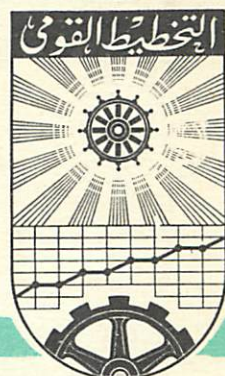


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FOREIGN TRADE PLANNING

By

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Introduction:

Economic growth, equilibrium and the effectivity of the economy as a whole are to a high extent influenced by the development of volume and structure of foreign trade. For this planning export and import as a part of the national reproduction process⁽¹⁾ is necessary and the implementation of a practicable and effective framework of foreign trade planning is an important and actual task.

The following paper will give you a detailed survey on the lecture to questions of foreign trade planning. It is my intention, based on some theoretical basic ideas, to give you a comprehensive summary on techniques in foreign trade planning which might be useful for being applied in your country.

As far as practical experiences are analysed, I shall refer to the practice of planning foreign trade in different stages of the development of the national economy of the German Democratic Republic. It is, of course, not possible directly to copy this system as you have to take into consideration the concrete political, economic and other conditions of the country concerned.

(1) The term "Reproduction Process" covers production, distribution, exchange and consumption as different elements in the comprehensive system of social production as a whole.

But nevertheless there are general experiences and general planning principles which proved to be effective in the case of my country and which also may be of some importance for developing countries.

The table of contents will show you the broad scale of questions and problems to be dealt with in this lecture. It is impossible to treat all of them in a profound manner in this paper. That is why some problems only will be described in short theses, in some cases the questions will be listed without further comments. During the lectures and seminars it will be possible to deal with these problems, too, more ~~thor-~~ oughly.

Some parts of this paper were taken from the Memos No. 992, 997, **1000** and 1014 of the Institute of National Planning. So I want to express my thanks to my colleague Prof. Dr. Schultemeister, the author of these Memos.

1 . Foreign Trade Planning in The Framework of Planning

The National Economy:

1.1 The role of foreign trade within the national economy and consequences in principle for planning foreign trade:

Foreign trade is a special sector of the national economy. It has close relations with all other branches of the economy and influences - directly or indirectly - more or less the production, consumption, accumulation and distribution in all spheres and on all levels of the national economy. The foreign trade intensity of the economy of a certain country depends upon different factors, especially:

- the size of the country and its population and the capacity of the internal market;
- the reached stage of economic development;
- the natural conditions (mineral resources, climate, geographical situation);
- the foreign political relations (for instance member of an international integration community).

In general the two main functions of foreign trade can be characterised as follows:

a/ Foreign trade is to change and to rectify the structure of the national economy in such a way, that the necessary proportions between the different spheres, branches and commodities of the national economy as a whole may be realized. That means for instance the proportions between

- * agriculture and industry;
- * different industrial branches;
- * final products and intermediary goods;
- * investment goods and consumer goods etc.

This task includes the complementary and the substitutive function of foreign trade. The higher the level of economic development of the country concerned, the greater are in general possibilities of using the substitutive function of foreign trade for achieving an optimal structure of production of the national economy. An effective system of comprehensive planning will create such possibilities also for countries on a lower stage of economic development.

b/ Foreign trade is an important factor for improving the efficiency of the national production and for increasing the national income. This possibility results from

the fact that foreign trade realizes the effects of international division of labour. These effects of export and import can be realized in the field of production (we call them indirect economic efficiencies of foreign trade) or in the special foreign trade branch (in this case we call them direct economic efficiencies of foreign trade). Detailed information on this subject will be given in paragraph 2.2.

The two above mentioned functions stand in close interrelations. Foreign trade gives the possibility to concentrate the production on those branches or groups of commodities having the greatest comparative advantages. Thus changing the structure of production by export and import is a decisive source for increasing the effectivity of the national economy.

In developing countries foreign trade is in general of great importance for overcoming economic backwardness, eliminating existing disproportions in the national economy and stimulating the rates of growth of production and of national income. The concrete tasks for export and import will differ according to the reached stage of development

and other above mentioned factors. Apart from some OPEC-countries the most developing countries face great problems in balancing export and import and in equalizing the balance of payments. So a good quality in planning foreign trade will be a necessary task as a basis for fixing the best strategy for the development of international economic relations and for finding the best possibilities of using the effects of international division of labour for promoting a high effectivity of the national economy as a whole.

1.2 What means planning in general and foreign trade planning in particular?

In theory and practice you will find different opinions on how the term "planning" is to be understood. As far as the enterprise level is concerned it is clear in general that planning is a complex of activities for finding the best - the "optimal" - solution for reaching certain aims and for coordinating the activities of different departments of the enterprise in carrying out certain tasks in certain periods. That means, planning is an important basis for decision making in fixing the policy of the enterprise concerned.

The problem is how to define central planning on the level of the national economy and how to determine the connection between central planning and planning on the level of branches and enterprises. ~~This~~ includes interalia questions for

- the binding force of the tasks of the central plan;
- the connection between central planning and planning on lower levels in general;
- the degree of consistency between the tasks and the means for their fulfilment in the central plan and the sum of plans in branches/enterprises and the regions of the country;
- the means, applied for ensuring the fulfilment of the targets of the plan.

Jan Tinbergen writes, that the most characteristic features of the task of planning are the following three

- a/ A plan refers to the future, i.e. it requires looking ahead.
- b/ It is based on a number of aims, which have to be specified in order to carry out the planning process.

- c/ It requires a coordination of the means of economic policy to be used in order to reach the aims. (2)

One can agree with him, but this definition gives no answer on the very different conditions for planning in free market economies, in centrally planned economies in socialist countries and in developing countries with different property (socio-economic) relations.

In western countries you will find that central plans, as far as they are elaborated at all, are only a kind of forecasts. They have no binding force and are not in coincidence with plans on branch and enterprise levels.

On the contrast socialist planning, based on the experiences of the past, can be characterised by the following items:

- a/ Establishing targets for the economic and social development of the country as a whole as so as for the development of all branches, enterprises and regions for a fixed period on the basis of the available resources;

(2) Jan Tinbergen "Central Planning" New Haven and London
Yale University Press, 1964, page 3 .

- b/ Dicussing these targets on all levels, including the workers in the enterprises, according to the principles of socialist democracy in an iterative process of decision-making (see Chapter 3);
- c/ Choosing means necessary for fulfilling the established targets and organizing the implementation and the supervision of these targets. This includes a close connection of planning and using a system of "commodity-money-relations";
- d/ Making the targets, with a certain degree of aggregation according to the hierarchic structure of the economy, and the most important means for their fulfilment binding for all levels of the economy by the socialist state.

According to this definition planning also includes prognostic projections and forecasts, but planning is more than only forecasting (see paragraph 3.2). Above all socialist planning has to be considered as a means of having the full command on the economic development in conformity with the general targets of the political and social strategy of the state and as a means of guiding the economy as a whole on a planned basis.

Analyzing the situation in several CMEA-countries, you may find some differences in detail, especially in the field of connection between centralized and decentralized planning, but the differences do not affect the general principles, mentioned above.

With regard to developing countries, there are different pre-conditions for planning the national economy in the above mentioned sense. Among other factors that depends to a high degree on the role of nationalized parts of the national economy, especially in the field of main branches of the industry, foreign trade, transportation, banking. When speaking about planning in developing countries in this paper, we always understand it as central planning on the macro economic level in connection with planning on micro economic levels. In this sense the following has been fixed in the National Charter of the A.R.E.,

"Efficient socialist planning is the sole method which guarantees the use of all national resources, be they material, natural or human, in a practical scientific and human way, aimed at realizing the common good of the masses and ensuring a life of prosperity for them".

Up till now we spoke about planning in general. But what about foreign trade planning?

As foreign trade is a sector and an integral part of the national economy as a whole, all the above mentioned principles apply completely to foreign trade planning too. As to the term "foreign trade planning" ~~there~~ are two different aspects to be distinguished:

- a/ On the one hand possibilities and needs of international division of labour have to penetrate the comprehensive and continuous system of planning the development of all spheres and all branches of the national economy, aimed at using foreign trade as an important means for creating an optimal structure of production. In this sense it has to be decided, which goods can most advantageously be produced in the country - which sectors have the largest "comparative advantages" - and which other goods can better be imported, given the necessity to keep the balance of payments in equilibrium. (3)

(3) See J. Tinbergen, ... page 13 .

b/ On the other hand the foreign trade activities have to be planned as a special branch of the national economy. In this case foreign trade planning means deciding the concrete volume, the commodity and regional structure of export and import in a certain period, the development of prices, the flow of foreign currencies etc.

There are close interrelations between these two aspects of foreign trade planning.

In socialist countries and in those developing countries where a foreign trade state monopoly exists planning is an important tool for carrying through this state monopoly. At the same time the implementation of a foreign trade monopoly creates good prerequisites for a high quality of foreign trade planning and for fulfilling the targets of the plans. So there are close links between foreign trade planning and foreign trade monopoly.

1.3 Foreign trade policy and the aims of foreign trade planning:

Foreign trade policy is an integral part of the development strategy of the national economy as a whole and is

linked to a high degree with the foreign policy of the state. ~~This~~ means that the aims of foreign trade planning are always to be seen in connection with the political and economic policy of the country in its unity and its close links.

As we have seen before, foreign trade plays an important role for establishing correct proportions between the different branches of the national economy and for influencing the economic results of various industrial and agricultural branches. So a decisive aim for foreign trade planning is finding the best solutions in using the advantages of international division of labour for accelerating the growth of economic development and promoting the effectivity of the national economy as a whole. This task is connected very closely with planning the commodity structure of export and import.

Furthermore, foreign trade planning has to support actively the process of economic cooperation and integration with such countries belonging to a certain community of states with the same political and economic aims and conditions. ~~This can~~ be seen in foreign trade planning

among CMEA countries or within the community of states of the Arab League. In this connection foreign trade planning includes planning activities concerning the relations to other kinds of economic cooperation, such as specialization and cooperation of production, scientific technical cooperation, joint investments etc.

As foreign trade relations with other countries are not only economic but also political relations, planning is aimed too at guaranteeing the conformity of political and economic tasks in developing foreign trade. This aspect is especially connected with planning the regional structure of foreign trade with different groups of countries (see in detail paragraph 9.1).

All these general aims for foreign trade planning have to be considered in a differentiated way depending upon the time-horizon of planning (see in detail chapter 3 and 4). With special regard to the objectives for foreign trade planning in the A.R.E. according to the Five Year development Plan 1978/1982 priority is given to new projects resulting in more exports and lower imports and to redressing the balance of payments by 1982.

1.4 Subjects of foreign trade planning:

All tasks and all processes which are directly linked with foreign trade activities resp. foreign trade operations have to be planned. It includes such operations as the movement of export and import commodities, the flow of foreign exchange, the transport of export and import goods, questions of financing foreign trade etc. Foreign trade planning is a very comprehensive and complex task and to some extent more difficult than planning in other branches of the national economy. In addition to the conditions and needs of the own national economy you have always to take into consideration the development of conditions and new tendencies on the world markets.

The main subjects of foreign trade planning are:

- volume of export and import, including reexports, job processing and services connected with export and import activities;
- commodity structure of export and import;
- regional structure of export and import;
- transport performances in the field of foreign trade;

- receipts and expenditures in foreign exchange in connection with foreign trade activities;
- financial relations in the field of foreign trade (customs, revenues or subsidies in connection with the state budget, bank credits, financing the foreign trade activities etc).

(A detailed picture on the subjects of a foreign trade plan in GDR will be given in paragraph 4.1).

Foreign trade planning is always a unity of planning physical (material) and financial processes, the latter ones expressed as well in national as in foreign currencies. The core of a foreign trade plan is in any case the movement of export and import commodities, because that is the decisive task to be fulfilled and all the other processes/activities depend on it or are connected with this target.

In some publications you will find a broader scale of subjects of foreign trade planning including such items as follows:

- specialization and cooperation in production;
- scientific-technical cooperation;

- joint investments;
- international financial transactions which are not connected directly with foreign trade;
- international tourism as a kind of indirect export and import;
- international services in the field of transport, communications etc.

All these activities are very important, they play an increasing role in the external economy and are more or less linked with foreign trade. As far as these processes are considered in addition to foreign trade we speak of "International Economic Relations" instead of "Foreign Trade". ~~This~~ means that the term "International Economic Relations" is more comprehensive than the term "Foreign Trade".

In this paper we concentrate upon problems of foreign trade planning and we shall only take into consideration those interrelations with other international economic activities which are of importance for planning foreign trade.

2 . Economic Efficiencies and Optimality in Foreign Trade Planning.

2.1 The problem of optimality in foreign trade planning and possibilities for optimizing the foreign trade plan:

Finding the optimal solution is a general problem in theory and practice of planning. Optimal planning means in any case seeking and finding the best among several possibilities for the economic development on central, branch or enterprise level. If a certain aim function is determined - for instance ~~maximizing~~ maximizing the profits of foreign trade activities or the export receipts or minimizing the costs of export or the expenses for the import of a certain group of commodities - you have to take into consideration in any case a set of constraints which may result from internal needs of balancing the national economy or from the conditions and possibilities of external markets. As far as one or some of these constraints change - and in the field of foreign trade such changes are the normal situation - another solution will seem to be the "optimal" one.

That means that the optimality of a plan in general and in the field of foreign trade in particular is always to be ~~seen~~ in a relative sense and not as an absolute decision. Furthermore, there are different aspects to be considered with regard to optimal planning foreign trade on the central level or on enterprise levels and also with regard to the time - horizon of planning, i.e. long-medium- or short-term-planning. For practical planning some conclusions can be drawn:

1/ In many cases it will be necessary to consider a lot of factors/figures in order to find the "optimal" foreign trade plan, i.e. the best out of several possible solutions. So it can be very helpful to use mathematical models and computers for purposes of optimizing the foreign trade plan.

But there are a lot of difficulties to be overcome in applying such mathematical models (see in detail chapter 10) and it is possible, too, reaching high effects of foreign trade for the national economy as a whole by using traditional methods of planning or by combining them with mathematical methods.

2/ Planning foreign trade needs in any case connecting the techniques of optimizing and balancing as main instruments of planning.

3/ Maximizing the economic efficiencies plays an important role in optimizing the foreign trade plan. But it is not permissible only to see this target. Achieving high economic efficiencies in foreign trade has always to be connected with the principle political, social and economic tasks of the society. This includes for instance meeting the demands of the national economy for imported consumer goods, raw materials, intermediary goods, equipments for investments etc. according to the directive rules of the state authorities concerned and also meeting certain international liabilities of the state with regard to export or import in connection with economic integration with other countries or as a kind of political or economic support.

4/ The task of optimizing foreign trade plan leads to the necessity of clarifying the essence of economic efficiencies of foreign trade and of applying certain indices for calculating these efficiencies.

2.2 Maximizing the economic efficiencies-an important aim in planning foreign trade.

According to the role of foreign trade within the national economy and taking into consideration the close links with other above mentioned principle tasks maximizing the economic efficiencies is in any case an important aim in foreign trade planning. But what are economic efficiencies of foreign trade and how are they to be measured?

Before giving a definition we want to put some premises:

a/ Economic efficiencies of foreign trade are in any case to be subordinated to the necessities of efficiencies of the national economy as a whole. In this connection the close links between economic efficiencies and proportionality of the national economy have to be considered.

b/ Economic efficiencies of foreign trade result from the advantages of international division of labour and from using the differences in comparative costs between different countries. But in a planned

economy realization of comparative cost advantages is not the decisive point for planning the volume and structure of export and import.

c/ Economic efficiencies of foreign trade have to be seen in their complexity of export and import and in their effects on the efficiencies in different spheres and branches of the national economy. In calculating of these efficiencies the interlockings ~~within~~ the national economy as a whole have to be considered

d/ Economic efficiencies of foreign trade influence the economic results on the different levels and in different branches of the national economy in a diverse manner. In the case of contradictions resulting from this fact the necessities of the society as a whole have priority. Planning foreign trade is aimed among others at solving this problem in connection with applying a system of economic incentives.

Taking these premises into consideration we can give a definition as follows:

Economic efficiencies of foreign trade are a part of the efficiencies in the national economy as a whole. They base upon using the advantages of international division of labour and appear as productivity and specific exchange effects.

Productivity effects of foreign trade influence immediately the produced national income of the economy and lead to higher efficiencies in other branches of the national economy, especially in the field of industrial production. By using foreign trade the proportionality within the national economy can be promoted, the structure of the industry can be improved to a high extent by using comparative advantages as compared with other countries and the degree of concentrating the production on some selected branches with a high productivity and comparatively low costs will be a result of planning foreign trade, too. All these economic efficiencies result from foreign trade activities but the effects will appear in other branches of the national economy. This is the reason that in some publications these kinds of economic efficiencies are called indirect efficiencies of foreign trade.

Measuring these effects is very difficult. It is rather impossible determining the absolute amount of them. But by calculating different variants in the process of planning with regard to the structure of export and import these very important economic efficiencies of foreign trade can be determined with a sufficient degree of exactness for decision

making in planning foreign trade as a part of the national economy. This aspect is of special interest for the links between investments and foreign trade in long- and medium-term-planning.

Specific exchange effects of foreign trade result from the possibility of using the differences between values and prices of the various commodities in the own country and on the world markets. Thus the available national income can be influenced immediately by the activities of foreign trade and unlike the above mentioned productivity efficiencies these effects will appear in the financial results of the foreign trade branch or the enterprises engaged in this field. So they are sometimes called direct efficiencies of foreign trade. But we shall see later that, caused by different reasons, gains or losses of enterprises resulting from export or import activities will not always be in coincidence with economic efficiencies seen from the point of view of the national economy as a whole.

The theoretical base of this kind of economic efficiencies of foreign trade is the theory of comparative costs. But in theory as so as in practice there are different aspects to be considered in free-market-economies and in

centrally planned socialist economies (see in detail the special lecture to international economic comparative studies).

Distinguishing between the two above mentioned kinds of economic efficiencies of foreign trade is to a certain extent a theoretical abstraction. In reality both kinds are in close interrelations and they influence each other. In planning foreign trade it is necessary to consider both kinds of efficiencies in their special appearances and in their interrelations.

Therefore it will be useful to apply a system of indexes for calculating the efficiency of export and import. The following 2 paragraphs refer to the practice of the GDR in this field.

2.3 Indices for calculating the specific exchange effects of foreign trade for the national economy as a whole:

The following formula gives a general view to the influence of foreign trade on the difference between the produced and the available national income in a fixed period, for instance one year:

$$(1) \quad N_v = N_p + J_i - E_i; \quad 110 = 100 + 40 - 30$$

N_v = available national income (110)
 N_p = produced national income (110)
 J_i = import valued to internal prices (40)
 E_i = export valued to internal prices (30)

In this account the produced national income in a fixed period is raised by all imports and services of foreign countries and reduced by all exports and services of the own national economy for foreign countries. The numerical example shows that the foreign trade saldo (valued to internal prices) raised the produced national income by 10. But as the flow of international credits and other kinds of financial transactions influences more or less the movement of export and import, the difference between the produced and the available national income is not identical with the sum of specific exchange effects of foreign trade. So it is necessary to eliminate the distorting influences by using the following formula:

$$(2) \quad EF_i = J_i - (C_{ik} + T_{ik}) - [J_i - (C_{ij} + T_{ij})]$$

EF_i = specific exchange effects of foreign trade
 C_{ik} = change of the volume of international credits taken from foreign countries (10).

C_{ij} = change of the volume of international credits given to foreign countries (5).

T_{ik} = receipts from services and unilateral transfers (3)

T_{ij} = expenses for services and unilateral transfers (2)

Numerical example:

$$EF_i = 40 - (10+3) - [30 - (5+2)] = 27-23 = 4$$

That means that the specific exchange effects of foreign trade amount to 4, and not ~ as it seems to be according to formula (1)-to 10. Of course it is possible to measure these effects, too, by calculating the difference between external and internal prices of the total of exports and imports in the given period.

These relations can be represented, too, as a coefficient as follows:

$$(3) \quad erf_i = \frac{J_i - (C_{ik} + T_{ik})}{E_i - (C_{ij} + T_{ij})} = \frac{40 - (10+3)}{30 - (5+2)} = \frac{27}{23} = 1.15$$

erf_i = coefficient of exchange relations of foreign trade on the basis of internal prices.

In formula (2) and (3) the distorting influences of international credits and other kinds of financial transfers are eliminated. But when using these indices for purposes of planning and analyzing the development of foreign trade with regard to the specific exchange effects it is necessary to eliminate furthermore distortions caused by deviations between the national value and internal prices for export and import commodities.

Another important index for valuating the changes in specific exchange effects of foreign trade from one period to another is the index of terms of trade. Unlike formula 1-3 the terms of trade are calculated on the basis of external (world market) prices, valuated in the currency of the own country. The index can be calculated for the foreign trade as a whole or separated to different groups of countries. It is calculated as follows:

$$(4) \quad P_{et} = \frac{\sum P_n \cdot q_n}{\sum P_o \cdot q_n}$$

P_{et} = export price index on the basis of selected commodities representing groups of commodities (fob-prices).

(4) In this paper we use the term "terms of trade" always as the relation of export prices to import prices.

P_n = export price for the selected commodities in the reported period.

q_n = amount of the exported selected commodities in the reported period.

P_o = export price for the selected commodities in the base period (either a fixed base year or a gliding base).

$$(5) \quad P_{it} = \frac{\sum P_n \cdot q_n}{\sum P_o \cdot q_n}$$

P_{it} = import price index on the basis of selected commodities representing groups of commodities (cif-prices, besides see for export).

$$(6) \quad P_{ft} = \frac{P_{et}}{P_{it}} = \frac{1.10}{1.20} = 0.92$$

P_{ft} = terms of trade.

In the above mentioned example the average level of export prices in the reported period as compared with the base period increased by 10%. But the level of import prices simultaneously increased by 20% and so the terms of trade grew worse by 8%.

2.4 Indices for calculating the economic efficiencies of foreign trade for single commodities or groups of commodities:

The following indices are used particularly for decisions on the branch or enterprise level. But they can be used, too, for purposes of planning on the central level and can be aggregated in different ways (for groups of commodities, foreign trade or industrial enterprises, industrial branches etc). Whereas the indices 1-3 are calculated only on the base of internal prices and the indices 4-6 on the base of external prices, a speciality of the following indices is the use of internal and external prices. In practice ~~this~~ leads to some specific problems for applying these indices in planning and analyzing foreign trade.

$$(7) \quad P_e = \frac{\text{export receipts (external price) fob}}{\text{industry delivery price} + \text{trade margin of the foreign trade enterprises} + \text{domestic freight costs.}}$$

P_e = profitability of export on the base of internal prices.

This index expresses the economic efficiency of export goods in the most comprehensive manner but in practice problems with regard to the exactness arise from possible deviations between internal prices and the national value (socially necessary costs) for export commodities and from the exchange rates for foreign currencies. So it is necessary to investigate possible influences of these factors before making decisions. In cases of great importance for preparing decisions in the process of planning additional indices are used as follows:

$$(8) \quad E_m = \frac{r}{m}$$

E_m = foreign exchange profitability of used material

r = export receipts (fob)

m = foreign exchange costs (cif) for material used for the production of the export good.

This index is useful particularly if a high portion of the costs of export goods consists of imported raw materials or intermediate products. The denominator of this index can include too the potential foreign exchange receipts for raw materials or intermediate goods of the own production, thus permitting to value the profitability of export on different stages of production.

In some cases planning authorities want to know the relation between manufacturing costs (without the used material) and export receipts in different branches or groups of commodities. Therefore the following index can be calculated:

$$(9) \quad P_c = \frac{r}{c}$$

P_c = foreign exchange profitability of manufacturing costs.

r_c = $r - m$ (see formula 8)

c = manufacturing costs minus costs for the used material (valued to industry delivery prices).

The profitability of import can be calculated by the following index, which is analogous to the formula (7):

$$(10) \quad P_i = \frac{\text{inland receipts (import delivery price)}}{\text{foreign exchange costs (cif) + trade margin of the foreign trade enterprise}}$$

P_i = profitability of import on the base of import delivery prices.

In applying this index all those factors with regard to formula (7) are valid. In addition to that the following aspects have to be considered:

a/ The import is aimed immediately at meeting concrete demands of the national economy respectively the country's population for certain commodities. Unlike export the possibilities for alternatives under the aspect of profitability are limited strongly.

b/ In the GDR import delivery prices are formed either in relation to prices of similar goods of the domestic production or on the base of foreign exchange costs or by applying a mixed method. Applying index (10) depends to a high degree on the kind of domestic price formation. In some cases the numerator of index (10) consists of fictive costs of domestic production instead of the import delivery price. Such a procedure will be useful in connection with preparing decisions with regard to joint investments, specialization and cooperation of production etc.

3 . Foreign Trade Planning as a Continuous Process and Special Problems in Long-Term Planning.

3.1 Characteristics of continuous planning foreign trade:

The determination of the plan period and the different methods of planning - which are employed depending on the given period - is of great significance for planning. On the one hand, it is advantageous to plan development for long periods ahead because then it becomes possible for making available the research capacities and investments needed for the futural production, the opening up of new markets abroad etc. to be controlled timely and with a high efficiency.

On the other hand, the degree of precision of the forecasts at the basis of the plan is the greater the shorter the plan period is. This is particularly true of foreign trade with regard to the appraisal of the development of sales and purchase possibilities in foreign markets, the development of world market prices or the foreign political situation with its concrete effects on trade policy.

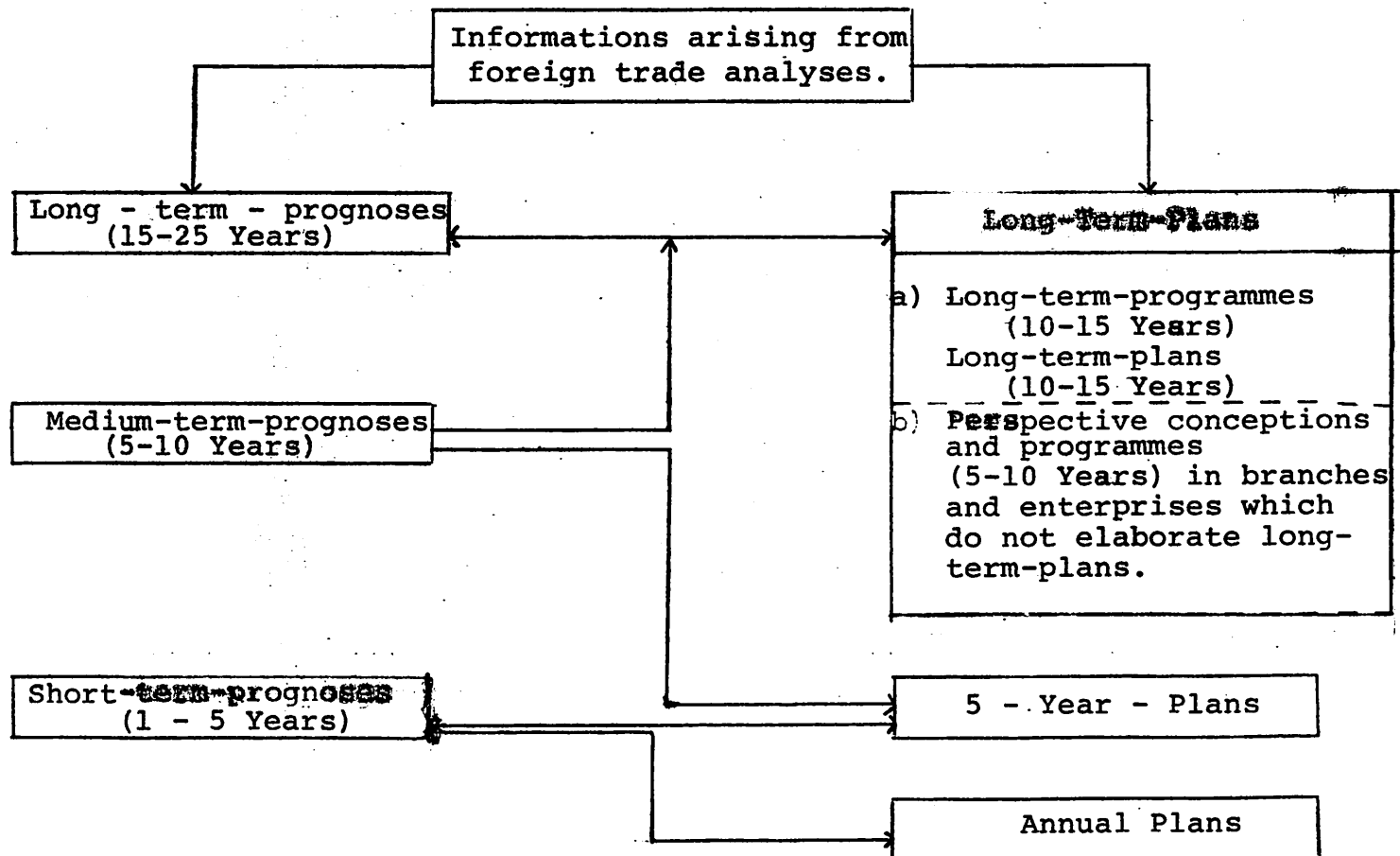
But there are internal factors too, for example unforeseen changes in agriculture brought about by nature which can act as insecure factors in planning foreign trade. In addition, there are differing conditions resulting from the type of production and characterized by very differentiated terms of delivery (complete plants, single machines, textiles e.g.).

And last not least, the comprehensive and continuous framework of planning foreign trade consists of different elements, namely:

- analyzing past foreign trade activities as one starting point for futural plans;
- prognostic projections;
- foreign trade planning strictly speaking.

Scheme of the continuous planning procedure of foreign trade in the GDR.

Scheme of The Continuous Planning Procedure of Foreign Trade
in The G.D.R.



The different elements of the continuous foreign trade planning system do not exist isolated from each other, but there are a lot of interrelations as to be seen in this scheme..

Another aspect of planning continuously is that of "sliding planning" in conformity with the continuity of the economic processes. The above mentioned programmes and conceptions are important instruments for realizing such a sliding planning in the field of foreign trade. But there are still unsolved problems in theory and practice and different opinions with regard to this topic.

3.2 Prognoses in foreign trade and their relations to foreign trade plans:

As we have seen in the above mentioned scheme prognostic projections are an integral part of the planning system as a whole. That is a unified standpoint in all CME-countries. "The member countries of CMEA take the view that forecasting is the starting point of the procedure of socialist planning as a whole and a prerequisite

for elaborating the long-term and 5-year plans of the
(5)
national economy". That means that close links exist
between prognoses and plans.

At the same time there are differences in principle
between prognoses and plans with regard to

- the field and the time horizon of the problems in-
volved;
- the complexity and the degree of balancing economic
processes concerned;
- the binding force of the results of the elaborations.

Prognostic projections are detailed studies on the
objective trends and probable results of future development
in the field of science, technology, internal and external
economy etc. As a rule prognoses - for instance for the de-
velopment of the foreign trade of the country as a whole, a
certain branch or group of commodities - include and value
several possible variants of the development.

(5) Comprehensive programme of socialist economic integration-
in documents of CMEA-Staatsverlag DDR-Berlin 1971, S,29
(German Language)

Unlike that plans - elaborated on the basis of analyses and prognoses - are aimed at carrying out one out of different variants containing concrete targets and the material and financial means for fulfilling these targets. (see paragraph 1.2).

Prognoses in the field of foreign trade contain in general:

- tendencies of scientific-technical development in the branches concerned and consequences in principle for the development of production and consumption as so as of the volume and structure of export and import;
- the development of supply and demand on the world markets in general and on the markets of special areas or countries;
- the probable development of external and internal prices for export and import commodities;
- the development of political, social and other factors influencing the flow of export and import;

According to the different conditions and targets there has to be distinguished between the elaboration of long-medium-or short-term prognoses.

3.3 Long-term planning in foreign trade:

Long-term planning in general is aimed at preparing strategic decisions on problems of great importance for the national economy as a whole like the development of power economy, opening up of new resources of raw materials, establishment of new branches or factories, measures in the field of infrastructure etc. All these tasks are connected with great investments and most of them with international economic relations of the country, too.

In the field of foreign trade there are two aspects of long-term planning:

- 1/ The influence of long-term planning of certain spheres or branches of the national economy as a whole on the development of foreign trade;
- 2/ Long-term planning of foreign trade as a special branch of the national economy with regard to the development of volume and structure of export and import, changes in external markets or the organization of foreign trade etc. There are close links between these two aspects.

During the last years in the GDR as so as in other CMEA countries activities in long-term planning in general and especially in the field of foreign economic relations increased considerably. These activities are connected closely with the elaboration of common "long-term aim programmes" of CMEA-countries for selected fields or groups of commodities by 1990.

Unlike the annual or 5-year-planning foreign trade there are a lot of very different problems to be considered and to be solved in long-term planning. This includes such questions like:

- the high degree of uncertainty with regard to the scientific-technical progress in different branches with far reaching effects on production, consumption and foreign trade;
- the influence of political and social development on foreign trade;
- the development of world-market-prices etc.

In spite of these and other uncertainties practical experiences prove the necessity of increased long-term planning also in the field of foreign trade. But the specific

conditions and targets lead to the conclusion that techniques in long-term planning have to differ much from the techniques in short-and medium-term planning. Resulting from experiences in the GDR and other CMEA-countries some principles can be formulated as follows:

1/ The long-term plan of the national economy is aimed at balancing and confirming some general directions and main proportions for about 15 years. Unlike medium-and short-term plans there is no complete complexity in internal and external balancing. Within this high aggregated plan there exist more detailed plans or programmes for some selected spheres or branches.

2/ The long-term plan is subdivided to several periods each of which embracing 5 years as a basis for elaborating the futural 5-year-plans in detail. That means that unlike medium-and short-term plans the long-term plan is an instrument for orientation instead of giving binding tasks to the branches of the national economy. In addition, the degree of concreteness and binding force will differ between the first and the third period of this plan,

3/ Long-term planning is in the first line a task for the central level of the national economy. Branches and great enterprises are involved in the elaboration and - depending upon their special conditions - they will have their own long-term plans with great differences with regard to the degree of complexity and concreteness. Unlike medium-and short-term planning there is no complete division of the plan to all the branches respectively no full consistency between the central plan and the sum of branch and enterprise plans.

4/ Essential instruments and parts of long-term plans are programmes or conceptions for special spheres or branches of the national economy including programmes for the development of foreign economic relations in different branches. These programmes contain prognostic investigations, calculations and valuations of possible variants of the development and proposals and concrete tasks for the different organs (branches, enterprises) involved in this economic process.

In spite of some progresses in this field there are still a lot of problems to be solved by theoretical and practical work for long-term planning in general and

especially in the field of foreign trade. Further research work should be concentrated on the following questions:

- Methods for finding out long-term tendencies of world market prices of raw materials and finished products;
- Techniques of long-term balancing internal and international economic relations of the national economy;
- Possibilities and techniques for optimizing calculations in long-term planning foreign trade;
- Connection of stability and flexibility in long-term foreign trade planning.

4 . Techniques in Medium-and Short-Term Planning Foreign Trade.

4.1 Subjects of medium-and short-term planning for- eign trade:

Unlike the comparison with long-term planning the methods, techniques and instruments of foreign trade planning do not differ much between medium-and short-term planning. So it seems to be possible to represent the subjects of foreign trade planning without distinguishing with regard to the time horizon. As we mentioned before, there are always to be considered two aspects of foreign trade planning. In the following we shall concentrate on the aspects of planning the development of foreign trade as a special branch of the national economy.

In the GDR the foreign trade plan on the level of the ministry of foreign trade or on the level of the nationally owned foreign trade enterprises consists of several part plans each of them representing certain economic processes or activities:

- plan of commodity movement (export/import);
- plan of foreign exchange.
- financial plan;

- transport plan.
- marketing plan.
- plan for manpower and wages.
- plan of fixed assets and investments.
- plan for the development of working and living conditions of the workers.

Whereas the plans of commodity movement and of foreign exchange (completed by foreign exchange plans of other branches) of all the foreign trade organizations are summarized to the central state plan of foreign trade, other part plans of enterprises are connected with the different central plans concerned (e.g. for manpower, investments, transportation).

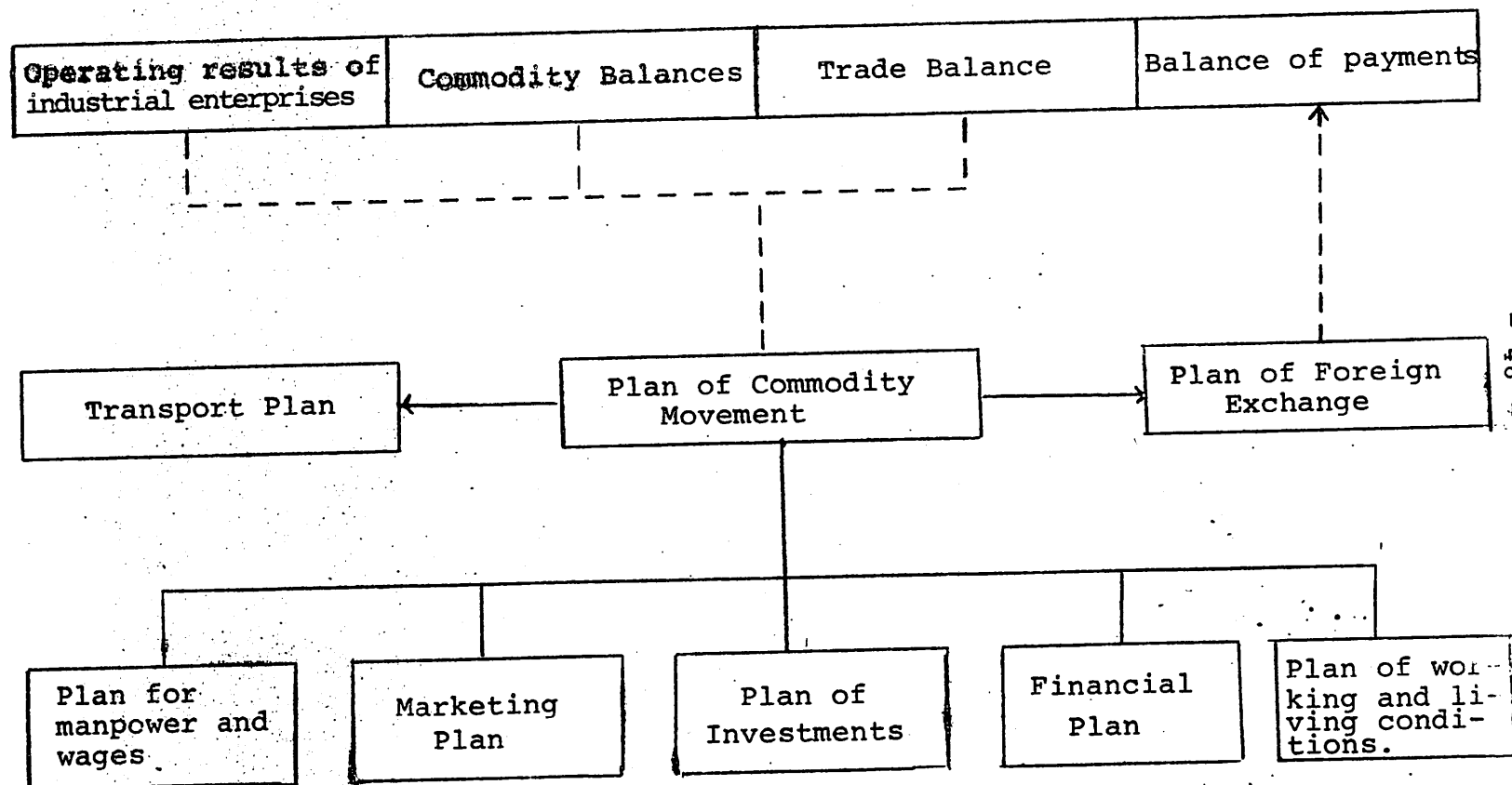
The plan of commodity movement is the focal point of the comprehensive plan of a foreign trade enterprise. It contains the most important tasks and indices of all foreign trade activities as follows:

- the volume of export and import, re-exports, exporting or importing bonded processing trade;
- the commodity structure of export and import according to the compulsory nomenclature of the plan;

- the regional structure to groups of countries and selected countries;
- the profitability of export and import;
- the share of export and import resulting from international cooperation and specialization of production.

This part plan is connected with internal commodity balances and with the trade balance. The interrelations between the plan of commodity movement and the other part plans can be taken as an example for realizing the general principle of complexity in socialist planning in the field of foreign trade.

Scheme of The Links Between The Plan of Commodity Movement With Other
Part Plans of The Comprehensive Foreign Trade Plan.



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_____ Links to the part plans of the foreign trade plan.

----- Links to balances of the national economy and to financial results of the industry.

4.2 Medium-term (5 year) planning foreign trade:

While planning foreign trade of the GDR in the past, the main emphasis was placed on annual planning. Now as so as in other CMEA-countries more and more attention is given to medium-term planning and we can say that 5 year plans are the most important plans within the whole system of continuous planning of the national economy in general and foreign trade in particular. That is caused by the following reasons, showing at the same time the special role of 5 year plans in the field of foreign trade:

1/ As compared with long-term planning for a period of 5 years the degree of certainty in foreseeing the scientific-technical development, supply and demand in the own country and on the world markets, tendencies in costs and prices etc, is much higher. That makes it possible to establish a plan in full complexity which is balanced between all spheres and branches of the national economy. The plan is elaborated on all levels and in all branches and enterprises and there is conformity between the central state plan and the sum of plans of branches, regions and enterprises. 5 year plans are approved by the authorities in charge of the enterprises concerned and have binding force.

2/ Unlike the possibilities of annual planning a lot of economic processes can be prepared and managed with sufficient efficiency only by medium-term planning. With regard to foreign trade such tasks are included like export and import of complete plants or products of the mechanical engineering and vehicle construction, preparing changes in the structure of production affecting the volume and structure of export and import etc. Preparing the external markets, especially for exporting the above mentioned commodities will require several years, too.

3/ Last but not least the decisive role of the 5-year plans results from the fact that these plans are coordinated between the CMEA-countries giving them a high degree of stability. In particular ~~this~~ is important for export and import relations among CMEA-countries, but this stability of 5-year plans is of great importance, too, for planning foreign economic relations with third countries.

On the one hand targets and means of 5-year plans are derived from the global tasks of long-term plans. On the other hand the medium-term plans are divided to the single

years as the basis in principle for elaborating the annual plans, whereas the nomenclature - for instance with regard to the commodity and regional structure of export and import - for annual planning is more detailed as compared with medium - term planning. This connection with long-term and annual plans underlines the strong position of 5-year plans.

In the field of foreign trade 5-year plans of CMEA-countries are closely linked with trade agreements between these countries for the same period, for instance 1976-1980. These bilateral trade agreements are based on the results of international plan coordination and the national plans of the countries concerned. They are specified deeply with regard to the commodity structure of export and import and are an important basis for concluding commercial agreements between the foreign trade organizations of the CMEA countries. This connection and conformity between 5-year plans and trade agreements is of great importance too for strengthening the role of medium-term planning.

In spite of the good results in this field some problems have still to be solved:

- Correspondence between material and financial planning foreign trade because of unforeseeable changes in prices on the capitalist world market and annual changes too in clearing prices between CMEA-countries;
- Connection between the plan and the economic incentives in the national economy which up to now are aimed above all at fulfilling short-term (annual) targets;
- The problem of a sliding medium-term planning (see paragraph 3.1).

4.3 Short-term (annual) planning foreign trade in connection with the implementation and the supervision of the targets of the plan:

Starting from the principle targets and means laid down in the 5-year plan annual planning foreign trade is aimed above all at confirming the detailed and concrete tasks for one year, taking into consideration actual knowledges about the development in the national economy of the own country and on the world markets. In the field of foreign trade short-term changes occur more often than in other branches leading to ~~certain~~ corrections as compared with the adequate

tasks in the 5-year plan. This includes new results from international agreements of the state which were concluded in the meantime.

Detailing the foreign trade tasks annually is important in particular with regard to

- foreign exchange prices;
- the detailed commodity structure of export and import (in the GDR some hundred commodities on the central level and some thousand on the enterprise level);
- the detailed regional structure to different countries;
- the profitability of export and import commodities;
- the flow of foreign exchange receipts and expenses divided to different foreign currencies;
- influence of export and import on the gains or losses of industrial and foreign trade enterprises and on the financial relations to the state budget;
- transportation of export and import goods;
- concrete tasks for marketing.

In the GDR the annual foreign trade plan is sub-divided quarterly and in some cases (flow of foreign currencies, transportation) monthly in order to guarantee a continuous flow of exports and imports and of monetary relations within the year, too.

In annual planning of the GDR the connection with economic incentives is of great importance. The formation of certain bonus funds in foreign trade and industrial enterprises and thereby the possibilities for bonus payments to the workers depend above all upon the fulfillment of the targets of the annual plans.

Difficult conditions and often changing situations in the field of foreign trade make it necessary to establish a proper system of guidance and supervision. Therefore a suitable and promptly working statistical account of export and import is very important, concerning not only the realization of foreign trade activities during the current plan period but also the conclusion of commercial agreements for the commodity movement in the following years including the expected dates of delivering the commodities and of the flow of foreign exchanges. Modern computers are well suitable for these purposes.

4.4 The elaboration of the foreign trade plan in several stages:

Elaborating foreign trade plans - independently from the time horizon - is an iterative process and is carried

out in several stages. This kind of planning step by step is necessary because a lot of enterprises and state bodies on different levels of the hierarchy of managing and planning the economy are engaged in the planning process and a comprehensive balancing and optimizing of the plan needs several stages. The problem to be solved is in conformity with the theory of the connection of sub-optimal solutions for different parts with the optimum of a system as a whole. It includes the task of getting consistency step by step between the interests of different branches and enterprises (in industry, agriculture, foreign trade) with the needs of the national economy as a whole and requires a good connection between planning and applying economic incentives, too.

Furthermore, this technique of planning corresponds to the general principle of democratic centralism in socialist planning and to the theoretical principle of "2-level planning"⁽⁶⁾ (though there are in reality 3 levels - central - branch - and enterprise level).

(6) Kornai/Liptak "Two-level Planning" - Computing Centre of the "Hungarian Academy of Sciences, Budapest 1963.

In the GDR the annual foreign trade planning is carried out in the following main stages:

- 1/ Plan directives by the central authorities.
- 2/ Plan drafts of the enterprises.
- 3/ Approved state plan targets by the central authorities.
- 4/ Plan elaboration on enterprise level and allocation of plan targets and tasks within the enterprises.

In practical planning these stages are not isolated from each other and some activities are running parallel, with regard to the stages 1 and 2. In addition, an alternative may be formulated as a choice between "starting from below" and "starting from above". General experiences in socialist countries and in some western countries too have proved that more duplication is involved in the planning procedure if no idea of the general development exists in the lower units. ⁽⁷⁾ Therefore it seems to be the best way starting from the top. In any case there are a lot of discussions and co-ordinations between the different bodies on all levels of the national economy during the whole process

(7) Jan Tinbergen "Central Planning", Page 16 .

of elaborating the plan especially between foreign trade enterprises, industrial enterprises and the organs responsible for commodity balancing with regard to export and import.

The course of 5-year planning is influenced to a high extent by the fact that planning within the national economy is linked with international plan coordination between CMEA-countries. Therefore the dates of the above mentioned stages are fixed in conformity with the stages in international plan coordination.

When considering the planning activities in different stages it is necessary, too, to determine the tasks of government authorities, executive organs of the national economy and enterprises and the kind of cooperation between these organs in planning foreign trade.

5 . Connection of Central Planning and Planning on Branch and Enterprise Levels in the Field of Foreign Trade.

5.1 The institutional framework of planning foreign trade and the principle of "2-channel-planning" in this field:

As mentioned before, a lot of organs on all levels and in many branches of the national economy are involved in the planning procedure in the field of foreign trade. Furthermore in socialist countries there are close links between the application of the foreign trade state monopoly and foreign trade planning.

In centrally planned economies some main principles have to be considered with regard to the institutional framework of planning foreign trade as follows:

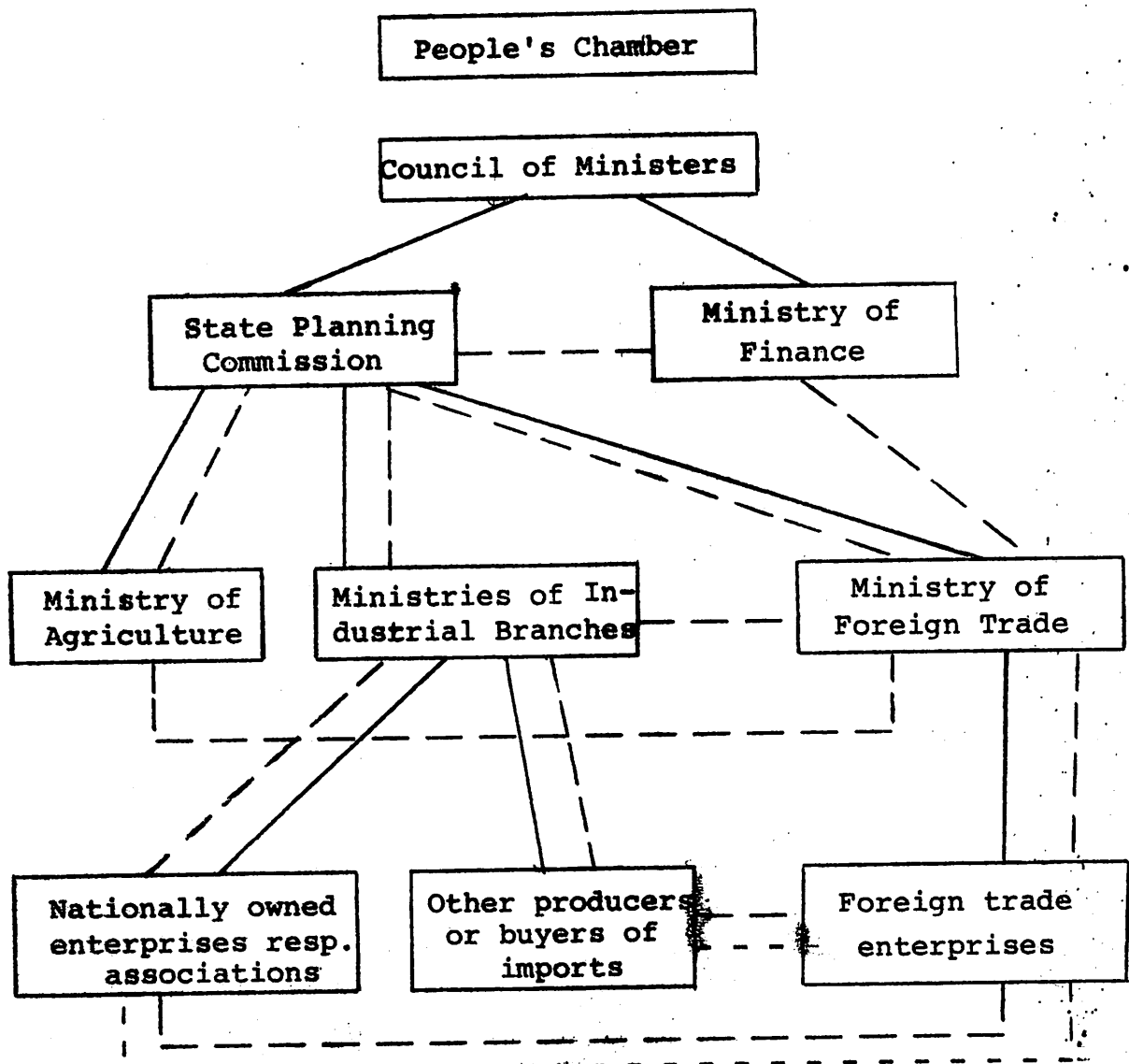
1/ Foreign trade planning is not a task of some specialized bodies on the central and branch level but all state organs and all enterprises involved in managing foreign trade and carrying out foreign trade operations are included in the planning procedure, too. According to the system of hierarchy in the national economy the planning procedure is carried through on the basis of a

so-called pyramid system. The foreign trade planning pyramid is part of the comprehensive pyramid of planning the national economy and roughly we can distinguish 3 levels of planning:

- a) central level (Council of ministers, ministry of planning);
- b) branch level (Ministry of foreign trade, ministries of industry, agriculture etc.)
- b) lower level (producers of export goods, foreign trade enterprises, buyers of imports).

The following scheme gives an idea about the pyramid set up for foreign trade planning:

The Pyramid of Foreign Trade Planning in
The GDR



Explanations:

- _____ : relations with the character of orders
- - - - - : relations with informational character
- - - - - : relations with contractual character

2/ Starting from the statement that socialist planning in general and foreign trade planning in particular is always a connection of central planning on the top level and decentralized planning on branch and lower levels priority is given to central planning. Only on the central level the most important questions for the national economy as a whole can be decided and different opinions and interests of several branches have to be subordinated to the needs of the entire society.

There is no contradiction between priority of central planning and a broad participation of all lower units and their workers in the procedure of planning. Socialist planning includes consultations of central state authorities with branches and enterprises in preparing central directives for elaborating plans and independent plan drafts from the enterprises on different stages of the planning procedure. There must be a continuous flow of plan indicators from the top to bottom and vice versa.

Practical experiences of planning foreign trade in the GDR and other socialist countries prove that the relation between centralisation and decentralization in decision-

making in the planning procedure is not unchangeable.

It depends among other things upon the reached stage in the historical development of the national economy and the framework of management and planning, the concrete situation with regard to the internal and external equilibrium of the national economy (for instance redressing the balance of payments) and different conditions in export and import of groups of commodities (complete equipments for factories, raw materials and agricultural products, single machines and similar goods).

3/ A third principle of organizing foreign trade planning is the so-called 2-channel planning system. As you can see from the scheme of the planning pyramid in the GDR there exist two channels as for the flow of plan indicators from the top level to the lower units and vice versa.

On the one hand there is a flow of plan indicators from the State Planning Commission to the ministries of industrial branches, agriculture etc and from these ministries to the production units as producers of export goods and consumers of import goods. On the other hand plan

indicators are distributed from the State Planning Commission to the ministry of foreign trade and from this ministry to the foreign trade enterprises.

After making plan proposals on the lower level these proposals are handed over to the ministries concerned and we shall find the same flow passing the two channels vice versa.

At the same time we must consider the close cooperation and connection between all organs on the same level and on different levels. Of great importance in the procedure of planning foreign trade are for instance consultations between foreign trade enterprises and producing units for determining volume and commodity structure of export and import of certain groups of commodities. Resulting from these consultations agreements are concluded between the partners concerned as a basis for commercial contracts.

Similar consultations take place between the ministry of foreign trade and industrial or agriculture ministries aimed at solving problems with regard to the development of export and import which could not be solved on the lower level of enterprises.

Summarizing we can say that these main principles for organizing foreign trade planning are a concrete expression for realizing the general principle of democratic centralism. We do not follow the concept of central versus decentral planning, but we are rather in favour of combining both activities by strengthening of central planning and, parallel to it, the extension of planning on the lower levels.

5.2 Foreign trade planning in the State Planning Commission (Ministry of Planning):

The State Planning Commission is the central organ of the Council of Ministers for planning the development of the national economy as a whole. It plans and determines the volume and the structure of export and import from the aspect promoting the proportional and optimal development of the national economy and of using foreign trade as an important factor for increasing the rate of growth of national income.

The State Planning Commission is responsible for a correct coordination of the foreign trade tasks with the development of the other branches of the national economy. It deals, in the first place, with long - and medium - term

planning. In this context it is of special importance to establish correct relations between the development of investments and the structure of export and import. In the GDR the commodity structure of foreign trade is planned on this level at present for about 30 groups of commodities and about 700 single commodities. This number changes with regard to the time-horizon of planning and depending upon the concrete conditions determining the relation between centralization and decentralization in the planning procedure (see paragraph 5.1).

Within the framework of socialist economic integration among CMEA-countries the State Planning Commission carries out international coordination of national economic plans in close cooperation with the ministries of industrial branches, the ministry of foreign trade etc and concludes agreements with the Planning Commissions of other CMEA-countries on the results of the plan coordination. Under the conditions of extending and deepening the process of socialist economic integration this task becomes more and more important and concerns the tasks of the branches and enterprises in the field of industry and foreign trade, too. Since almost all the measures in this connection like scientific -

technical cooperation, specialization and cooperation of production, common investments etc affect the flow of export and import the whole process of planning foreign trade is influenced to a high extent by this international plan coordination.

There are activities and agreements too in plan coordination with other socialist countries outside CMEA and with some developing countries which are to be considered in planning foreign trade with these countries concerned.

The State Planning Commission also maps out the methodical regulations for drawing up the foreign trade plan including the cooperation between the different branches of the national economy (foreign trade, industry, agriculture, transport etc) in the planning process.

5.3 Tasks and activities of the ministry of foreign trade and other ministries in foreign trade planning:

Whereas the State Planning Commission is able and responsible for planning the development of the national economy as a whole, the different ministries are responsible for managing and planning certain branches. At the same time they have to take into consideration the needs of the country's

society as a whole, but in the practical planning process there can arise contradictions between the needs and possibilities of the entire national economy and the wishes and proposals of the separate branches. This general conflict between the "sub-optima" of part-systems and the "optimum" of the entire system is to be solved in a centrally planned economy by an iterative process of planning and by combining central and decentralized planning (see paragraphs 4.4 and 5.1).

In the GDR we have several ministries of industry in conformity with different industrial branches. Furthermore there exist a Ministry of Agriculture and Foodstuffs Production, a Ministry Trade and Supply, of Building etc. The following tasks will be enumerated for the Ministries of Industry, but they are of analogous validity for other ministries.

The Ministries of Industry have likewise to solve important tasks in planning foreign trade. These tasks, above all, include guidance to and control over the enterprises of the branch concerned (either allied in so-called "Associations of Nationally Owned Enterprises" or working as so-called "Com-bines") with regard to manufacturing and marketing of export

in a commodity structure and quality meeting the demands of external markets.

In the field of planning imports these ministries bear a great responsibility, too, whereas two different aspects have to be considered. On the one hand they have certain tasks in planning needed imports of machines, equipment, raw material, intermediary goods etc, used in the production process of the branch concerned. On the other hand the ministries and their associations are so-called "balancing organs" for certain groups of commodities covering the needs of the national economy as a whole. Within the framework of the entire quotas fixed by the State Planning Commission the "balancing organs" draw up an import plan with regard to assortments, quality, terms of delivery etc in close cooperation with the foreign trade enterprises and the potential consumers (see in detail chapter 6, especially paragraph 6.3).

The Ministry of Foreign Trade bears main responsibility for planning and managing the foreign trade activities. It directs, coordinates and controls about 25 foreign trade enterprises of which it is in charge and it is responsible, too,

for planning export and import activities of those enterprises which are in charge of other authorities. In accordance with plan indicators, handed over by the State Planning Commission and on the basis of plan proposals of the lower units the Ministry of Foreign Trade elaborates the comprehensive foreign trade plan and submits it to the State Planning Commission. This planning procedure includes a close cooperation and consultations with the Ministries of Industry, Ministry of Transport, Ministry of Finance and other central authorities engaged in foreign trade and foreign exchange flows.

One major task in this connection is long-medium-and short-term planning of foreign trade with regard to individual countries. This is particularly important since the bulk of GDR foreign trade is carried through bilaterally, and the currency balances continuously have to be kept within the agreed swing - limits. The task of planning the detailed regional structure of foreign trade is linked closely with preparing and concluding trade agreements with other countries by the Ministry. (Special problems with regard to socialist and capitalist countries see chapter 9).

5.4 Foreign trade planning on the level of enterprises:

Socialist planning on enterprise level should be considered in principle under two aspects which are inter-related with each other: A first aspect deals with the connection between central planning and decentralized planning by enterprises and starts from the prerequisite that there has to be achieved consistency between the all round plan of the national economy and the sum of all plans on lower levels. This task comprises two sides. On the one side the enterprises have to elaborate such conceptions and plan proposals that the abilities and knowledges of the many specialists on this level can be used for qualifying the central planning. On the other side they have to guarantee that the enterprise plans and their implementation completely correspond to the plan figures of the ministry concerned **respectively** the central plan.

The second aspect is of special importance for using the plan as the decisive basis for a qualified management. This task involves, too, that planning on the enterprises level requires not only accepting the plan figures from the ministry but ensuring a high quality in forecasting and other

research work as preparing steps in elaborating the plan for the own enterprise. Furthermore, it includes that the most important plan figures are divided to the different departments of the enterprise so that everyone knows his special tasks as parts of the plan.

Starting from this general view we have to answer first which enterprises are involved in the procedure of planning foreign trade and which are their special tasks. In general we can say that all the enterprises engaged in producing and selling of export commodities and buying, distributing and consuming import goods are included. Foreign trade planning on the enterprise level comprises, too, tasks of special service enterprises in the field of transport, market research, advertising, control of export and import commodities etc.

According to their role in materializing the operative export and import activities, foreign trade enterprises bear main responsibility in planning foreign trade on the enterprise level. In the GDR the bulk of these enterprises at present are in charge of the Ministry of Foreign Trade, some other ones are in charge of other

ministries or associations of the industry. In some cases export and import is carried through by industrial enterprises. Therefore they need a special licence from the Minister of Foreign Trade.

As mentioned before, foreign trade enterprises elaborate a complex plan, consisting of several plan components, which will be approved by the Ministry of Foreign Trade (see the scheme in paragraph 4.1). When starting with the elaboration of a certain plan, for instance the annual plan, there are the following main bases to be considered:

- own conceptions as a result from forecasting the probable development with regard to the group of commodities concerned on external markets and in the national economy of the own country;
- tasks of the year's section concerned as a part of the existing 5-year-plan;
- state plan tasks from the Ministry of Foreign Trade;
- obligations from state international agreements in the field of foreign economic relations;
- commercial contracts of the enterprise already concluded with foreign and home partners on exports or imports of the following year.

Elaborating the plan by the foreign trade enterprise concerns above all fixing the commodity and regional structure of export and import according to the different assortments and types, home prices, external prices on different markets etc. For this purpose all foreign trade enterprises and their home partners reach comprehensive coordination of export supplies and import needs to be taken into the plan and record it exactly.

Agreements as a result of the coordination on volume and commodity structure between foreign trade enterprises and their home partners are signed by both partners and are of great importance for elaborating the plan in the foreign trade enterprises as well as in the industrial enterprises producing export goods and in the so-called balancing organs with regard to the import.

Following this coordination, the foreign trade enterprises elaborate the complex plan proposal including the volume and structure of foreign trade, the flow of foreign currency and home financial relations, transport services with regard to quantity and value, the development of manpower and investments, activities in the field of marketing etc. The central pillar in this is the purposeful

shaping of the commodity and regional structure of export and import and the planning of foreign prices.

As a result of this work which takes place with the broad participation of the producing enterprises the plan is fixed and will be submitted to the Ministry of Foreign Trade (at the same time the plan proposals of the producing units are submitted to the ministries concerned). After being coordinated and approved by the higher levels (ministries, State Planning Commission, Council of Ministries, People's Chamber) the adjusted plan proposals of the enterprises will be approved by the ministries concerned and are now the binding basis for the work of the enterprise collectives in their respective range of tasks.

6 . Implementation of Commodity Balances in Foreign Trade Planning:

6.1 Nature of commodity balances and its use in planning:

In order to achieve optimality of the national economic plan, it is necessary that proportionality and consistency between all parts and spheres of the economy be ensured according to plan. Thus an important task of planning consists of determining both the resources and the uses of different products and factors of production either on commodity or on group basis.

The balancing method is an important auxiliary instrument for fulfilling these tasks. It permits the planning authorities to investigate the requirements of proportionality and consistency and to carry all these through in practice. There are different balances, drawing up of which have proved to be effective, e.g. input-output balances, commodity balances, trade balances, the balance of payments, the state budget etc. In the following we will explain the nature and the construction of commodity balances and their use in planning.

In principle, a commodity balance is nothing but a statement comprising all sources of supply (whether they are domestic or foreign) of a certain commodity (or group of commodities) and different uses of such commodities, whether they are also domestic or foreign. As an example, the following table represents the final scheme of a commodity balance.

Scheme of a Commodity Balance

Period:

Name of the commodity:

Unit of measurement:

Resources	Uses
- Commencing stock (at the beginning of the plan period)	- Intermediate consumption (uses in production)
- Domestic production	- Final consumption a) Private (individual) b) Governmental
- Imports	- Investments a) Accumulation b) Reserves
- Other resources	- Export
	- Carry-overs (stocks at the end of the plan period)
Total resources	Total uses

Commodity balances can be used for short-medium - and long-term planning. The period for which they are drawn may affect their construction. Long-term balances would be highly aggregated, while annual ones would be drawn in details. For 5-year plan we should have balances for each year covering the plan period.

Building up commodity balances and using them in planning involves several distinct problems among which are the following main ones:

1/ The determination of the "nomenclature" (list) of the commodity balances.

We have to answer the following questions:

- For which products is it necessary to construct commodity balances?
- How to group these balances?

Both aspects must be considered as part of the whole system of classifications and methodological regulations applied for national planning. The nomenclature will be different from country to country and ~~from time~~ to time (For example in the GDR there are about 4.000 commodity balances and in the A.R.E. 170 (in 1971)).

Individual commodity balances should be drawn for goods of major significance for the national reproduction process in the field of production, investments and consumption. The aggregation to balances for groups of commodities depends upon the whole framework of planning in the country concerned (planning and balancing pyramids) and upon the specialities of different groups of commodities (raw materials, consumer goods, machines and equipment) with regard to the possibility of aggregating.

2/ The choice of the unit of measurement (the valuation problem):

The items included in commodity balances can be valued on different bases the concrete one depends upon the aim of using this tool. A unified price or different prices (producer's and/or market prices, internal and/or external prices, prices of a basic period and/or current prices) can be used, and in many cases physical units may be applied, too. Each unit of measurement has its advantages and disadvantages, often

it will be necessary to use several methods (see paragraph 6.2).

3/ The problem of collecting the necessary data and the question of timing of the flow of such data (the information and timing problems):

It can be seen from the concrete scheme of a commodity balance which data are necessary for elaborating working sheets for the resources and uses and the final balances for each commodity concerned. In any case the competent balancing organs will have to cooperate with those bodies on the central level and on branch or enterprise level which are engaged in such activities like production, consumption, export, import etc. A concrete follow-up system and present base year figures (in the needed nomenclature of commodity balances) will facilitate the work of the balancing organs.

The problem of a proper timing of the flow of such information from their original sources to the body undertaking the balancing process has to be solved as a part of methodological regulation applied for the procedure of national planning.

6.2 The use of commodity balances in foreign trade planning:

As we mentioned earlier in this paper (see paragraph 1.1), foreign trade is an important means for achieving proportionality and consistency between all spheres and branches of the national economy. At the same time an optimal structure of production can be achieved by using the possibilities of international division of labour. That concerns the complementary function as well as the substitutive function of foreign trade, and this role of export and import is of special importance for those countries connected to a high extent with the world markets.

Therefore commodity balances can be used as important tools in order to take full advantage of these functions and possibilities of foreign trade. As we have seen in the scheme of a commodity balance, import and export are essential items of these balances. When elaborating a commodity balance of a certain commodity or a group of commodities, there are always decisions to be made with regard to possible variants aimed at meeting the demands of the national economy and the population and of making the most of the resources of the country. Such variants can be as follows:

- a/ domestic production and (or without) export;
- b/ domestic production and (or without) import;
- c/ import without domestic production;
- d/ domestic production, import and export.

Commodity balances can be applied as a tool for coordination between different targets and a measure to maintain appropriate proportions between the foreign trade variables and other variables such as production, domestic consumption, ... etc, a matter which can greatly reduce the possibility of facing certain bottlenecks during the implementation phase. In the process of industrialization in developing countries such problems will arise very often and decisions concerning the best proportion between domestic production, import and export will be necessary as well on the central level as on a branch level.

Commodity balances are not only reflecting present proportions with regard to a certain commodity or group of commodities, but they are to be used as a tool for finding the best (optimal) proportions from the point of view of the national economy as a whole. Therefore it is necessary to value the items of the balances by different prices and, if possible, to connect using commodity balances with optimizing

calculations in the process of planning the commodity structure of foreign trade.

As we mentioned before, commodity balances are only one part of a comprehensive system of balances in the national economy. For the purpose of foreign trade planning commodity balances are linked above all with input-output balances and the trade balances.

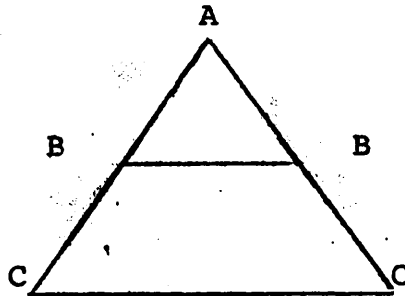
There exists a lot of interrelations between export structure and import structure which have to be taken into consideration in the process of planning and balancing. As we all know, certain inputs are required for certain exportables, which ~~can~~ cannot be furnished by the domestic market, e.g. the import of a certain amount and a specific assortment of steel and nonferrous metal is needed* for exporting machines and equipments of a certain volume and structure. As commodity balances only give an answer to proportions of one commodity or group of commodities, they cannot reveal such close relationship. Therefore we need a connection between commodity balances and input-output balances.

Another problem is the relation between the commodity and regional structure of foreign trade. These interrelations have to be considered in any case in planning foreign

trade but especially in those cases when a part of the entire foreign trade of a country is carried out on the basis of bilateral agreements and clearing currency instead of convertible currency. In order to achieve conformity between the commodity structure of export and import according to the requirements of the national economy of the own country and the possibilities and the needs of the different external markets there has to be a good connection in using commodity balances and trade balances in the planning process.

6.3 Experiences of the GDR in using commodity balances for planning foreign trade:

Commodity balances are one of the most important tools for planning the volume and commodity structure of export and import. They are used at various levels of planning. On the basis of the general framework of planning we have built up a pyramid of commodity balances which looks like that:



A = State Planning Commission - Level

B = Ministrie's level

C = Level of Associations of Nationally owned Enterprises and other balancing organs on decentral level (e.g. producing units).

On level A commodity balances are drawn up for goods of top priority, i.e. of major significance for the national reproduction process. The ministries (level B) are responsible for drawing up balances for such goods which are important, too, but the production or the use of which is mainly concentrated in one branch, in the sector of the ministry concerned.

The enterprises or associations of enterprises (level C) are included in this pyramid by balancing the resources and uses of particular commodity grades, assortment etc. In many

cases we are balancing on central state level homogeneous groups of commodities (some assortments of steel, grain, machine tools, motor cars etc) whereas the detailed assortment, different types of machines or other commodities, will be balanced on enterprise level. That means that the majority of all commodities is elaborated on decentral level.

This fact underlines the great importance of balancing organs on the lower level for determining - on the basis of aggregated balances of higher levels and considering other liabilities and limitations (see paragraph 5.4 - the concrete commodity structure of export and import in the process of planning foreign trade. As we have learnt before, these balancing activities are linked closely with the planning procedure in the foreign trade enterprises and resulting from coordinations between balancing organs and foreign trade enterprises contracts concerning export and import are concluded.

In the GDR all items of commodity balances are valued on the basis of industry delivery prices. As far as possible items are valued additionally on physical units (raw materials, agricultural products, some kinds of consumer goods etc).

For all export and import goods the external prices are taken, too. Thus for calculating profitability in the foreign trade operations on commodity basis we can compare the prices received on foreign markets for exportables (or paid for importables) with internal prices (see formulae in paragraph 2.4).

Exports and imports as a part of commodity balances are subdivided to different areas or groups of countries. Thereby it is possible to connect to a certain degree planning the commodity and the regional structure for foreign trade and to use the elaboration of commodity balances for solving possible contradictions between the requirements of a proportionate development of the national economy with the possibilities for selling or purchasing certain goods on foreign markets. Nevertheless we need additional tools for planning the regional structure of foreign trade (see chapter 7 and 9).

Long-term experiences have proved the use of commodity balances for planning foreign trade. At the same time we learnt that in addition to the general problems mentioned in paragraph 6.1 the following questions have to be considered carefully in the process of planning and balancing:

1/ How to determine the concrete demand of the national economy for certain commodities, above all in connection with the planned import? Sometimes the demands of potential users are greater than the possibilities of meeting these demands in the plan period, e.g. because of limitations by the balance of payments.

2/ Though there is conformity in general between the nomenclature of the plan, the follow-up system and the commodity balances, there are some difficulties to be overcome. That concerns above all comparisons with the list of commodities in foreign trade agreements with other countries and specific problems with regard to the export and import of complete plants covering different kinds of single commodities.

3/ External prices for exports and imports may change between the time of drawing up commodity balances and the implementation of the plan. This is of great influence on calculations for the profitability of exports and imports. Thus it is often necessary using prices of a basis period in an early stage of balancing and later on adding the current prices of the plan period.

4/ Equalizing resources and uses is a general aim in using commodity balances. But in the case of long-term planning (e.g. for 10-15 years) it may be useful to complete the balances of some very important commodities step by step and thus getting information on possible limitations. In addition, valuating on the basis of physical units will be the most appropriate way when elaborating balances for such long periods.

7 . Balance of Payments in Planning Foreign Trade and Foreign Exchange.

7.1 The balance of payments in the network of ~~balances~~ ~~of~~ national economy and general relations to foreign trade planning:

When speaking about balance of payments problems it will be necessary at first to clarify the nature of this category. In theory and practice you will find two different views:
(8)

a/ The balance of payments as a relation between the ~~country's~~ credits and debits on international account.

Taking this approach, the balance of payment of a country must necessarily balance, when all international transactions are taken into account.

b/ The balance of payments as a relation between the aggregate foreign exchange receipts and expenditures of the national economy. In this view imbalances or disequilibrium is possible and we can speak about active or passive balances of payments during a certain period.

(8) See: Harry G. Johnson "International Trade and Economic Growth" London Unwin University Books 1959, page 154

Obviously it is necessary to take into consideration both aspects of the theory of balance of payments but in compliance with the aim of this paper we shall concentrate upon the second aspect.

As we are interested above all in the relation between the balance of payments and foreign trade planning, we have to consider the structure of a balance of payment:

Scheme of a balance of payments (used in the GDR)

Structure of payments	Foreign exchange	
	receipts	expenditure
1 . Payments from commodity movement:		
1.1 payments from exports or imports.		
1.2 payments for licences		
1.3 payments from other kinds of commodity movement.		
2 . Payments from services		
2.1 commercial services		
2.2 non-commercial services		
3 . Credit movements		
4 . Other payments		
5 . Reserves of gold and foreign exchange		
Sum of 1-4 Saldo		

In the GDR more than 90% of all payments in foreign exchange are connected directly or indirectly with foreign trade activities (including payments for transporting export and import goods and credit movements resulting from foreign trade contracts), whereas in other countries the percentage of payments from other activities (tourism, services in the field of transport performances, unilateral monetary transfers, inflow of foreign capital etc) may rank much higher. But in every case the development of foreign trade will be the focal point in solving the problem of equalizing the balance of payments (in the above mentioned sense), e.g. for the A.R.E., too. And on the other hand the concrete situation with regard to the balance of payments will be an important condition or limitation for planning foreign trade. Thus we have always to take into consideration the close links between the balance of payments and foreign trade planning.

Part 1 of the scheme of a balance of payments contains the trade balance of the country. When investigating the development of the trade balance for purposes of planning or analyzing we must pay attention to how the imports are valued. In the GDR and the other CMEA-countries valuation is carried out on the basis of fob-prices. This means that

transport costs and other expenditures in foreign currency for imports up to the border of the own country appear as commercial services in part 2 of the scheme of balance of payments and that a surplus in the trade balance may result to a certain extent to this fact. In other countries imports are valued in the trade balance on the basis of cif-prices. For the purpose of international comparisons these differences have to be eliminated.

Trade balances and balances of payments are elements of a network of balances within the national economy and there exists a lot of interrelations to be considered in the process of planning and balancing the economy as a whole and foreign trade in particular. Above all there are to be taken into consideration the links with the

- balance of the gross social product;
- balance-sheet of the state budget;
- credit balance;
- foreign trade plan on the central level;
- plan of receipts and expenditures in foreign exchange.

7.2 Planning of foreign exchange:

In the paragraph before we considered the balance of payments as a relation between the aggregate foreign exchange receipts and expenditures of the national economy. As the balance of payments is drawn up not only as a "follow up balance" for analyzing past periods but also as a "plan balance" for futural periods it follows from this definition that the balance of payments is the most important tool for planning the flow of foreign exchange on the central state level in the course of long-medium-and short-term planning.

But according to the general principle of democratic centralism in socialist planning all the branches and enterprises engaged in the field of expending and receiving foreign currency have to be involved in the process of planning the flow of foreign exchange, too. In addition to the foreign trade such activities are to be taken into consideration, too, like tourism, shipping, through traffic as so as foreign exchange relations in connection with foreign policy, culture etc. In the following we shall concentrate upon planning of foreign exchange in the field of foreign trade.

In socialist countries planning of foreign exchange is connected closely with the application of the state monopoly in foreign exchange the essence of which can be defined as follows:

1/ The state concentrates all foreign currency funds of the country in its hands and determines those organs being responsible for managing, planning and organizing currency relations.

2/ International currency relations of the country are carried out on the basis of the plans and balances concerned. Currency movements outside the foreign exchange plan have to be approved by the state organs concerned.

3/ The international payment transactions are carried out and controlled by the state bank and other responsible banking establishments.

As we mentioned before, in the GDR the bulk of receipts and expenditures in foreign exchange results from exports and imports in connection with transporting these goods. That is the reason why in the planning methodology of the State Planning Commission the procedure for drawing up the plans for foreign trade and foreign exchange is elaborated in one common

chapter. In this methodology the structure of the foreign exchange plan is determined with regard to the resources or the purpose of use of foreign currency in the period concerned and to the regional aspects.

According to resources and purposes of use the receipts and expenditures in foreign exchange are subdivided as follows:

- 1/ exports and imports;
- 2/ services
 - commercial services, above all transport performances for the foreign trade of the own country and for (or by) third countries;
 - non-commercial services;
- 3/ claims and obligations from exports, imports and services;
- 4/ claims and obligations from bank and other credit institutes.

In the cases 1 and 2 movements of exports or imports and foreign exchange take place in the same plan period. In annual planning the figures can be subdivided into quarters.

With regard to regional aspects the structure of the plan is as follows:

1/ Socialist countries

- separate countries taking part in the clearing system on the basis of the transferable rouble;
- socialist countries with other clearing forms;

2/ Non-socialist countries

- separate countries with bilateral clearing on the basis of agreements concerned;
- convertible currencies;

On the central level the State Planning Commission is responsible for drawing up the balance of payments in cooperation with other ministries, above all the Ministry of Finance and the Ministry of Foreign Trade. The Ministry of Finance coordinates the planning of foreign exchange of all branches besides of foreign trade and is in close cooperation with the State Bank in all questions of the international monetary policy. The Ministry of Foreign Trade is responsible for drawing up the detailed foreign exchange plan (subdivided into countries, currencies etc) as a part of the comprehensive

foreign trade plan, submits the plan drafts to the State Planning Commission and coordinates and approves the foreign exchange plans of the foreign trade enterprises.

Unlike foreign trade planning there is no "2-channel-planning" in drawing up the foreign exchange plan. This is in conformity with the state monopoly in foreign exchange, according to which monetary relations between enterprises and other organs of the national economy - also in the field of foreign trade - are organized in any case on the basis of domestic currency.

Hence it follows that foreign trade enterprises bear full responsibility for drawing up foreign exchange plans on the branch and enterprise level. Above all they are responsible for guaranteeing conformity between material, financial and foreign exchange planning as an important basis for a smooth carrying out of the exports and imports in the group of commodities they are responsible for. In addition, they have to ensure by qualified planning and concluding export and import contracts that the general targets of the foreign exchange policy will be fulfilled. According to the concrete situation on the capitalist world market (devaluation or revalorization of currencies, changing conditions in

the field of foreign exchange transactions) foreign exchange planning is extremely difficult in relations to these countries. The foreign trade enterprises are cooperating in these questions closely with special bank establishments, above all with the foreign trade bank.

. Prices in Foreign Trade Planning.

8.1. The role of prices in foreign trade planning:

Prices are important tools and at the same time targets in socialist planning in general and in planning for foreign trade in particular. This results from the main functions of prices in a socialist economy:

- 1/ The price is the measuring instrument of the value i.e. of the socially necessary expense of living and embodied labour needed to produce any commodity.
- 2/ The price operates as an economic incentive.
- 3/ The price is a means for distributing and redistributing the national income.

Starting from these general functions we can determine the role of prices in socialist planning as follows: (9)

- a/ The price is a means to ensure the reproduction process according to the general targets of the plan. Under the conditions of commodity production and the existence of commodity - money - relations in a socialist society prices are important tools for reflecting

9) See in detail, W. Wunderlich, "The role of the price in the plan of development" Memo No. 1096-Part II- of the Institute of National Planning.

and realizing the social gross product as a whole on the one hand and for supporting the development of the socially necessary proportions of the economy on the other hand.

b/ The price is an instrument to stimulate proportional planning and the implementation of the planned proportions in the economic development. As we mentioned in chapter 6, this task involves using the possibilities of foreign trade for achieving the best (optimal) proportions.

c/ Prices are a means to ensure enterprisal efficiency and profitability and to stimulate cost reduction. As to foreign trade planning, this role of prices as economic incentives is of special importance in the case of producing and selling export goods.

d/ The price is an instrument to support planning and implementing the equilibrium of supply and demand. Starting from the principle in general that in a socialist economy it is strived for a planned equilibrium of supply and demand on the basis of prices reflecting the values of goods, the necessity can arise for planned deviations from the values of certain commodities.

e/ Prices are used as tools for a planned distribution and redistribution of the national income. This task is closely connected with ensuring a proportionate development of the national economy as a whole and with the aforementioned necessity for deviating from the values, above all in the field of retail prices of consumer goods with the help of subsidies, taxes etc.

f/ Prices are used as a comprehensive tool of planning in all stages of the planning procedure, in all branches and enterprises and on all levels of the "planning and balancing pyramid". In accordance with the principle of the unity of material and financial planning prices are the most important tools for evaluating the different resources and funds and in so far for promoting balancing and optimizing the plan.

On the basis of this general view with regard to the role of prices in socialist planning some specialities have to be taken into consideration in the field of foreign trade planning as compared with other branches of the national economy. This results from the fact that in addition to the domestic prices planning has to involve, too, external prices (in many cases several prices for one commodity on different

markets) with additional difficulties in evaluating the futural development. The main aspects in this connection can be determined as follows:

a/ In the process of planning foreign trade it has to be decided whether the volume of export and import should be valued to domestic or foreign prices. The decision will depend upon the plan period, the task to be solved and other factors. This problem is a special aspect of the above mentioned principle of the unity of material and financial planning.

b/ There are a lot of interrelations between the development of internal and world market prices affecting decision making in foreign trade planning (see paragraph 8.3 too).

c/ Calculating the profitability of export and import is influenced to a high degree by the level and quality of internal and foreign prices (see paragraph 2.4).

d/ Solutions in optimizing the commodity and/or regional structure of foreign trade depend, too, to a high extent upon estimating the development of prices of the commodities concerned on different markets (see chapter 10).

Starting from this representation of the role of prices in foreign trade planning in general we shall now give emphasis on the following three problems:

- 1) Evaluation of external prices in foreign trade planning.
- 2) Domestic prices in foreign trade planning.
- 3) Application of current or unchangeable prices in planning and analyzing foreign trade.

8.2 External prices in foreign trade planning:

The development of world market prices is one of the most important and at the same time one of the most comprehensive questions in theory and practice of international trade. There are so many factors influenceing the level, the structure and the development of these prices that forecasting in this field is an extremely difficult task, above all for purposes of medium-and long-term planning. Nevertheless in planning foreign trade we have to assess exports and imports not only with regard to the quantity, valued on the basis of physical units and to domestic prices, but also in the term of external prices. Otherwise it is impossible to calculate the profitability of export and import and the probable terms of trade in the plan period concerned and to

use planning as a means for finding the best (optimal) solutions.

This problem has to be solved in the case of short- and medium-term planning as well as in long-term planning which is usually connected with decisions in the field of investments. Therefore we need forecasts concerning the development of external prices 5 or 10 years ahead. Obviously, the degree of uncertainty will be much higher than in the case of assessing prices for purposes of annual planning. But in spite of that we have to seek for a solution, in order to avoid wrong decisions and economic losses.

Planning external prices comprises assessing the level, the relations and the structure of prices in the plan period concerned. The development of the price level is characterized by changes of prices between a basis period and the plan period, measured for a determined structure of selected commodities. In foreign trade planning we have to assess for instance the development of differences with regard to the price level between different countries and between the own country and foreign markets. Inflation rates, foreign exchange rates etc will be of great relevance to this aspect.

Price relations concern the relation between prices of different commodities or groups of commodities. Within the same price level the development of the relations between single goods, different qualities or from country to country can vary essentially.

The price structure is the composition of the price of a certain commodity concerning outlay of funds, cost of material, wages, profit including possible influence of taxes or subsidies.

Methods or instruments for forecasting the development of external prices will differ, above all, as to

- short-medium or long-term planning;
- the kind of commodities (minerals, agricultural products, equipment, consumer goods etc);
- regional aspects.

Irrespective of this differentiation some general hints can be given. In addition to analyzing the past development of the prices of single goods or groups of commodities as a whole and extrapolating futural trends the method of "factor-analyzing and forecasting of prices" has proved to be successful, especially for purposes of medium-and long-term price planning of selected goods with great importance for the economy. The technique of this method can be described as follows:

1/ By analyzing the past development the most important factors influencing the amount and the changes of the price of the commodity concerned are determined. Such factors can result from the scientific technical progress, changes in the technology of production, used material including possible substitution, changes in supply or demand etc..

2/ Each of these factors gets an index according to the relative importance on the price as a whole. The total of all indexes is equal to 1.

3/ The development of all these factors is forecasted independently from each other taking into consideration different and partly adverse tendencies.

4/ By combining the results of the selected factors the probable price in the futural plan period will be found. By using mathematical methods interrelations between different factors influencing the price can be considered.

This or similar techniques can only be used as supporting instruments in the course of the concrete research work in this field. In any case specialists have to consider all the circumstances including political, environmental and other factors in a comprehensive way taking the final decision.

As to the experiences of the GDR and other CMEA-countries in this field, some differences in principle have to be considered with regard to planning external prices in foreign trade relations with socialist countries and with capitalist countries. This is due to differences in principle of price formation in foreign trade between CMEA-countries as compared with foreign trade with other countries (see in detail the lecture on international economic comparative studies).

8.3 Internal prices in foreign trade planning:

As mentioned before, we have to take into consideration the close interrelations between internal and external prices. On the one hand, domestic manufacturing costs and prices in the leading export countries of the commodities concerned are the basis in principle for the formation of world market prices and on the other hand prices of import goods are a more or less important factor (depending upon the foreign trade intensity of the national economy and the price policy of the country concerned) for the domestic price level, price relations and price structure.

It follows that internal prices as figures within the comprehensive foreign trade plan always have to be seen in connection with external prices. As far as the price level is concerned or when using internal prices as a part of profitability calculations for export and/or import goods we have to consider, too, the great influence of the foreign exchange rate on possible conclusions. That applies above all to those countries (e.g. the socialist countries) where the exchange rate is not the spontaneous result of supply and demand on international money markets but where the exchange rate is fixed as a part of central planning by the government, and will be stable for a longer period.

The role of internal prices in foreign trade planning will differ in detail from country to country according to the domestic price policy. Thus in the following we shall refer to how this problem is handled in the GDR.

In the field of export domestic prices play an important role in planning and balancing the development of the volume of the commodity movement and in the process of plan coordination between industrial corporations and foreign trade enterprises (see paragraph 5.4). In the early stages of

socialist planning in the GDR exports were delivered from producing units to foreign enterprises on the basis of domestic prices in all cases. In spite of changing this method for a great part of the export industry domestic prices are still of great importance for regulating the relations between industrial and foreign trade enterprises. (As to the role of internal prices in calculating the profitability of export we refer to paragraph 2.4).

Domestic prices are of special importance for planning the export of completely new goods or of commodities with improved qualities according to the scientific-technical progress. There are sometimes tendencies in the industry for increasing domestic prices more than the use-values of the commodities concerned and the possibilities of realizing advanced prices on foreign markets were raised. Thereby the volume of export in terms of value (measured to domestic prices) would rise without a real increase of export quantity. Thus the foreign trade enterprises have to scrutinize prices for new commodities and urge for necessary adjustments.

With regard to import domestic prices are concerned on the one hand by the influence of world market prices on the price level of the national economy as a whole, above all in the field of raw materials and fuels. On the other hand

internal import delivery prices are important indicators for measuring the fulfilment of plan targets or for assessing the profitability of planned import activities. In detail the different types of the formation of import delivery prices are to be considered before conclusions can be taken. In most cases these prices are related to domestic prices of similar commodities of the own production. But if there are no possibilities for proper comparisons the real costs of the import are the basis for the internal price of the commodity concerned.

8.4 Application of current or constant prices in planning and analysing foreign trade:

Economic planning in general and foreign trade planning in particular can be carried out on the basis of current and/or constant prices of a certain period, e.g. prices of the last year before starting a new 5-year plan period. The same problem arises in the case of analyzing the past development. Each of these possibilities has its advantages and disadvantages and in any case it depends upon the subject and the target of the plan or the analysis concerned whether current or constant prices are used.

Provided the long-term planning is aimed above all at coming to recognize the development of volume and commodity structure of export and import in terms of use-value using constant prices (either internal or external) will be given preference. The same decision will be made when analyzing long-term tendencies of the volume of international trade. If statistics only comprise current prices, distorting influences of inflation on the foreign trade volume and of different price developments between commodities on the structure of export and import can be eliminated by using suitable coefficients.

Using current prices is to be given preference in all those cases if the influence of foreign trade on the trade balance or the balance of payments has to be considered and if optimal solutions with regard to the profitability of foreign trade are to be found.

In the GDR annual planning of foreign trade is carried out on the basis of current prices in principle. In medium and long-term planning the price-bases are used in a different way, depending upon the stage of the planning procedure and other factors. In some cases both types of prices are used side by side, thus giving the opportunity for making conclusions with regard to different aims.

9. Different Problems and Possibilities in Planning Foreign Trade With Socialist and Capitalist Countries:

9.1 The role of the regional structure in planning foreign trade:

Planning of the commodity structure and the regional structure of foreign trade is closely linked with each other. The commodity-structure of export and import is of great influence on the development of the flow of foreign trade to different countries, as buying and selling of certain commodities (e.g. the purchase of some raw materials or highly sophisticated equipment) is often limited to few selected countries. On the other hand, the structure of foreign trade with regard to countries or foreign currencies (e.g. depending upon central decisions in the field of foreign affairs or the needs of redressing the balance of payments in certain currencies) has a more or less determining effect on shaping the commodity structure of export and import of the country concerned. Thus these interrelations have to be taken into consideration in planning foreign trade.

The most important factors influencing the regional structure in planning foreign trade can be determined as follows:

- aims and conditions in the field of foreign affairs according to the close connections between policy and economy;
- effects of integration processes (e.g. in the case of CMEA, EEC, integration among Arab Countries). Experiences of the past years prove the growing influence of specialization and co-operation of production as a crucial point of economic integration on the volume and the regional structure of export and import;
- requirements resulting from the commodity structure of export and import;
- possibilities of selling and buying on different markets;
- demands for equalizing the balance of payments with regard to certain currencies and/or countries, above all in the case of existing bilateral clearing agreements;
- aspects of the profitability of foreign trade in connection with different prices (including costs of transportation, influence of customs etc) in export and import relations to single countries.

The aforementioned factors are not isolated from each other, there are many interrelations. Starting from that the following methods, instruments and techniques can be applied in planning the regional structure of foreign trade:

- a/ Special plan figures and plan components within the planning procedure for the development of export, import and the flow of foreign exchange to different groups of countries, separate countries and/or currencies;
- b/ Using the different possibilities of economic integration, above all activities in the field of international plan coordination or joint planning, for planning foreign trade with partner countries of the community concerned and with third countries.
- c/ Using trade agreements and other types of governmental agreements in the field of foreign economic relations as a means for planning and realizing the development of foreign trade to certain countries;
- d/ Customs policy, fixing of exchange rates and further financial instruments as a means for influencing the regional structure of foreign trade;

e/ Using mathematical models for calculating the optimal structure of foreign trade with regard to the regional development (see chapter 10).

Depending upon the different conditions on the socialist world market and the capitalist world market regional planning of the foreign trade has to be distinguished above all relating to socialist and capitalist countries.

9.2 Specialities in planning foreign trade with socialist countries:

The economic development of socialist countries is planned in a comprehensive way and the socio-economic conditions in these countries guarantee a high stability in economic growth and the realization of liabilities resulting from international economic agreements with other countries. Thereby favourable prerequisites exist for planning foreign trade relations with socialist countries. That is of special importance for planning foreign trade by CMEA-countries, e.g. the GDR.

Of particular importance in this connection is the cooperation in planning with other member countries of CMEA carried out in different forms and fixing, among other things, mutual foreign trade relations for several years ahead concerning

volume and commodity structure of export and import. At the same time, agreements on governmental, branch and enterprise level for further deepening scientific-technical cooperation, cooperation in investments as well as specialization and cooperation in production involve a lot of concrete liabilities for futural exports and imports. In the result of these activities in the framework of socialist economic integration trade agreements, containing the volume and the detailed commodity structure as to export and import, are concluded between the CMEA-countries for the following 5-year-plan period. They are completed and - in conformity with new tendencies conditions and knowledges - corrected by annual agreements.

By connecting the preparation and the conclusion of these agreements with the continuous procedure of planning foreign trade on all levels and in all branches and enterprises a high quality in planning and realizing foreign trade relations to other socialist countries can be achieved.

The aforementioned conditions create favourable conditions, too, for planning foreign trade with socialist countries by developing countries. This results, above all, from the planned, stable economic development in socialist countries including

foreign economic relations. In addition to the methods and techniques for planning the regional structure of foreign trade as mentioned in paragraph 9.1 the following factors could be used:

a/ In connection with the elaboration of long - and medium - term plans of the economic development in developing countries there are certain possibilities for a coordination in special fields with the planning activities in socialist countries. Such a kind of "plan coordination" is possible on a bilateral level or on a multilateral level with CMEA-organs (e.g. on the basis of agreements between the CMEA and Mexico and Iraq).

b/ Based on a centrally planned development (including or without a plan coordination) long-term agreements between developing countries and socialist countries on important subjects in the field of scientific-technical cooperation, the establishment of great projects (e.g. in the fields of industrialization or improving the infrastructure) or for specialization and cooperation in production could be concluded with effects on a stable development of export and import relations between the countries concerned.

c/ Bilateral trade agreements (see for example the agreement between ARE and GDR for 1978) containing the volume and the commodity structure of export and import are useful instruments for regional planning, too, as obligations from these agreements are parts of the foreign trade plans of both countries.

9.3. Specialities in planning foreign trade with capitalist countries:

When planning foreign trade relations to capitalist countries we have to take into consideration the economic laws and concrete conditions influencing the economic development within the single countries and on the capitalist world market as a whole. Economic crises, high inflation rates and the absence of effective systems of central planning by capitalist states are some of the factors affecting not only the economy of the own country but at the same time the foreign economic relations to socialist countries and to developing countries.

In spite of these difficulties and the high degree of uncertainty foreign trade plans have to comprise export and import relations to capitalist countries, too. Otherwise a comprehensive planning and balancing of the reproduction process as a whole would be impossible.

According to the aforementioned conditions we should give emphasis in foreign trade planning with capitalist countries on the following factors:

1/ Long-term agreements on governmental level or with certain corporations, comprising concrete obligations as to the volume and structure of export and import, can be used as a means for stabilizing the mutual economic relations in conformity with the targets of the foreign trade plan as a whole. Agreements of high dimensions on "barter transactions" between socialist countries and western partners during the past years have proved to be useful instruments.

2/ Planning foreign trade with capitalist countries needs a most effective work in the field of market research in the course of elaborating plans and - if necessary - correcting certain targets in conformity with new market conditions.

3/ Techniques of foreign trade planning have to be adopted to these special conditions. That means above all ensuring a high movability within the whole system of planning and balancing enabling prompt reactions and decisions as to the targets and means of the plan. Permissible variations as to the commodity and regional

structure of the plan within the whole framework of methodical regulations in the field of foreign trade planning as so as material and financial reserve funds are of special importance for this part of the entire foreign trade plan.

0. The Application of Mathematical Models and Computers in Foreign Trade Planning.

10.1 The objectives of optimization calculations in foreign trade planning:

As we mentioned before, socialist planning is aimed at finding the optimal solutions for developing the national economy, taking into consideration the existing material and financial resources, the manpower potential and the entirety of internal and external conditions and possibilities in conformity with the general political, social and economic targets of the society fixed by the leading authorities of the state.

As to foreign trade planning, there are always several possible variants with regard to the volume, the commodity structure and the regional structure of export and import. As far as the volume and the commodity structure of export and/or import are concerned, each variant of the plan will have different effects on the entire reproduction process, above all on production, investments and consumption. According to different prices and transport costs for the same export and/or import goods on different markets the regional structure of a fixed volume of export or import will influence, too, the profitability of foreign trade.

In the foregoing chapters of this paper we described the techniques and tools like commodity balances, trade balances, profitability indexes, special plan components etc. which have proved to be a useful and successful means of socialist planning for establishing plan-targets being consistent and covering certain pre-determined economic criteria. Also in future these methods will be of greatest importance for planning foreign trade and we are trying to improve them in order to fit the steadily growing requirements in planning foreign trade.

But at the same time we should make use of mathematical models and computers as auxiliary instruments helping us to take into consideration the manifold interrelations and repercussions between economic processes in the field of foreign trade and to find the optimal solution out of a lot of possible plan variants. One of these new tools are input-output-balances calculating the influence of changes in the structure of production, consumption, export and import on all branches (or groups of commodities) in the national economy. (10)

(10) Please, see Schulmeister "Tools for foreign trade planning, Part I: Balances" Memo No. 204, INP Cairo 1971.

Another tool which has proved to be a useful technique for foreign trade planning, too, is the linear programming technique, or as we say, models of optimization. Especially in cases of a diversified commodity structure of export and import in connection with a lot of alternatives between domestic production, import and export and with several possibilities for buying or selling the same good on different markets characterized by different profitability indices optimization calculations can qualify essentially decision making in the procedure of foreign trade planning.

The basis ideas for constructing and using linear programming models for planning foreign trade are as follows: (11)

1/ We have to decide which problem is to be solved for which group of commodities, e.g.:

- Optimizing the commodity structure of export and/or import in connection with the structure of the domestic production;

(11) As to the detailed steps in applying such models please see: Schulmeister "The Application of Linear Programming Models for Planning the Optimal Structure of Foreign Trade" Memo 1014 INP Cairo 1972.

- Optimizing the regional structure of a fixed volume and commodity structure of export and import to different market;

Depending upon the task to be solved, the concrete type of the mathematical model can be determined.

2/ A linear objective function has to be formulated which aims either at a maximization or at a minimization. In conformity with the problem concerned the objective function might be e.g.:

- Maximizing the surplus of export receipts over the import expenditures of the group of commodities concerned;
- Maximizing the sum of domestic prices of the industrial corporations on the home market and export receipts of foreign trade enterprises as to a group of commodities;
- Minimizing expenditures in foreign exchange for a group of import goods according to a planned volume;
- Minimizing the sum of domestic cost of production and expenditures in foreign exchange for a group commodities.

In all these cases differences as to prices and costs between several goods within a group of commodities or between different markets will be used for the purpose of maximising receipts or profits or of minimizing expenditures in foreign currency or in cost of production.

3/ A set of linear constraints has to be determined limiting the variables of the model. These constraints have to cover the existing limitations both internally and on external markets, such as:

- Limitations in the capacity for producing the exportables;
- The necessity of fulfilling the domestic demand in products which are also exportables;
- Maximum possibilities for selling certain export goods on certain markets;
- Maximum supply possibilities for commodities on certain markets;
- Obligations arising from trade agreements or commercial contracts with regard to certain exports or imports on fixed markets;
- Requirements from the balance of payments as to certain currencies or countries.

By means of such constraints we can ensure that ~~the~~ objective function of the model can only operate within the boundaries decided by central plan targets and by the political, social and economic conditions and aims of the environment of the economy concerned. In that way we can promote to a high extent that the sub-optimum solution of a partial system (e.g. production, export and import of a certain group of commodities) will meet the requirements of an optimal development of the system as a whole. (the national economy).⁽¹²⁾

4/ The necessary data for the calculation according to the model have to be collected and checked by the planners, after preparing the computer programme the model will be solved by the computer and the results of the calculation can be used by the planners as a basis for decision making.

Using optimization calculations in socialist planning foreign trade is not aimed at replacing traditional tools like balances etc. by modern tools like models of optimization. We are following the concept of combining the traditional and the modern tools in practical planning.

(12) Because of the mathematical problem of the so-called "two-level-planning" please see footnote No.6.

A model, even if highly sophisticated, is without any use, if the expert or the planner has not elaborated on it in the correct lines, e.g. when determining the objective function, when fixing the limiting constraints and estimating the inputs (cost, prices, maximum sale's or supply possibilities for certain commodities on different markets, minimum demands or obligations for exports and imports on certain markets etc). Besides, we want to stress that the political, social and economic development are so manifold and include so many different factors and tendencies which cannot completely be considered in models. Thus one has always to check the results coming from the computer and to compare them with the real life before deciding on the plan for the futural development.

10.2 A linear programming model for optimizing the commodity and regional structure of foreign trade:

As we mentioned before, using programming techniques in the field of foreign trade planning requires different types of models, depending upon the task to be solved. An important problem in foreign trade planning is to find the optimal structure of the production, export and import for a certain branch or a group of commodities as a part of

the national economy. For instance we want to decide, when establishing a mechanical engineering complex for producing agricultural machines: Which is the optimal size and structure of the complex from both the internal and external side? Which assortment of agricultural machines is to be produced and which percentage shall be exported to which countries or groups of countries? Which kinds and which quantities of raw materials, intermediate products and final products of certain types of agricultural machines should be imported, meeting the demands of the domestic market?

For this purpose the following model can be used. The model is mainly directed to an optimization of the export and import structure. As the aforementioned problem touches the development of production, investments and consumption, too, the objective function and the constraints can be extended with regard to the available labour resources, investment requirements etc.

The objective function of the model looks as follows:

$$\sum_{k=1}^n \sum_{r=1}^m p_{kr} x_{kr} - \sum_{k=1}^n \sum_{r=1}^m p_{kr}^J x_{kr} + \sum_{g=1}^s \sum_{r=1}^m d_{gr}^J y_{gr} - \sum_{g=1}^s \sum_{r=1}^m d_{gr} y_{gr} \longrightarrow \max$$

Explanation of symbols used:

$K = 1, 2, 3 \dots n$ number of export commodities

$r = 1, 2, 3 \dots m$ number of countries/markets

$g = 1, 2, 3 \dots s$ number of import commodities

P_{kr} = external price (fob) of the export commodity k on the market r per unit of volume

X_{kr} = export volume of commodity k on market r .

p^J = internal costs or internal prices of exportables

d^J = internal price for the importables (or domestic prices of the domestically produced commodities similar to or substitutes for imports).

The constraints (limiting conditions) are formulated as follows:

$$(1) \sum_{r=1}^m y_{gr} + X_k = \sum_{j=1}^n a_{kj} X_j + \sum_{r=1}^m x_{kr} + G_k$$

$$(2) X_k \leq \bar{K}_k$$

$$(3) x_{kr} \leq \bar{b}_{kr}$$

$$(4) x_{kr} \geq b_{kr}$$

$$(5) y_{gr} \leq \bar{b}_{gr}$$

$$(6) \quad Y_{gr} \geq b_{gr}$$

$$(7) \quad \underline{S} \geq \sum_{k=1}^n P_{kr} X_{kr} - \sum_{g=1}^s d_{gr} Y_{gr} \leq \bar{S}_r$$

where

X_k = total production of commodity k

$\sum_{j=1}^n a_{kj} X_j$ = raw materials or intermediate goods
 $j=1 \dots n$ for the production of commodity k (a_{kj} are the technical or input/output coefficients)

G_k = final internal demand for commodity k

\bar{K}_k = available production capacity for commodity k or the planned capacity for the plan period

\bar{b}_{kr} = maximum sale's or supply possibility for commodity k on the market r

b_{kr} = minimum export or import obligations for commodity k on the market r

$\underline{S}_r / \bar{S}_r$ = lowest or highest limit for balance limitations as to the market r

10.3 Experiences in applying linear programming models for planning foreign trade:

When constructing models of optimization and applying them practically one will be facing some problems resulting both from the existing economic and other conditions influencing the model and from the mathematical apparatus. In the following we shall give some ideas how to solve such problems utilizing experiences in research work and practice of planning foreign trade in the GDR.

1/ One problem concerns the contradiction between the linear programming technique - i.e. all coefficients and parameters attached to the variables of the model will behave in a linear way - and the dynamic behaviour in real life, above all as the external prices are concerned. In many cases export and import prices (above all agricultural products and some raw materials) will behave in a non-linear way depending on a certain season during the year or on the quantities of export or import goods settled in commercial contracts.

If these changes are not remarkable one can neglect them and use average prices. Otherwise one can handle the problem as follows:

a) We make use of the parametric linear programming technique and by this investigate the influence of changes in the coefficients or parameters of the model on the optimal distribution (e.g. of the distribution of export and import goods on different markets);

b) We can divide one commodity into 2,3 or more separate items according to changes of the price depending upon the season or upon the contracted quantity. For example take for given that onions could be sold for 100\$ per ton when exporting less than 100 tons. When contracting larger quantities the buyer will get a discount of 10%. In this case we should take the following items in the model

k_1 = onions to be sold for 100\$/ton within a limit from 1 till 99 tons

k_2 = onions to be sold for 90\$/ton when exporting more than 99 tons.

2/ Another problem deals with the possible or necessary size of the model. The number of variables and the number of equations to be included in the model is limited, especially from the aspect of collecting all data in a proper way and of solving the model in a reasonable time. We gained good experience in using models which included less than 10.000 equations or non-equations and 1000 till 2000 variables.

3/ The aforementioned problem is closely linked with the task of properly relating partial optimization models to the overall optimum of the national economy as a whole. From the national economic point of view all foreign trade models must be considered as partial models and the partial optimization must be in consistency and in full line with the overall targets and limitations of the national economy.

There exists a system of models with a different degree of aggregation and disaggregation (groups of commodities on a higher level will be divided into single commodities or types of commodities on branch and enterprise levels) which can be compared with the above mentioned hierarchical

system of socialist planning or the pyramid of balances (see chapter 1, 5 and 6).

This problem must be solved, when determining those inputs of the partial models like G_k , \bar{K}_k , \underline{S}_r , \bar{S}_r etc. (see paragraph 10.2) which should be derived from the national plan or concept. According to the above mentioned method of a "two-level-planning" some coefficients and parameters as inputs for partial models should be the results of balancing and optimizing on the central level whereas the partial optimization on lower levels will contribute to a further improvement of the national plan as a whole.

4/ Practical experiences proved the informational problem as to be the most crucial one. The best mathematical model is of no use if you cannot feed it with correct data for the plan period. As to optimization models in the field of foreign trade, above all futural external prices as so as the demand and the possibilities for selling and buying certain commodities on certain markets are concerned. In the case of optimizing the commodity structure for medium-

or long-term planning determining the technical or input/output coefficients a_{kj} (see constraint No.1 in the model described in paragraph 10.2) in conformity with the scientific-technical progress is very difficult, too.

Thus there seems to be a paradoxon. Applying programming technique is aimed at improving and rationalizing the whole procedure of planning included finding the optimum set of plan targets. But first of all the planner has to work harder as the data requirements are growing and he must spend greater efforts in getting the necessary information and in checking the data as to exactness and consistency.

Going into this matter in details, you will find that there is no additional demand for data as compared with traditional methods of planning. Using mathematical methods makes it only necessary, to fix the objectives and the limitations for the plan in a quantitative and qualitative very exact way. Hence the quality and accuracy of planning will grow and planning will benefit altogether by making use of mathematics and econometrics.