

A SURVEY OF THE NATIONAL ACCOUNTS OF EASTERN EUROPE¹

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I. THE STATISTICS: SUPPLY AND DEMAND

FEW governments have at their disposal such a wealth of statistics on the diverse activity of their economies as those of eastern Europe. The books of every bank, factory, farm, and shop are not only open to them but laboriously summarized for their study at frequencies running from ten days to the year; in the Soviet Union, indeed, four in every hundred of the employed population are engaged in accountancy and statistical reporting (Starovsky, 1956): of those formally classed as full-time administrative staff – 1.3 millions – ‘over 30 per cent’ are statisticians and accountants (Savenkov, 1956), who are as numerous as, for example, primary-school teachers or nurses (and are the same share of employees as shipbuilding workers in the United Kingdom). In addition to reports on money flows, the paraphernalia of Government decision-making are based far more on the census than the sample (against which has reigned a certain, but now disappearing prejudice).² Stocks of many materials are enumerated annually, final production oftener and capital mostly as frequently; domestic prices are fixed by decree – within a field bordered, on the one hand, by a shrinking private market and, on the other, by a widening zone of decentralized price-fixing (notably in Poland and the Soviet Union) – and volume series are calculated by individual repricing of individual items rather than through index numbers; employment rolls are monthly available, and so on. And to use this statistical wealth

¹ The author is a member of the secretariat of the United Nations Economic Commission for Europe but views expressed in this paper are not necessarily those of this organization. ‘Eastern Europe’ here includes the Soviet Union and excludes Yugoslavia. Bibliographical references are cumulated at the end of the paper.

² Most obdurate in the Soviet Union – paradoxically when one recalls the great Russian pioneers of mathematical probability – but less tainting in the rest of eastern Europe. The reassessment of sampling techniques was launched by Starovsky, 1957. For a review of experience in substituting sampling for complete enumeration (of capital utilization) cf. Yablonovsky, 1959, and for a review of recent Soviet works on the economic applications of probability theory see Fels, 1959.

Marx – in Volume III of *Das Kapital* – bequeathed his followers a ready-made theory of national accounting.

Until recently the statistical administrations and planning commissions of these countries have not, however, sought to fashion from these materials all the accounts which governments and individuals in the capitalist world have cut from cruder stuff. Sometimes the sheer weight of the data has overwhelmed the statisticians. Called upon to prepare a provisional national income estimate for mid-January of the following year, the Central Statistical Administration of the U.S.S.R. could not – according to Starovsky, (1956) – find time until 1956 to use the annual accounts of the 90,000 collective-farms (each containing well over one thousand entries) save to extract data on animal shelters and silos (Ravdel, 1956). Now samples are drawn early, the material is mechanically processed and the final tabulations – stated to agree closely with the sample returns – are available in June. Sometimes – for political reasons – some compilations were abandoned: between 1950 and 1954 the Polish Central Statistical Office ceased to compute national income aggregates. Sometimes the planners' needs did not coincide with the statisticians' capabilities. Thus regional balances of personal income and expenditure were not drawn up in the U.S.S.R. until 1956, when the control of retail sales and prices was substantially decentralized, and estimates of national product by Union-Republic were not computed until 1958, after the devolution of industrial management to regional boards (Eidelman, 1958; Starovsky, 1957). Sometimes the purview of the statistician was artificially limited. A Soviet statistician (Livshits, 1957), asserts that 'it is necessary decisively to liberate this kind of accounting from the inventions and lies of all sorts which have accumulated in the works of our theorists and which, unthinkingly repeated for many decades, have durably acquired the evil power of an ossified "tradition"', and another (Nemchinov, 1959) complains of the inadequacy of 'the civilian ration of statistics' issued by the Central Statistical Administration.

But although the eastern European Statisticians may not have directed all their abundant statistics into the channels dug by their latter-day counterparts in the west, their pioneering work upon material and man-power balances is a massive achievement. This type of account was extensively treated at an earlier meeting of the I.A.R.I.W. at Castelfondolfo (Marczewski,

1955) and the present paper confines itself to those presented in terms of values. It lists, in Section II, the statistics (and descriptions of those statistics) actually published, and in Section III, discusses the concepts underlying the accounts currently drawn up, irrespective of the availability of the figures to outsiders.

II. THE ACCOUNTS PUBLISHED

Conforming to the traditional evolution of national accountancy, simple national-product magnitudes long preceded social book-keeping in eastern Europe. The present paper is freed from summarizing the history of the computation of these magnitudes (made both inside and outside the countries concerned) by three recent surveys¹ and may, therefore, concentrate upon the aggregates and tabulations usually used in national accounting. For the present paper these are taken to be any which broadly correspond to the type of standard accounts and tables in the United Nations System of National Accounts (United Nations Statistical Office, 1953) whether published officially or privately, but not the statistical sources from which parts of these accounts or tables could be derived. The general government accounts are not discussed here: rudimentary but global statistics are available in the official abstracts and described in treatises on public finance. Nor are national wealth statistics, though it may be observed that Hungary, Czechoslovakia, Rumania, and the Soviet Union publish data on capital stock, the first in absolute figures and the rest in percentage breakdown. It so happens that the alphabetical order used below coincides – until the last two are reached – with the countries ranking on a rising scale of liberality in publication.

(a) *Albania*

The first statistical abstract ever produced in Albania (Albania, 1958) provided for 1955–57 percentage breakdown of domestic product by type of organization (state, co-operative, and private) and two tables at constant (1956) market prices²

¹ For the Soviet Union, Studenski, 1958 (Chapters 6 and 25) and Kaser, 1957; and for the rest of eastern Europe, Jackson, 1955. The United Nations Statistical Office, 1959, published some of the official tables for Bulgaria, the German Democratic Republic, Hungary, Poland, and Rumania.

² In eastern European terminology 'realized prices'. This paper translates this as the 'market prices' more familiar to western usage because the distinction is a

of net domestic product by industrial origin, one showing percentage shares, the other an index by branches of activity. No general methodological study seems to have been published, but two articles (Qyteti and Bitri, 1957; Backa, 1959) have described the personal (household) income and expenditure account, first elaborated for 1956, and plan-tables on the finance and composition of gross capital formation.

(b) *Bulgaria*

The *Statistical Yearbook* for 1956 (Bulgaria, 1957) gave a table for 1939, 1948, and 1952-56 showing global social product (that is, product gross of the duplication of materials consumed in the process of production) broken down by industrial origin at constant (1939) market prices, and a single total of net domestic product. For 1955 there is an account of household income and outlay at current prices, income receivers being grouped by wage-earners, farmers, and others. It also showed expenditure on net domestic product at constant (1952) market prices distributed between 'accumulation' (itself split between net fixed capital formation and 'other') and 'consumption' (split between privately financed and collectively financed consumption) for the years 1952-56, the same data for 1957 and 1958 being later published in the *Statistical Handbook* for 1958 (Bulgaria, 1959).

The methodology of computation at the 'grossest' level, that of global social product, has been described by Zhelev, 1958; the revaluation of domestic product at constant prices by Vutov, 1959; the personal income and outlay account by Gugovski and Lazarov, 1958; the capital account by Khadzhiev, 1959; and the contribution of transport to domestic product by Popov, 1958. The official classification by industrial origin has been criticized by Mutafov, 1958. It was reported at a meeting in Warsaw of a working group of the Council for Mutual Economic Aid (CMEA), the proceedings of which are described below, that the methodologies of Bulgaria and Rumania were virtually identical, and this information has been used in Section III in defining the procedures adopted by these countries.

somewhat scholastic one of Marxian exegesis, viz. are those goods transferred from one socialist enterprise to another, 'commodities' in the same sense as those exchanged in a market economy?

(c) *Czechoslovakia*

The *Statistical Yearbook* for 1958 (Czechoslovakia, 1959) confined itself to index numbers in its national accounts statistics. Annual series from 1949 to 1957 at constant market prices were given of net domestic income and personal consumption, of net domestic product by industrial origin, and of net domestic income by type of organization. The two latter tables were presented in percentage breakdowns, both in constant and in current market prices. Greater detail was provided for 1955 and 1957 (at constant market prices) in a table combining breakdowns of industrial origin and type of organization. *Statistické zpravy*, 1959, provides the only data in money – not percentage – terms in its quarterly tables of gross domestic fixed capital formation by type of purchaser, the latest series being at constant (1959) prices.

Brief methodological notes were provided for the tables in the statistical yearbook, but more details are to be found in periodicals. Turek, 1958, has discussed the methodology of the social product and domestic income accounts; Cyhelsky and Kašpar, 1958, the computation of social product; Souček, 1958, the accounting of gross and net domestic products; and Zima, 1957, the accounts of the distribution and redistribution (that is, to non-productive branches of the economy of domestic income). The most thorough and comprehensive treatment is by Kolár and Turek, 1957 and 1959, who analysed the concept and computation of product by origin and by use and the composition of the value flows which, by sector and by industry, yield net domestic income by both the production and the income methods.

(d) *German Democratic Republic*

The first four volumes so far available of the *Statistical Yearbook* (Germany, Democratic Republic, 1956, 1957a, 1958, 1959) each contained variant tables from the national accounts. For the first set of tables – global social and net domestic product – the 1955 volume gave data at constant (1950) prices; the 1956 and 1957 volumes only at current prices (however, 1956 social product at constant prices broken down by industrial origin was shown in Germany, 1957b); the earliest year covered is 1950, and the last volume provided provisional data for 1958. The 1955 volume gave social product, material outlays and

depreciation therein, and thence net domestic product, first by type of organization, second, by industrial origin, and third, combining these two breakdowns, with the added refinement for type of organization that as well as the usual division between state and co-operative enterprises within the socialist sector, the private sector was subdivided into artisan and capitalist enterprises. This refinement was dropped when the table was published in the 1957 volume, and reappeared in a different form in the 1958 volume, viz. into 'Semi-state' (*Halbstaatlich*) and 'private'. The intervening volume (1956) had supplied sector data for two years only (1955 and 1956), but had given much more detail by industrial origin: industry was subdivided into four groups, transport and communications into five groups, and trade into two groups, and the 1959 volume also gave for 1955-58 a more detailed industrial breakdown but only for global social product (industry was divided into three groups, agriculture and forestry into six groups, and transport and communications into four groups). The 1959 volume, however, showed the results of recalculations which lowered the global aggregates for all years previously published, except for 1955, the new estimate for which was higher. No methodological alterations seem to have been made except that prices were described as 'Verkaufspreise' (selling prices), whereas they had previously been termed 'Endverkaufspreise' (final selling prices).

The tables described above were given in money values, but the second set - expenditure on 'net disposable product' have in all volumes been provided only as percentages at current market prices. In all volumes 'accumulation' was subdivided between fixed capital formation and increase in stocks and 'consumption' between personal and social consumption. The 1955 volume showed data for 1950-55 as percentages of social product, but material outlays figured as a separate entry, which permits the breakdown to be made for net disposable product. But the figures so derived do not correspond with those shown in the subsequent volumes (for years 1955 and 1956 in the 1956 volume), for 1950-57 in the 1957 volume, and for 1950-8 in the 1958 volume), since a change in methodology took place between the 1956 and 1957 volumes and a revision of data between the 1957 and 1958 volumes.

Methodological notes preface the relevant section of each Yearbook, and a further discussion of national accounting

theory and practice in the German Democratic Republic may be found in Koziolok, 1953, 1957, 1958.

Stolper, working without benefit of help from official eastern German statisticians, has estimated the main aggregates at western German prices and constructed a set of accounts at both western and eastern German prices (Stolper, 1959, and paper 9 of this volume).

(e) *Hungary*

The number of accounts published by the Hungarian Central Statistical Office is such that only a selection has been given in the general official abstracts, and the full series are presented in two special monographs (Hungary, 1957a and 1959b). In the 1957 issue global social product was shown at current market prices for 1955 and 1956; the generation of product was broken down first by industrial origin, second by type of organization, and third into Marx's categories I and II (means of production and objects of consumption) and imports then inserted; the distribution of product was to consumption (productive and non-productive with further subdivision of the latter), accumulation (fixed capital and changes in stocks), exports, and, in 1956 only (for obvious reasons), extraordinary loss.¹ Net domestic product by industrial origin was given for 1955 and 1956 – and for 1957 but with less detail in another publication (Hungary, 1959a) – at constant (1954) as well as at current market prices, cohesions with global social product for 1956 being given in current prices. The industrial origin of net domestic product was computed at both constant market prices (1949 prices for 1949–54 and 1954 prices for 1954–56) and current prices. Complete figures in money terms for 1949–55 have been published in Hungary, 1957b, and at both constant and current prices for 1955–57 in Hungary, 1959a.

For the single year 1956 the 1957 monograph supplied a composite account at current prices with domestic product broken down by industrial origin and by type of organization and domestic distributed income by compensation of employees, transfers through the government account, and profits. For that year also the household income and expenditure account was provided in a composite breakdown showing origin of income

¹ This loss differs conceptually from that proposed by Bor, 1954a, to adjust the Soviet aggregate.

and object of expenditure in great detail. A table of the composition of private consumption expenditure in 1956 contained a further breakdown by type of transaction (retail purchases, consumption of own produce, and social consumption). The domestic capital formation accounts for 1956 showed sources of finance and end-uses for fixed capital but no sources of finance for stock increments.

Brief methodological notes precede the tables, both in the main sources quoted above and in the statistical yearbooks. A number of other methodological and theoretical studies have also been published, notably in the past three years, and, indeed, the Hungarian public discussion of these subjects is the broadest and richest in eastern Europe. Some writers have called for a narrowing, others for a widening of the area of production (Horváth, 1956 and 1957, Hetényi, 1956, Haypál, 1956 and 1957); the confrontation of the income and product aggregates in the official system has been criticized (Drechsler, 1956, has called for the elaboration of the income aggregate in preference to the current emphasis on product, and Ausch, 1958, has claimed that the current system does not permit the following-through of the process of redistribution of product as income); and the elaboration of input-output tabulations within a Marxian reproduction scheme has been discussed (by Aczél, 1958). The household income and outlay account has been described by Czernok, 1957, and revisions proposed of the grouping of industries by Bács, 1956, but the keenest discussion has centred on the treatment of the balance arising from foreign trade (Bendeczki and Drechsler, 1957; Ferge, 1956 and 1957; and Boócz and Jankó, 1956).

(f) *Poland*

The Polish monographs on the national income (Poland, 1949, 1956, 1958) provide the most complete accounts for any eastern European country and for the longest run of years: 1947 and 1954-57, with abbreviated tables for 1958 subsequently appearing in the *Statistical Yearbook* for 1959 (Poland, 1959). From this wealth of material the most recent full set – for 1956 and 1957, in the 1958 monograph – are here selected for review, definitional variations in earlier monographs being noted below (pp. 144-5). The set of general tables at current market prices opens with domestic income by type of organization (state, co-

operative, and other) further broken down by industrial origin. An account is presented of social product: the production side is in an inverted form, in the sense that the first entry is the grossest the following entries are deductions and the final balance entry is net national income; the income side is in standard additive form – compensation of employees, peasant and artisan incomes, taxes, profits, etc. The second main account shows on one side domestic product analysed by the type of organization in which it originates and on the other consumption, accumulation, and the foreign balance. Tables at constant (1956) market prices present domestic product by type of organization and industrial origin together and by expenditure ('consumption' being split into private and collective and 'accumulation' into the increments of fixed productive capital, fixed social capital, and stocks). Full accounts follow of income generation and distribution in industry, agriculture, forestry, building, transport and communications, trade and miscellaneous activities, with a concluding summary of the outlay of disposable income in these sectors.

The appendices are of especial interest. One provides the gross domestic product aggregate by adding in depreciation; this contrasts with practice elsewhere in eastern Europe, where – following Marx's formula – depreciation is not distinguished from outlays on materials and only two aggregates are built up, global social product and net domestic product. Another appendix tabulates accounts at 'conventional' prices, the construction of which is described below. Indirect taxes to the extent that they are not offset by subsidies are deducted and two factor returns – remuneration of labour and profits – are distinguished. As capital and land carry no charge, a formal confrontation with a comparable table in, for example, the United Nations System of National Accounts is not possible, and the compilers state that the objective of this exercise was to approximate to 'the actual proportions in input of socially necessary labour'. Other appendices contain additional detail on aggregate personal consumption, the derivation of net product of building and transport, and time-series of 'produced' and 'disposable' product (split between 'consumption' and 'accumulation') at constant (1956) market prices for 1949–57, these being the result of a retrospective calculation to fill the gap in contemporary estimates for 1950–54. In addition to the monographs, an input–output table for 1957 – the first to be published

for an eastern European country – appeared in the *Statistical Yearbook* (Poland, 1959), which has been reproduced in English in Lange, 1959 (Appendix II). The publication of such a table is of great importance, but its description falls outside the scope of the present paper.

The monographs provide full descriptions of the methods used, and Zienkowski, 1959a, the main architect of the accounts, has made a very detailed survey of the methodology. (An English summary of this was presented at the Portoroz conference of the IARIW.) Krzeczowska, Szybisz, and Zienkowski, 1958, have described the input-output matrices and intra-industry balances made in the Polish Statistical Office for 1956 (a table for 1957 has since been published), preceding it by an analytical survey of foreign developments (Soviet, United States, British, Yugoslav, and Indian) and their applicability to the Polish economy.

(g) *Rumania*

After considering the wealth of the Hungarian and Polish accounts, the Rumanian published data seem particularly meagre, the more so as they are in percentage and not in money form. The *Statistical Yearbook* for 1959 (Rumania, 1959) gave global social and net domestic products by industrial origin for 1950–57 in current market prices as shares of the totals and of each other. Net domestic product by industrial origin at constant (1950) prices was also published for the same years by shares and as a time series (for the total and for each activity) in the form of a 1938-based index.

Definitions are provided in the *Yearbook*, but a fuller methodology may be found in Anastesescu and Capana, 1958, and in an unsigned article in the organ of the Central Statistical Directorate (*Revista de statistica*, 1958). This journal has carried a variety of studies on the methodology of constructing particular accounts (Hleřca, 1958, on domestic product by origin and by use; Bugeanu, 1957, on incomes and outlays of households; and Pop, 1957, on the capital account) and aggregates (Pacuraru, 1959, on the need to revise the industrial origin classification; Bulgaru and Băjan, 1958, on the output of agriculture; and Istratescu and Băjan, 1957, on computation of the social and net products). Of other studies Rozen, 1956, on the aggregation of product by industrial origin and the composition

of household income, is the most significant, but there are also less-important articles by Rozen, 1959; Brîncă, 1955; and Vacarel, 1955, 1957. As stated above, Bulgarian methodology also provides an indication of that used in Rumania.

(h) *Soviet Union*

So far as published accounts are concerned, the Soviet Union's score is zero. An index of domestic product from 1913 onwards and the percentage thereof arising in the socialist sector (99.99 per cent for recent years) are literally the only post-war figures available: the data for years up to 1958 are in the U.S.S.R., Central Statistical Administration, 1959. In addition, statements that accumulation represents 'about one-quarter of the national income' are made from time to time by Soviet writers. Elements in the accounts can be extracted, not without difficulty, from Soviet publications; the surveys cited above which also scan the Soviet official accounts as they gradually vanished from view between 1931 and 1938, list estimates based thereon which have been made outside the Soviet Union (of the latter, attention must particularly be drawn to Bergson, 1953; Bergson and Heymann, 1954; Hoeffding, 1954; and Seton, 1954).

Since the writing of those surveys two fuller sets of accounts have been published. A RAND Corporation study by Hoeffding and Nimitz, 1959, follows the model originally elaborated by Bergson, who is himself to publish a revaluation of this whole series of accounts (1928-55) at constant prices. The RAND accounts are basically four (all at current market, or - as Hoeffding and Nimitz prefer to say - 'established', prices). They comprise detailed income and outlay accounts of households and of a consolidated sector comprising government and social and economic organizations, which are both then aggregated into a gross national product account (a net aggregate being identified) and a table of gross national product by use. The aggregate is unconventional in that reparations receipts (an element of net factor income from abroad) are incorporated into 'consolidated charges of government against current product', no domestic product being separately distinguished. As the authors point out (p. 141), no estimates were made - for lack of data - of the amounts received in return for the Soviet shares in joint corporations abroad or of Austrian deliveries under the Austrian State Treaty, which should also figure as part of the

margin between domestic and national product. No external transaction account is essayed. The Hoeffding-Nimitz aggregate is thus neither fully 'national' nor fully 'domestic'. Two years previously a set of accounts for a single year (1955) had been computed by the Secretariat of the United Nations Economic Commission for Europe, 1957b: they distinguished four accounts (a production account; an appropriation account divided into an income and income-use account; and a capital account) for five sectors (general government, non-farm enterprises, state and collective farms, farm households, and non-farm households). The coverage of the RAND and ECE accounts was similar. Both sought to aggregate gross product without reference to the foreign balance, in each case for lack of data, as official secrecy on the balance of payments remains absolute. As noted above, reparations deliveries for appropriate years were included in the RAND estimates, and the aggregate termed gross national product. Neither identified product by industrial origin. Market prices were employed in both studies, as was the convention of valuing 'auto-consumption' at prices paid for actual sales; the RAND study included imputed rent of owner-occupied dwellings; the ECE paper provided an estimate, but outside the accounts of imputed rent of dwellings and also of government offices etc. Statistically the values of gross product computed were close (1,202 billion roubles in the RAND paper and 1,100 billion roubles in the ECE study), half of the difference being accounted for by RAND's higher estimate for farm auto-consumption and by its inclusion of imputed rent. Broad agreement is, moreover, shown with estimates of gross national product by use published by the Legislative Reference Service of the Library of Congress (U.S. Congress, Joint Economic Committee, 1957), which also provides an industrial origin estimate not available in the other two.¹ This concordance commends the three sets of estimates for consideration until the official Soviet estimates are published.

That the official estimates are substantial documents – as indeed they may well be after thirty years of experience² – may

¹ The differences from the ECE estimates are briefly discussed by Berliner, 1958, p. 99, and – on one specific point – in the RAND study (p. 23).

² The history and structure of the Soviet accounts have recently been surveyed for 1923–24 by Morozova, 1958; for 1928–40 by Moskvina, 1959; and for 1941–58 by Eidelman, 1959. According to Margulis, 1956, integrated national accounts date from 1929.

be seen from their descriptions (of which the chief are by Allakhverdyan, 1958; Moskvina, 1955; Novikov, 1957; Petrov, 1954; Vostrikova, 1956; and – for the household income and outlay account – Partigul, 1956a¹). But as Ryabushkin, 1957, has recently complained, only one complete description of the official statistics has ever been published (U.S.S.R., Central Administration for National Economic Accounting, 1932). The main burden of criticism voiced among Soviet economists used to be of their coverage, both conceptual and statistical; more recently the validity of the valuations adopted has come under fire.² There have also been numerous proposals for the revision of the government and enterprise accounts (Lyando, 1958), the industrial classification (Fedorov, 1955), and the personal income and outlay accounts (Partigul, 1956b; Strumilin, 1954a). Strumilin, in fact, has long been calling for a new system of accounts altogether: one of his earliest critiques – of 1933 – has recently been republished (Strumilin, 1958, pp. 11–69), and he has proposed that all income generators ('productive' or not) be covered in a table following the evolution and use of the capital stock through a year (Strumilin, 1950).

An instructive feature of recent Soviet methodological writing has been the experiments in estimating the national income and certain accounts and tables (notably the household income and outlay account) for each of the fifteen Union-Republics.

III. THE CONCEPTUAL FRAMEWORK OF THE ACCOUNTS³

(a) *The area of production and its industrial components*

As has been argued by Studenski (1958, pp. 22–23), Marx's distinction between productive and non-productive labour has been misinterpreted by his followers.

'Only labour which produces capital is productive labour. . . . The use value of the commodity in which the labour of a productive labourer is embodied may be of the most trivial

¹ Ezhov, 1957, provides a brief summary of the accounts, in English.

² For the discussion to 1957, see Kaser, 1957; for later criticisms see, for example, Tsigelnik, 1958, and Lvov, 1959.

³ This description is based partly on the methodological sources cited in Section II and partly on the report of a Group of Rapporteurs on Comparisons between Systems of National Accounts in Use in Europe (convened by the Conference of European Statisticians) which met in Geneva from May 19 to 22, 1959. The author, moreover, records his appreciation of valuable comments on a first draft of this section from his colleagues J. Berent, N. Marian, F. Plasil, and N. Plessz.

kind. This material result is not at all bound up with this, its peculiar quality, which is rather the expression of a definite social relation of production. This property does not arise from the content or the result of labour, but from its definite social form' (*Theories of Surplus Value*, English edition of 1951, pp. 150 and 152).

Marx's original concern was with the creation of surplus value, and the groups of activities – for example, 'artisans, actors, professors, doctors, parsons, etc.' – which he called unproductive were so described because they were 'non-capitalistic' and not because they were not 'material'. In the three volumes of *Kapital*, Marx had not made this distinction clear – though since *Theorien über den Mehrwert* was intended to be the fourth volume of *Kapital*, it should properly be taken as describing Marx's belief – and the Marxian concept of product (now followed throughout eastern Europe) has come to be identified with the creation of material goods and those activities which complete this process of creating use-values. Largely for statistical convenience, all activities (whether of clerks, book-keepers, or watchmen) are included which take place within enterprises producing such material goods or services. Direct administrative functions exercised over these enterprises are classified as 'productive' in Czechoslovakia (the *sdrúžení*), Rumania (the *trusturi*), and the Soviet Union (the *sovnarkhozy*), but not in Hungary (the *igazgatóságok*) or Poland (the *zarzady centralne*).

There is very little variety of interpretation in official eastern European practice of which activities complete use-values. Everywhere freight transport, business communications, wholesale trade, and retail trade are classified as 'productive services', everywhere banking, insurance, general government services, and personal services are 'non-productive'. Occasionally the distinctions are fine: water supply is 'productive' but sewage is not, producing a film is productive but producing a play is not, restaurants are productive but hotels are not, and according to a recommendation of the Council for Mutual Economic Aid (CMEA), wash-houses should in future be classed as productive, while swimming-baths remain outside the pale (Nikiforov, 1959). Some variety of view – and even of practice – has, however, emerged, both for extending and for diminishing the production area. The variations from current standards in the

earlier Polish accounts may be attributed to their pioneering nature. Thus in the 1947 product aggregates factory canteens alone were counted as 'catering' (which is 'productive'), other restaurants being described as 'service trades' and excluded. In the 1954/55 aggregates all public catering was included at its gross value of turnover (that is, amounts paid by customers), but in the 1956/57 accounts catering was valued at its 'gross margin' (excluding the cost of foodstuffs purchased by the restaurants) – the principle now standard in the region. In the 1947 aggregates, but in no others, bank services to productive enterprises were counted in. There may well, of course, have been other variations in countries whose methodological sources are less ample than the Polish. At the present time the main disagreement is on the treatment of passenger transport and private use of communication services. Both have always been within the product aggregate of the German Democratic Republic, and were in that of Poland in 1947, though the 1949 monograph recognized the validity of arguments for their exclusion; at the same time there was in Poland a proposal – never carried into the official computations – that suburban transport should be counted as productive on the grounds that it consisted predominantly of the transport of workers to and from their jobs and that the small amount of pleasure travel therein was roughly equal to the 'business' element of long-distance journeys (such as peasants carrying foodstuffs to market) which did not figure in product. When the Polish Statistical Office started compiling national accounts again in 1954 passenger transport and personal use of communications were excluded, but their re-inclusion has been recommended by the Director of its National Accounts Department (Zienkowski, 1959a) and others.¹ The Head of the National Accounts Division of the U.S.S.R. Gosplan has also stated his belief that both should figure in the aggregates (Bor, 1954a), and the official description of the Rumanian accounts (*Revista de statistica*, 1958) stated that the inclusion of passenger transport was under consideration. A working group of the CMEA recommended in April 1959 that passenger transport be counted as product, but stressed that the decision had been 'based on practical considerations alone' (Nikiforov, 1959). Suggestions have, further-

¹ The first seems to have been B. Minc, 1956. It was his brother who had been instrumental in causing the Soviet definition to be adopted (H. Minc, 1948).

more, begun to be made in eastern Europe to introduce a 'service-product' concept either as a separate aggregate, so as to reduce the redistributive element in the product-use account (Brus, 1959) – a trend reflecting the 1939–40 debates on the problem in the Soviet Union (cf. Kaser, 1957) – or even as an integral part of product so as to eliminate redistribution altogether (Allakhverdyan, 1958, p. 80). A proposal for defining the production area more narrowly has also come from Allakhverdyan, 1952, p. 37 – more forcibly in his second edition, 1958, p. 40 – who argues that while trade packing, sorting, and transport services are productive, the labour of shop assistants, cashiers and accountants, and of advertising workers is non-productive. Ryabushkin, 1950, had earlier defended the inclusion of advertising in the product of trade solely on the ground that such outlays were too small to matter. Bor, 1954a, too, has suggested that the trade product should cover only services adding to the real value of goods. His only production problem was whether or not to include trade profits, for he was really concerned with valuations rather than definitions. The main object of his criticism was the inclusion in the Soviet aggregate of the foreign-trade price differential and indirect taxes: the first of these problems is discussed in the next paragraph, and the second in Section IV.

In defining the activity of foreign trade the eastern European countries fall into three groups. In all countries the problem is the same: that imports are bought by trade agencies at foreign-trade prices (at the official rates of exchange) and sold to domestic users at domestic prices, while exports are bought at domestic prices and sold to foreign buyers at foreign-trade prices. As the United Nations (ECE, 1959b, p. 69) has shown, the divergence between these price structures is substantial. It may, moreover, vary with foreign-trade patterns. Thus, it would be enlarged if there were an increase in the proportion of imports subject to turnover tax (mainly consumers' goods) or of exports of goods sold domestically at tax-free or subsidized prices (mainly capital goods). Bulgaria, Czechoslovakia, Hungary, Rumania, and the Soviet Union, and probably also Albania, extract from this price differential that part which would have accrued if trade had been balanced in terms of foreign exchange – at the level of actual imports if the balance of trade were favourable and of exports if unfavourable. This part is added to, or subtracted

from, the value of output of trade (to a separate head, 'foreign trade', in Hungary, but with all trade elsewhere). The price differential is normally a loss in Hungary and a profit in the Soviet Union: Bor, 1954a, notes that 'the product of trade in calculating the national income is trade overheads *plus* trade profit *plus* turnover tax (to the extent that trade organisations are the agents for paying turnover tax), *plus* the net income from foreign trade (or, as it is called, the export-import margin)'.

The debate on what this price differential means has been conducted almost exclusively (so far as publications go) by Hungarian statisticians. Bendecski and Drechsler, 1957, believe that some part of the differential is a real 'value-creating' activity: foreign-trade agencies may, as they put it, use the country's comparative cost advantage 'positively or negatively'. Ferge, 1957, rejects this view, on the grounds that only 1 or 2 per cent of the gross margin of retail trade creates 'value' (packing, sorting, and transport), and that there is an even smaller share of such value-creation in the foreign-trade margin; nevertheless, she concludes, if the national product is considered as an aggregate not of values but of 'values expressed in prices', the differential should be included, as foreign trade plays a role in forming 'realized prices'. Boócz and Jankó, 1956, on the other hand, claim that domestic prices should be regarded as reflecting domestic costs (or at least as reflecting values) and that the differential should not enter product at all, although it should appear as expenditure on product.

The eastern countries do not formally adopt the convention followed in the United Nations System of National Accounts of including all primary production (whether sold, bartered, or consumed by the producer) and excluding non-primary production performed by producers outside their own trades and consumed by themselves, but in practice their production area is virtually the same as it would be under that convention. Marx's definition of production, 'the domination of nature by man, within the scope of, and by means of, a definite social form' (*Zur Kritik der politischen Ökonomie*), covers activities other than those undertaken haphazardly or for pure amusement. Nowhere in the eastern European methodologies does a more precise rule seem to have been formulated; the best indication of usage comes from the official Rumanian description. Production, according to this, covers all output intended as objects

of economic exchange and output for own consumption in activities which are either themselves primary (by which agriculture would appear to be meant) or carried on as a complement to a primary activity. Own-account wine-making, dairy processing, fruit preserving, spinning and weaving, and house-building are thus all included, as they are executed by households in conjunction with farming – that is, by other members of the farmer's household or by the farmer in off-seasons – but precise practice varies slightly from country to country. Variations may generally be attributed to the importance of the activity: thus, where own-account wine-making is of significance (Soviet Union, Hungary, Rumania) estimates are specifically made, but where it is negligible (Czechoslovakia)¹ no attention is paid. But some divergences are arbitrary: the Soviet definition, complained Ryabushkin (1950 p. 48), was too narrow because own-account bread-baking and other food-processing were excluded from product while garment-making, berry-collecting, timber-cutting, and fishing for own consumption were included. Quantitatively, however, the only major difference between eastern European aggregates and those constructed according to the United Nations system is probably that the former include own-account dwelling construction.

Nor are the industrial classification divergences which occur between eastern European countries' accounts large enough to distort comparisons, but the facts of such variation should at least be recorded, with the *caveat* that for some countries the published accounts of method are too scanty for such a listing to be complete. Own-account construction by enterprises and households is included in 'construction' in the Soviet Union, Czechoslovakia, Rumania, and Hungary but in 'miscellaneous' activities in Poland. Draughting work is classed as 'miscellaneous' in Rumania but as 'construction' elsewhere. Trade activity is often subdivided to form additional main activities: the separation of foreign from domestic trade in Hungary has already been noted (it is the only one of its kind) and the Soviet Union elaborates 'material-technical supply' (wholesale trade, warehousing, etc.) and 'agricultural procurement', as well as 'trade'. 'Forestry' in the Soviet Union is a distinct activity, whereas in Albania, Hungary, and Rumania it is merged with

¹ Own-account wine-making by collective farms is included in product; only that of households and private farms is ignored.

'agriculture'. 'Hunting' is in 'miscellaneous' production in the Soviet Union and Rumania but in 'forestry' in Czechoslovakia and in 'agriculture' in Hungary. The Soviet accounts distinguish between commodity fishing ('industry') and consumption fishing ('miscellaneous'). Rumania takes this distinction a stage further and divides commodity fishing between industry and agriculture, depending on the method of fish reproduction – in agriculture if the waters are artificially stocked, otherwise in industry. Irrigation and land improvement are in Bulgaria attributed to 'agriculture' but elsewhere to 'construction'. Finally, everywhere 'miscellaneous' covers publishing, film-making, and scrap collection, except in Hungary, where it comprises only minor rural pursuits, the rest going to 'industry', though it is worth recording that Ryabushkin, (1950, p. 46), believes that the inclusion of publishing – as distinct from printing – in production is in any case debatable. It also includes the collection of berries, mushrooms, and herbs and commodity production of beverages by households in Czechoslovakia, home industries in Rumania and Poland, and peasant-owned horse transport (and in 1947 only, bank services to production and factory canteens) in Poland.

As a first stage in international co-ordination (see Section IV below), a working group of CMEA has already completed a draft classification of 'industry', a typical suggestion being that noted by Ryabushkin (1950, p. 48) of treating quarrying for building materials as 'manufacturing' rather than as 'extractive industry'. Though this working group has dealt with activities at the margin of 'industry', it has not yet turned to the delineation of other activity boundaries.

(b) *The social product aggregate*

As already briefly noted, the eastern European accounts employ a concept of 'global social product' deriving directly from Marx's model – the sum of the gross outputs (including intermediate consumption of producers' goods) of the various productive sectors of the economy. The aggregate is a convenient one to calculate in a centrally-planned economy in that the production returns of every enterprise can simply be summed, and it provides the data needed for input-output tables. Strumilin, (1958, pp. 152–159), in fact, justified the concept of 'global social product' on the ground that it provided data for 'chessboard

balances' (*shakhmatny balans*) and specifically opposed a proposal by Sobol, 1948, to replace 'gross' by 'marketed' products as constituents for the aggregate. Nemchinov, 1959, took these projects a stage further by calling for a macro-economic accounting which would link the traditional system of balances with that of 'the balance of production and distribution of social product' and input-output tables. Three countries at least are using the components of the global social product aggregates to draw up input-output tables (Hungary, Poland, and the Soviet Union) and – as already noted – a table for Poland has already been published. But no eastern European government attaches any importance to the sum as a measure of welfare, and only a few Soviet economists, working privately, have used the global concept to analyse the structure of the economy. (Thus, Strumilin, 1954b, has produced tables built on Marx's model which are intended to represent the Soviet accounts, and Notkin, 1956, has – albeit erroneously – used the composition of social product as an illustration of the share of 'living labour' in output, to support an argument on the need to increase labour productivity.) But the sub-totals for particular activities, especially those for industry and agriculture, are widely used by government agencies as plan parameters. In the past few years criticisms of this practice have abounded (especially in Czechoslovakia, the German Democratic Republic, Hungary, Poland, and the Soviet Union), and net value has been commended both at the disaggregated level – as a plan parameter for the enterprise – and at the aggregate level – in guiding planning decisions (for studies in English see Janakieff, 1958, and Nove, 1958).

Three different methods of computing social product by industrial origin¹ are in use: the 'enterprise method', the 'branch method', and the 'gross turnover method'.² The German Democratic Republic alone employs one method for all activities (the 'enterprise method'), and this uniformity dates only from the revised series published in the *Yearbook* for 1958. The predominant practice is the Soviet (or, rather, it seems to be, for descriptions are not always sufficiently explicit): the 'gross turnover' method for agriculture and the 'enterprise method' for

¹ The parallel aggregation of incomes is also made in Czechoslovakia, German Democratic Republic, Hungary, and Poland, as in the Soviet Union until 1930.

² A fourth method, the 'national economy method', is also distinguished in eastern European text-books. As this involves eliminating duplication throughout the economy, it can obviously not be used at the branch level.

other activities. The 'branch method' is, however, used by Czechoslovakia and Rumania for activities other than industry and agriculture and by the U.S.S.R. for construction.

The '*enterprise method*' aggregates returns from separate enterprises of final outputs and changes in stocks of finished goods. This cumulation ignores 'intramural' transfers (between, for example, one factory shop and another) – though an aggregate product of industry including 'intramural' turnover was computed in the Soviet Union until 1935, and at the enterprise level is still in use (see Ezhov, 1957, pp. 87–88). Intertemporal and international comparisons are thus affected by changes or differences in institutional structures, the size of social product varying inversely with the degree of integration of production.

The problem of comparisons over time has attracted the attention of the official statisticians, but has not been considered quantitatively important, presumably for the reasons that in general the non-farm enterprise (in industry, transport, and communications especially, though less so in trade and procurement) is the most stable of all economic institutions in eastern Europe (whereas changes are rung frequently at the ministerial and intermediate levels of management) and that variations in either direction, mergers, or divisions tend to cancel one another out.

Nevertheless, at certain times the trend is predominantly one way, as in the early post-nationalization periods of Hungary,¹ and as in the Soviet Union after the July 1957 reform of industrial management, when the disintegration of enterprises (to create specialized plants for forgings, pressings, and other components) probably outweighed the many mergers, in gross valuation aggregates, because the mergers were mainly into *kombinaty*, which left the enterprise a distinct reporting entity.

Vertical integration or disintegration, in so far as it affects the global social product, also of course affects the shares of different branches in product. In the Soviet Union this problem is in part resolved by the subdivision, for statistical purposes, of certain listed integrated enterprises. But the list of such enterprises seems to have been sharply reduced at the time of the 1957 reorganization: a list of such enterprises given by Ezhov (1954, p. 80) comprised sixteen vertically integrated processes,

¹ See United Nations Economic Commission for Europe (1959a) for a tabulation and discussion of trends in net to gross ratios in eastern European industry.

but a similar list in his third edition (1957, p. 92) gave only ten processes, all but one of the exclusions from the earlier list being heavy industrial processes. The similar list used in the German Democratic Republic was also sharply reduced at about the same time. A similar problem arises in Czechoslovakia, which is peculiar in that 'local' and 'co-operative' industries each form a class, irrespective of the commodity produced. The nationalization of co-operatives and the decentralization of industrial management – both of which have been features of the recent eastern European scene – can thus (in opposite directions) affect the distribution between branches. In part the difficulty is one of technological or secular change. Thus, the industrialization of building methods now in progress throughout eastern Europe has caused the gross product of the building materials industry to expand much more rapidly than its net product: for example, cement formerly delivered directly to a builder for pouring *in situ* becomes an input to another building-materials enterprise for the manufacture of pre-cast concrete panels. Similarly, the traditional secular shift of activity, during industrialization, towards processing branches (where turnover of inputs is high) and away from extractive branches (where it is low) raises the amount of duplication.

The question of international comparability has not yet been systematically treated by eastern European statisticians, apparently because it is not considered of any vital interest. Rather, planning officials almost everywhere have preferred to call for the abandonment of 'gross products', at least as operational parameters, as which they may be abused when enterprise success – and managerial premia – are measured by fulfilment of the gross production plan (products heavily incorporating purchased materials or components being preferred to those manufactured largely within the enterprise).

The '*branch method*' (called by Ezhov, 1954, the 'real method') provides global social product net of duplication within the particular branch; but as there is virtually no duplication within most of the branches in which it is used, the result of its use must closely approximate to that of the 'enterprise method'. In fact, it seems, only gross building output are not internationally comparable.

The '*gross turnover method*' – used generally, except in the German Democratic Republic, for agriculture – aggregates

estimates of the value of each commodity produced, whether used within the same branch of activity (for example, fodder¹), sold to another activity (as in the use of cotton), or passed to final consumption (as vegetables are). In most countries (the exceptions are Hungary, Poland, and Rumania) the services of machine and tractor stations are also added into gross product and, as in industry, institutional changes here may significantly affect the contributions to social product: MTS services were cut by sales of equipment to farms in Poland in 1956, in the U.S.S.R. in 1958, and in Bulgaria and Czechoslovakia in 1959. The situation will be resolved if a CMEA recommendation (Nikiforov, 1959) to eliminate MTS services as a separate contribution is implemented; in defining the sector origin of agricultural output, the value of MTS services will then be attributed to the State sector and the gross output of the co-operative sector (which buys MTS services) will be diminished by an equivalent amount.

The various measures of social product obtained by using the 'enterprise', the 'branch', or the 'national economy' method have been the subject of a number of private computations by eastern European statisticians, the published results of which have however invariably been in terms of notional – though presumably realistic – statistics. Ezhov (1957, pp. 94–95) for the Soviet Union, and Zienkowski (1959a, p. 98) for Poland, have prepared tables simplified into binary institutional patterns (2 enterprises = 1 trust, 2 trusts = 1 branch, and so on), which show the following values for gross output. Their figures –

	Ezhov	Zienkowski
Excluding intramural duplication (the 'enterprise method')	100	100
Excluding duplication between enterprises of a trust	81	—
Excluding duplication between enterprises of a branch of industry	69	89
Excluding duplication within 'industry' as a whole (the 'branch method')	62	70
Excluding all domestic duplication (the 'national economy method')	—	60

¹ Fodder would be double-counted on an 'enterprise method' only when sold to another farm; the present practice double-counts also the fodder used on the producing farm. Otherwise conceived, agriculture is evaluated on a double 'branch method', the one crops, the other livestock. Only net exports or stock-piling of fodder, of course, enter net product.

Zienkowski omits the trust – have here been recomputed so as to make the figure for the grossest concept equal to 100.

For non-farm enterprises the scheme of data collection throughout eastern Europe permits both social and net product to be identified in the basic (enterprise) statistics, which specify turnover, material consumption, and depreciation. The following description of accounting practices is from Soviet sources, but is typical also of other eastern European countries.

Ezhov (1957a, p. 96) states that industrial enterprises specify their material outlays in a special annual report, 'Material Outlays, excluding Intramural Turnover', which he says distinguishes raw and basic materials, auxiliary and sundry materials, fuel bought outside, power bought outside, depreciation of fixed assets, depreciation of purchased low-value and short-lived tools, etc., and 'sundry cash outlays', 'which combines elements of material outlays and net output'. The material costs of 'combined non-productive expenditure' must, he says, 'also be taken into account because they form part of the cost price of industrial commodity output', but he does not say whether this breakdown is available in the annual enterprise reports or is estimated by the Central Statistical Administration, which collates the data in such annual reports. The Soviet enterprise does not itself identify its net product, though this is already done in some other eastern European countries.

As 'non-productive services' are not within the production area, they do not rank as intermediary consumption but appear as a non-productive use of product, a similar treatment being accorded to the depreciation of non-productive capital owned by production enterprises (such as factory hospitals).

Reports from construction enterprises are similarly full. Petrov (1954, p. 217) explains that the gross value of construction can be computed as either of two sums. The first is the sum of the value of projects completed during the period and outlays of draughting agencies (*minus* the value of equipment installed in those projects), the value of the change in projects completed but not handed over for use (*minus* the value of equipment installed therein), the value of the increment of work on unfinished buildings, and capital repairs to buildings and equipment. The accounts of building organizations also provide – according to Ezhov (1957a, p. 97) – 'data on direct costs – materials, basic wages, outlays incurred in operating building

machinery, transportation, other auxiliary services and services engaged from outside'.

In other sectors where the 'enterprise method' is used the social product is the sum of the gross trading margins of the enterprises taking part, adjusted for activity boundaries – that is, for payments for transport by trade enterprises, which are deducted as they are included in the output of 'transport'. The only exceptions to this practice seem to have been the 1947 Polish aggregates, in which transport activity other than by special transport agencies was incorporated in the main activity of the enterprise, and the revised aggregates of the German Democratic Republic, where all the operations of an enterprise are included as a part of its main activity. As only services rendered to productive enterprises are counted (the German Democratic Republic again excepted), receipts from passenger transport and private use of communications are deducted from the relevant returns. Net product is straightforwardly derived from accounts furnished by enterprises, except in the non-state sector, where cartage values (both gross and net) are centrally estimated. Some complication arises in the case of transport and communications, where material outlays and depreciation charges are distributed as productive and non-productive in the ratio shown in gross receipts (e.g. goods and passenger takings). Another – and more important – complication arises in connection with foreign trade. In most countries, as explained above the difference between external and domestic prices is counted as the gross margin of foreign trade. From this, material outlays are deducted to yield the net margin of foreign trade. In Poland, where this procedure is not followed, the net product of foreign trade is measured by the wages and salaries of the employees of foreign-trade corporations, and outlays on materials are added to obtain the global product, but such product is ignored in the German Democratic Republic.

Computation of agricultural output by the 'gross turnover method' is based largely upon state and collective farm accounts, which, at the same time, provide outlay breakdowns, whence net product can be derived. As farm accounts in a large country can be aggregated only with some delay, they were formerly not used in the U.S.S.R., and reliance was placed on MTS and crop-inspectorate reports; they are now sampled to provide provisional figures. Data for other farms are generally obtained by

sample (but until recently in the Soviet Union partly by census). Output includes, for animals, increases in weight and size of herds during the year and, for agriculture, the change in work in progress, but in both instances there is some country-to-country variation. In the U.S.S.R., according to Ezhov (1957, p. 83), farm production is 'the outlay incurred in preparing the soil for sowing winter crops and preparing the soil for sowing spring crops the following year: the value of crop output also includes . . . expenditures incurred in planting and tending perennial plants'. The confusion is observed below in connection with the definition of capital accumulation.

The net product resulting from the subtraction of material outlays from gross product is more narrowly defined – because depreciation is excluded – than the 'value added' of western statistics. In the normal disaggregation of social product gross domestic product (in a western sense) is not identified, as this would involve adding back depreciation from the separate enterprise accounts. As has been shown, the enterprise statistics are so efficiently collated that this aggregate could easily be published, but only Poland – as noted in Section II above – in fact uses a gross domestic product aggregate, and there it is termed – confusingly to 'western' ears – 'net global product'.

One of Marx's pioneering contributions to social accounting was his comprehension that product and income aggregates, appropriately defined, were identical. But he termed the global aggregate 'product' and the net aggregate 'income' as a convenience for his political thesis that the workers created the product and the capitalist landlords appropriated a part of the income. As a result, whenever the concept of net national product is required,¹ the eastern European accounts use a circumlocution. 'Produced national income', for example, is used in Poland and Hungary and the 'product of the national income' is used in the Soviet Union (by, for example, Vikentev, 1957, p. 15: no accounts are officially published) and only the German Democratic Republic employs 'net product' (*Nettoprodukt*) for product broken down by industrial origin and 'national income' (*Nationaleinkommen*) for domestic disposable income. The Soviet Union has perpetuated this verbal anomaly, even though it has long given up adding up incomes, and for thirty years has

¹ Strictly the terms described refer to domestic product; national product is to be identified in eastern European accounts as 'domestic disposable income'.

made estimates only on a product basis. Bor, 1954a, observed that parallel computations on an income basis would serve as a statistical check on product estimates, but that the resultant 'disposable national income' would fall short of 'produced national income' by the amount of 'losses of product and income in the process of social production'. Where, however, he exemplified such 'losses' (the difference between 'biological' and 'barn' yield, or abandoned construction projects) he enlarged his phrase to 'economically disposable product' (*khozyaistvenno – ispolzuemaya produktsiya*). Bor's original usage of 'disposable income' should be therefore considered in this sense, but must in his later writings come to have coincided with eastern European usage. Thus, tables in Bor (1954b, p. 16) and Bor (1956, p. 101) are substantially identical and show as entries both 'production of the national income' and 'disposable national income'. The difference between the two in the first table is called 'losses of the national income' (and is a negative figure in the statistics), but in the second 'other resources of the national income', which perhaps includes the foreign balance, unfortunately he inserts a zero in the numerical columns and still leaves the reader guessing.

Being confined to material product, the net product which emerges is smaller than the net domestic product of most western countries (and is often referred to as 'net material product' when discussed outside eastern Europe, e.g. by the United Nations Statistical Office, 1959).

As incomes are generated outside material production, the reconciliation of the product aggregate with the income and expenditure aggregate occurs through redistribution: the narrower the area of production, the more redistribution takes place. In eastern European practice expenditure accounts are compiled for only two sectors: the Government and the 'population' (consumers) – and for the Government only in respect of its transactions with the 'population'. In Bulgaria, Czechoslovakia, the German Democratic Republic, Poland, and the U.S.S.R., an income and expenditure account for the transactions of state and co-operative enterprises with other sectors is elaborated by the State Bank or the Ministry of Finance to estimate money and bank-credit requirements. A proposal was once made by the Deputy Head of the Industrial Statistics Department of the Central Statistical Administration of the U.S.S.R.

(Dzhaparidze, 1955) that very full corporate accounts should be elaborated once every five years.

(c) *The institutional accounts*

The household accounts¹ in principle include intra-sector money transactions, mainly purchases from peasants by individuals (except in the Soviet Union, where sales on rural farm markets are evidently not regarded as operationally interesting) and in some countries (Czechoslovakia, Hungary) 'auto-consumption' on farms.

The grouping of institutions varies from western practice in classing what the UN System calls 'private non-profit institutions' and the Soviet system calls 'public organizations': the western systems² group them with 'households' and the eastern with 'enterprises'.

The eastern European accounts distinguish between personal and collective consumption, only the former being covered by the 'balance of incomes and outlays of the population' (the detailed household account), but both being outlays in the national product account. The boundary between personal and collective consumption is drawn according to source of finance; this is a natural consequence of the construction of the accounts for specific planning purposes (in this instance for determination of wages, retail prices and sales taxes, and money circulation). Goods³ paid for by individuals are classed as personal consumption, as are also goods consumed in institutions (except in Czechoslovakia, where goods consumed by individuals in state or collective institutions – and the depreciation of publicly owned dwellings – are classed as collective consumption). In the Soviet Union (according to Bor, 1954a) personal consumption also includes the current outlays on materials and depreciation of non-productive organizations: in other countries these are counted as collective consumption, which, in addition, everywhere includes the wages and salaries paid by health, education, administrative, and other non-productive organizations, as well as a part of defence outlays. These latter are classified by

¹ Nothing is said in this paper about the other institutional account, that of the general government.

² There are, of course, variations; France, for example, puts private non-profit institutions with general government.

³ Only goods, productive services, and depreciation of private dwellings, since this distinction is valid only for the national product account (material goods), not for the household account.

analogy with civilian end-uses. Thus, the subsistence of the Armed Forces is treated as personal consumption (Czechoslovakia again excepted), expenditure on certain durable assets, such as airfields, is counted as 'non-productive accumulation', and goods falling between these two categories, for instance cartridges, are included in 'collective consumption'. Goods distributed without charge from the general-government and enterprise accounts to persons not resident in institutions and carried by their budgets (such as free coal issued to miners) are listed as personal rather than as collective consumption.

Some countries already separate 'collective consumption' into that provided by institutions and enterprises for the direct use of persons and that otherwise provided (such as administration costs and defence outlays other than on military subsistence). Variant proposals have been made recently in the Soviet Union (by, among others, Bor, 1956; Kronrod, 1958, p. 542; and Strumilin, 1954a), and a recommendation for such a sub-classification was recently made by a working group of the CMEA (see pp. 169-70 below).

(d) *Accumulation*

'Consumption' covers all purchases by households, irrespective of the durability of the goods, except of houses. Dwelling construction enters 'non-productive accumulation', but the depreciation of houses is part of personal consumption (except, as already noted, in Czechoslovakia), the charges everywhere being imputed, save in Poland, where the value of estimated actual repairs are applied. The German Democratic Republic nevertheless makes a different distinction and attributes all 'non-productive' construction (dwellings, schools, clubs, hospitals, and capital repairs thereto) to 'consumption'. A few other minor variations occur: thus in Czechoslovakia and Poland outlays on fertilizers are counted as current costs, while in the Soviet Union they count as capital additions if the period during which they improve the soil exceeds the accounting period (one year).

Subject to these variant definitions, the entry 'accumulation' in the national product account is the sum of fixed capital formation (including increments of unfinished construction work and capital repairs), net changes in stocks and holdings of gold, and, possibly, foreign exchange, but in no country obliga-

tions incurred by or to foreigners (although this, the standard 'western' practice, has been urged by Ferge, 1956). Without devoting inordinate space to the detail, it may be observed that the treatment of increases in herds of bloodstock and draught animals and the net growth of forests varies from country to country (but is quite unclear in the Soviet Union: Sholts, 1955, p. 164, and Bor, 1956, p. 95, state that they are included, but Kozlov and Pervushin, 1958, pp. 117-118, and Kursky, 1953, imply that they are not). Accumulation is everywhere distributed by user: 'productive' accumulation accrues to enterprises, stockpiling agencies, and households (e.g. increase in weight and numbers of private livestock), whose activity contributes to national (material) product, while the remainder forms 'non-productive' accumulation (except, as noted, in the German Democratic Republic). It is also tabulated by type, with country-to-country variations: thus in the German Democratic Republic and Poland the change in uncompleted construction appears as part of net investment, whereas in Hungary and the Soviet Union it is incorporated in stock change. Livestock increments, where inserted, appear usually as fixed capital, but in the German Democratic Republic as working capital (stocks). Capital consumption allowances, scrappings, and the value of abandoned construction sites are deducted from accumulation to derive net investment, and from this an allowance for accidental losses and similar forms of unforeseen obsolescence¹ is deducted to form an entry 'accumulation of fixed assets' in the national wealth balance. A 'gross accumulation fund' without allowance for capital consumption is presented only in Poland, where Zienkowski (1959b) has recommended it as a vehicle of international comparison so long as depreciation practice varies greatly from country to country.

Marx envisaged depreciation as at once the value by which the value of the fixed asset is run down and that value incorporated into the good produced, thereby improving on Adam Smith's concept, which confined itself to the former. He therefore implied – as Smith did not – that depreciation should be at replacement values. Eastern European accountants seeking to apply Marx's principle have been faced with the difficulty that in their process of development as socialist economies, their

¹ 'Foreseen' losses of all kinds form part of the margin between global social product and net domestic product.

countries have all experienced an early period of inflation of capital-good prices followed by reductions as efficiency improved. Their theory of depreciation, however, envisaged constant capital costs, and allowances were spread – in enterprise as in national accounting – on a straight-line basis over the expected physical life of the asset.¹ Two adjustments had to be made in practice – the first to allow for secular trends in capital replacement values and the second to allow for technological obsolescence. In the Soviet Union the first adjustment was made by irregular reviews of amortization norms, and in Hungary recently by the application of global price coefficients for capital goods, but, elsewhere, apparently, not at all. A round of general inventories of fixed capital has now been initiated – the Czechoslovak census was made in 1955, the Soviet census began in 1959 and was to be completed by early 1960, when a Polish inventory was also to be made. Revised amortization norms follow the revaluations of capital: in both Hungary and Czechoslovakia depreciation charges were considerably increased, and the official expectation in the Soviet Union (Efimov, 1959) is that the new charge (which will, however, include the cost of expected ‘average’ repairs as well as of ‘capital repairs’) will be at least one and a half times the existing rates. If the present trend of declining capital-good costs persists, the depreciation charges will come to overstate replacement costs, in contrast to the past, when, through an unrealistic estimation of working life and the absence of allowance for obsolescence (until the matter was taken up by the XXth Congress of the Communist Party of the Soviet Union, in 1956), they definitely under-stated outlays on maintaining capital intact.

(e) *The external account*

The balances of trade and of payments are compiled in the normal form by the State Banks of the various eastern European countries as the bankers of the foreign-trade corporations and as the arbiters of external-payments policy. This account does not figure as a formal part of the national accounting schemes, but is obviously used to provide the figures of price differentials and of the real balance of trade: as the gross product

¹ These allowances were intended to cover not merely the cost of the asset but also the ‘capital repairs’ or major repairs expected to be incurred over the life of the asset.

aggregate to which the external account adjustment has to be applied contains only material goods, the balance is that of *merchandise trade plus* that for those productive services which figure in material product. The pricing of the balance of trade may theoretically be at the domestic prices of either imported or exported goods: in practice, import prices are chosen for an import surplus and export prices for an export surplus, in order to ensure identity between the global income and expenditure aggregates.

In all the eastern European systems the concept of 'disposable income' has been introduced to take account of the foreign balance (cf. report of a CMEA working group, *Statistikai Szemle*, 1958, pp. 876-877). The 'produced national income' discussed above is domestic product *plus* the balance on external account. However, in the German Democratic Republic and Poland the margin between the two aggregates includes both the trade balance and the differential between domestic and foreign-trade prices. These are the two countries which do not treat the differential as a part of 'trade' product, that is, of domestic product. In the table showing domestic disposable income (*Inland verfügbare Nationaleinkommen*), which would be 'product by use' or 'expenditure on product' in alternative western usages, eastern Germany subtracts the whole of the margin combined. In the latter country the trade balance is an adjustment to disposable (*podzielony*) income ('consumption' plus 'accumulation') which yields produced (*wytworzony*) income (or domestic product) from which by application of the price differential is derived 'country product' (*dochód narodowy krajowy*). Albania, Bulgaria, Czechoslovakia, Rumania, and the Soviet Union, having incorporated in their product aggregates the price differential on foreign-traded goods, use only the 'real' balance of trade as their external-account entry, but a firm statement on this is available only from Czechoslovakia, a paper from whose State Statistical Office presented to the Portoroz Conference shows the 'real' foreign balance as the differences between 'disposable' income and 'national income produced' (domestic product). It was assumed above that this 'real' foreign balance is the 'other resources' (*prochie istochniki*), which, in Bor (1956, p. 101) adjusts 'production of the national income' (*proizvodstvo natsionalnogodokhoda*) to 'disposable national income' (*ispolzuemy*

natsionalny dokhod) in the Soviet accounts. Bor did not, however, make clear whether he was explaining the official statistics, as an official of the State Planning Commission, or proposing a new usage. The pre-war published statistics made no distinction between the various aggregates. The accounts of the 'twenties (U.S.S.R., State Planning Commission, 1929) used the term 'national income' (*narodny dokhod*) for all three different aggregates (product, income, and use of product). The statistics of the 'thirties (U.S.S.R., State Planning Commission, 1939) were presented only in percentage form, and both product-by-origin and product-by-use aggregates were entitled 'national income': there are some grounds for believing that the percentages related to different aggregates. As in Bulgaria's post-war series – where the term 'national income' is also used for both these aggregates – each table is at a different set of prices. Writing of the Bulgarian accounts, Zhelev, 1958, stated that 'international credits utilized during the year of account are also included in the resources side of the social product account,' which implies that practice is the same as in Czechoslovakia. Finally, Hungary also writes the price differential into trade activity (thereby reducing domestic product by that margin, since in recent years it has been negative); but while it does not separately identify 'disposable income', it records the real external balance in the table on expenditure on domestic product, so that for purposes of international comparison 'disposable income', as certainly used in Czechoslovakia, the German Democratic Republic, and Poland, could be identified.

IV. THE INTERNATIONAL COMPARABILITY OF THE ACCOUNTS

The preceding section has indicated that, while all the six accounts which figure in the UN System (domestic product, national income, domestic capital formation, households, general government, and the external account) have some counterpart in the eastern European system, conceptual and definitional differences are substantial. As long as the limitations to the publication of statistics mentioned in Section II remain, the question of comparability between the western and eastern accounts will hardly arise – at least outside eastern European

government offices. When it does, the problems both of production boundaries and of valuation of production will arise even more acutely than they did, for example, among OEEC members (for which see Gilbert *et al.*, 1958). The first of these problems has been touched on in Section III of this paper. But it is the second, the valuation problem, that is the more intractable, and quantitatively the more important of the two.

In a sense the 'realized prices' of the eastern European countries are conceptually identical with the 'market prices' of the UN System, in that both represent the prices actually paid, in the case of money transactions, or equivalent imputed prices in the case of transactions in which no money changes hands.¹

In another sense they differ conceptually. Some, but by no means all, western 'market prices' are 'administered' prices: almost all eastern European prices are. And in eastern Europe the margin (for consumer goods very large, by western standards) between factory or farm unit outlays and realized prices varies considerably from product to product, and for the same product, from country to country.

There is thus a threefold difficulty for international comparisons. In the first place, gross margins on consumer goods are typically greater in eastern Europe than in the West and gross margins on producer goods smaller (or even negative). Second, margins² for the same commodity – all equally arbitrary from the point of view of the national accountant – vary from country to country within eastern Europe. Third, multiple pricing for the same commodity is common in eastern Europe.

Some of these arbitrary differences will, perhaps, soon disappear. Reforms have recently been carried out, or are expected to be made, in the structure of producers' prices, notably in the elimination of double pricing for farm produce purchased by the State and the gradual merging, as supplies improve, of these

¹ This is not quite true of eastern Europe as a whole. In Poland farm auto-consumption was priced at State contractual delivery prices in 1956 and 1957, at the weighted average of all transaction prices in 1954 and at urban retail prices *less* the trading margin in 1955; and in Hungary, where the general convention is adopted for the national accounts, base-year retail prices *less* the trading margin are applied to farm auto-consumption when computing index numbers of real income.

² This is not just a matter of differences between rates of turnover tax: it is generally recognized by eastern European economists that the line between turnover tax and 'profits' is itself tenuous and arbitrary.

procurement prices with free (farm) market prices, and in the standardization of depreciation charges. A keynote speech for Soviet economists (Ostrovityanov, 1959) has recently given impetus to the movement for some form of common revision of price formation throughout eastern Europe.

'The development of commodity-money relations between socialist countries will make it necessary to devise a single yard-stick for comparing production costs within a given country with costs in other socialist countries, and even for comparing the results of competition between the socialist and capitalist systems. . . . At present, the socialist countries conclude among themselves trade agreements based on world prices (with certain corrections) in order to provide for increased stability. . . . With the growth of their economy, the increase in labour productivity, the decrease in costs and the increased share of socialist trade in world trade, the socialist countries will progressively go over to their own basis of price formation, guiding themselves on production costs within the socialist sector.'

His hopes, however, are far from realization, and attention may best be paid to the attempts to compute aggregates free of the arbitrariness of fiscal incidence.

Three approaches may be distinguished. One is to compute a factor cost aggregate in terms of Ricardian factors of production, as was done in the Bergson-Hoeffding-Heymann estimates for the Soviet Union at 'adjusted factor cost'. The difference between the factor-cost and the market price aggregates is largely indirect taxes and subsidies, the adjustment of 'profits' to an appropriate rate of return on capital being quantitatively very small. The Hungarian monograph on the national accounts contains a table of branch outputs in industry free of turnover tax but not of subsidies, but these figures – computed, though not published, elsewhere in eastern Europe – are not integrated into any aggregate and are used exclusively for measuring rates of change.

The second approach centres on the redistribution of the tax *minus* subsidy margin so that the aggregate of the recomputed components equals product at market prices. Thought has nearly everywhere been devoted to this approach, but only in Poland have any recomputed figures yet appeared. The object

is not international or intertemporal comparison of volume but meaningful inter-branch comparisons of the shares of accumulation, the problem being that the greater capital-goods subsidies (or alleviations of turnover tax) are, the lower is the share of accumulation. The share of accumulation is increased (by the amount by which consumption is decreased) on product inputs revalued at prices which in Russian texts are termed 'accounting' (*raschëtnye*) and in the Polish monographs 'conventional' (*umowne*). The differential between these prices and the realized prices is, in the Polish statistics, simply turnover tax *less* subsidies; in the view of the Soviet theorists it should reflect Marx's 'surplus product' (*pribavochny produkt*) and be the margin between labour outlays (the prime costs of a closed economy) and expenditure on net domestic product, and in other schemes (e.g. Minc and Rachmut) the margin between prime costs and expenditure on gross domestic product. Discussion has ranged on the criteria for this distribution (as it is often put, the determination of the surcharge to bring labour cost up to accounting price). Strumilin (1956 and 1957), who launched the Soviet debate, proposed that the criterion be labour outlays, Kronrod (1957) that it be the numbers occupied (with the reservation that this would not accurately represent the qualifications and intellectual effort involved in the various activities), and Malyshev (1957) that it be productive fixed assets (somewhat as in Yugoslavia). The Director of the Polish Institute of Economics (Minc, 1958) proposed a formula combining labour outlays and capital stocks, and the Director of the Rumanian Institute of Economic Research, Rachmut,¹ preferred production costs, the divergence between the two arising from the preference of the one to direct the choice of enterprises and planners towards capital-economy and of the other to capital-intensity, if 'accounting prices' were used operationally. As is noted below Rachmut's criterion was the one soon afterwards adopted by a working group of the CMEA; it is, moreover, that used in the Polish statistics (except that peasant income is used in agriculture in place of production costs). In rejecting Minc's approach, Sorokin (1959) contended that the object of the exercise was to define 'socially necessary labour' and that this

¹ In a paper read to the UNESCO Meeting of Economists on Peaceful Co-operation and International Understanding, Bursa (Turkey), March 24 to April 2, 1958.

could be done only in terms of 'living labour': he first considered the use of man-hours as the criterion, but concluded that actual labour remuneration was better, as it weighted 'complicated' labour more heavily than 'simple'. He answered the objection (Turetsky, 1957) to this criterion – that actual remuneration fails to reflect productivity and capitalization – by weakly contending that in practice it does. The present trend of wage reforms in the Soviet Union and elsewhere in eastern Europe is towards a reflection of productivity relationships rather than, as earlier, of planners' preferences for heavy industry. However, Sorokin seems to have missed the point on the reflection of a capital charge in 'accounting prices'. Both he and Bor (1957), who has argued in favour of including a capital charge in 'accounting prices', have drawn up outline accounts in which the creation of, and expenditure upon, gross domestic product are shown at both 'realized' and 'accounting' prices, both providing the value of this 'price' margin, though in different forms (Sorokin in the form of values by industrial origin and Bor as a global entry in 'redistribution of product': 'redistribution between sectors by means of the financial system'). The tabulation by Sorokin concentrated on redistribution within each activity, summing to net domestic product, whereas a revised presentation by Bor (1958) disaggregates social product into gross domestic product, which he then shows by use (consumption and accumulation).

As a third approach, the Secretariat of the United Nations Economic Commission for Europe (1959b) has suggested – to aid the international comparability of costs for rational foreign-trade decisions – that 'a common denominator be found for labour and capital, and it can be said that such a common denominator is inherent in the system of a planned economy – specifically in the plan to enlarge the capital stock'. The proposal, summarily expressed, is that 'planning authorities should charge the rate of profit implicit in their overall accumulation decision against the goods they produce in proportion to the volume of capital allocated to their production'.

Programmes of work to co-ordinate national accounting concepts have begun in the international agencies. The Statistical Commission of the United Nations studied the points of correspondence and difference between the United Nations System of

National Accounts and that employed by the Soviet Union at its tenth session in April 1958, and the work was then taken up by the Conference of European Statisticians. The Conference convened a Group of Rapporteurs on Comparisons between Systems of National Accounts in Use in Europe, which met in May 1959. The rapporteurs were from Czechoslovakia, Denmark, France, Hungary, the Netherlands, Poland, the Soviet Union, and the United Kingdom; experts also participated from the United States, Yugoslavia, the Organization for European Economic Co-operation, and the European Economic Community. The Group had before it the study presented to the previous year's meeting of the Statistical Commission and memoranda specially prepared for it by Czechoslovakia, Denmark, France, the Netherlands, Poland, the United Kingdom, Yugoslavia, and the United Nations Statistical Office. In a week of meetings, the Group discussed the following points on which there were conceptual differences between the systems of national accounts: the boundary of production in the estimates of aggregate product; the concepts of gross and net product and the identity of the respective aggregates within each system; the concepts of 'private consumption' and 'general government consumption' expenditures compared with, respectively, those of 'personal consumption' and 'collective consumption'; the concept of capital formation and the treatment of capital repairs and capital consumption; the domestic and national concepts of product; and the valuation of production. The Group proposed a three-stage programme of future work. The first stage would be to establish (in a meeting of rapporteurs in 1960) the comparability of certain important elements of the accounts (consumption, production, and capital formation), and the second to elaborate the points of difference and correspondence in the finance of product flows, the sector classifications¹ and the basic statistical statements of the accounts. As a longer-term objective the Group would study the possibility of drawing up an accounting structure embracing the main elements of both the UN System and those common to the eastern European accounts, into which the figures of both systems could be fitted on as comparable a basis as possible. The Group also

¹ Viz. in eastern European systems productive enterprises, non-productive organizations and population: in the UN System enterprises, general government and households.

recommended that the UN Secretariat should compile a bibliography of studies comparing systems of national accounts and that members of the Conference of European Statisticians should circulate information papers on the treatment of foreign trade in their accounts.

Three working groups of the Council for Mutual Economic Aid have, according to *Statisztikai Szemle*, 1958, been constituted to discuss statistical co-ordination in the field of national accounting: on national accounts proper, on real wages and real incomes and on the unified classification of industrial production. A unified nomenclature for foreign-traded goods has also been elaborated by a working group of CMEA to co-ordinate with this latter production classification (*Vestnik statistiki*, 1959).

The national accounts working group owed its origin to a resolution of the CMEA Economic Commission of late 1957 which authorized its convocation by Poland. Its first meeting was held in Warsaw in June 1958 with the participation of all the eastern European countries (and the CMEA Secretariat) save Albania. Its discussions covered comparison of the product aggregates and their distribution by use (accumulation and consumption). On the methodology of composing product aggregates the working group recognized – as the present paper has sought to show – substantial variations from country to country and concentrated its attention on two points, the valuation of farm auto-consumption and of foreign trade. The meeting distinguished four sets of prices which could be used to value auto-consumption, the average prices received by producers, State free-purchase prices paid for produce procured above compulsory quotas, retail prices, and retail prices *less* the retailing margin, and when it reconvened in Berlin in April 1959 recommended the first and third of these (Nikiforov, 1959). The Warsaw meeting recognized the divergent treatments of the price differential and the real foreign balance, but neither it nor the Berlin meeting is reported to have made concrete recommendations. The question of the comparability of the shares of accumulation and consumption in gross domestic product was discussed at both meetings and the proposal made to attribute indirect taxes and subsidies in proportion to costs of production, but with two caveats: that its advantage of simplicity was offset by its roughness (since indirect taxes could be identified only in

final, and not in intermediate, goods) and that in present practice no cost of production could yet be identified in agriculture. This procedure was explicitly not intended to compare volumes of domestic product (a Bulgarian proposal to effect this by country recalculations at Soviet constant prices was deferred by the second meeting for further study), and to fill the vacuum the meetings recommended international comparison only of the volume of consumption, by valuing representative baskets at Soviet retail prices. The first meeting appointed rapporteurs from Hungary and Poland to prepare a draft methodology for comparing accumulation and rapporteurs from Czechoslovakia and the Soviet Union to outline a work programme on the general system of economic balances. The second meeting of the group recommended, as already noted, the sub-grouping of consumption into 'personal consumption by the population of material values' and 'other (social) consumption'.

The first meeting of the CMEA working group on industrial classification took place in Berlin in May 1958, with the participation of all eastern European countries, Albania again excepted. It had before it memoranda prepared by the delegations of the German Democratic Republic and of Hungary. A fourteen-group classification for industry was agreed¹ and its introduction recommended for 1958 statistical reporting (as well as retrospectively for 1950 and 1955-57). On the boundaries with activities other than industry some marginal divergences noted above were resolved: timber-felling was classed as 'industry' and tree-planting as 'agriculture'; fish-breeding in inland water was classed as 'agriculture' and other fishing as 'industry' (i.e. the Rumanian practice).

The Economic Commission of CMEA was to have met in February 1959 to discuss the results of the first round of meetings of these working groups, but the meeting was postponed. Its activity was, however, paralleled by the convocation by CMEA of an international meeting of economists from socialist countries. This conference took place in Prague in December 1958 and decided upon a three-year programme for future meetings (cf. *Közgazdasági Szemle*, 1958, and *Politická ekonomie*, 1959, and *Ikonomicheska misl*, 1959). The first of these meetings (scheduled for 1959 on the convocation of the Economic

¹ A shorter set than is used by any member country which is to parallel and explicitly not to supersede.

Institute of the Polish Academy of Sciences) was to be devoted, *inter alia*, to the use of national accountancy in economic planning.

The meetings described above do not represent all the work in fields cognate to national accountancy being carried out among member countries of the ECE and the CMEA. Consultation is proceeding notably in flow-of-funds analysis. The work of the Conference of European Statisticians in this field was described by Davies in a paper presented to the Portoroz Conference of the IARIW.¹ The First Conference of Central Banks of Socialist countries (attended but not arranged by the CMEA secretariat) which met in Prague in June 1958 (cf. *Dengi i kredit*, 1958, and *Finansy i kredit*, 1958) devoted much of the time of one of its sections to discussing the establishment and use of the money parts of the household account ('balance of the incomes and outlays of the population') and the cash elements of the corporate income and outlay account. All the Banks agreed on the need to improve these tabulations: the practice of the Deutsche Notenbank, as being the most fully integrated with the national accounts, was held up for emulation, as was that of the Hungarian State Bank, which elaborated flows of funds by sector of the economy.

It is very clear that international consultation on standardizing eastern European systems of national accounting began in earnest only in 1958.

REFERENCES

- Aczél, I. (1958) *Közgazdasági Szemle*, No. 12, pp. 1282-1295.
 Albania, Statistical Directorate (1958) *Anuari Statistikor i Republikës popullore të Shqipërisë 1958*, Tirana.
 Allakhverdyan, D. (1952) *Natsionalny Dokhod S.S.S.R.*, 1st ed., Moscow.
 Allakhverdyan, D. (1958) *Natsionalny Dokhod S.S.S.R.*, 2nd ed., Moscow.
 Anastasescu, M., and Capana, I. (1958) *Statistica produsului social, i a veniturii national*, Bucharest.
 Ansch, S. (1958) *Közgazdasági Szemle*, No. 6, pp. 561-574.
 Backa, A. (1959) *Ekonomia popullore*, No. 3, pp. 38-47.
 Bacs, Gy. (1956) *Statisztikai Szemle*, November-December, pp. 960-972.

¹ See list of papers on p. 253 below.

- Bendeczki, J., and Drechsler, L. (1957) *Statisztikai Szemle*, March, pp. 231-234.
- Bergson, A. (1953) *Soviet National Income and Product in 1937*, New York.
- Bergson, A., and Heymann, H. (1954) *Soviet National Income and Product 1940-1948*, New York.
- Berliner, J. (1958) *Soviet Economic Aid*, New York.
- Boócz, I., and Jankó, I. (1956) *Pénzügyi Szemle*, No. 8, pp. 370-371.
- Bor, M. (1954a) *Voprosy ekonomiki*, No. 10, pp. 79-90.
- Bor, M. (1954b) *Vestnik statistiki*, No. 6, pp. 12-23.
- Bor, M. (1956) *Balans narodnogo khozyaistva S.S.S.R.*, Moscow.
- Bor, M. (1957) *Voprosy ekonomiki*, No. 3, pp. 106-113.
- Bor, M. (1958) *Voprosy ekonomiki*, No. 1, pp. 3-14.
- Brínca, Z. (1955) *Probleme economice*, No. 8, pp. 105-119.
- Brus, W. (1959) *Zycie Gospodarcze*, No. 8, p. 5.
- Bugeanu, C. (1957) *Revista de statistica*, No. 9, pp. 3-21.
- Bulgaria, Central Statistical Administration (1957) *Statisticheski godishnik na Narodna Republika Bulgariya 1956*, Sofia.
- Bulgaria, Central Statistical Administration (1959) *Statisticheski spravochnik na N.R. Bulgariya 1958*, Sofia.
- Bulgaru, M., and Bajan, V. (1958) *Revista de statistica*, No. 12, pp. 31-38.
- Cyhelský, L., and Kaspar, J. (1958) *Politická ekonomie*, No. 3, pp. 233-246.
- Czechoslovakia, State Statistical Office (1959) *Statistická ročenka Republiky Československé 1958*, Prague.
- Czernok, A. (1957) *Statisztikai Szemle*, August-September, pp. 656-672.
- Dengi i kredit*, 1958, No. 7, pp. 3-10.
- Drechsler, L. (1956) *Statisztikai Szemle*, November-December, pp. 973-989.
- Dzhaparidze, V. (1955) *Voprosy ekonomiki*, No. 10, p. 156.
- Efimov, A. (1959) *Voprosy ekonomiki*, No. 9, pp. 3-13.
- Eidelman, M. (1958) *Vestnik statistiki*, No. 1, pp. 43-55.
- Eidelman, M. (1959) *Vestnik statistiki*, No. 8, pp. 43-58.
- Ezhov, A. (1954) *Statistika promyshlennosti*, 2nd ed., Moscow.
- Ezhov, A. (1957) *Statistika promyshlennosti*, 3rd ed., Moscow.
- Ezhov, A. (1957a) *Soviet statistics*, Moscow.
- Fedorov, F. (1955) *Vestnik statistiki*, No. 2, pp. 29-38.
- Fels, E. (1959) *Journal of the American Statistical Association*, March, pp. 12-29.
- Ferge, S. (1956) *Statisztikai Szemle*, February, pp. 135-143.
- Ferge, S. (1957) *Statisztikai Szemle*, July, pp. 598-606.
- Finansy i kredit*, 1958, No. 8, pp. 56-60.

- Germany, Democratic Republic, State Central Statistical Office (1956) *Statistisches Jahrbuch der Deutschen Demokratischen Republik 1955*, Berlin.
- Germany, Democratic Republic, State Central Statistical Office (1957a) *Statistisches Jahrbuch der Deutschen Demokratischen Republik 1956*, Berlin.
- Germany, Democratic Republic, State Central Statistical Office (1957b) *Vierteljahreshefte zur Statistik der DDR*, No. 1.
- Germany, Democratic Republic, State Central Statistical Office (1958) *Statistisches Jahrbuch der Deutschen Demokratischen Republik 1957*, Berlin.
- Germany, Democratic Republic, State Central Statistical Office (1959) *Statistisches Jahrbuch der Deutschen Demokratischen Republik 1958*, Berlin.
- Gilbert, M., et al. (1958) *Comparative National Product and Price Levels*, Paris, OEEC.
- Gugovski, N., and Lazarov, N. (1958) *Finansi i kredit*, No. 4, pp. 19-26.
- Haypál, Gy. (1956) *Statisztikai Szemle*, November-December, pp. 990-1001.
- Haypál, Gy. (1957) *Statisztikai Szemle*, July, pp. 586-588.
- Hetényi, I. (1956) *Statisztikai Szemle*, April, pp. 338-342.
- Hlevca, M. (1958) *Revista de statistica*, No. 8, pp. 18-28.
- Hoeffding, O. (1954) *Soviet National Income and Product in 1928*, New York.
- Hoeffding, O., and Nimitz, N. (1959) *Soviet National Income and Product, 1949-1955*, Santa Monica, Calif. (RAND Research Memorandum RM-2101).
- Horváth, R. (1956) *Statisztikai Szemle*, April, pp. 324-337.
- Horváth, R. (1957) *Statisztikai Szemle*, June, pp. 463-477.
- Hungary, Central Statistical Office (1957a) *Népgazdasági Mérlegek, Redőljövedelmek, 1956 (Statisztikai Idoszaki Közlemenyek, No. 4)*, Budapest.
- Hungary, Central Statistical Office (1957b) *Statisztikai Evkönyv 1949-1955*, Budapest.
- Hungary, Central Statistical Office (1959a) *Magyar Statisztikai Zsebkönyv 1958*, Budapest.
- Hungary, Central Statistical Office (1959b) *Népgazdasági Mérlegek 1958 (Statisztikai Idoszaki Közlemenyek, No. 29)*, Budapest.
- Ikonomisheska misl*, 1959, No. 1, pp. 99-101.
- Istratescu, E., and Băjan, A. (1957) *Revista de statistica*, No. 6, pp. 17-28.
- Jackson, E. F. (1955) *Social Accounting in Eastern Europe*. In Gilbert, M., and Stone, R. (ed.) *Income and Wealth, Series IV*, London, Bowes and Bowes, pp. 242-261.

- Janakieff, R. (1958) *International Economic Papers*, No. 8, pp. 179-200.
- Kaser, M. (1957) *Economic Journal*, March, pp. 83-104.
- Khadzhiev, S. (1959) *Finansi i kredit*, No. 5, pp. 27-37.
- Kolár, J., and Turek, O. (1957) *Wirtschaftswissenschaft*, No. 8, pp. 1221-1236.
- Kolár, J., and Turek, O. (1959) *Etudes économiques*, No. 114-115, pp. 70-94 (revised text).
- Közgazdasági Szemle, 1958, No. 2, pp. 200-205.
- Koziolek, H. (1953) *Zur marxistisch-leninistischen Theorie des Nationaleinkommens*, Berlin.
- Koziolek, H. (1957) *Grundfragen der marxistisch-leninistischen Theorie des Nationaleinkommens-Sozialismus*, Berlin.
- Koziolek, H. (1958) *Wissenschaftliche Zeitschrift der Hochschule für Ökonomie Berlin*, No. 3, pp. 217-225.
- Kozlov, G., and Pervushin, S. (ed.) (1958) *Kratky ekonomicheskyy slovar*, Moscow.
- Kronrod, Ya. (1957) *Voprosy ekonomiki*, No. 2, pp. 79-105.
- Kronrod, Ya. (1958) *Obshchestvennyy produkt i ego struktura pri sotsializme*, Moscow.
- Krzeczowska, E., Szybisz, B., and Zienkowski, L. (1958) *Ekonomista*, No. 1, pp. 98-118.
- Kursky, A. (1953) *Capital Construction in the U.S.S.R.* In *Bolshaya sovetskaya entsiklopediya*, 2nd ed., Moscow, Vol. 20, pp. 69-71.
- Lange, O. (1959) *Introduction to Econometrics*, London and Warsaw.
- Livshits, F. (1957) *Sravnitel'naya kharakteristika trekh vidov ucheta*. In *Voprosy ekonomiki, planirovaniya i statistiki, sbornik statei k vosmidesyatiletuyu akademika S.G. Strumilina*, Moscow, pp. 359-387.
- Lvov, I. (1959) *Voprosy ekonomiki*, No. 2, pp. 130-133.
- Lyando, A. (1958) *Voprosy ekonomiki*, No. 7, pp. 57-65.
- Malyshev, I. (1957) *Voprosy ekonomiki*, No. 3, pp. 93-105.
- Marczewski, J. (1955) *Le rôle des comptes nationaux dans les économies planifiées de type soviétique*. In Gilbert, M., and Stone, R. (ed.) *Income and Wealth, Series IV*, Bowes and Bowes, 1954, London, pp. 173-208.
- Margulis, A. (1956) *National Accounting*. In *Bolshaya sovetskaya entsiklopediya*, 2nd ed., Moscow, Vol. 44, pp. 456-457.
- Minc, B. (1956) *Aktualne zagadnienia ekonomii politycznej socializmu*, Warsaw.
- Minc, B. (1958) *Voprosy ekonomiki*, No. 1, pp. 90-100.
- Minc, H. (1948) *Nowe Drogi*, No. 8, pp. 17-38.
- Morozova, I. (1958) *Vestnik statistiki*, No. 4, pp. 34-48.
- Moskvin, P. (1955) *Voprosy statistiki natsionalnogo dokhoda S.S.S.R.*, Moscow.

- Moskvin, P. (1959) *Vestnik statistiki*, No. 4, pp. 24-31.
- Mutafov, N. (1958) *Statistika*, No. 6, pp. 32-39.
- National Bureau of Economic Research (1958) *The National Economic Accounts of the United States*, New York (NBER General Series No. 64).
- Nemchinov, V. (1959) *Voprosy ekonomiki*, No. 4, pp. 18-34.
- Nikiforov, V. (1959) *Ikonomicheskaya misl*, No. 5, pp. 100-106.
- Notkin, A. (1956) *Voprosy ekonomiki*, No. 9, pp. 3-18.
- Nove, A. (1958) *Economica*, February, pp. 1-13.
- Novikov, V. (1957) *K voprosy o narodnokhozyaistvennom balanse*. In *Voprosy ekonomiki, planirovaniya i statistiki, sbornik statei k vosmidesyatiletiiyu akademika S.G. Strumilina*, Moscow, pp. 65-71.
- Ostrovityanov, K. (1959) *Pravda*, February 6.
- Pacuraru, I. (1959) *Revista de statistica*, No. 3, pp. 9-22.
- Partigul, S. (1956a) *Statistika materialnogo i kulturnogo urovnya naroda*, Moscow.
- Partigul, S. (1956b) *Voprosy ekonomiki*, No. 10, pp. 59-64.
- Petrov, A. (ed.) (1954) *Kurs ekonomicheskoi statistiki*, Moscow.
- Poland, Central Statistical Office (1949) *Dochód narodowy Polski 1947*, Warsaw [also published as *The National Income of Poland 1947*].
- Poland, Central Statistical Office (1956) *Dochód narodowy Polski 1954 i 1955*, Warsaw.
- Poland, Central Statistical Office (1958) *Dochód narodowy Polski 1956 i 1957*, Warsaw.
- Poland, Central Statistical Office (1959) *Rocznik statystyczny 1959*, Warsaw.
- Politická ekonomie*, 1959, No. 2, pp. 164-172.
- Pop, T. (1957) *Revista de statistica*, No. 7, pp. 21-32.
- Popov, P. (1958) *Statistika*, No. 4, pp. 27-35.
- Qyteti, A., and Bitri, Dh. (1957) *Ekonomia popullore*, No. 4, pp. 70-85.
- Ravdel, Z. (1956) *Kommunist*, No. 17, p. 125.
- Revista de statistica*, 1958, No. 6, pp. 3-14.
- Rozen, A. (1956) *Probleme economice*, No. 3, pp. 26-41.
- Rozen, A. (1959) *Probleme economice*, No. 3, pp. 21-35.
- Rumania, Central Statistical Office (1959) *Anuarul statistic al R.P.R. 1959*, Bucharest.
- Ryabushkin, T. (1950) *Ocherki po ekonomicheskoi statistike*, Moscow.
- Ryabushkin, T. (1957) *Statisticheskie metody izucheniya narodnogo khozyaistva*, Moscow.
- Savenkov, F. (1956) *Voprosy ekonomiki*, No. 12, pp. 46-55.
- Seton, F. (1954) *Review of Economics and Statistics*, August, pp. 290-308.

- Sholts, S. (1955) *Statistika selskogo khozyaistva*, Moscow.
- Sobol, V. (1948) *Planovoe khozyaistvo*, No. 3, pp. 64-74.
- Sorokin, G. (1959) *Vestnik statistiki*, No. 2, pp. 62-69.
- Soucek, M. (1958) *Politická ekonomie*, No. 5, pp. 434-445.
- Starovsky, V. (1956) *Vestnik statistiki*, No. 2, pp. 14-27.
- Starovsky, V. (1957) *Kommunist*, No. 14, pp. 61-73.
- Statistické zprávy*, 1959, No. 5.
- Statisztikai Szemle*, 1958, August-September, pp. 873-879.
- Stolper, W. (1959) *Kyklos*, No. 2, pp. 131-164.
- Stolper, W. (1960) *Income and Wealth, Series IX*.
- Strumilin, S. (1950) *Vestnik Akademii Nauk S.S.S.R.*, No. 8, pp. 110-113.
- Strumilin, S. (1954a) *Vestnik statistiki*, No. 5, pp. 12-28.
- Strumilin, S. (1954b) *Voprosy ekonomiki*, No. 11, pp. 22-40.
- Strumilin, S. (1956) *Voprosy ekonomiki*, No. 12, pp. 96-100.
- Strumilin, S. (1957) *Planovoe khozyaistvo*, No. 2, pp. 38-50.
- Strumilin, S. (1958) *Statistiko-ekonomicheskie ocherki*, Moscow, pp. 11-69 and pp. 152-159.
- Studenski, P. (1958) *The Income of Nations*, New York.
- Tsigelnik, M. (ed.) (1958) *Vsesoyuznoe soveshchanie statistikov, 4-8 iyunya 1957 g.*, Moscow.
- Turek, O. (1958) *Politická ekonomie*, No. 10, pp. 833-852.
- Turetsky, Sh. (1957) *Voprosy ekonomiki*, No. 5, pp. 59-69.
- United Nations Economic Commission for Europe (1956a) *Economic Survey of Europe in 1955*, Geneva, Tables 112-128.
- United Nations Economic Commission for Europe (1956b) *Economic Bulletin for Europe*, Vol. 8, No. 3, pp. 45-86.
- United Nations Economic Commission for Europe (1957a) *Economic Survey of Europe in 1956*, Geneva, Ch. I, Tables 7, 8; Ch. II, Tables 1-3; Table XXII.
- United Nations Economic Commission for Europe (1957b) *Economic Bulletin for Europe*, Vol. 9, No. 1, pp. 89-107.
- United Nations Economic Commission for Europe (1957c) *Economic Bulletin for Europe*, Vol. 9, No. 3, pp. 21-48.
- United Nations Economic Commission for Europe (1958) *Economic Survey of Europe in 1957*, Geneva, Ch. I, Tables 13-16.
- United Nations Economic Commission for Europe (1959a) *Economic Survey of Europe in 1958*, Geneva, Ch. I, pp. 1-4 and Tables 1, 2, 4, 6; Ch. IV, Tables 1, 2, 10.
- United Nations Economic Commission for Europe (1959b) *Economic Bulletin for Europe*, Vol. 11, No. 1, pp. 39-76.
- United Nations Statistical Office (1953) *A System of National Accounts and Supporting Tables*, New York.
- United Nations Statistical Office (1959) *Yearbook of National Accounts Statistics*, 2nd ed., New York.

- United States Congress, Joint Economic Committee (1957) *Soviet Economic Growth: A Comparison with the United States*, Washington, D.C.
- U.S.S.R., Central Administration for National Economic Accounting (1932) *Materialy k postroeniyu sistemy pokazetelei uchëta narodnogo khozyaistva S.S.S.R.*, Moscow.
- U.S.S.R., Central Statistical Administration (1959) *Narodnoe khozyaistvo S.S.S.R. v 1958 godu*, Moscow.
- U.S.S.R., State Planning Commission (1929) *Kontrolnye tsifry narodnogo khozyaistva S.S.S.R. na 1928/1929 god*, Moscow, pp. 66-83.
- U.S.S.R., State Planning Commission (1939) *Trety piatiletny plan razvitiya narodnogo khozyaistva Soyuz S.S.R.*, Moscow.
- Vacarel, L. (1955) *Probleme economice*, No. 11, pp. 133-147.
- Vacarel, L. (1957) *Probleme economice*, No. 2, pp. 16-32.
- Vestnik statistiki*, 1959, No. 5, pp. 77-79.
- Vikentev, A. (1957) *Natsionalny dokhod S.S.S.R. v poslevoenny period*, Moscow.
- Vostrikova, A. (ed.) (1956) *Teoriya statistika*, 2nd ed., Moscow.
- Vutov, V. (1959) *Statistika*, No. 1, pp. 10-17.
- Yablonovsky, S. (1959) *Vestnik statistiki*, No. 4, pp. 19-23.
- Zhelev, G. (1958) *Planovo stopanstvo*, No. 6, pp. 15-32.
- Zienkowski, L. (1959a) *Jak oblicza sie dochód narodowy*, Warsaw.
- Zienkowski, L. (1959b) *Preglad Statystyczny*, No. 1, pp. 27-41.
- Zima, Z. (1957) *Plánované hospodárství*, No. 8, pp. 595-603.