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ANALYSIS OF TECHNOLOGICAL CHANGES AND COMPILATION OF  
A BALANCE OF TECHNOLOGICAL PAYMENTS IN TUNISIA

Mission report\*

Based on the work of Vitor Corado-Simões, UNIDO consultant

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\* This document is a translation of an unedited original.

## 1. INTRODUCTION

The mastery of technology is becoming more and more one of the factors determining the competitiveness of undertakings and the comparative advantage enjoyed by a given country. Today, quite rapid changes are occurring in technologies and in the terms of international competition, accompanying the universalization of economic, commercial and technological relations and the establishment of new links between commerce, competitiveness, investment and technological effort.

Against this background, a knowledge of technological exchanges and of monetary flows resulting therefrom is basic to the definition of industrial and technological policies appropriate to the specific conditions of countries, whether developed or developing. The compilation of a Balance of Technological Payments (BTP), covering these exchanges, thus acquires great importance.

With these concerns in mind, the present mission had the aim of analysing the situation in Tunisia as regards the recording of technological flows and payments, together with advice to the Tunisian authorities for purposes of defining the shape and method of compilation of the Tunisian BTP.

The mission took place between 5 and 9 November 1990. Although of short duration, it gave an opportunity to address the aspects judged most important and to reach a consensus as regards the shape of the BTP. It also made it possible to enhance co-operation between the Industrial Promotion Agency and the Central Bank of Tunisia as regards the compilation and analysis of the BTP.

The knowledge possessed by the author of this report regarding the situation in Tunisia in the field of industrial and technological development and of transfers of technology, acquired on previous missions, was of great assistance to him in concentrating on essential matters. Experience obtained in work performed for the Organization for Economic Co-operation and Development (OECD) on the subject of BTP was likewise most valuable. But the basic factor ensuring the success of the mission was undoubtedly the frankness, co-operative spirit and commitment of the Tunisian partners, who are listed in annex I. To all of them - and particularly to our interlocutors at the Industrial Promotion Agency (above all our direct interlocutor Mr. Ghorbal) and at the Central Bank (above all Mr. El Kram), and furthermore to Mr. Chelbi - our thanks are due for their welcome and their spirit of co-operation.

## 2. THE IMPORTANCE OF THE BALANCE OF TECHNOLOGICAL PAYMENTS

Technological effort is vital for promoting industrial competitiveness in developing countries. This effort is all the more necessary when the countries in question are seeking an entrée to international trade and the opening up of their economies, as in the case in Tunisia.

In order to be competitive on the international market it is necessary to produce goods which are "saleable" in terms of quality and price, which calls for technological capacities going beyond normal availability as regards machinery and equipment. It is necessary to have appropriate technologies, to master their use and to be capable of adapting oneself to technological changes. Naturally this requires not only the acquisition of foreign technologies but also the skills necessary for selecting, adapting and developing them. In its turn this calls, in terms of industrial and technological policy, for a whole range of measures aimed at increasing ability to assimilate technology within undertakings, at developing

the scientific and technical infrastructure (promotion of R&D work; expansion of vocational training; encouragement of standardization; fostering of personnel specialized in the creation, assimilation and dissemination of technology) and at the acquisition, mastery and diffusion of new technologies and technological equipment (promotion of the efficiency and profitability of imported technology; the intensification of local effort to master, adapt and improve imported technology; dissemination of technologies on the factory floor). 1/

As progress is made along the path of industrialization, the invisible or intangible becomes more and more significant. The import of foreign technology becomes more and more disembodied.

It should be added that the technological changes which we are today witnessing are profoundly altering the world scene and international relations. They are leading to the restructuring of industrial production hierarchies and to changes in the organization of national competitiveness.

In order to design and implement appropriate industrial and technological policies, it is thus necessary to know the real facts regarding the foreign trade in technology which is not incorporated into products or equipment. All the more so in that these technological flows may, in the short or medium term, lie at the origin of international flows of goods (particularly exports). Reliable and detailed statistics on international technology transfers are required for drawing up a "balance sheet of strong and weak points" in the national economy and in its trends. 2/ In short, it is necessary to compile a BTP, defined as "a subsection of the balance of payments intended to collect invisible transactions relating to exchanges of technical knowledge". 3/

### 3. THE SHAPE OF THE BTP: GENERAL CONSIDERATIONS

At international level, wide divergences are seen today between States in the area represented by their balances of technological payments: some instances comprise only patent and know-how licences; others cover also trade mark licences; yet others have a more general coverage and include services, even some whose technological character is rather doubtful. Annex II gives a comparative listing of the operations covered in the BTP for four southern European countries (Spain, Greece, Italy and Portugal).

The reason for these divergences is simple. In the majority of countries the collection of basic data for compiling the BTP is carried out by the Central Banks. They normally follow the basic nomenclature used in the Balance of Payments Handbook issued by the International Monetary Fund, where technological considerations are indeed absent or virtually absent. In some cases refinements and a further breakdown have been introduced into this nomenclature, in order better to describe operations or even to identify technological exchanges (particularly in the case of Italy), thus making it possible to go beyond simple patent and licence values. Other cases exhibit fidelity to the basic classification without introduction of any significant changes, at least as regards the items most relevant for the BTP.

The growing awareness on the part of the national authorities and of the Central Banks themselves regarding the role of technology and the transfer of technology in the development process and in the achievement of international competitiveness is changing this situation. In 1984 the OECD launched a project on the BTP which led to the preparation of a BTP Manual, whose purpose is to serve as a basic method for surveys and the collection of data on international technology

transfers. The OECD is now in contact with the International Monetary Fund for the preparation of a new Balance of Payments nomenclature, taking more detailed account of technological payments.

What should be the field covered by the BTP?

If one is looking for an international comparison which makes it possible to identify the situation of a given country in relation to others, it is necessary to have a common basis, and a definition accepted by everyone. However, the significance of the BTP goes much further than international comparisons; the BTP should also serve to inform national decision- and policy-makers by likewise taking account of specific national characteristics and concerns. We shall revert to this point later when we analyse the situation in Tunisia. For the moment, let us consider the lead given by OECD. 4/

According to OECD the BTP should bring together all the invisible transactions resulting from technology transfers (exchanges of technical knowledge and of services with a technological content) between residents and non-residents.

To come within the purview of the BTP, an operation should satisfy four basic conditions:

- It must have an international character (the partners must be located in different countries);
- It must be of a commercial nature (which excludes unilateral transfers, even those with a technological content, such as co-operation or public international aid);
- It must deal with the immaterial/intangible, in a context of people, documents or software, and not with items of equipment or goods;
- It must relate to payments associated with technical exchanges and/or the supply of technological services.

The foregoing has resulted in the compilation of an "analytical matrix" for classifying operations in accordance with two kinds of criterion: (1) a distinction between income accruing from the possession and use of factors of production (income from these factors) and "non-factor" services, a distinction used in the IMF's Balance of Payments list; and (2) the technological nature of the operation or the service.

The result is thus a 2 x 2 matrix as follows:

	TECHNOLOGICAL	NON-TECHNOLOGICAL
INCOME FROM FACTORS	Operations on	Industrial property:
	- Patents - Unpatented inventions - Know-how	licence or transfer of trade marks, models and designs
NON-FACTOR SERVICES	Technical assistance Training Technical studies	Industrial property: royalties, films, audiovisual, software
	Engineering R&D  Customized work Repairs Major works	Commercial, financial, management, legal, etc. assistance Telecommunications  Use of data banks Advertising Insurance Transport Banking services, etc.

The recommendation is to limit the field of the BTP to operations lying within the dotted area in the figure, i.e.:

(a) Income from factors of a technological nature: operations concerning patents (licensing/transfer), non-patented inventions and know-how. This is without doubt "the essential component" of the BTP (at least for already industrialized countries);

(b) Income from non-technological factors concerning industrial property: licensing or transfer of trade marks, models and designs;

(c) Non-factor services of a technological nature, comprising technical assistance, training, technical studies, engineering and research and development carried out abroad or financed from foreign sources.

All the other operations covered in the table are excluded from the BTP: repair services, major works, commercial, financial, management and legal assistance, intellectual property rights etc.

This procedure is of great value for our purposes. It provides us with a working context and a base for (future) international comparisons. However, it seems to us that it places an interpretation on the term "technological" which is too restrictive for transposition as such to the situation in Tunisia. We must therefore get to know the precise situation in that country in order to identify the changes which should be made.

#### 4. PROPOSALS FOR ESTABLISHING A TECHNOLOGICAL BALANCE OF PAYMENTS IN TUNISIA

##### 4.1 For a modified BTP

While the OECD choice of a somewhat restrictive approach to the BTP concept is understandable, the conclusion is inescapable that a broader view is required when dealing with countries in an intermediate stage of industrial development, as is the case with Tunisia. One of the purposes of the BTP is to trace the relationship between payments and receipts arising out of operations for transfer of know-how and the supply of services likely to increase the capacity of undertakings.

In view of the inadequate technical and management capabilities affecting Tunisian undertakings and the weakness of the industrial support services infrastructure, it is necessary to obtain abroad services providing assistance in the commercial, financial, legal and management fields. The competitiveness of undertakings is based not only on production capacity, i.e. on strictly technological factors. A knowledge of marketing techniques is vital for successful competition on international markets, for example.

It is thus necessary to go beyond strictly technological operations as the OECD proposes. Account must also be taken of services supporting the competitive capability of undertakings. We have therefore to consider technical assistance to undertakings in a broad sense, comprising also financial, commercial, legal and management assistance services.

There is another reason for preferring this procedure, associated with the "receipts" side of the balance of payments. When countries begin to export technology, the latter initially consists above all of the provision of technical services to undertakings in countries which are culturally and psychologically close but are less advanced. For example, in the case of Portugal the bulk of technological "receipts" is represented by technical assistance. In the more industrialized countries, the technical assistance share drops: 85 per cent for Spain, 41 per cent for Italy etc. Inclusion of technical services in a wider sense is thus desirable likewise for keeping pace with the growth in exports of technology (which always start as the export of services).

The need for international comparison and the logical nature of a stricter approach must nevertheless be recognized. Under these conditions, our suggestion is to have a BTP at two levels:

- A strict level, corresponding more or less to the OECD proposal (with the exclusion of flows accruing from research and development);
- A second level, wider, and comprising services in support of the competitive capability of undertakings, which can include technical assistance (commercial, financial, legal and management).

##### 4.2 Components of the BTP

It may be of assistance further to specify what has just been said by means of a listing of the principal operations which should appear in a BTP adapted to the case of Tunisia.

###### LEVEL 1 - BTP IN THE STRICT SENSE

###### 1. Sale/purchase of patents

Patents can be the subject of legal transactions: they can be assigned/transferred, or authorization can be given for their use under

licence. "A patent may therefore, against payment, be bought and sold in whole or in part; in the latter case, the sale will cover one or more applications." 5/

2. Sale/purchase of inventions

Operations associated with the sale/purchase, against payment, of new technical ideas resulting from inventiveness and capable of industrial application.

3. Licensing of patents

The grant of a licence consists of the authorization accorded by the owner of the patent (licensor) to the licensee for making use, in whole or in part, of the applications of the patent. In most cases the payment made represents royalties, but it can also take the form of a lump-sum payment, due on a single occasion or by instalments.

4. Licensing of know-how

The transmission, against payment (normally royalties), of non-patented technical knowledge (production secrets, formulae, manufacturing plans, blueprints) with a view to the manufacture of goods or the provision of services.

5. Transfer/licensing of trade marks

Like patents, trade marks are industrial property rights. Their holders can therefore sell them or grant authorization to use them on an exclusive or a non-exclusive basis. In actual fact trade marks do not have to do with technical knowledge - and thus could be excluded from the BTP. However, in most cases trade mark licences also involve the communication of know-how and sometimes the establishment of quality control systems; furthermore, many contracts make no distinction between payments under the heading of the trade mark and those under that of the transfer/licensing of technical assets (patent, know-how). The ideal arrangement would be the possibility of making this distinction in every case, so as more correctly to identify the value of each of the types of collaboration covered by the contracts.

6. Transfer/licensing of models and designs

These are also industrial property rights, the technological component of which is limited. Like patents and trade marks they can also be the subject of a contract of sale or an operating licence.

7. Franchise contracts

Franchise contracts deal with the authorization to supply services under certain conditions and under a definite trade mark or logo easily recognized by users. The nature of these contracts is essentially commercial, since they relate to the provision of services rather than to the production of goods, although they can involve communication of know-how (particularly commercial know-how) and technical assistance. Their actual technological content is, in most cases, slight - but they can be included in the BTP by analogy with trade marks. It is also possible to envisage their inclusion not in level 1 but in level 2, by assimilating them to the provision of commercial assistance.



8. Technical assistance for production

Technical assistance represents technical services provided by engineers and technical experts for purposes of industrial operations. Inter alia, it comprises support for the start of manufacture of new products or of a new production line, advice on improvement of quality or of productivity, advice on quality control, supervision of production and assistance in connection with machinery and equipment, including trouble-shooting. Technical assistance can be specified in the licensing contracts or it can be based on separate contracts; in the latter case a distinction can be made between one-time provision of technical assistance and routine technical assistance. For purposes of the BTP it would be of assistance to distinguish, in licensing contracts involving technical assistance, between payments due under the licence proper and those due in respect of technical assistance (which can take the form either of lump sums or, more frequently, royalties); it must be recognized, however, that this distinction is not always feasible. Furthermore, account must be taken of technical assistance associated with equipment supply contracts; it would be desirable to separate payments specifically associated with technical assistance for purposes of their inclusion in the BTP.

9. Training

This relates to services for training the staff of the purchaser of the technology, either at his plant or in the supplier's country. There are contracts dealing specifically with personnel training. However, in most cases, training programmes are embodied in more complex contracts dealing with technology transfer or contracts for the supply of equipment; it would therefore be helpful separately to identify payments relating to training.

10. Technical studies

This item covers the various technical studies, other than engineering, relating to the pre-investment, investment, implementation and development stages of industrial projects. It includes pre-feasibility and feasibility studies, site selection, product testing, energy economy studies, etc.

11. Engineering

Engineering services can be defined as those relating to the design, installation and start-up of industrial units. Engineering services include inter alia basic engineering, detailed engineering, choice and purchase of equipment and the drawing up of plans for its installation.

It would be desirable for all payments under the above-listed operations and included in the most comprehensive contracts (large industrial works or turnkey plants) to be identifiable and classifiable under their corresponding headings.

LEVEL 2 - OTHER TECHNICAL SERVICES FOR THE PROMOTION OF THE COMPETITIVENESS OF UNDERTAKINGS

15. Commercial assistance (including market research)

16. Financial assistance

17. Legal assistance

#### 18. Management assistance

These headings deal with various types of assistance provided to undertakings and intended to improve their performance and their results; in a word, to promote their competitiveness.

#### 19. Management contracts

Contracts granting foreign undertakings the right to manage a local undertaking against payment which is normally fixed in relation to the results obtained. This type of contract is very frequent in the hotel business.

#### 4.3 Exchange control system and collection of data

The legal basis of the Tunisian exchange control system is Law 76-18 of 21 January 1976, which provides inter alia that "any export of capital, debt and credit settlement with instances abroad, and any operation or commitment giving rise or possibly giving rise to a transfer shall be submitted to the Minister of Finance for general approval, which will be given after hearing the views of the Central Bank of Tunisia" (art. 1).

During recent years the legislation has been rendered more flexible, and liberalization of imports is due to be followed, according to several observers, by a liberalization of exchange control. As Mr. Ahmed El Karm has written in a recent article:

"The financial authorities have decided further to ease prior control, which represents a restriction on entrepreneurial freedom. Their intention is progressively to abandon prior control in favour of post-factum control". 6/

Regarding payments due under technology transfer contracts, a distinction must be made between those carried out by exporting firms and those effected by others. According to Law 87-51 of 2 August 1987 (Industrial Investment Code), exporting undertakings regarded as non-resident enjoy special exchange arrangements under which they are exempted from submitting in advance to the Central Bank their technology transfer contracts. All other undertakings must do so, and some of the contracts (particularly those dealing with purchase of patents or involving the payment of manufacturing royalties) are forwarded by the Central Bank to the National Commission for Approval of Technology Import Contracts, which comprises representatives of the Technology Assimilation Department (of the Directorate-General of Industry), the Central Bank of Tunisia, the Industrial Promotion Agency (API), the Technical Centres and the INNORPI.

The Central Bank is thus well placed to draw up the BTP, since it collects all the data on the exchange of invisibles supplied by the commercial banks.

It is nevertheless necessary to have a nomenclature which will make it possible to identify the exchanges arising out of technology transfer operations as defined above and to collect further items of data permitting a more detailed analysis of the features of the operations and of the partners concerned.

The nomenclature used by the Central Bank closely follows that of the IMF's Balance of Payments Manual. It includes several headings comprising payments/receipts relating to technology transfer operations. Nevertheless, it has a number of weaknesses, particularly regarding the precise identification of flows due to technological transfers, many of which are mixed with other flows which have

nothing to do with technology. Aware of this fact, the Central Bank of Tunisia is in process of changing the nomenclature so as to determine the shape of the BTP and to compile it.

In the following section we shall endeavour to offer useful suggestions for assisting the relevant departments of the Central Bank in this operation, on the basis of the considerations put forward in section 4.4 below.

#### 4.4 A suggested nomenclature for compiling a BTP in Tunisia

We shall attempt a more in-depth treatment of the existing nomenclature so as to compile the BTP. At present, headings containing operations dealing with technology transfer are the following:

- 0534 - Professional training costs;
- 0831 - Headquarters costs;
- 0850 - Major works;
- 0860 - Technical services;
- 0880 - Income from intellectual/industrial property.

Under each item a distinction must be made between what is technology and what is not. This will sometimes require the introduction of more detailed classifications or even the proposal of new headings. Let us review the various cases.

#### 0534 - Professional training costs

This heading comprises the costs of training for the benefit of State agents or employees, local public bodies, public or private undertakings and any other physical or juridical person.

Whereas the training of the personnel of undertakings should, for the most part, figure in the BTP (at level 1 or 2), this is not the case with employees of the State or of local public bodies. This heading must therefore be broken down into several subheadings in order to take account of their technological content (those which should figure in the BTP are marked with an asterisk):

- Training of State employees (non-technical);
- \* Training of State employees aimed at technical progress and capable of improving the competitiveness of undertakings (training in standarization, training of the staff of technical centres, training of the staff of public research laboratories, training in technologies capable of being disseminated among undertakings);
- \* Technical training of employees of public or private undertakings (training associated with licensing contracts, training in new production technologies, training in quality control etc.);
- \* Technical training, but not associated with production, of the personnel of undertakings (commercial, legal, financial and management training);
- Other forms of training of the personnel of undertakings.

### 0831 - Headquarters costs

This item covers participation by branches, agents, offices etc. in the management costs of their parent company. It seems that the Tunisian authorities are not very favourable to the admissibility of these transfers and that their value is relatively small. Nevertheless, in view of the tendency towards greater liberalization of exchanges, it may be expected that this value will increase.

Another aspect is the technological nature of these headquarters costs. To a large extent they are rather of an administrative nature and may be used as a means of tax avoidance. The discussions with our Tunisian interlocutors have not led to total agreement on the most suitable classification. Nevertheless, one might suggest the following classification (only the first item would be considered as eligible for the BTP):

- \* Participation in the headquarters costs of a technological nature (particularly participation in research and development activities);
- Participation in commercial headquarters costs;
- Participation in administrative headquarters costs.

### 0850 - Major works

This heading responds to invisible transfers resulting from major works. It should be ensured that:

- The amounts in question relate only to invisible transfers (and not to the purchase of machinery and equipment, for example);
- A distinction is made between various types of major works.

For compilation of a BTP, knowledge must be available on the transfers associated with:

- \* Major works involving technological infrastructures (technical centres, technological and industrial estates, large laboratories);
- \* Major works for industrial units (large industrial units such as, for example, iron and steel, petrochemical, chemical or cement complexes etc.);
- Large infrastructural works in general (which should not figure in the BTP).

### 0860 - Technical services

This item groups together a large number of services whose technological character varies. In order better to define this difference, our suggestion is to divide this item into two, each with subheadings as follows:

#### \* Technical services

- Personnel training;
- Technical assistance for production (including assistance for assembly, commissioning, repairs, inspection and maintenance of machinery and materials and quality control services);

- Technical studies (prefeasibility and feasibility studies, site selection, energy economy studies, product and raw materials testing etc.);
- Engineering services and studies;
- Commercial, management, financial and legal assistance services;
- Management contracts (particularly management of hotels);
- Other technical assistance services (including supervision and control of the implementation of work relating to non-productive or technological purposes);
- Computer services of a technological nature (software incorporating specifically technological data).

[All these services should figure in the BTP, although some of them (such as training, technical studies, engineering services and technical assistance for production) at level 1 and others at level 2.]

- Other services:
  - Auditing of accounts;
  - Hire of equipment;
  - Non-technological computer services;
  - Temporary export for conversion or processing;

[These services, whose non-technological or even non-technical nature is evident, should not be considered in the BTP.]

#### 0880 - Income from intellectual/industrial property

At present this item comprises three subheadings, namely:

0881 - purchases and sales of patents (proceeds from the transfer of patents, trade marks and registered models);

0882 - manufacturing royalties (royalties periodically paid to the owner of a patent, a trade mark or a manufacturing process who has granted the operation or utilization thereof under contract);

0883 - author's copyright (royalties for execution or reproduction of literary, artistic, dramatic and musical works).

The first two are clearly at the very heart of the BTP, whereas the third should not appear therein. It would nevertheless be helpful to have a more detailed breakdown of these headings, so as better to appreciate the flows involved and to avoid errors, as occurs in some countries regarding registration fees for industrial property rights (which, naturally, should not figure in the BTP). Our suggestion is to have nine items, most of which will be included in the BTP:

- \* Purchases and sales of patents;
- \* Patent licenses;

- \* Purchases and sales of trade marks, models and designs;
- \* Licensing of trade marks, models and designs;
- \* Purchases and sales of inventions;
- \* Contracts for transfer of know-how;
- \* Franchise contracts;
- Registration of industrial property rights (patents, trade marks, registered models);
- Author's copyright.

It should be added that the foregoing suggestions were briefly discussed with the experts of the Central Bank of Tunisia and a large measure of agreement emerged.

#### 4.5 Breakdown of the BTP

Having defined the boundaries of the BTP, it is now necessary to consider the classifications and breakdowns most useful for analysis of the BTP and to ensure that the BTP itself becomes a tool for the study of the technological situation in Tunisia and for the definition of its industrial and technological policies.

One might envisage a whole range of classifications, taking account of the variables associated with the BTP. One approach is that of the BTP Manual of the OECD, where several classifications are identified, brought together into three groups: nature of the operation; character of the agents; and character of the contracts. For our purposes it will not be necessary to go as far as a classification as thorough as that proposed by the OECD.

Our suggestion is to consider the following variables:

##### (a) Type of contract

Identification of the type of contract which generates payment flows. This calls for definition of a classification by type of contract and a clear definition of each type in order to permit undertakings (and the commercial banks) to identify them. One might envisage a classification based on the nomenclature to be defined in accordance with our suggestions in section 4.4:

- Licensing contracts (know-how and/or industrial property rights);
- Transfer contracts (inventions and/or industrial property rights);
- Franchise contracts;
- Professional training;
- Engineering services;
- Technical assistance for production;
- Technical studies;
- Computer services of a technological nature;

- Management contracts;
- Major works;
- Headquarters costs;
- Other technical services.

(b) Industrial sector

The industrial sector benefiting from the contract. For purposes of international comparisons it would be easiest to use the International Classification by Type of Industry.

It appears however that there is no Tunisian version of this classification. The Tunisian Ministry of Industry uses another classification (List of Industrial Sectors and Services) which does not permit international comparisons.

(c) Products forming the subject of the contract

It would be helpful to identify precisely the product (or products) forming the subject of the contract; ideally, it should be possible to make international comparisons. In this case we suggest use of the Standard International Trade Classification, as defined by the United Nations.

(d) Description of the national partner

Four main classifications could be envisaged for identifying the characteristics of the national partner:

(d.1) Nature of the capital, distinguishing between:

- Public enterprises
- Private enterprises

(d.2) Foreign participation: identification of the level of foreign participation in the capital of the Tunisian partner. Five groups may be established:

PF = 0%

0 < PF < 25%

25 < = PF < 50%

50 < = PF < 95%

PF > = 95%

(where PF corresponds to the percentage of capital held by foreigners, as defined by Tunisian legislation);

(d.3) Principal activity:

Identification of the principal activity of the Tunisian partner. This activity may be different from the industrial sector in the contract.

Definition of the classification to be used remains open: use the International Classification by Type of Industry (if international comparisons are desired), or use national classification;

(d.4) Geographical location

It would be of assistance to break payments down by the domicile of the Tunisian undertaking. This would make it possible to compile and analyse regional BTPs.

(e) Characteristics of the foreign partner

It is not enough just to describe the national partner. Information on the foreign partner and his relationships with his national counterpart is likewise indispensable. In this context information should be collected on:

(e.1) Country of domicile of the foreign partner - this is a heading on which the Central Bank already has data. The ideal would be to distinguish between:

- The domicile of the actual headquarters of the foreign partner, and
- The country to which transfers are made,

since in a number of cases multinational companies conclude contracts via subsidiaries domiciled in tax havens. It should nevertheless be recognized that exact identification of the domicile is not always feasible.

(e.2) Relationships between the partners - this information is vital for a correct analysis of the BTP, to the extent that the nature of the relations between independent undertakings are very different from those between affiliated companies. Sometimes the relationships are not direct but indirect (for example, a given company participating in both partners); on other occasions the relationships do not take the form of high capital participation but, for example, appointment of administrators of the company purchasing the technology.

(f) Settlement

There must also be information on the mode of settlement of the contract. Two aspects deserve attention:

(f.1) Type of payment, where the following classification // might be applicable:

- Lump sum (payable in a single or in several instalments)
- Royalties (payable at stated intervals)
- Fees (payable in one or in several instalments)

(It should be remembered that some contracts provide for non-monetary settlement: capitalization of royalties or inclusion of royalties in the delivery price of the product.)

(f.2) Currency of payment: data already collected by the Central Bank of Tunisia. It should be pointed out that the currency of payment is not always that of the country where the supplier of the technology is domiciled.



## 5. ANALYSIS OF THE BTP IN TUNISIA

The discussions with the Tunisian authorities indicated that it is not sufficient to define the shape of the BTP. If it is to become an instrument for moulding industrial and technological policy and even exchange control policy, it must be studied in detail. An analytical methodology is also required, to serve as a basis for periodical evaluations of the features and trends of the BTP. There is strong commitment and keen interest on the part both of the Ministry of Industry and of the Central Bank in carrying out a study of this kind. The Central Bank of Tunisia gave evidence of a frankness and a spirit of collaboration which should be particularly stressed. The instances in question are ready to assign qualified staff to take part in the study. Nevertheless, in view of the lack of experience in Tunisia regarding this kind of work, the Tunisian authorities have requested UNIDO assistance in the form of the appointment of an international expert who could assist the Tunisian team, particularly as regards definition of methodologies and analysis and interpretation of data.

A brief sketch of the terms of reference for the study might take the following form:

- (i) Purposes:
  - (a) Definition of methodologies and analysis of available data at the Central Bank on BTP in Tunisia;
  - (b) Definition of a frame of reference for the periodical analysis of the BTP by the Tunisian administration.
- (ii) Methodology: The methodology to be adopted for this work might be the following:
  - Collection of existing information (by the Tunisian team)
  - Analysis and evaluation of the data (Tunisian team + international expert)
  - Definition of analytical methods on the basis of the evaluation carried out (Tunisian team + international expert)
  - Collection and generation of additional data (Tunisian team)
  - Structure and breakdown of the data (Tunisian team, on the basis of instructions from the international expert)
  - Analysis of the BTP (Tunisian team + international expert)
  - Drafting a final report (Tunisian team + international expert)
- (iii) Duration - the operation would last about nine months. It would require:
  - 12 Tunisian expert/months
    - 6 Ministry of Industry expert/months
    - 6 Central Bank of Tunisia expert/months
  - 3 international expert/months

## 6. OTHER REQUESTS BY THE TUNISIAN AUTHORITIES

The Tunisian Government attaches great importance to technological matters, aware that economic development is a vital pre-condition for accelerating the economic and social development of Tunisia.

The discussions with the Tunisian administration revealed a keen desire to become familiar with and to master the mechanisms of technology transfer. UNIDO support is regarded as essential in this respect. Although the present mission concentrated on BTP, due reference must be made to two aspects on which the Tunisian authorities would like to have UNIDO support:

- Study of technology transfer mechanisms, the purpose of which would be to analyse the technology transfer situation and evaluate the results achieved in the field of learning and mastering technologies;
- A training seminar on the analysis of contracts, negotiation methodologies and choice of technologies, for the benefit of Government executives and of entrepreneurs; great benefit could be derived from UNIDO experience in this area.

\* \* \* \* \*

We have endeavoured to outline the principal conclusions and suggestions of the mission. It was a short mission, but it was held at the right time. Interest on the part of the Ministry of Industry and of the Central Bank of Tunisia for the BTP is quite clear, and the efforts and co-operation of our Tunisian partners contributed greatly to the success of the mission. It is to be hoped that this report will further the process of compiling a BTP in Tunisia.

### Notes

1/ See, inter alia, Vitor Corado Simões, Politiques Technologiques et Développement Industriel, document submitted at the Seminar on Scientific and Technological Policy, Tunis, October 1989, and Sanjaya Lall, Promouvoir la Compétitivité Industrielle dans les Pays en Développement, Paris, OECD, 1990.

2/ Cf. Robert Chabbal, Preface to "Méthode-Type Proposé Pour le Recueil et l'Interprétation des Données sur la Balance des Paiements Technologiques - Manuel BPT", OECD, Paris, 1990.

3/ Ibid., p. 26.

4/ See OECD, "Méthode-Type Proposé Pour le Recueil ...".

5/ Cf. OECD, BTP Manual, p. 38.

6/ Ahmed El Karm, "La Stratégie de Libéralisation Financière Externe en Tunisie", Marchés Tropicaux, 9 March 1990.

7/ See BTP Manual, p. 60.

ANNEX I

Persons contacted

- Mr. Lotfi AYARI - Technological Purchase Contract Approval Commission  
(Directorate-General of Industry)
- Ms. Lis BISGAARD - UNIDO - JPO
- Mr. Afif CHELBI - Adviser to the Secretary of State for Industry and  
Commerce
- Mr. Magtouf DALLAGI - Deputy Director-General in charge of the Industrial  
Research and Information Centre (Industrial Promotion  
Agency)
- Mr. Ahmed EL KARM - Director-General of Exchange and Foreign Trade (Central  
Bank of Tunisia)
- Mr. Tyami GHORBAL - In charge of technological studies (Industrial Research  
and Information Centre, Industrial Promotion Agency)
- Mr. Hedi KONZALI - Head of Technical Assistance and Energy Service (Central  
Bank of Tunisia)
- Mr. Tahar LAHOUEG - Director of Global Studies, Industrial Research and  
Information Centre (Industrial Promotion Agency)
- Mr. Hachicha LOTFI - Technical Assistance and Energy Service (Central Bank of  
Tunisia)
- Mr. Ali THALIFA - Director of Management and Industrial Programming  
(Directorate-General of Industry)
- Mr. Hamonda YAKOUBI - Technical Assistance and Energy Service (Central Bank of  
Tunisia)

ANNEX II

Operations included in the BIT in southern European countries

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	GREECE	ITALY	PORTUGAL	SPAIN 1/	SPAIN 2/
Licensing of industrial property rights	X	X	X	X	X
Transfer of industrial property rights	X	X	X	X	X
Licensing of know-how	X	X	X	X	X
Technical assistance		X		X	X
Training				X	X
Engineering services				X	X
Capitalization of technology				X	X
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Registration of industrial property rights			X	X	
Author's copyright			X		
Market research				X	

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N.B.: The operations above the line are those whose content does not represent technology transfers and which therefore should not appear.

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1/ Former classification.

2/ New classification.