle assume the functions of all existing governmental departments and include the following functions :

- (a) Proper co-ordination of legislative and administrative procedures in the field of industry, technology transfer, foreign investment, industrial property and fiscal policy;
 - (b) The definition of Government criteria and guidelines for the selection, evaluation and approval of foreign technology proposals.
 - (c) The identification of Government policies and procedures in this field at the international level;
 - (d) Establishment of direct communication and co-operation among other developing countries where such institutional framework exists;
 - (e) Secure closer association with the productive units of the country, specialised technical centres and universities and Government agencies having responsibilities in these matters.
2. There will be a need for the elaboration of a single legislative pattern, which will govern the evaluating and approval procedures of all agreements related to transfer of technology arrangements.

It is the feeling of the mission that a lot of ground is already covered by existing legislative measures, but in the process of restructuring and consolidation of the functions of central evaluating agencies, these legislative measures should be updated and adapted to the long-term technological policy goals of the country.

1. The urgent need of upgrading the skills of Government officials dealing with evaluating and screening of transfer of technology arrangements.

In this line, a UNIDO assistance is suggested in the organization and carrying out, consultation of a training character for such Government officials and at a later stage for personnel of state economic enterprises as well as of the private sector.

It might be also possible to prepare a tailor-made fellowship programme for employees of central evaluating agencies under UNIDO guidance in order to acquaint them with similar offices in other developing countries like Mexico, Brazil or Argentina.

4. It is also recommended for the consideration of the Government that the central evaluating agency will from the very beginning start intensive promotional efforts within state and private industry.

The aim of such efforts is to gain support and understanding within industry to long-term goals of Government in its technological policy on one hand and on another to acquaint and inform business community that measures taken by the Government are in favour of the industry.

It should be also envisaged on a long term that once industry will reach a level of self-dependancy, the existing regulating and controlling measures will most probably be not any more needed.

ANNEX I

DEFINITIONS

Patent licence

- (a) For a specific process equipment or for the manufacture of products. This could include a specific type of equipment whose essential element is patented; or it could also be the refinement of a process, which makes an existing product more salable.
- (b) For a specific process or method of manufacture such as a metal finishing process to achieve a more functional surface quality; or it could also include a method of a more economical way to obtain a certain synthetic material.
- (c) For the combination of (1) and (2) which usually results in obtaining a more complete and marketable product.

Know-how Agreements

- (a) These agreements would usually cover a specific information on formulas, processes and industrial techniques. This type of proprietary know-how could range from a secretly held chemical formula to a special manufacturing technique that has been developed by the licensor.
- (b) It could also be used in connection with licenses covering patent rights. This type of agreement is sometimes referred to as "Licence" contracts, which can also cover a licence and/or engineering fee (know-how fee), a process royalty (normally payable on continuing bases) and the terms and conditions related to these items.

Technical Assistance Agreements

- (a) These agreements could include the continuing supply (during the life of the agreement) of scientific assistance to the licensee; technical services as well as training and management assistance.
- (b) These agreements are usually embodied in licenses, which involve the transfer of know-how.

Trademark Licences

These cover certain registered and well known proprietary identification and can be entered into with or without patent licenced and know-how agreements. This type of licences can also be handled in documents separate from those covering patents and know-how.

ANNEX I (cont'd)

Exclusive licences

This is an agreement under which all rights (except legal title) are transferred to one licensee for a given territory to manufacture, use and/or sell a product.

Sub-licence

Is the right acquired by a licensee to grant such a licence to a third party.

The right to sub-licence a given technology acquired from abroad could be beneficial to the present and future activities of enterprises in the country because it would enable them to establish similar industrial activities in the country once this technology has been successfully implemented and proven to be a successful business venture.

Franchise

Franchise means a contract or agreement between two or more persons by which :

- (a) a franchisee is granted the right to engage in the business of offering, selling or distributing goods or services under a marketing plan or system described in substantial part by the franchisor and
- (b) the operation of the franchisee's business pursuant to such plan or system is substantially associated with the franchisor's trade mark, service mark, trade name, logotype, advertising or other commercial symbol designating the franchisor or its affiliate.

FOREIGN INVESTMENT ENCOURAGEMENT LAW

Law No : 6224

Approved on January 18, 1954

SUBJECT OF THE LAW

ARTICLE 1- This law shall apply to the foreign capital imported into Turkey and to loans made from abroad by the decision of the Foreign Investment Encouragement Committee and the approval of the Council of Ministers, provided that the enterprise in which the investment shall be made :

- a) will tend to promote the economic development of the country
- b) will operate in a field of activity open to Turkish private enterprises,
- c) will entail no monopoly or a special privilege.

"The Foreign Investment Encouragement Committee", referred to in this Article and established according to Article 8, will hereinafter be referred to as "The Committees".

FOREIGN CAPITAL BASE

ARTICLE 2- For the purpose of the application of this Law, the term "Foreign Capital Base" shall mean the sum of the values assessed and fixed in the manner described hereunder:

- a) The following items imported from abroad for the efficient establishment, expansion or reactivation of an enterprise as envisaged by this Law :
 - 1- Capital in the form of foreign exchange,
 - 2- Machinery, equipment, instruments and the like, machinery components spare parts and materials and other necessary goods approved by the Committee,
 - 3- Intangible rights such as licenses, patent rights and trade marks and services.
 - 4- Profits converted into capital through reinvestment in accordance with Article 3.

b) The experts selected by the Committee will assess the value of the imported capital in the form of goods, services and intangible rights and will determine whether these are goods and values imported for the purpose of the enterprise approved by the Committee.

The assessment made by the experts may be reviewed and modified by the Committee.

The assessment shall be made both in the currency of the country of origin and in Turkish currency at the official rate of exchange prevailing at the time of importation.

The right to appeal provided for in Article 8 being reserved, the decision of the Committee with respect to assessment shall be final.

REINVESTMENT OF PROFITS

ARTICLE 3- Of the profits realized by an approved enterprise under the tax laws in force, the net amount accrued to the owners of the foreign capital base may be, by the decision of the Committee, reinvested and added, in whole or in part, to the basic foreign capital or invested in some other enterprise meeting the conditions of Article 1.

TRANSFER OF PROFITS AND CAPITAL STOCK

ARTICLE 4- a) The following profits and capital stocks are entitled subject to the provisions of paragraph (c) of this Article, to transfer abroad in the currency of the country from which the foreign capital base originated and the prevailing official rate of exchange :

1- Of the profits realized after December 31, 1953, as determined by the tax laws in force, such net amounts as accrue to the owners of the foreign capital base.

2- The share of the owners of the foreign capital base in the proceeds of the sale, within reasonable prices, of assets in case of partial or total liquidation of an enterprise subject to this law.

3- The proceeds of the sale, within reasonable prices, of part or the whole of the foreign capital base of an enterprise established or in operation in accordance with this law.

4- The principal of and interest on a foreign loan contracted according to the provisions of Article 6 of this law, when due under the terms of the loan agreement.

b) The Ministry of Finance or the Committee may, if they deem it necessary, order :

1- The inspection of the books of account and tax returns of the enterprise subject to this law, in order to determine the amount transferable in accordance with subparagraph 1 of paragraph (a) of this Article, or

2- Investigation of the bona fide nature of sales shares and assets and of loans to an approved enterprise.

c) The Ministry of Finance shall issue upon application the requisite permit for the transfer abroad of profits, sales proceeds or the principal of and interest on loans that are eligible for transfer under paragraph (a) of this Article.

TRANSFERS OF SHARES

ARTICLE 5- a) The Ministry of Finance shall execute, upon request, the following guarantees upon stock shares or stock certificates, registered on the books of a Turkish corporation, that represent the foreign capital base as defined in Article 2.

"The dividends of this stock share are immediately transferable into (Foreign exchange of origin) at the official rate of exchange prevailing at the date of transfer, on presentation of this stock share or stock certificate to the Central Bank of the Republic of Turkey or its authorized representatives abroad. The proceeds of the sale of this stock share or stock certificate or that part of the proceeds of the realized value of the assets sold in liquidation, to which the owner of this stock share or stock certificate is entitled, are transferable at

the official rate of exchange prevailing at the date of transfer, into (Foreign exchange of origin) in accordance with Article 4 of Law No: 6224 of the Republic of Turkey.

Minister of Finance
or
his authorized deputy"

b) Registered stock shares or stock certificates bearing such guarantees shall be freely transferable between persons of all nationalities both in Turkey and abroad. Before the sale of such stock shares or stock certificates to present them to the Ministry of Finance for the cancellation of such guarantees whether or not new stock shares or stock certificates are issued to replace them.

GUARANTEE OF LOANS

ARTICLE 6- a) The Ministry of Finance is authorized, subject to decision of the Council of Ministers, to provide its guarantee, against security or bail, for an amount not exceeding 1 billion Turkish liras, of the principal of and interest on a foreign loan to an enterprise fulfilling the requirements of Article 1 of this Law.

b) Such guarantee shall automatically lapse with respect to any part of the principal or interest of a loan so guaranteed that has been repaid.

EMPLOYMENT OF ALIENS

ARTICLE 7- a) The conditions and prohibitions of Laws No: 2007 and 2818 shall not apply, during the periods of surveying, erection and operation of an enterprise established in accordance with this Law, to aliens investing in such enterprises, to alien representatives of such

investors and to alien experts, foremen and other skilled personnel for such period of time as the Committee certifies is necessary to the efficient establishment, expansion, reactivation or operation of such enterprises.

b) The above provisions shall also apply to alien experts, foremen and other skilled personnel employed by such domestic enterprises as do, in the opinion of the Committee, meet the conditions set forth in Article 1 of this Law.

c) Aliens employed according to the provisions of this Article may, subject to the prior consent of the Ministry of Finance, transfer in the currency of their own respective countries and at the prevailing official exchange rates, that part of their earnings as are stipulated in their respective contract of employment, for the maintenance of their dependents and for their normal savings.

FOREIGN INVESTMENT ENCOURAGEMENT COMMITTEE

ARTICLE 8- a) In order to carry out the duties provided for by this Law, a Committee is formed under the chairmanship of the General Manager of the Central Bank of the Turkish Republic and consisting of the following members: the Director General of the Treasury, the Director General of Domestic Trade, the Director General of Industrial Affairs, the Chairman of the Board of Research and Planning of the Ministry of State Enterprises, and the Secretary General of the Union of Chambers of Commerce, Industry and Commodity Exchanges. In cases where it finds it necessary, this Committee may ask for the opinion, on an advisory basis, of representatives of other Ministries and institutions. The Committee shall give its decision on any application within 15 days, at the latest, of their submittals.

The Director General of Domestic Trade will act as Secretary General of Committee. If necessary, the Committee may be called to a meeting by the Secretary General.

The remuneration to be paid to the Chairman and members of the Committee, will be fixed by the Council of Ministers.

b) Any decision of the Committee may be appealed by the parties concerned within 30 days as from the date of the notification thereof. The competent authority to deal with such appeals is constituted by the Ministers of Finance, Economy and Commerce and State Enterprises. The decisions of this authority are final.

ARTICLE 9- a) The Ministry of Economy and Commerce shall have the authority to order release from the custody of the customs of foreign capital imported in kind according to the decision of the Committee.

EQUAL TREATMENT OF DOMESTIC AND FOREIGN CAPITAL

ARTICLE 10- All rights, immunities and facilities granted to domestic capital and enterprises shall be available, on equal terms, to foreign capital and enterprises engaged in the same fields.

ARTICLE 11- a) All rights granted to the investors under Article 31 of Decree No 13 issued by authority of Law No 1567 and under Laws No 5533 and the 5821 are hereby preserved.

b) Investments made under Law No.5821, between August 1 st, 1951 and the date on which this enters into force, shall benefit from the provisions of this law.

REPEAL OF FORMER LAW

ARTICLE 12- Law No: 5821 is hereby repealed.

EFFECTIVE DATE

ARTICLE 13- This Law shall be effective from the date of its promulgation.

ARTICLE 14- The Council of Ministers is changed with the enforcement of this Law.

Note :

The change which has been made in the Law No: 6224 by the law No: 933

Article 6- The Committee which was formed by article 6-(a) of the Foreign Investment Encouragement Law-No: 6224 and dated January 18, 1954 is hereby abolished.

The duties which have been given to the referred Committee are to be confirmed by the State Planning Organization.

The final authority which is referred in the concerned Law is the High Council of Planning.

T A B L E I

EVALUATION AND APPROVAL PROCEDURE BASED UPON LAW 6224

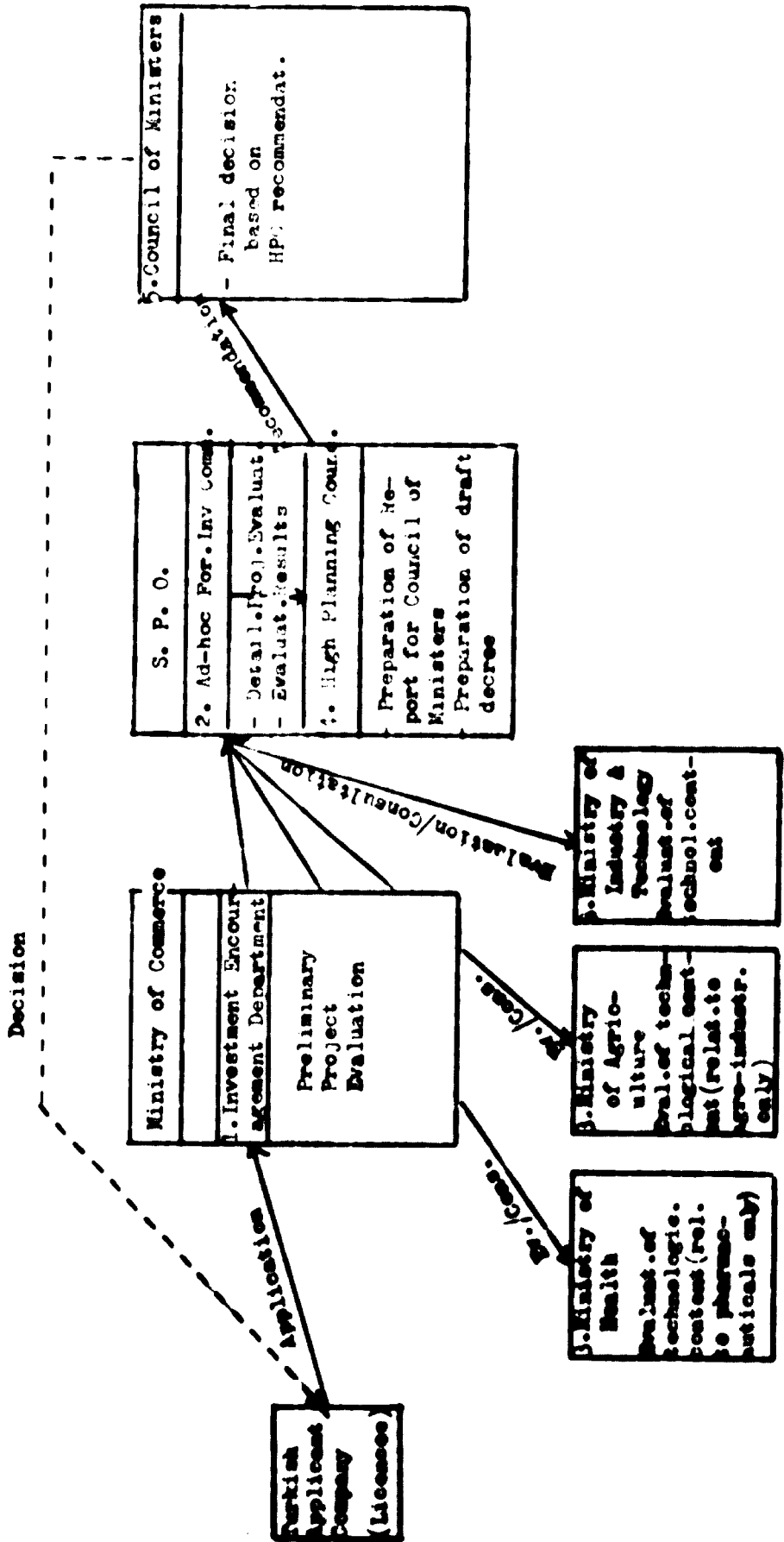


TABLE II
EVALUATION AND APPROVAL PROCEDURES BASED ON DECREE N° 17 FOR TECHNOLOGY INFLOW IN FORM OF SIMPLE LICENSING AND ECONOMIC ASSISTANCE

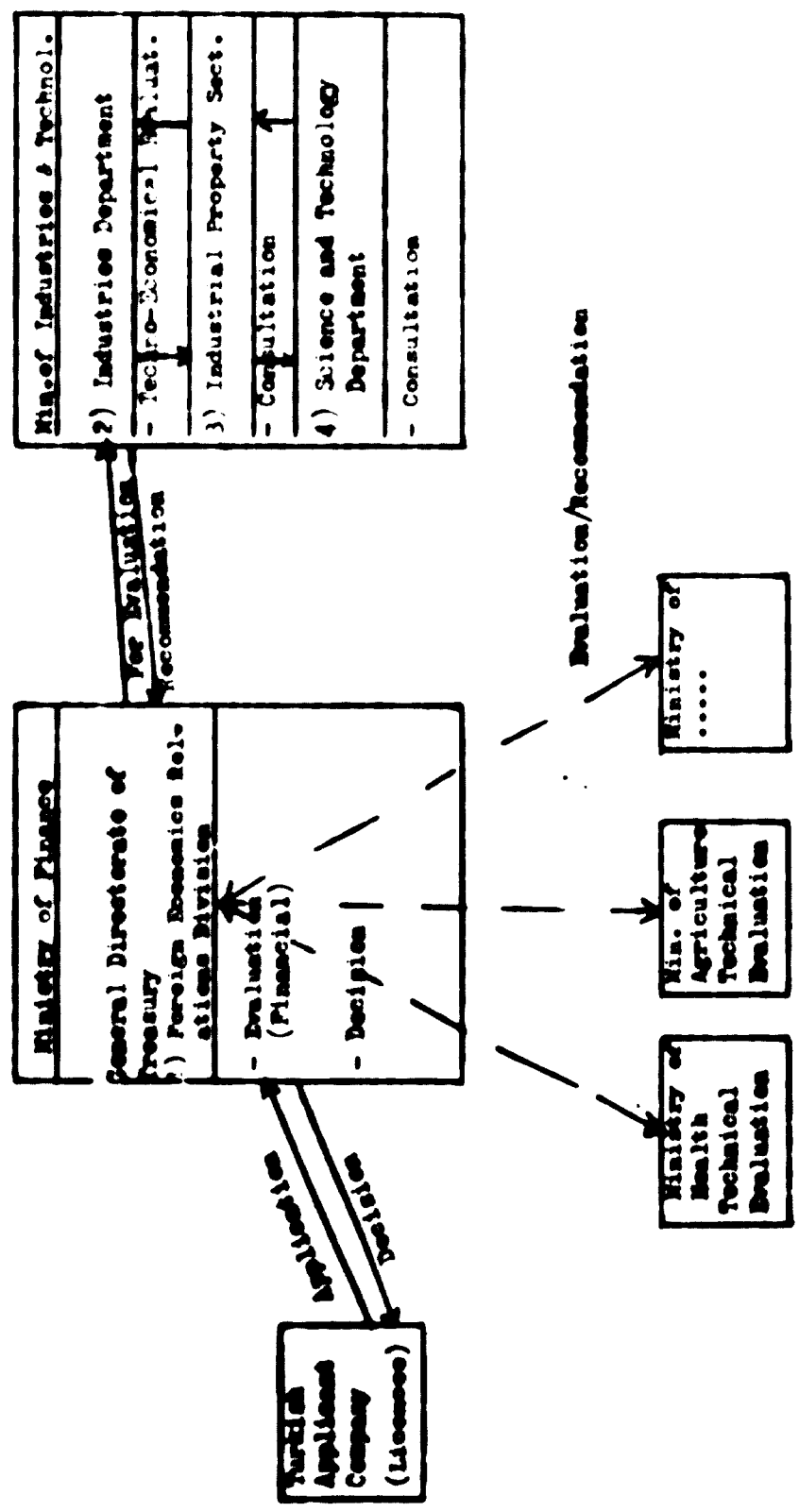


TABLE IV

PRELIMINARY LAY-OUT OF CENTRAL EVALUATING AND APPROVING AGENCY FOR ALL TECHNOLOGY TRANSFER AGREEMENTS

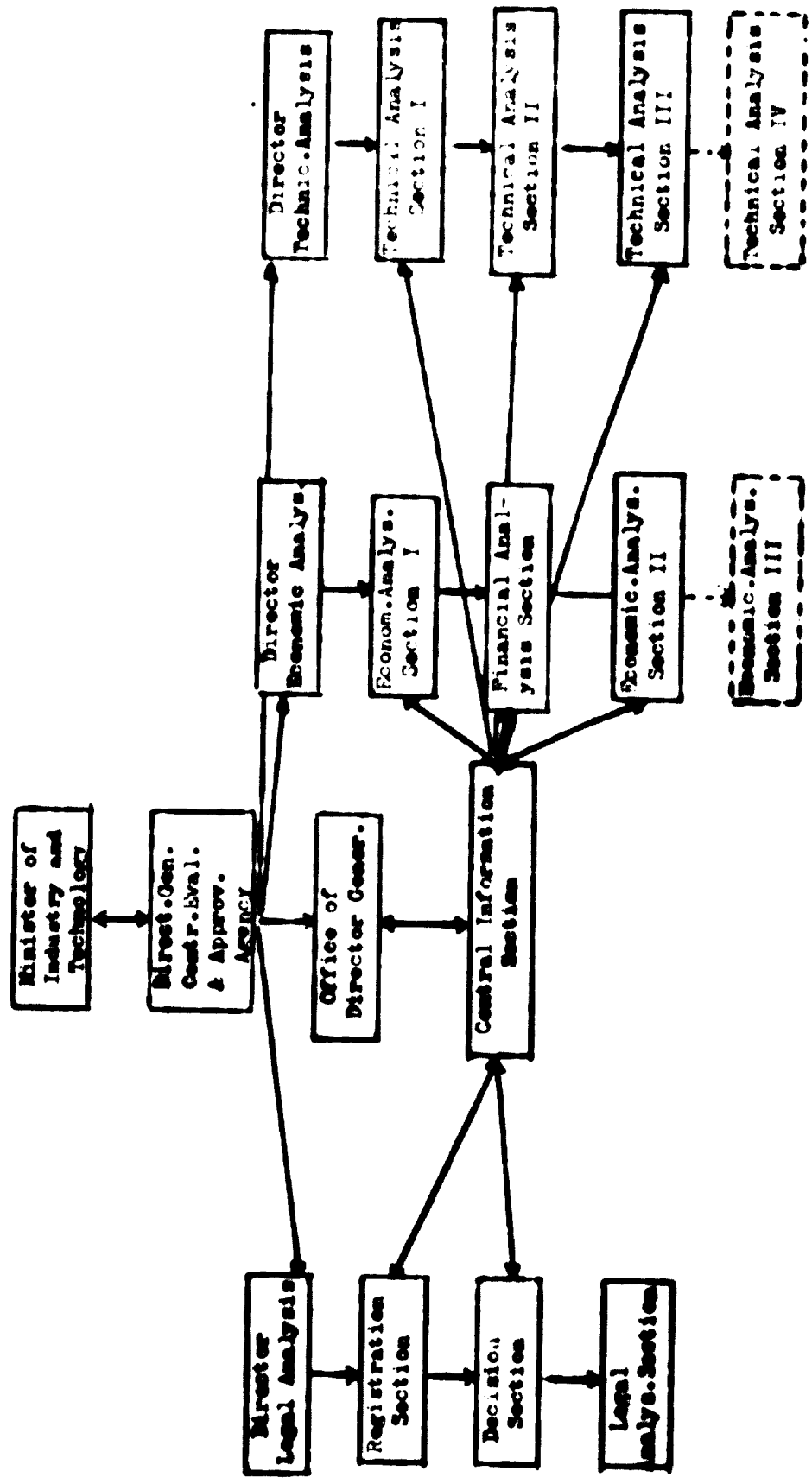


TABLE 1

PROPOSED AND CURRENT FINANCING SOURCES OF THE GOVERNMENT OF CENTRAL AMERICA AND RELATED AGENCIES WITHIN THE FRAMEWORK OF FINANCIAL AND ECONOMIC COOPERATION

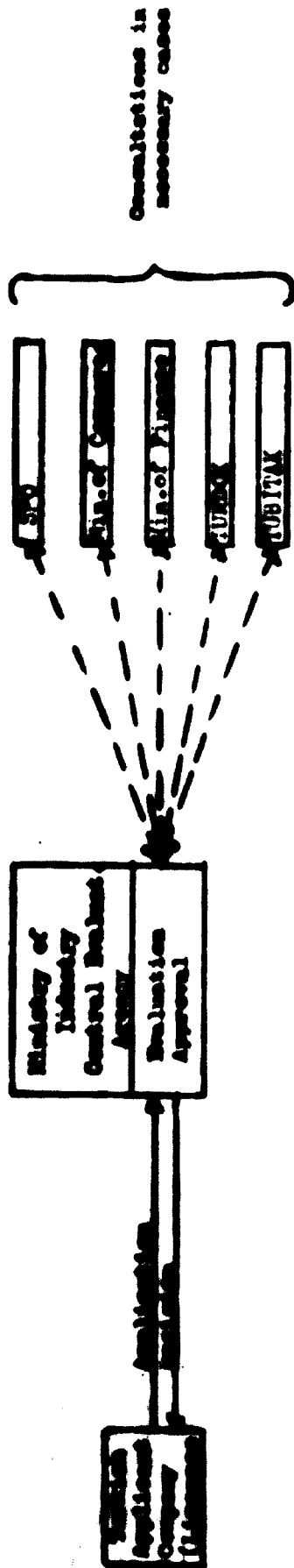
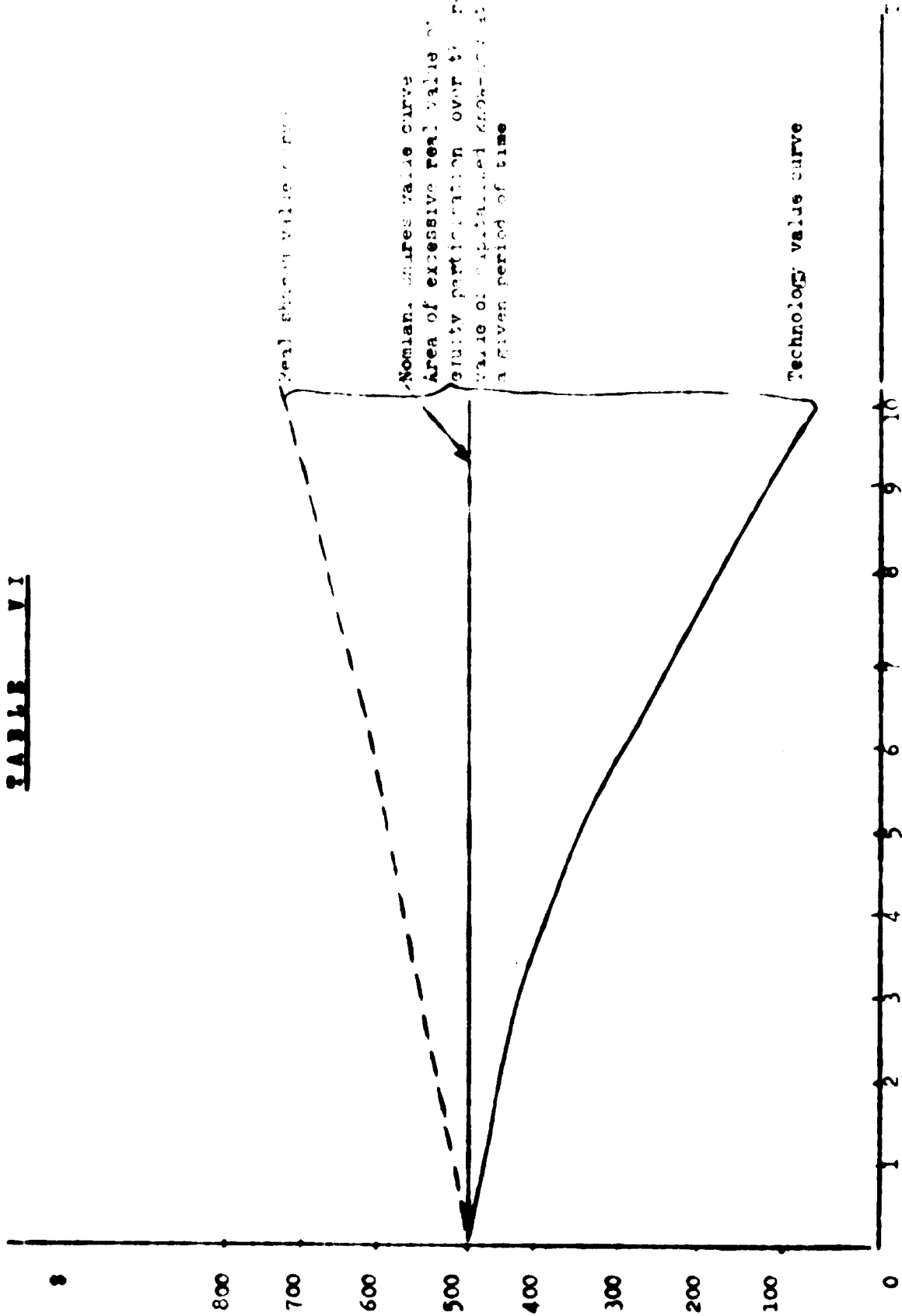
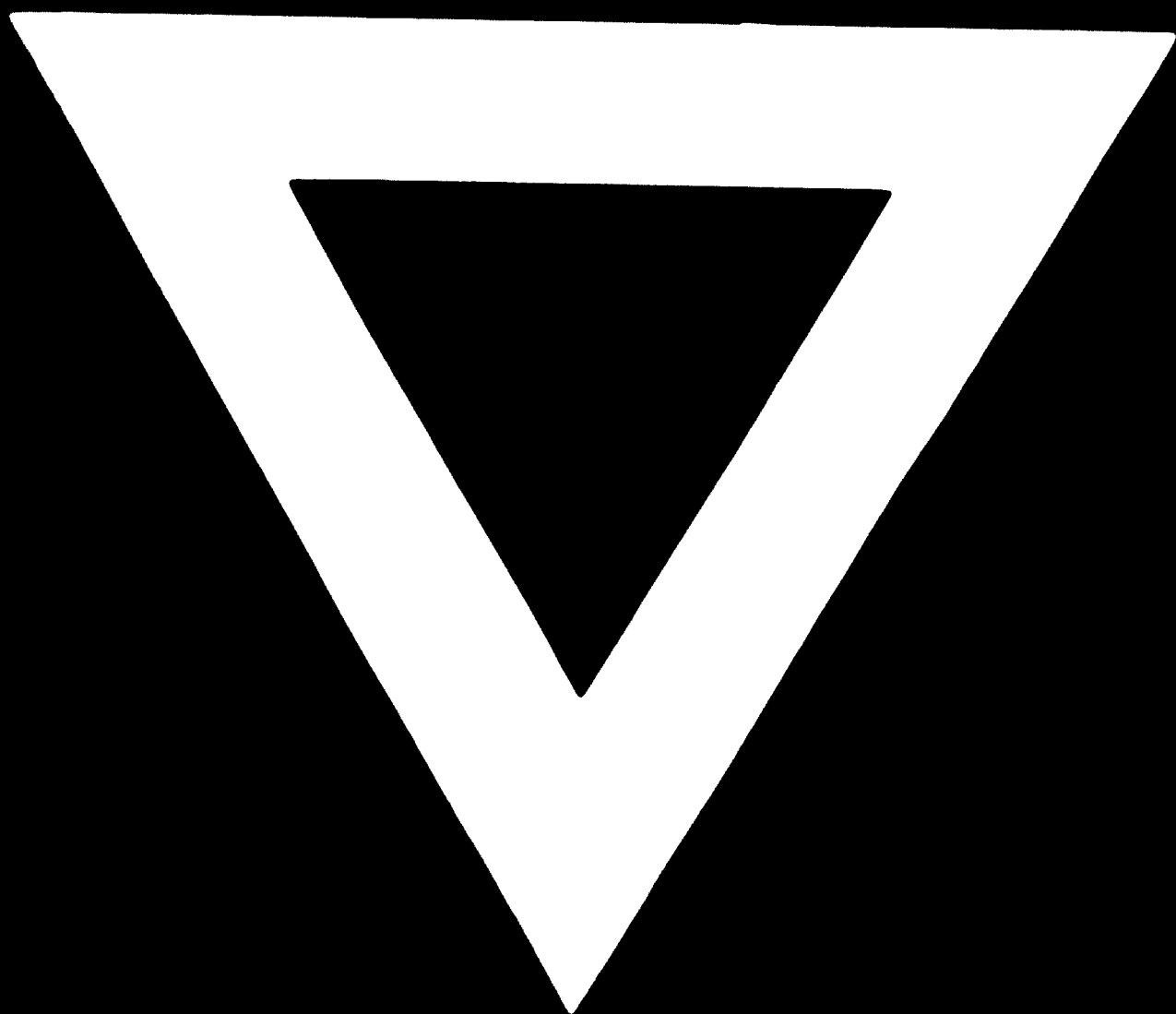


TABLE VI



S - Value in 000 of \$
 T - Time in years



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