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**BALANCES - A FUNDAMENTAL
INSTRUMENT IN PLANNING INDUSTRY**

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**INTERREGIONAL TRAINING COURSE
ON INDUSTRIAL PLANNING**

**BERLIN - GDR
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BALANCES - A FUNDAMENTAL INSTRUMENT IN PLANNING INDUSTRY

Balances (production, capacity, material, manpower and financial balance-sheets as well as input-output tables) as tools for elaborating and realizing plans of industry

Dr. Dieter Bräuner

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Balances (production, capacity, material, manpower and financial balance-sheets as well as input-output tables) as tools for elaborating and realizing plans of industry

Experiences in the GDR in the field of industrial planning show that balance-sheets or just balances must form a component of the planning tool. Proceeding from this, the following issues have been stated summarily:

- (i) working out balance-sheets as the main method of planning,
- (ii) regulation of responsibility for elaborating and realizing balance-sheets,
- (iii) incorporation of balance-sheets in the process of elaborating plans,
- (iv) approach as well as problems relating to the content and organisation in elaborating balance-sheets.

In industrial planning in the GDR, numerous balances varying in content are being used and so these have given rise to characteristics and problems which are more or less typical of all types of balance-sheets. Since they are common to all balances, they will be presented here in one type of balance. The example chosen is the balance of sources (output) and uses (utilization) of material products (products, product groups). This also provides us the possibility to describe in detail the bases and problems in using them.

1. Working out balance-sheets as the main method of planning

The subject matter in working out balances in the socialist economy of the GDR is planning the following basic economic magnitudes as well as securing the proportionality between them:

- (i) sources (production, import) and uses (consumption) of various material products and services (products, product groups) which are produced and consumed in the economy,

(ii) requirements (volume required for securing the development of production) in production resources¹ and the sources available to meet them (stocks, possibilities of expanding them),

(iii) receipts and expenditures of financial funds.²

The securing of proportionality is not simply a matter of an arithmetical exercise to establish consistency between both sides of a balance-sheet. In working out balances the requirement side (uses, expenditures) assumes primacy.

The requirements in material products and services, in production resources as well as in financial funds are reflected in the planned targets with respect to the development of social, individual and productive consumption. These targets are in turn derived from the economic laws of the socialist economy as well as from the development tasks in the construction of a developed socialist society.

The balance-sheet will allow a comparison of target estimates of resources and the possibilities of meeting them (sources, stocks of resources, receipts). On this basis realizable target estimates can be worked out and the demands on the necessary development of resources can be made evident on the other hand. The target estimates as well as the necessary resources development can thus be formulated as plan tasks. The main tasks in working out balance-sheets are in providing information on how the satisfaction of requirements or needs (in products, production resources as well as financial funds) can be secured. Proceeding from these information, the output in material products and services, the stocks in production resources and the revenues in financing funds have to be developed in such a way that they meet the requirements.

¹ Production resources are, inter alia, manpower (according to age, sex, qualification), capital fixed assets (production capacities), investment fund.

Financial funds are money from profits, levies, payments, taxes, contributions for financing (expenditures) the health service, education, science, investments etc.

The primacy of requirements (targets) cannot be implemented in all cases without a change in the original plan estimate. For various reasons, especially owing to development problems in the economy, there will be a discrepancy between requirements and sources (stocks, revenues). The function in working out balances lies in showing the discrepancies and deficits, if they do exist, in the stage of plan elaboration. With such informations at hand, provided by balance-sheets, the necessary decisions can be made in time and even before hand. They facilitate decision-making before discrepancies (disproportions) can lead to disturbances in the course of the economic reproduction process. An excessive pace of development (production, investments, etc.) as well as a line of development giving rise to disproportions can be avoided. In some cases with the aid of balances, decisions must be made on what volume must be made available (in sequence) to satisfy the requirements or demand. In concrete cases they provide information on unused production output (excessive supply) as well as idle production resources (under-utilized production capacities).

An inadequate efficiency in partial sectors of the economy - this applies also to industry - in production, in the utilization of production resources and in profitability can also be made evident indirectly by various types of balances. Inadequate efficiency is always shown as excessive requirements or demand (consumption, expenditures) or as insufficient output in material products and services, production resources and financial funds. This can lead to discrepancies between sources and uses, requirements and sources to meet them and between revenues and expenditures. These can be recognised as balance deficits or discrepancies.

These informations can be used to derive plan tasks to improve efficiency (profitability) of production, a more effective use of products and a more effective input of production resources.

From the features and possibilities of balances described, the conclusion has been drawn in the national economy of the GDR that the working out of balances is the main method of social-

ist planning. They are an important tool in preparing decisions in the process of plan elaboration and realization by management organs at the various levels of the socialist economy. The predictive statements characteristic of balances are useful both at the level of the overall economy as well as at lower levels right down to the enterprise.

We are of the opinion that there cannot be socialist planning without working out balances. If plan tasks are not derived from balances, there is a danger that the details may not be substantiated and coordinated in their entirety. Their realization can be proved as partially or wholly impossible. That is why one cannot do without the use of the specific possibilities of balances for socialist planning.

In the GDR balances were first used at the beginning of planning toward the end of the forties. In establishing the system of balances, the long years of experience of the Soviet Union was evaluated and then used in accordance with the conditions in the economy of the GDR. The working out of balances has been increasingly improved over a long process of development.³

Newer aspects of the economic reproduction process have been incorporated in working out balances. The working out of individual balances has likewise been improved. From balances with a simple structure and with less differentiated indicators, we have gone over to complicated balances with detailed indicators as well as to new types of balances (economic-mathematical models). Information relationships have been improved and the regulation of responsibility for working out balances has also been changed. The current system of balances in the GDR has evolved over this process gradually. It implies also that this process has not ceased.

³ The development problems are gone into in 3.2. in greater detail with the example of product balances.

2. Regulation and the responsibility for working out and realizing balances

The principles for establishing the system of balances described here is consistent with the experiences gathered in the GDR and other socialist countries in the course of long years of applying or using balances.⁴

The working out and use of balances in the GDR are an essential component of planning work of management and planning organs at all levels of the economy. This is a consequence of the fact that plans as tools of the planned management of each sphere of responsibility are indispensable.⁵

It is necessary that each type of balances is defined precisely, what management organ is responsible for working out which balance, what other management organs are duty bound to collaborate in working it out and what management organs are responsible for realizing it. At the central management level of the national economy, the following decisive balances are worked out and they are those that:

- (i) present the basic proportions of economic development,
- (ii) supervise their realization, and
- (iii) establish consistency and coordinate the plan tasks of all partial sectors of the economy.⁶

These balances are called state balances.⁷

The state balances which are particularly important for planning industry and the central state organs which are responsible for working them out are stated below:

4 This refers to general principles. Other questions in establishing them are dealt with in 3.2.

5 The sphere of responsibility is described as the sphere for which a management organ is by law responsible (or under its purview).

6 Partial sectors of the economy are industry, agriculture, etc. their branches (e.g. industrial branches) as well as the regions (regional partial sector).

7 Their nomenclatures and the responsibility of the respective

State Planning Commission:

- (i) balance-sheet of the gross social (national) product and the national income ;
- (ii) balance-sheets for important raw materials, materials, equipments and consumer goods⁸;
- (iii) balance-sheet of the population, the working people and manpower resources⁹.

Ministry of Finance:

balance-sheet of the state budget¹⁰

State Bank of the GDR:

credit balance-sheet¹¹

The state balances are the main tools of central state planning. Subordinate management organs (lower echelons) of industry¹² are responsible for:

- (i) working out balances for substantiating the plan in their spheres of responsibility,
- (ii) working out balances which cover the tasks on a national economic scale.

Continuation of footnote 7

management organ are laid down in the Regulations of Planning the National Economy of the GDR 1976 - 1980.

8 Cf. 3.1. and Appendix 1.

9 Cf. 3.2. and Appendix 2.

10 Cf. also Chapter 4 of the Textbook on National Economic Planning. Table 4.18. This balance-sheet serves, inter alia, the planning of the revenues of the state budget from industry (profit transfers, levies, payments) as well as expenditures for financing the plan tasks of industry (investments, scientific-technical tasks etc.).

11 Cf. also Chapter 4 of the Textbook on National Economic Planning, Table 4.19. This balance-sheet serves, inter alia, the planning of extending credits to industry (for financing investments etc.).

12 Subordinate management organs (lower echelons) are management organs of socialist enterprises, combines and Associations of Nationally-Owned Enterprises (VVB).

(a) Responsibility for working out balances for substantiating the plan in one's sphere of responsibility

The development of the economy in the sphere of responsibility in the GDR is managed on the basis of plans. The plan of the sphere of responsibility contains stipulations (plan tasks) on economic-scientific-technical and social activities. Plan tasks are substantiated and fixed with the help of balances.

In the frame of planning the sphere of responsibility, especially the following balances are worked out:

Manpower balance-sheets

With these types of balance-sheets, the requirements in manpower stemming from the envisaged volume of production of the sphere of responsibility is compared with the existing manpower. They facilitate us to determine the required replacement and expanding requirements in manpower for accomplishing production tasks. The resulting information provides the basis for balancing (i.e. working out balances) the requirements by regional management organs (the Regional Council, the District Council). Regional management organs are responsible for working out balances of the overall manpower potentialities in their regions. Management organs of industry are under an obligation to report to and coordinate with them with regard to requirements in manpower.

Balance-sheet of working time

With this type of balance-sheets, the legally fixed working hours or time (for all those employed and an average related to a worker or employee) is compared with the real effective working time for fulfilling production tasks as well as man-hour losses (sickness, holidays etc). The results of this balance-sheet are reflected in the manpower requirements of the sphere of responsibility as well as its production capacity. Working time, manpower and capacity balance-sheets are always in close connection.

Capacity balance-sheet

This type of balance-sheet permits us to compare the sum of all manufacturing time for the fulfilment of the envisaged production tasks (differentiated according to various groups of machines and manufacturing units) with the existing manufacturing time or hours which stem from the employment of all machines (minus idle machine hours due to technical reasons) and the existing manpower. Thus one can recognise the surplus or excess time and the disparities in the various groups of machines and manufacturing units. The capacity balance-sheet provides information for the introduction of scientific-technical measures to overcome disparities and to substantiate possible production development, necessary investments and the allocation of manpower.

Finance balance-sheet

With the aid of this balance-sheet, money incomes or revenues and expenditures of the sphere of responsibility are compared. It is used also to balance financial requirements stemming from the envisaged economic, scientific-technical and social plan tasks (utilization of financial funds) with the existing or available financing sources (one's own income or proceeds, allocations from the state budget, credit). This balance-sheet provides informations on to what extent the self-generated financial resources in the sphere of responsibility are adequate for financing various items or whether there is recourse to other financing sources. From here one derives plan tasks to raise the profitability of production activities. It facilitates us to plan the financial relations or flows to and from the socialist state (the state budget).

All the balance-sheets mentioned above are worked out by the management organs of all industrial enterprises and partly also by their higher management organs (the combine, the Association of Nationally-owned Enterprise).

- (b) Responsibility for working out balances which extend to tasks on the scale of the overall national economy

These types of balances are balance-sheets of sources (output) and uses of concrete products and product groups (material products and services). In the GDR they are called the materials, equipments and consumer goods balance-sheets (German abbreviation: "MAK-Bilanzen"). Their subject-matter is the balancing of products and product groups which are consumed or used in the economy or by the public as materials, equipments (for investments) or as consumer goods.¹³

For each well-defined product (product group) only one balance-sheet is made out. This extends to the whole of the economy (not only in one responsible sphere). One management organ is entrusted with working out such a balance-sheet and thus it functions in this case as a "balancing" organ.

The sources side of this balance-sheet covers the whole output in the economy plus imports and the uses side covers the whole consumption (utilization) in the economy plus exports (and not only the sources and uses in the responsible sphere of the "balancing" organ)¹⁴.

The Planning Regulation of the GDR lays down that all management organs of the economy involved in the output of a certain product group (including foreign trade organs for the import) are obliged to inform the balancing organ on the envisaged production and import. In the same way, management organs have entrusted all public consumers to provide information to the balancing organ on the requirements for these products in their responsible sphere.

¹³ The following account describes only the basic features of the regulation of responsibility in working out balances. A detailed account is provided in 3.2.

¹⁴ Let us say, for example, a material balance-sheet is worked out for product group "foundry products" (castings). The balancing organ is the VVB foundries. All foundries are under the purview of this management organ. Only a part of the castings are produced in foundries, the others are under the purview of other management organs (e.g. heavy engineering enterprises). This balancing organ (i.e. VVB foundries) also balances up this output.

On the basis of this information as well as on the basis of their own calculations, the balancing organ works out the balance-sheet. It is then examined by its next senior management organ, is confirmed and finally comes into force as a component of the plan. Only the next senior management organ has the right, if need be, to decide on changes in the balance-sheet. The responsibility for working out product balances (material, equipment and consumer goods balance-sheets) is regulated by law in the GDR.¹⁵ This regulation has come about over a long process of development.

When product balances (MAK) were first begun in the GDR, a special management organ was set up, namely, the State Committee for Provision of Materials. This acted as a balancing organ and was characterised by rigid centralisation. At that time, the economy of the GDR had only a limited output of many product groups. This had to be used to satisfy the most urgent requirement or need. Central allocation therefore was an appropriate means. In the following period, however, the exclusion of the immediate producers from balancing proved to be unrational. The stock of knowledge possessed by these producers was not being used and thus their interest in the development of production according to needs was not stimulated. The higher level of development of the economy made the transition to the present regulation thus possible and necessary.

Experiences made in the GDR with regard to balances show that the socialist economy has favourable prerequisites to realize this knowledge obtained in working out balance-sheets in economic practice. The management structure of the economy of the GDR based on the principle of democratic centralism provides the possibility to derive plan tasks from various types of balance-sheets and to incorporate them in plans as legally binding as well as to ensure their realization by taking into consider-

¹⁵ Regulation on material, equipment and consumer goods balance-sheets - Balancing Regulation of 20.5.1971.

ation the concrete responsibility in the various management levels of the economy.

Development in the GDR has led to the recognition that progress in planning involves especially improvement in working out balance-sheets. We believe that this is also true of developing countries. With the existence of a state sector in industry, there are initial possibilities to base industrial planning by applying methods of balances. Even in these national economies balances provide significant information. This stems from the fact that with the aid of balances important connections and proportions can be made recognisable in quantitative terms. For working out balances and the use of informations derived from them there are, of course, varying conditions between those obtaining in the GDR and those in the developing countries. These have to be taken into account.

3. Balance-sheets of sources and uses of production in industry

This type of balance-sheet is the core of working out balance-sheets or balancing in the GDR. The gross social (national) product, both in its entirety as well as in the variety of concrete products, forms the material basis of the existence and further development of the whole socialist society and every citizen. The final aim of production in socialist economy is the better satisfaction of the material and intellectual needs of people. Thus the purpose of this balancing of the sources (output) and the uses (utilization) of material production is to serve this aim.

The dominant position of this type of balances in socialist planning stems from the fact that nearly without exception, all economic and social processes (consumption, production, activities in the field of education, health service etc.) involve consumption of certain material goods and services. As a result, each decision on certain plan tasks in planning leads always to consequences with regard to the output and utilization of certain material products. As a rule plan tasks can be realized only when the required material products are available. With the aid

of the above balances, securing materials for fulfilling plan tasks is therefore ensured.

3.1. Balance-sheet of the gross (national) product and the national income

The gross social (national) product and the national income are important economic magnitudes which characterise the important aspects of the socialist economy. Industry in the GDR has a determining share in both magnitudes.¹⁶ Seen from the quantitative aspect alone, it has proved necessary to link closely the planning of the gross social product and the national income on the one hand and that of industrial production on the other. The balance-sheet of the gross social product and the national income is therefore an indispensable means to this end.¹⁷ The content and structure of this balance-sheet are shown in Appendix 1.

The balance-sheet of the gross social product and the national income is worked out by the State Planning Commission (state balance-sheet). Its subject-matter is the proportionality between basic economic magnitudes:

production,
replacement of the used means of production,
consumption,
accumulation,
foreign trade (export/import).

Proceeding from these basic proportions, the basic plan tasks can be determined for the development of industrial production¹⁸ as well as the requirements of industrial production in utilizing parts of the gross social product and the national income.¹⁹ Thus the framework is provided for working out independently planning and balancing tasks by lower management organs.

¹⁶ In 1974 the share of industry in the GNP was 66.8 per cent and the share of the national income produced was 61.7 per cent.

¹⁷ For reasons of brevity, only the related questions will be touched upon. For a full account see Chapter 4 (4.4.1.) of the textbook "National Economic Planning".

3.2. Working out of material, equipment and consumer goods balance-sheets

Material, equipment and consumer goods balance-sheets²⁰ are a tool in the planning system of the GDR for planning the sources and the uses of concrete material products and services (as a rule product groups). For precise and detailed product groups, the sources and uses are compared. The purpose of this is to cover the requirements in these kinds of products and hence develop output accordingly. The content and structure of these balance sheets (MAK) are shown in Appendix 2.

On the sources side of the "MAK" balance sheets, apart from imports, the production output of all responsible spheres of the economy is covered, i.e., the particular type of products manufactured.²¹ On the uses side, the utilization of these kinds of products is covered according to a classification which permits recognising the different purposes for which they are being utilized. A distinction is made between the following purposes:

production consumption	- utilization as raw materials, materials, or as energies for manufacturing other products
investment consumption	- utilization as investment goods
individual consumption	- consumption by the public (mainly on sale as consumer goods through the retail trade)

¹⁸ Plan tasks are, inter alia, the volume, branch structure and the pace of development of industrial production.

¹⁹ Requirements are, inter alia, the utilization of a part of the national income for new investments in industry.

²⁰ For the sake of convenience the German abbreviation MAK will be used.

²¹ The responsible sphere having a hand in the production output will be described as the sources sphere. As a rule, they are ministries which have these production enterprises under their purview. They compile the production output of all enterprises under their purview and provide the necessary information to the balancing organ. See Appendix. 3.

social consumption	- consumption by the non-producing sector of the economy (institutions of the health service, education etc.)
export	
stocks at the end of the year	-
balance reserves	- they represent a part of the output whose utilization has not been decided at the time the balance-sheet is worked out (decision reserves). They are essential for the efficacy of the balance-sheet.

Planning the utilization of the various product groups can be linked to planning the summarised economic magnitudes and proportions by this classification. The groups of utilization stated (except individual consumption and export) are divided according to management organs in the MAK balances.²²

The compilation and assignment of production enterprises involved in output to the sources (output) sphere as well as the consumers involved in the utilization to the supply sphere are not alone a problem of the technique of balancing. This regulation has come about gradually. It permits the use of "MAK" balances as real management tools. From the informations obtained in working out balances, the balance organ can deal with the management organs without having to establish contact with numerous producers and consumers. On the basis of this compilation, it is not clear in the various "MAK" balance which concrete products

²² They are called supply spheres. As a rule they are ministries which act as management organs for consumers (e.g. for all institutions of the health service, it is the Ministry of Health). They compile the needs of all enterprises and institutions under their purview and provide information to the balancing organ. (Consumption-wise balance sheet-information). Cf. Appendix 3.

have to be manufactured in the supply sphere with the aid of the "balanced" production materials (utilization or uses as production consumption). This makes it difficult for balancing organs to make a decision in cases where there are disparities and decide on the sequence covering needs or requirements.

In the GDR, the party of the working class has formulated the economic policy requirement that socialist planning should proceed from the needs and requirements of the people. This applies fully to balancing of concrete material products. The derivation of needs can be looked upon as the central issue of "MAK" balancing. One of the most essential questions in the process of working out balance-sheets is therefore the substantiation of needs. Hence balancing organs and consumers (supply spheres) cooperate.

Substantiation of needs requires varying methods (depending on whether one has to derive materials, investment goods and equipment or consumer goods).²³

Requirements in materials are influenced by two main factors:

- (a) the volume of production in the supply sphere which consumes the materials concerned;
- (b) the specific material expenditure (the type concerned) for manufacturing a unit of production of the material consuming responsible sphere.²⁴

These indicators of specific material input (material consumption) reflect especially:

- the specific technological features,
- the scientific-technical level,
- the efficacy (rationality) of material input.

²³ In this field a greatly differentiated needs research has been established in the GDR. We shall not deal with its methods here. In the following account, some basic problems in deriving needs in material will be gone into.

²⁴ An example of this is expenditure in electricity (in KWh) per million marks of production in the textiles industry.

Efforts are being made in the GDR to improve the work on indicators of specific material consumption. Some progress has been made, however, in recent years.

For a wide range of economically important material items (product groups of material consumption) and product groups of production, central normatives of material and energy consumption are worked out and passed on to the management organs of the most important consumers as a component of plan tasks.²⁵ For other material and production items, however, there is a prescribed use of an aggregated coefficient of input of materials (MES)²⁶. Generally, all production enterprises of industry have to work out their material consumption norms (MVN) for their internal planning which then forms the basis for deriving the requirements in all materials.

Requirements in material have to be substantiated by the suppliers of materials (supply sphere). Balancing organs also exert an influence on an effective use of materials. They have a right to control the application of state normatives of material and energy consumption, the aggregated coefficient of input of materials and material consumption norms by the consumers (supply sphere).

In balancing materials, since 1971, and in the most important raw materials, materials and energies specific material consumption could be reduced by 3 per cent annually in the GDR through such a approach. Generally, the substantiation of material requirements needs further improvement in the sphere of material balancing. In the coming years the nomenclature of normatives

25 E.g., state normative "consumption of coniferous timber (in sq.m.) per 1000 marks of furniture". The normative nomenclature contains several hundreds of normatives. It is part of the Planning Regulation of the GDR. Thus about a third of material consumption in industry is substantiated by norms.

26 E.g., the aggregated coefficient of material input (MES) "consumption of rolled steel (in tons) per million marks of products of railway". The MES is greatly aggregated with regard to materials and products as a rule. The Planning Regulation contains binding nomenclatures for working out balance-sheets.

will be gradually extended. The higher management organs are constantly reviewing the work on material consumption norms and the present level attained cannot be regarded as satisfactory.

The "MAK" balance-sheets worked out in planning requirements are also a result of long years of development in the GDR. In the early years of balancing, consumers played a subordinate role and the requirements were estimated by the balancing organs. The realizable output (especially possible production) was of prime importance because of the level of development attained then. Material products needed (materials, raw materials, energies, equipment) were allocated to public consumers according to a centrally fixed priority (quota system). With the growing level of development of the economy of the GDR, the immediate producers were drawn in increasingly for deriving requirements. The quota system was abolished and was replaced by a system of economic contracts between suppliers (producers, importers) and consumers.

The transfer of responsibility for working out certain "MAK" balance-sheets was made from the following aspects:

- (i) normally a management organ is designated as a balancing organ in whose responsible sphere the major part of the products concerned are produced²⁷,
- (ii) the greater the economic importance of the product group concerned, the higher is the level of balance responsibility. Thus at the level of the State Planning Commission, the product groups of the highest economic importance are balanced,
- (iii) the greater the degree of aggregation of a product group, the higher is the level of balancing. At the level of industrial ministries and the State Planning Commission mainly highly aggregated balances are worked out.

²⁷ E.g., balancing the product group "electric energy"; the balancing organ is the Ministry of Coal and Energy. In its sphere of responsibility around 82 per cent of electrical energy is produced (1974).

Fixing (choice) of nomenclature is one of the difficult problems in organising the system of balances. The balance nomenclature is a compromise between differing and contradictory requirements. The most important of these are:

- (a) incorporating a possible wide range of products and product groups in "MAK" balances;
- (b) a low degree of aggregation possible of product groups;
- (c) covering products and product groups which only temporarily play an economically important role;
- (d) ensuring keeping track of the diversity of the concrete product groups;
- (e) constancy of the regulations with regard to the choice of the product groups to be balanced and assigning the responsibility to the management levels;
- (f) avoiding excessive work in planning when elaborating balances.

The balance nomenclature as well as the assignment of responsibility to management organs have been changed many times in the GDR. Before 1971, for example, the number of balanced product groups, especially those to be worked out by the State Planning Commission and the ministries was greatly reduced. The purpose of this was to ease the burden of central management organs and simplify planning. This did not prove to be purposeful. Central management organs then did not have the tools to the full extent to organise economic proportions according to plan. There were disturbances which were caused by disproportions in important product groups.³⁰

Obviously, the extent of the balance nomenclature in an economy with an increasingly differentiated product group structure should not be reduced beyond a minimum magnitude. Likewise, at least a minimum of balance-sheets must be used at the central level. Regulations worked out later were thus based on these experiences.

³⁰ E.g., in the output of energies.

An important task is assigning work on MAK balance-sheets to the various management organs in the process of plan elaboration. In working out balance-sheets and plan drafts, the balancing organs cooperate with management organs involved in the sources side (output sector) as well as with management organs involved in the uses side (supply sphere)³¹.

The balance organs have at their disposal the necessary information to work out balance-sheets³². This has to be augmented by their own ideas on the development of sources and uses with regard to these products. As a result of the concentration of drafting balance-sheets in these organs, contradictory claims by various production, foreign trade and consumer enterprises are thus eliminated. The balance organs have been entrusted with this job and also work in the interest of the national economy.

When working out balance-sheets, consistency between sources and uses (i.e. output and utilization) is not established immediately in many cases. If there should be discrepancies, then they are obliged to find ways jointly with producers and consumers to establish such consistency. In such cases the balance-sheet drafts contain changes proposed by producers and importers or changes in the requirements submitted. The balance organ then passes on the draft to its senior management organ which informs the management organs of production enterprises (sources sector) as well as the consumer (supply sector) about the changes (balance decisions) which are necessary from the point of view of establishing consistency between sources and uses. It also gives the final indicators for the necessary volume of production and the possible covering of requirements. This draft then becomes a plan balance-sheet.

It is on this basis that consistency is established between the MAK balance-sheets, the final plans of balance organs as well as

31 The collaborations of these organs as stated in Appendix 3 has been simplified.

32 The information flow is stipulated in the Planning Regulation.

the output and supply sectors. The balancing organs (main producers) along with the production and consumer enterprises are obliged, according to the Planning Regulations, to revise their plan drafts on the basis of the final balance decisions. The balances can be realized only when production output, from the aspect of establishing equilibrium, becomes a component of the production plans of the enterprises involved as well as of the import plan. Consumer enterprises must ensure that the remaining plan tasks (production, investments etc.) dependent on such consumption are made consistent with the possible covering of requirements.³³

The establishment of unity between plan and balances is a difficult problem in plan elaboration. It is here that further improvement needs to be done in the GDR. This problem is influenced by, inter alia, the fact that the sphere of responsibility for balancing is only partly identical with the sphere of management responsibility.³⁴

Balance organs working to surmount disproportions are, as a rule, under pressure of time. In some cases balance decisions are made only after the vindication of plan drafts of production and consumer enterprises or after the assignment of state plan targets (final plan). Objective and subjective factors play a role here.

Working contact between the balance organs and the output and supply sectors should not be restricted to relatively short periods of plan and balance-sheet elaboration but maintained

33 This requirement is called in the GDR the unity of plan and balance.

34 E.g., the Ministry of Coal and Energy: The plan is drawn up for the sphere of the management responsibility. It contains all economic, scientific-technical and social tasks which have to be fulfilled by the enterprises under its purview. The MAK balance-sheets to be worked out by this management organ also contain tasks for enterprises and institutions which are not directly under the purview of this ministry (sphere of balance responsibility). The balance organ, however, has no right to issue instructions to the latter enterprises and institutions.

constantly. Also, these organs should increasingly work out their own ideas than they have done hitherto with respect to output and requirements development.

Working out MAK balances solely in the frame of an annual plan has sometimes proved to be inadequate. If there are shortfalls in output, for example, measures have to be introduced which are often not effective within a year.³⁵ This is also true of changes in requirements or needs.³⁶ Since they were only for a period of one year, the possibilities in this system could not be fully made use of, hence, working them out for longer periods. This has been ensured by the Planning Regulations of the National Economy of the GDR 1976 - 1980, i.e., for five years and linking them with annual balancing. This has meant that there are considerable demands placed on the balance organs in working them out.³⁷

4. Use of input-output tables in industrial planning

Great importance is now attached to the use of input-output tables³⁸ both at the central level as well as at lower management levels of industry in the GDR. Those worked out and used at the central level are:

- the static input-output table (German abbreviation: SVB) of the gross social product (GNP);
- the dynamic input-output table (German abbreviation: DVB).

Those worked out at the lower levels of management in industry are the input-output tables for partial sectors of the economy (German abbreviation: TVB).³⁹

³⁵ E.g., capacity expansion by rationalisation.

³⁶ E.g., going over to other kinds of materials or decreasing the specific material consumption by scientific-technical measures.

³⁷ This applies to the assessment of long-term changes in needs, to norms and normative specific material consumption necessary for balancing, etc.

³⁸ It is assumed that the reader knows the structure of input-output tables. Cf. Chapter 4 of the textbook National Economic Planning (4.4.1., 4.4.5.).

³⁹ Since the Regulations on Planning 1976 - 1980, the use of SVB and TVB is compulsory in some branches (metallurgy, building and construction enterprises).

The subject-matter of SVB is balancing the output and the utilization of the gross social product divided according to product groups. It facilitates covering the inputs and outputs of

- (a) a wide range of product groups and
- (b) the product group structure of the gross social product and the economic proportions (ratio between accumulation and consumption and others).

Highly aggregated SVB and DVB are therefore used by the State Planning Commission in working out economic plan drafts for the Five-Year Plan 1976 - 1980 and the long-term plan up to 1990. With this as a tool, one can investigate whether the development⁴⁰ envisaged for the whole economy in the balance-sheet of sources and uses of the gross social product and the national income can be harmonised with the highly aggregated structure according to product groups (and spheres of responsibility) by taking into account the interlocking relations.

Complex effects stemming from changes in the final product can be calculated. Generally, one can discover great inconsistencies contained in the first plan draft. For the Five-Year Plan 1976 - 1980 calculations are envisaged with a detailed input-output table.⁴¹ Thus it is hoped to derive the effects of variants relating to the volume and the structure of production, material consumption, commodity consumption by the population as well as the volume and the structure of foreign trade.

Management organs at lower levels are working a great deal on partial input-output tables. The level attained varies considerably. They are, however, making efforts to cover production input-outputs which are of particular importance with the help of the TVB.⁴² In the Ministry of Ore-Mining, Metallurgy

40 Cf. Appendix 1.

41 This detailed SVB covers the gross social product structured according to 164 product groups.

42 In some sectors the TVB covers management responsibility (Ministry of Ore-Mining, Metallurgy and Potash, Ministry of Electrical Engineering) and in other sectors the sphere of balance responsibility (Ministry of the Chemical Industry, Ministry of Light Industry etc.).

and Potash, production and material requirements for annual and five-year planning are balanced with the help of the TVB. The practical use of these partial input-output tables is most advanced in this sector. They are also being used⁴³ in some ministries and in VVBs and combines.

The differences in the levels in the use of the TVB are due to subjective and objective factors. There are particular difficulties in industrial sectors with diverse material inputs and a greatly differentiated range of production.⁴⁴

Even at the central level, the use of the input-output table of the gross social product (SVB) is unsatisfactory; there are two main reasons for this:

(i) The results⁴⁵ obtained from calculations show a structure according to product groups. They do not, however, contain a predictive statement on the structure according to management responsibility (sphere of responsibility). Thus the results cannot be assigned to the responsible management organ and so cannot be used in plan elaboration.

(ii) For calculations with SVB, informations linked to products groups are needed.⁴⁶ The information system of the GDR, however, is set up mainly according to the sphere of responsibility (management organs). This causes additional work for obtaining the necessary input informations. Hitherto, these were obtained by a statistical survey. Since enterprises and combines do this work reluctantly, the quality of the data leaves much to be desired.

43 The sector of metallurgy, building construction and partly the light industry.

44 These conditions are found in many branches of engineering and the light industry.

45 E.g., the GNP divided according to product groups.

46 Mainly coefficients of material inputs, e.g., consumption of rolling steel (product group) per 1 million marks of machine tools (product group).

In order to overcome these difficulties, preparations are now being made in the GDR to use a changed input-output table of the gross social product (SVB) called "an input-output table in terms of weights and measures and in terms of values" (NWVB). The principle of its structure is in line with the theoretical works by Soviet economists and the practical experiences of the State Planning Commission of the USSR.⁴⁷

The NWVB shows on the one hand the advantages of an input-output table and on the other facilitates the use of informations and whose elaboration is necessary for planning at all levels; in any case it is laid down in the Regulations of Planning the National Economy. The results of the calculations in the models show a structure according to the spheres of responsibility. Product groups are also included where no additional work is involved for obtaining and passing on information. As a result of all these, it will be possible to use the NWVB for elaborating plans based on the principle of the sphere of responsibility (management responsibility).

Experiences in the GDR have led to the recognition that input-output tables cannot replace MAK balance-sheets even when they are included in the elaboration of economic plans. Even with a detailed input-output table, a differentiated product group structure of material production cannot be covered as with MAK balance-sheets.⁴⁸ The latter can be used better than the input-output tables to provide a survey and deal with as a management tool.

47 We have no practical experiences with this in the GDR. This year, a test input-output table of this kind is being worked out. Cf. Chapter 4 of the textbook "National Economic Planning" (4.4.2.).

48 Division according to 164 product groups appears to be the maximum in breaking down the gross social product with the input-output table. Compared with this, the nomenclature of MAK balance-sheets at the central level (S- and M-balance-sheets) covers some 800 product groups.

However, attempts are being made to use both types of balance-sheets. The information provided by MAK balance-sheets are to be used in working out the NWVB.⁴⁹ On the other hand, effects stemming, for example, from changes in MAK-balance-sheets of various product groups (as a result of interlockings) and others can be reckoned quickly and accurately with the help of the NWVB.

49 This can be done, since the division of product groups in NWVB can be adapted to the nomenclature of MAK balance-sheets.

Appendix 1

Balance-sheet of the gross social (national) product and the national income (simplified)

sources (output)	utilization
I. gross social product comprising gross product of the spheres of responsibility of industry gross product in agriculture and forestry gross product of transportation, posts and telecommunications gross product building and construction gross product in home trade	I. replacement of used means of production, i.e. capital goods (replacement fund) comprising: materials amortisations
II. + volume of imports - volume of exports	II. national income used inland comprising: 1. consumption divided into 1.1. individual consumption (consumption by the public) 1.2. social consumption divided into 1.2.1. funds for social and cultural purposes 1.2.2. funds for science and research 1.2.3. funds for the satisfaction of social needs 2. accumulation comprising: 2.1. new investments in producing sector of the economy comprising: new investments in the sphere of responsibility of industry 2.2. investments in non-producing sector of the economy 2.3. changes in stocks and reserves
total output	total utilization

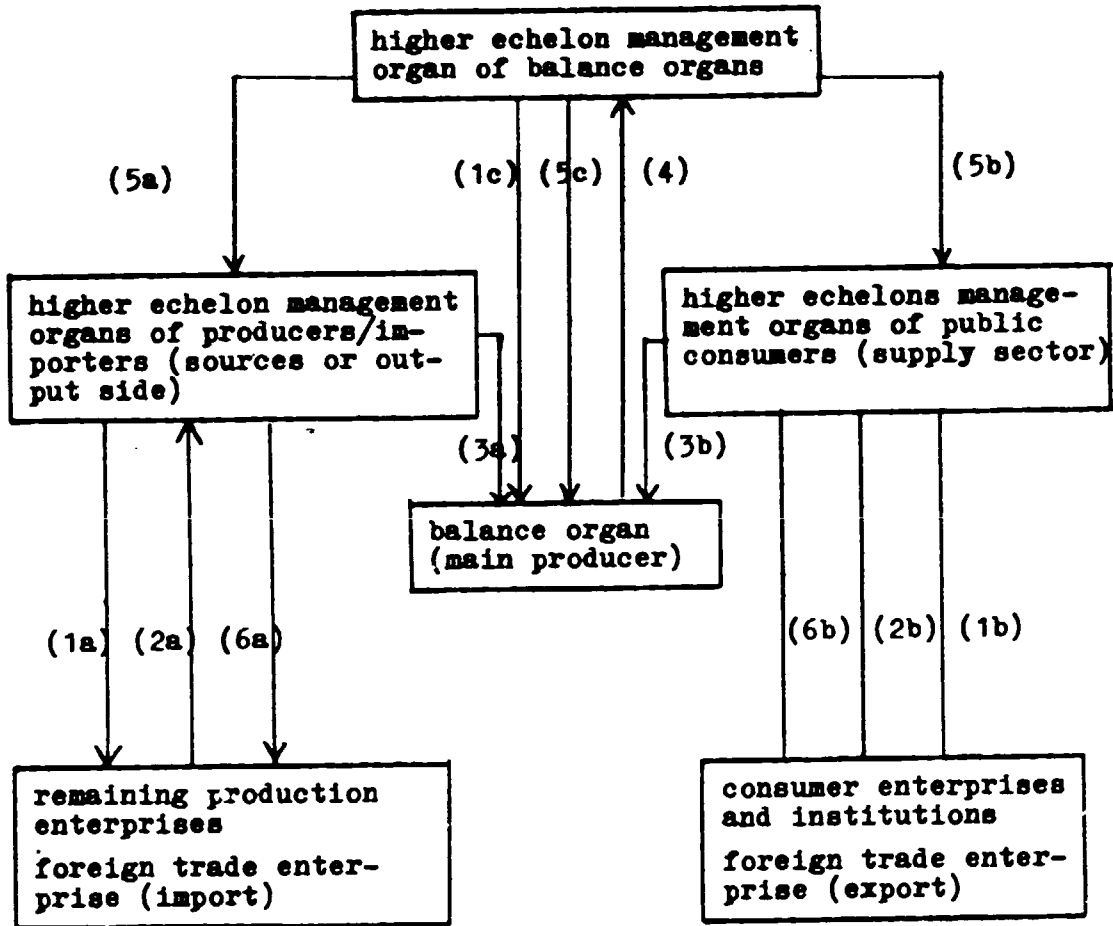
Appendix 2

Product balance-sheet (MAK, i.e. material, equipment and consumer goods balance-sheets) - simplified

output	utilization
1. stocks at the beginning of period of the balance-sheet	1. supplies for inland consumption comprising: supply sector A
2. + total production comprising output sector A	" " B
" " B	" " C
" " C
sub-divided:	sub-divided:
2.1. industrial commodity production comprising:	1.1. production consumption
output sector A	1.2. investment consumption
" " B	1.2. public consumption (individual consumption)
3. + imports	2. + exports
	3. + stocks and reserves at the end of the period of the balance-sheet
	4. balance reserves
output total	utilization total

Appendix 3

Incorporation of MAK balancing in the process of elaborating plans - simplified



Appendix 4

Explanations relating to Appendix 3

- (1), (2), (3), (4), (5), (6) - temporal sequence of planning and balancing work.
- (1a) production volume and import in the balanced product group (state tasks)
- (1b) volume of possible consumption (materials, investment goods in the balanced product group ... (state task)
- (1c) initially balanced targets for balanced product group...
- (2a) envisaged production volume and imports in the balanced product group (plan draft)
- (2b) necessary requirements in products of the balanced product group (plan draft)
- (3a) summarised information on the envisaged volume of production and imports (balance-sheet information according to supplies)
- (3b) summarised information on the necessary needs (balance-sheet information according to consumption)
- (4) balance-sheet draft including proposals on changes in output and utilization
- (5a) handing over of final indicators of production and imports (as well as the necessary changes with respect to 3b (balance decisions)
- (5b) handing over of final indicators of meeting of needs (volume of consumption) as well as the necessary changes with respect to 3b (balance decisions)
- (5c) confirmation coming into force of plan balance-sheet
- (6a) breakdown of final indicators of production and imports (state plan targets or tasks)
- (6b) breakdown of final indicators for meeting needs (consumption) - (state plan targets)

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