NATIONAL WEALTH ESTIMATION IN SOCIALIST COUNTRIES

BY L. NESTEROV

USSR Central Statistical Office, Moscow

The CMEA standard of statistical information provides a system of national wealth indicators. The paper deals with certain time series published in these countries and in the CMEA Statistical Yearbook as the components of that system. Special attention is paid to the USSR inter-branch balance of 30 types of fixed assets cross-classified by 105 branches of economy. This balance is analogous to the input-output table technique in the western literature. On the basis of this balance the Soviet statisticians furnish coefficients of direct and total requirements in fixed assets for each branch. Such coefficients are usually called capital ratios or capital coefficients. In the USSR they are calculated together with the coefficients of direct and total requirements of labour for the same industries, and they supplement input-output tables. The scheme of the fixed assets balance and the matrix for the calculation of these coefficients are described in the paper together with some numerical illustrations of actual coefficients reached in the calculations.

The XI session of the Standing Commission on Statistics for the Council of Mutual Economic Assistance in 1968 adopted a new version of the standard system of statistical indicators for member countries.[1] This document was prepared by experts from these countries and was discussed at several meetings of a special working group. This standard summarized the experience of the statistical offices in CMEA countries and formulated common principles of estimation of basic economic indicators characterizing numerically the economy of a country as a whole, and so designed balances to provide economic management including inter-relations between industries. Such indicators are arranged in a system of economic tables which is called the *balance of national economy*. Each table in its turn helps to balance estimates reflecting specific trends in economic processes and their results. In western literature it is possible to find an analog for this system of statistical indicators in the proposals for integrated systems of national accounts. Thus there are several individual tables reflecting, in the MPS standard, the following features of economic processes:

    —creation and use of gross social product and national income, inter-industrial relationships and their interdependence during the production process,

    —creation, distribution, redistribution and final use of income created,

[1]CMEA, or COMECON, as it is sometimes called in western literature, was created in 1949 and is composed now of Bulgaria, Czechoslovakia, German Democratic Republic, Hungary, Mongolia, Poland, Rumania, the USSR, and the observer from Yugoslavia. The statistical problems in this intergovernmental organization are considered and carried out by the Statistical Department. At first there were special periodic meetings of the heads of the central statistical offices from member countries. The Standing Commission on Statistics was founded in 1962 and since that time it is responsible for all standards of statistical indicators in CMEA countries.

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—level of incomes and general trends in the consumption of goods and
services by population,
—labour resources in a country, their distribution by branches of national
economy, and their utilization, and
—total volume and structure of fixed assets, other components of national
wealth and also their use in the economy, etc.

To reflect these relationships the CMEA standard recommends preparing
annually the following balances:
—balance of production, consumption and accumulation of gross social
product, usually called a material balance,
—balance of production, distribution, redistribution and final use of gross
social product and national income, called in short a finance balance,
—balance of labour force, showing its distribution and use in different
branches of the economy,
—balance of fixed assets and indicators of national wealth.

Particular features of each individual balance table are described in detail
in the CMEA document which was translated into English as a document for
the XVI session of the United Nations Statistical Commission.[2] The purpose of
this paper is to discuss some problems of national wealth estimation only.

Socialist countries started practising in this field of statistics fifty years ago
when the Soviet statisticians conducted their first censuses of fixed assets and
inventories. In 1923 the general scheme for the statistical balance of the USSR
national economy was worked out with a supplementary table on fixed assets and
inventories showing indicators of their stocks at the beginning of October 1924.
Since that time the USSR Central Statistical Board has been conducting regular
statistical observations of basic elements of national wealth.[3]

The experience gained by the Soviet statisticians in regular statistical
accounting and periodic inventories of fixed assets with their revaluations into
reproduction cost prices was implemented in the practice of other socialist
countries. The last inventories of fixed assets with their revaluation in all enter-
prises were conducted in the USSR (1959), Czechoslovakia (1955), Poland
(1962), Hungary (1968), Bulgaria (1967), German Democratic Republic (1963),
etc. These major periodic statistical works provide detailed statistical material
for accurate benchmark estimates. With the help of these benchmark estimates
the statisticians of socialist countries are in a position to prepare detailed time
series of national wealth components through the data supplied by annual
statistical reports on balances of fixed assets and inventories in each enterprise
and organization. The data on these time series may be found for instance in the
official statistical yearbooks of socialist countries, references to which are
contained in Table I showing the comparative composition of fixed assets stocks
in some European socialist countries at the end of 1967. Similar information may

[2]"Basic Methodological Rules for the Compilation of the Statistical Balance of the
National Economy", document E/CN.3/396 of the XVI session of the United Nations Statis-
tical Commission, 5 August 1969.

[3]Some further details of this history may be found in A. Yezhov, *Organization of Statistics
in the USSR* (in English), Progress Publishers, Moscow 1967, especially pp. 15–30, 111–146.

TABLE I

Composition of Fixed Assets Stock in Some European Socialist Countries

(as per cent of the total volume of the stock at the end of 1967)

	Bulgaria		Czechoslo- vakia		German Democratic Republic		Hungary		Poland		Rumania		USSR		Yugoslavia	
Total volume of which	100.0	—	100.0	—	—	—	100.0	—	100.0	—	100.0	—	100.0	—	—	—
I. Productive sphere	58.4	100.0	71.3	100.0	—	100.0	56.4	100.0	63.2	100.0	69.0	100.0	61.1	100.0	—	100.0[b]
1. Industry	34.2	58.7	37.4	52.4	—	61.1	24.2	42.9	25.2	40.0	34.8	50.4	29.7	48.5	—	45.3
2. Construction	2.0	3.4	1.7	2.4	—	2.2	1.1	1.9	1.7	2.6	2.7	3.9	2.4	3.9	—	2.3
3. Agriculture and forestry	10.8	18.5	10.5	14.7	—	13.5	12.2	21.7	17.5	27.7	12.9	18.7	12.4	20.4[a]	—	15.8
4. Transport and communications	9.2	15.7	18.8	26.4	—	17.8	16.5	29.3	16.7	26.4	16.1	23.3	12.9	21.2	—	28.2
5. Trade and catering	2.1	3.6	2.8	3.9	—	5.4	2.3	4.1	2.1	3.3	2.3	3.3	3.5	5.7	—	5.8
6. Other branches	0.1	0.1	0.1	0.2	—	—	0.1	0.1	—	—	0.2	0.4	0.2	0.3	—	2.6
II. Non-productive sphere	41.6	—	28.7	—	—	—	43.6	—	36.8	—	31.0	—	38.9	—	—	—
1. Housing and communal services	31.4	—	20.5	—	—	—	—	—	30.3	—	23.2	—	29.7	—	—	—
2. Education, culture and science	10.2	—	3.0	—	—	—	—	—	3.8	—	3.6	—	9.2	—	—	—
3. Medical services			2.0	—	—	—	—	—	1.8	—					—	—
4. Other branches			3.2	—	—	—	—	—	0.9	—	4.2	—			—	—

[a] Agriculture only. [b] Socialist sector.

Sources: (1) Статистически годишник на НРБ, 1968, стр. 103.
(2) Statisticka Rochenka CSR 1968, p. 205.
(3) Statistisches Jahrbuch 1969, SS. 48.
(4) Magyar statisztikai szebhoryu 1969, p. 39.
(5) Maly zocznik stztystyczny 1969, p. 69.
(6) Annuarul Statistic RSR, 1968, p. 119.
(7) Народное хозяйство СССР в 1967, г., стр. 62.
(8) Statisticki Godisnjak Yugoslavije, 1968, p. 128.

be found also in the CMEA Statistical Yearbook,[4] which provides the data for the member countries on the basis of the special standard of statistical indicators for fixed assets, the last version of which was adopted in 1967.

The CMEA statistical department compiles and processes the information from the member countries in different classifications and publishes it in the Statistical Yearbook of this intergovernmental organization. Let us consider the changes in the total volume of all fixed assets in the countries, which are shown in Table II.

TABLE II

STOCKS OF FIXED ASSETS IN THE NATIONAL ECONOMIES OF SOME SOCIALIST COUNTRIES FOR 1955–1969

(1950 = 100)

Country	1955	1960	1965	1967	1968	1969
Bulgaria (1952 = 100)	117	153	222	262	285	312
Hungary	120	142	179	196	204	212
German Democratic Republic	108	121	146	156	162	168
Rumania	125	161	223	262	281	309
Czechoslovakia	119	153	197	216	227	279
USSR	154	246	371	427	459	493

Source: "Статистический ежегодник стран-членов Совета Экономической Взаимопомощи 1970". СЭВ, Москва, 1970, стр. 21–41.

This example makes quite evident the possibilities which are opened by a statistical standard for fixed assets for economic analysis. Similar tables may be supplied for the characteristics of changes in the stocks of fixed assets in industries, in the productive sphere, in the non-productive sphere, etc.

Besides this, most socialist countries carry out other regular statistical observations providing data on certain items of household property of a durable and semi-durable nature which is at the disposal of the population such as refrigerators, washing machines, radios, etc. Such estimates in the form of per 1,000 population ratios may also be found in the official statistical publications of the USSR, Hungary, Czechoslovakia and some other countries.[5] Several methods are used to obtain their total value in all families. Basically these methods resemble the perpetual inventory method which is well known in western literature. In the USSR, for instance, the Central Statistical Board uses actual data on trade turnover for more than 350 individual commodities comprising consumer durables and semi-durables, both in actual number and their value sold to the consumers in the country.

Recently a new indicator was introduced to show the stock of household durables held by families. The actual data published are shown in Table III.

There were several attempts to prepare economic estimates of land in some countries. In the USSR, for instance, such estimates were published in 1924 as a

[4]"Статистический ежегодник стран-членов Совета Экономической Взаимопомощи 1970". СЭВ, Москва, 1970.

[5]Народное хозяйство СССР в 1969 году, стр. 584, Hungarian Statistical Yearbook 1968 (in English), p.334, Statisticka roćenka CSSR 1968, p. 456.

TABLE III

STOCK OF HOUSEHOLD DURABLES PER 100 FAMILIES
(number at the end of 1969)

Types of Assets	Czechoslovakia[a]	German Democratic Republic	Poland	USSR
Radio sets	128	92	50	64
TV sets	66	66	41	46
Refrigerators	47	48	24	27
Washing machines	79	48	63	45

[a]At the end of 1968.

part of the first national economy balance and in 1935 as a part of the natural resources chapter in the Statistical Yearbook for 1936. Now in some socialist countries the work is being done on the economic evaluation of land as a part of national land cadastres, but the discussions still continue on final standard methods of such evaluations.

In addition to the general characteristics of national wealth estimation, it is worth mentioning some methodological principles required for information on the annual statistical returns for the submission to the CMEA Secretariat by each member country.

National wealth is defined in the CMEA standard as an aggregate of material assets created by manpower as well as of the stock of foreign currency and net foreign property at the disposal of the country at a given moment. The following components are recommended to be included in the national wealth estimates:

—fixed assets, both productive and non-productive,
—material circulating assets, including work in progress in industry and construction,
—household property,
—stocks of foreign currency as an equivalent to the right to claim certain amounts of a part of the national wealth in other countries,
—net balance payments, and
—material assets of the country which are located in other countries.

Furthermore, the MPS standard also recommends including in national wealth some natural resources involved in economic activity (land, forests, water) but does not recommend including natural resources not involved in the production process.

The MPS system strictly correlates national wealth indicators with other indicators of the system. At present there are two separate tables in the MPS system: "Balance of fixed assets" and "Indicators of national wealth". There is a possibility that in the future some additional separate tables will also be required for more detailed characteristics of inventories, household property, etc.

The table "Indicators of national wealth" is constructed to present numerical characteristics for the assets not only for their total volume, but for their

composition by type of assets, their distribution by industries, their ownership and so forth. At the present time the columns of this table have the following headings: type of assets, national wealth at the beginning of the year, national wealth at the end of the year, and increase for the year. This table shows the final results of individual estimates for many types of assets. In the table they are aggregated to show major elements and their role in national economy:

—fixed assets, productive and non-productive,
—material circulating assets,
—state reserves, and
—household property.

These major types are cross-classified by type of ownership (state, co-operative and individual) with subsequent detail, especially for productive fixed and circulating assets. Thus the document recommends showing 11 individual types of fixed assets such as buildings, structures, power equipment, tools and implements, etc.

Capital investments in land recommended for inclusion in national wealth estimate are the expenses incurred in clearing of the plots of stumps, brushwood, etc., in clearing of canals, water reservoirs, etc. In some cases the document recommends treating several categories of fixed assets as inventories of material circulating assets (such as low cost implements, working clothes and some types of assets with relatively short service life).

Non-productive fixed assets are composed of dwellings, buildings and equipment of educational establishments, hospitals and the like. They are shown in this table in lesser detail.

Material circulating assets as recommended in the MPS systems cover the following types of assets:

—raw materials and basic materials
—auxiliary materials
—fuel
—semi-manufactured goods
—low cost and short service life assets
—work in process in industry and construction
—seeds and forage stocks
—young cattle and poultry
—other material circulating assets (chiefly represented by afforestation and
    perennial plants which are not treated among fixed assets).

For State reserves the inclusion of the stocks of different civilian commodities at the disposal of state organizations kept for unforeseen needs and defence is recommended. At the same time, this sector of the table also covers the stocks of foreign currency and net balance of payments.

For the household property segment the inclusion of cars and other individual transportation means, furniture, home appliances, etc. is recommended.

In a simple form this summary table may be shown as follows:

Types of Asset	Stocks at		Increase during the year
	beginning of the year	end of the year	
1	2	3	4

A. Socialist property

I. State property (belonging to all people in the country)

  a. Fixed assets
    Productive
    Non-productive (dwellings)

  b. Material circulating assets
    Inventories at enterprises
    Work in process
    Stocks of finished goods

  c. State reserves

II. Co-operative and collective property

  a. Fixed assets
    Productive
    Non-productive (dwellings)

  b. Material circulating assets
    and reserves
    Inventories at enterprises
    Work in progress
    Stocks of finished goods

B. Individual property of population

  a. Fixed assets
    Productive
    Non-productive (dwellings)

  b. Consumer goods in households

  c. Stocks of agricultural products in hands of
    individual producers

                Total

The estimates for land and forests are shown in addition to this total.

All indicators of the balance of national economy including national wealth are calculated for a calendar year and initially expressed in actual prices of the year. Such evaluation of all indicators in the balance aims to provide the reflection of all actual economic transactions in the economy during the year as the most suitable period of observation. Such evaluation is very important in characterizing the process of creation, distribution and redistribution of national income and its final use.

In order to compare the trends of the economy over time the balance of national economy is evaluated also in constant prices of a certain year. The CMEA standard recommends two methods of evaluation in constant prices. The direct method supposes that each component of national wealth is evaluated

in the prices of a base year. Such a method is usually used in socialist countries both by individual enterprises and by statistical authorities, especially during the inventories of fixed assets and their revaluation. In addition, there is an indirect method based on the application of special price indexes similar to the deflation method in western practice. In this case the statistical offices usually calculate a set of individual price indexes and aggregate price indexes which are applied to the estimates of those assets that are difficult to value directly.

The statistical offices of the socialist countries are recommended to calculate two aggregate price indexes for new fixed assets (except cattle)—one for machinery and equipment and another for construction. The cattle stock is evaluated by direct appreciation only in the prices of a base year, and its increase as the difference in value between the estimates of the beginning and the end of year stocks.

Material circulating assets are recommended to be evaluated by both methods. The direct method is applied to all agricultural products stocked. The industrial commodities are evaluated in constant prices with the help of appropriate price indexes.

The table of national wealth indicators thus provides the estimates of all material resources in the country at the beginning and at the end of the year; the difference between these stocks is equal to their increase or to the accumulation of a part of gross social product of that year and another part is attributed to current consumption for all purposes in the country. This is the economic meaning of national wealth indicators at the MPS system.

Fixed assets are certainly the most important element in national wealth. For this element the CMEA standard proposes to construct a special table balancing all relevant detailed indicators within the whole MPS system. The principal scheme of such a balance is provided now with the following headings of the columns:

—stock of fixed assets at the beginning of the year
—inflows of assets during the year—total
    of which
    —new assets put into operation
    —major repair done
    —transfers from other industries
—outflows of assets during the year—total
    of which
    —wear and tear (depreciation)
    —net cost of scrapped or discarded assets
    —losses
    —transfers to other industries
    —stock of fixed assets at the end of the year
    —accumulations of fixed assets.

The headings of the rows given above provide a rather clear picture of the classifications recommended for fixed assets stocks. Such classifications are designed to provide useful material for different economic analyses. This table is supposed to be constructed for both gross and net values of fixed assets. Each

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balance table of fixed assets stocks is recommended for valuation in both current and constant prices.

We mentioned that such recommendations are prepared for use in all statistical offices of the CMEA countries. Let us take an actual experience of the Central Statistical Board of the USSR (CSB) which published an interbranch balance[6] of fixed assets for 1966, along with the interbranch balance of global product and interbranch balance of labour. This balance is aimed at the provision of detailed characteristics for the fixed asset stock in each branch of economy by type of asset. This balance was constructed in a matrix form, the general layout of which is presented in Diagram I. It is worth mentioning that the balance published[7] provides data on 30 types of assets, of which 25 types of machinery and equipment are cross-classified by 105 branches of national economy, of which 95 are in industry. On the basis of such data a supplementary table was prepared furnishing coefficients of direct and total requirements in fixed assets for each branch.[8] Similar coefficients in the western literature are usually called capital ratios or capital coefficients. Such coefficients are calculated in several other countries (USA, Japan, United Kingdom, etc.), but never in such detail and never were they based on such special refined statistical material. It is quite evident that such information is extremely valuable to determine the efficiency of fixed assets and their role in the production process as well as to determine future needs in fixed capital investments.

All fixed assets in this balance were expressed according to their gross book value. This appreciation of each type of asset was performed with the help of the following formula:

$$K_{mid} = K_{beg} + (K_{end} - K_{beg}) \times E_{use},$$

where

K_{mid} = midyear value of fixed assets
K_{beg} = value of fixed assets at the beginning of the period
K_{end} = value of fixed assets at the end of the period
E_{use} = coefficient of new fixed assets use during the period.

All basic information for this calculation was provided by regular standard accounting schedules on fixed assets, and some details by special one-time survey.

First of all there was a calculation of the coefficient determining the use of fixed assets by the following ratio:

$$E_{use} = \frac{\bar{K} - K_{beg}}{K_{end} - K_{beg}}.$$

Information for this calculation was also provided by standard accounting from each enterprise to the statistical bodies of each region. Supposing that in

[6] It is necessary to mention that the interbranch balance is a special statistical table showing interdependencies of a certain economic phenomenon. In the western economic literature such tables are usually called input-output tables; they are prepared mainly for the analysis of the output in the country; sometimes such tables in a simplified form are used for an analysis of fixed capital. In the USSR such input-output tables are compiled for gross output, which is termed global product, for fixed assets and for labour.

[7] See the USSR Statistical Yearbook 1968: "Народное хозяйство СССР в 1968 году", Москва. "Статистика", 1969 г., стр. 51–72.

[8] *Ibid.*, 1969, pp. 47–73.

branch "n" total value of fixed assets at the beginning of the period of the year of "K_{beg}" was summarized at the CSB at 24.3 million rubles, that of "K_{end}" at 30.3 million rubles and "K" correspondingly was estimated at 26.4 million rubles where

$$E_{use} = \frac{26.4 - 24.3}{30.3 - 24.3} = \frac{2.1}{6.0} = 0.35.$$

The coefficient obtained was then used to calculate mid-year values of particular types of assets in each branch. The matrix form mentioned above provided only the general scheme of the balance. The detailed balance itself provided the necessary information on the flows of fixed assets during the year, so the open model of such balance is so constructed as to provide data on the stocks of fixed assets at the beginning of the period under observation, on their inflow during the period due to new assets put into operation or due to transfer from other branches as well as their outflow at this period due to scrappage and transfer to other branches. The scheme of such complete balance is provided in Diagram II.

This balance of fixed assets furnishes detailed characteristics on the stocks at the beginning and end of the period and their flows during the year in each branch and in the national economy as a whole.

The regular accounting balance sheet in the Soviet Union provides only basic characteristics of fixed assets but not for 30 types of assets. So for 1966 it was decided to conduct a special survey to obtain the detailed data needed with the help of a special schedule for industrial enterprises. For other branches of the national economy it was decided to use data from standard accounting and special calculations.

The CSB paid special attention to securing data for "pure (or homogenous) branches" in the same way as it is secured for the input-output table and for the interbranch labour balance. Two methods were used to secure data on fixed assets for "pure branches". The "pure" fixed assets for such branches were determined by the enterprise directly through available information from accounting or calculated indirectly by the share of basic products in total output or by the share of depreciation charges on basic and auxiliary products.

For checking the results of the final tabulation of the data for this balance and for their reconciliation with the balance of national economy as a whole the CSB used the data available on depreciation from the output data in each branch from the input-output table.

The coefficients of direct and total requirements for fixed assets were among the major outcomes of this large statistical work. These coefficients were calculated as ratios of mid-year value of fixed assets to the value of output in the branch. For the calculations the CSB used the following formula:

$$D_a^{basic} = \frac{K^{basic}}{X},$$

where

D_a^{basic} = coefficient of direct requirements for fixed assets
K^{basic} = midyear value of fixed assets used in the production
X = value of output.

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This formula was applied to the total volume of fixed assets. In order to determine particular requirements in individual types of assets the CSB applied the following formula:

$$D_{K_{ij}}^{\text{basic}} = \frac{K_{ij}^{\text{basic}}}{X_j},$$

where

$D_{K_{ij}}^{\text{basic}}$ = coefficient of direct requirements in fixed assets of i-type for a unit of output in j-branch.

K_{ij}^{basic} = midyear value of fixed assets used in the production of i-type in j-branch.

X_j = value of output in j-branch.

On the basis of the results obtained through such detailed calculations the CSB worked out a matrix of coefficients of direct requirements for fixed assets which helped to correlate the interbranch balance of fixed assets with inter-branch balance of production and distribution of output in national economy. Such a table showed which types of fixed assets and what volume of them was used for a unit of output.

Besides this the CSB calculated the coefficients of total requirements in fixed assets. These coefficients are extremely important for determining the total amount of fixed assets directly and indirectly required for the production process in each branch. These coefficients were calculated with the help of the following formula:

$$D_{K_{ij}}^{\prime\text{basic}} = \sum_{k=1}^{n} D_{K_{ik}}^{\text{basic}} B_{kj}$$

or in matrix form as follows:

$$\Delta_K^{\text{basic}} = D_K^{\text{basic}} \times (E - A)^{-1},$$

where

$D_{K_{ij}}^{\prime\text{basic}}$ = coefficient of total requirements for fixed assets of i-type for a unit of output in j-branch

$D_{K_{ik}}^{\text{basic}}$ = coefficient of direct requirements for fixed assets of i-type for a unit of output in j-branch

B_{kj} = coefficient of total requirements in k-branch for a unit of output in j-branch

Δ_K^{basic} = matrix of coefficients of total requirements for fixed assets

D_K^{basic} = matrix of coefficients of direct requirements for fixed assets

$(E-A)^{-1}$ = matrix of coefficients of total inputs of productive fixed assets

The CSB calculated altogether approximately 6,000 direct and total co-efficients reflecting these characteristics not only for total volume, but also for individual types of assets.

This statistical work helped to determine fixed assets of intensive branches in the national economy such as electric power stations, oil extraction, coal mining, basic chemistry, etc.

The information obtained through this statistical work is widely used to analyse the efficiency of fixed assets in different branches of the national economy, and, especially, in short and long term projections for national economy planning for 1971–1975.

The coefficients of direct requirements for 49 major branches of industry for construction and for agriculture were published in a statistical annex to the CSB monthly.[9] Later the coefficients of direct and total requirements for particular types of assets in some branches of industry, construction and agriculture were also published in this monthly and in the Yearbook.[10] Some of these coefficients are reproduced in Table IV to provide certain actual characteristics of capital intensity in different branches of the economy which are very important in economic analysis and planning to assess practical requirements for fixed assets at the present stage of their use or the future expansion of output.

So "Indicators of national wealth" in the MPS standard are a set of economic tables providing detailed characteristics of the reproduction process of many

TABLE IV

COEFFICIENTS OF REQUIREMENTS FOR FIXED ASSETS (CAPITAL COEFFICIENTS) IN THE USSR
ECONOMY IN 1966

(expressed in rubles of fixed assets per 1,000 rubles of gross output)

Branches and types of assets	Requirements for fixed assets		Ratio of total to direct coefficients
	Direct	Total	
	1	2	(2 : 1)
Electricity and power	3,143.4	4,083.8	1.3
Non-ferrous metallurgy	855.2	2,708.2	3.2
Crude petroleum processing	341.7	1,898.5	5.6
Electrical engineering	341.1	1,424.8	4.2
of which			
Buildings	158.6	427.3	2.7
Structures	23.7	347.2	14.6
Transmissions	8.3	85.4	10.3
Power equipment	5.0	47.8	9.6
Technological electro-equipment	29.4	64.8	2.2
Metal and wood-processing equipment	45.6	68.7	1.5
Forging equipment	3.0	5.4	1.8
Lifts and conveyors	10.9	32.1	2.9
Pumps and compressors	3.1	14.8	4.8
Tools and measuring devices	6.9	18.9	2.7
Other assets	24.7	278.9	11.3
Basic chemistry	1,182.1	2,830.8	2.4
Cement plants	1,259.5	2,692.8	2.1
Meat processing	90.5	1,858.8	20.6
Sugar plants	209.4	963.5	4.6
Construction	273.0	1,362.8	5.0
Agriculture	805.2	1,339.8	1.7

[9]"Вестник статистики", No. 2, 1970 г., стр. 95–96.

[10]Ibid., N9, 1970, p. 12, Statistical Yearbook for 1969, pp. 47–73.

assets comprising that economic category within the framework of other major economic indicators reflecting the whole economic process in the country. This is a major statistical work requiring considerable experience and availability of detailed economic information based on special regular statistical observations for basic elements comprising national wealth. The results of this statistical work are widely used in economic planning and in studies of the efficiency of economic performance by industry and other branches. These indicators play a very important role for comparative analysis, providing comparable measures for economic phenomena in different countries. One of the main uses of these indicators is also to provide a reconciliation for current economic plans and for economic development projections to achieve better cooperation among the CMEA member countries. The experience of the CMEA countries is also rather valuable for the development of the United Nations guidelines on national wealth estimation.

DIAGRAM I

MATRIX OF FIXED ASSETS BALANCE IN THE USSR ECONOMY

| Types of Fixed Assets | Branches of material production sphere | | | | | | | | Non-Productive Sphere | Total for National Economy |
	Ferrous Metallurgy	Non-ferrous Metallurgy	Coal Mining	...	j-branch	...	n-branch	Total for Material Production Sphere		
1. Buildings	K_{11}	K_{12}	K_{13}	...	K_{1j}	...	K_{1n}	$\sum_{j=1}^{n} K_{1j}$	K_1^h	K_1
2. Structures	K_{21}	K_{22}	K_{23}	...	K_{2j}	...	K_{2n}	$\sum_{j=1}^{n} K_{2j}$	K_2^h	K_2
3. Transmissions	K_{31}	K_{32}	K_{33}	...	K_{3j}	...	K_{3n}	$\sum_{j=1}^{n} K_{3j}$	K_3^h	K_3
4. Power equipment	K_{41}	K_{42}	K_{43}	...	K_{4j}	...	K_{4n}	$\sum_{j=1}^{n} K_{4j}$	K_4^h	K_4
5. Metal-cutting equipment	K_{51}	K_{52}	K_{53}	...	K_{5j}	...	K_{5n}	$\sum_{j=1}^{n} K_{5j}$	K_5^h	K_5
...	...	...	...	...	...	...	...	...	...	...
i.—equipment	K_{i1}	K_{i2}	K_{i3}	...	K_{ij}	...	K_{in}	$\sum_{j=1}^{n} K_{ij}$	K_i^h	K_i
...	...	...	...	...	...	...	...	...	...	...
m.—equipment	K_{m1}	K_{m2}	K_{m3}	...	K_{mj}	...	K_{mn}	$\sum_{j=1}^{n} K_{mj}$	K_m^h	K_m
Total Fixed Assets	$\sum_{i=1}^{m} K_{i1}$	$\sum_{i=1}^{m} K_{i2}$	$\sum_{i=1}^{m} K_{i3}$	...	$\sum_{i=1}^{m} K_{ij}$	...	$\sum_{i=1}^{m} K_{im}$	$\sum_{i=1}^{m} \sum_{j=1}^{n} K_{ij}$	$\sum_{i=1}^{m} K_i^h$	$\sum_{i=1}^{m} K_i$

DIAGRAM II

Scheme of Aggregated Inter-Branch Balance of Fixed Assets in the USSR National Economy

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Types of Fixed Assets \ Branches of National Economy	Ferrous Metallurgy				...	m-branch				Total for the National Economy			
	Stock at the Beginning of the Reporting Period	Assets put into Operation	Scrapped and Transferred Assets	Stock at the End of the Reporting Period	...	Stock at the Beginning of the Reporting Period	Assets put into Operation	Scrapped and Transferred Assets	Stock at the End of the Reporting Period	Stock at the Beginning of the Reporting Period	Assets put into Operation	Scrapped and Transferred Assets	Stock at the End of the Reporting Period
1. Buildings													
2. Structures													
3. Transmissions													
4. Power equipment													
5. Metal-cutting equipment													
....													
n. equipment													
....													
m. equipment													
Total Fixed Assets													