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System of Balances of the National Economy (MPS)

PROGRESS REPORT ON LINKS BETWEEN THE SYSTEM OF NATIONAL ACCOUNTS (SNA)  
AND THE SYSTEM OF BALANCES OF THE NATIONAL ECONOMY (MPS)

Report of the Secretary-General

SUMMARY

The present document is a progress report on the work of the Statistical Office on the conceptual co-ordination of the revised System of National Accounts (SNA) and the System of Balances of the National Economy (MPS). Section I proposes action the Commission may wish to take, section II describes the work that has been completed and is in progress and section III summarizes the present status of the work and proposes a future programme. It is suggested that further work on detailed comparative studies of practices in selected sets of countries could usefully be done by the regional commissions. In the Statistical Office, it is proposed that, in addition to methodological studies, work should commence on a programme of data collection, compilation and publication.

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## INTRODUCTION

1. The study of the relationships between the revised System of National Accounts (SNA), intended for use by countries with market economies, and the System of Balances of the National Economy (MPS), intended for use by countries with centrally planned economies, was initiated by the Statistical Commission in conjunction with the Conference of European Statisticians in the early 1960s. 1/ As a consequence of the work done during this period, very great progress was made in removing unessential differences in definitions and classifications between the two systems and in developing similar classifications in such areas as kind of activity and consumption expenditure. The work was also influential in the development of the revised SNA and the extended version of MPS; both now incorporate input-output relationships, which are needed for the conversion of one system into the other.

2. The Statistical Commission discussed this work at its fourteenth, fifteenth and sixteenth sessions. At its sixteenth session, in 1970, the Commission considered a report entitled "Conceptual relationships between the revised SNA and MPS" (E/CN.3/397/Rev.1) and concluded that "the stage had been reached where a technical document on the conceptual relationships between the SNA and MPS should be published." 2/ The Commission proposed a number of alterations and extensions of E/CN.3/397/Rev.1, including the addition of numerical illustrations of the conversion to the other system of the relevant national aggregates of selected countries using SNA and MPS. The Commission requested the Secretary-General:

"(1) To gather, compile and issue data periodically on the national accounting aggregates in respect of the supply and disposition of goods and services and the incomes from production in terms of the MPS in the case of countries using SNA and in terms of the SNA in the case of countries using the MPS;

"(2) In co-operation with the Conference of European Statisticians, to continue the study of the relationships between the SNA and MPS, in particular in respect of the flows on the redistribution of incomes, in order to extend the conceptual framework and adjustment rules for linking corresponding concepts and with a view to developing common basic aggregates of special interest." (resolution 6 (XVI))

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1/ The basic publications describing the two systems are A System of National Accounts and Basic Principles of the System of Balances of the National Economy (United Nations publications, Sales Nos. E.69.XVII.3 and E.71.XVII.10, respectively). The work of the Conference of European Statisticians is described in the reports of its working groups 22 and 27 in the 1960s and early 1970s. The conclusions on the results of this work were reached by the Statistical Commission at its fifteenth session, in 1968. See Official Records of the Economic and Social Council, Forty-fourth Session, Supplement No. 10 (E/4471), para. 27.

2/ Official Records of the Economic and Social Council, Fiftieth Session, Supplement No. 2 (E/4938), para. 18.

3. The work of the Statistical Office in this area since 1970 has stemmed from these directives. After proposing action the Commission may wish to take, the present report briefly describes the activities completed or in progress, summarizes the current status of the work and proposes a possible future programme.

#### I. ACTION BY THE COMMISSION

4. The Commission may wish, taking account of the work completed and in progress, to express a view on the proposed future programme discussed in section III below.

#### II. DESCRIPTION OF PROJECTS COMPLETED AND IN PROGRESS

##### A. Comparison of the main aggregates

5. The first study undertaken by the Statistical Office was a comparative one of the main aggregates of the two systems, based on the document considered by the Commission at the sixteenth session (see para. 2 above). The aggregates discussed include gross output, gross domestic product, national income, global product and net material product and their principal components, namely, intermediate consumption, value added, consumption and capital formation etc. The first part of the study, Comparisons of the System of National Accounts and the System of Balances of the National Economy: Part One, Conceptual Relationships, was issued in 1977. 3/

6. Part Two will present the numerical illustrations requested by the Commission. The draft contains estimates for nine countries: three industrialized market economies, three developing countries and three countries with centrally planned economies. On a relatively crude level, the conversions are not difficult and can be done largely on the basis of published data. The data to make the more detailed adjustments, however, are often not compiled by countries or, if compiled, are not published. Furthermore, even where the data do exist countries may consider the results misleading when the institutional arrangements of the countries being compared differ widely. The framework developed in Part One does not attempt to take such institutional differences into account. As a consequence of these and similar considerations, some countries have been hesitant to agree to the inclusion of their data. Completion of Part Two has, therefore, been delayed pending approval by the countries concerned.

##### B. Total consumption of the population

7. A second study begins a second stage of the comparisons work, namely the development of common concepts that are appropriate for use in both MPS and SNA. Total consumption of the population is one such concept. It is designed to

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3/ United Nations publication, Sales No. E.77.XVII.6.

measure the total supply of goods and services of which households (the population, in MPS) enjoy the benefits, without regard to institutional provenance. The concept is one that has been under development for many years. A version of it appears in MPS, and a somewhat different version is used in the Provisional Guidelines on Statistics of the Distribution of Income, Consumption and Accumulation of Households. <sup>4/</sup> It was considered by working groups 22 and 27 of the Conference of European Statisticians and a variant of it is being used in the International Comparison Project (ICP). <sup>5/</sup> The results of this and further work are brought together in E/CN.3/512, also before the Commission, which contains illustrative tables drawn from data reported to the Statistical Office in the national accounts questionnaires.

### C. Concepts of capital formation

8. A third study extends the work on developing common concepts that may be used in both SNA and MPS into the area of capital formation. Here the two systems are quite close to each other. The adjustments required to obtain common aggregates are not great, since SNA essentially uses a material product concept of capital formation (except for the minor element of transfer costs, which SNA includes but MPS excludes as non-material). Care is required, however, in choosing the appropriate components. MPS, for example, includes military assets in capital formation whereas SNA does not. There are also some differences in classification that must be watched for.

9. Both gross and net concepts of capital formation are now compiled in countries using both SNA and MPS; thus, this source of non-comparability has been removed. However, the recommended scope of assets to be depreciated and the methods of computing depreciation still differ somewhat. MPS recommends that land improvements, timber tracts, roads, bridges and other forms of non-building construction should be depreciated, whereas SNA does not. Furthermore, MPS recommends the use of original cost as the basis for computing depreciation, with revaluations at intervals of eight to 10 years. SNA, on the other hand, recommends the use of replacement cost continuously updated. It is likely, therefore, that for countries following these recommendations the gross concepts will be more nearly comparable.

10. The classification difference that is likely to be of greatest quantitative importance relates to the treatment of work in progress on construction projects. SNA treats work put in place in any accounting period as fixed capital formation, whereas MPS considers it part of changes in stocks until the project is actually completed and put into service, when its whole value is transferred to fixed capital formation. This difference, of course, will have no effect upon total gross capital formation but only on the relation between fixed capital formation and changes in stocks.

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<sup>4/</sup> United Nations publication, Sales No. E.77.XVII.11.

<sup>5/</sup> For a discussion of this use of the concept, see E/CN.3/513, also before the Commission.

11. An additional difference that must in principle be considered relates to the MPS concept of losses. In allocating the net material product to final uses, MPS allows not only for various kinds of consumption, capital formation, changes in stocks and exports and imports but also for losses. These are defined to include the value of losses in fixed assets and in material circulating assets and stocks due to fires, floods and other calamities, losses in adult productive and working cattle and losses due to abandoned or interrupted construction works. In SNA, such losses would not be shown explicitly but would be netted out of the appropriate categories of changes in stocks or, in the case of routine accidental damage to fixed capital, added to capital consumption allowances. Catastrophic damages would be treated as capital losses, not as uses of current output. In practice, however, the non-comparability due to this factor does not appear to be great. Of the 13 centrally planned economy countries that supply responses to the MPS questionnaire, only one (Czechoslovakia) actually makes an explicit estimate of losses. Seven show a blank for this item in the table on net material product by use where it occurs; the remaining five do not supply this breakdown.

12. The study that is now in progress is designed to take account of various materials relating to MPS that have been made available by the Council for Mutual Economic Assistance (CMEA), including "Basic regulations on national economic accounting in capital investment (revised version, 1975)", and "A system of basic indicators and methodology of CMEA member States' capital investment statistics (1967)", as well as statistical materials and literature on national practices of MPS countries. Attention is being devoted particularly to the classifications of fixed capital formation by kind of activity and by type of capital good in the two systems.

#### D. Comparative study of transactor units

13. A fourth study, which is now in a very early stage, is designed to explore the implications of institutional differences in the kinds of transactor units that occur in centrally planned and market economy countries. An attempt will be made to identify the units that perform the same functional roles in the two systems. The study thus involves, first, a detailed taxonomy of the kinds of institutional forms found in various countries. An analysis will then be made of the influence of the various forms on comparisons of main categories and aggregates of the systems.

#### E. Comparative study of the service sector

14. It is of course in the treatment of non-material services that the most important quantitative differences between SNA and MPS occur. A fifth study is devoted to a careful examination of the possibilities for developing common concepts here, especially in the light of recent work by CMEA on the development of a system of indicators of the sphere of non-material services (SINS). <sup>6/</sup> One of the

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<sup>6/</sup> For a description of this work, see the report prepared by CMEA for the Working Party on National Accounts and Balances of the Conference of European Statisticians, February 1978 (CES/WP.22/53, "Activities of the Council for Mutual Economic Assistance on the improvement of the methodology of the statistical balance of the national economy").

objectives of the CMEA work on SINS is to facilitate comparisons between MPS and SNA; SINS provides much of the data needed to make such comparisons in the non-material services sphere.

15. The service sector includes many different kinds of activities, and often services that are similar in purpose are provided by quite different types of transactor units with quite different cost structures. The study will develop a unified classification, applicable in both MPS and SNA, of services according to the kinds of transactor units providing them. Special attention will be given to the treatment of research and development, which is very important for economic and technological development but is incompletely treated in both systems of accounts. Comparative cross-classifications of services by type of output and cost composition will provide an extended basis for an analysis of the service sector by industry that will take differences in the institutional structure into account.

### III. CURRENT STATUS AND PROPOSALS FOR FUTURE WORK

16. The work in the Statistical Office on the further development of links between SNA and MPS has, in a sense, reached a crossroads, and it is appropriate that consideration be given at this time to the direction of future work. Over the rather extended period of time during which the work has been going on, problems encountered included the lack of documentary statistical and descriptive material, difficulties in obtaining access to unpublished data and delays and slow responses at least in part as a consequence of distance. Because of budgetary limitations, it has been necessary to carry on the work largely through correspondence. As a consequence the work is in some respects still in the fact-finding stage, especially as regards the more detailed aspects of actual country practices.

17. Despite these problems, however, the main outlines of the theoretical relationships between the two systems have been clear for some time. As was noted in paragraph 1 above, very great progress was made during the 1960s in setting up a framework that is capable of accommodating both systems. The recent work of CMEA on SINS has made a further major contribution. The construction of a unified framework within which both SNA and MPS concepts can be presented is now a practical endeavour, within the tolerances usually associated with national accounting data. There remain many small differences but, with regard to production and the incomes it generates, there are no longer insurmountable large practical differences.

18. It would thus appear that future work may usefully follow two parallel paths. In the Statistical Office, in addition to the continuation of methodological and conceptual studies along the lines described in paragraphs 5-15 above, practical procedures for data collection, compilation and publication should be developed. At the same time, further detailed comparative studies between selected countries may usefully be carried out. It is felt that such detailed comparative studies are best carried out under the aegis of the Conference of European Statisticians and, if required, its counterparts in other regions.

19. On the first path, initiation of a programme of data collection and publication in the Statistical Office would require the development of a unified framework that

is appropriate both for countries using MPS and those using SNA. At least for the present, such a framework could be expected to cover only the main components of output and its use. But it is not unrealistic, to the extent that countries using MPS compile and make available the data called for in SINS, to expect that annual figures could be compiled for a substantial number of countries. As noted in E/CN.3/507, also before the Commission, revision of the SNA questionnaire is a high-priority task in the work programme of the Statistical Office. The revised questionnaire will be drawn up bearing in mind the information needed for the presentation of concepts comparable to those used in MPS. At the same time, the MPS questionnaire will be expanded on the basis of the data called for in SINS. It should then be possible to include a relatively simple bridge table to the alternate system in both questionnaires, making use in so far as possible of common concepts.

20. In assessing the practicality of this approach, it is useful to consider the quantity and types of data that countries actually do supply in response to the questionnaires on national accounts and balances. Responses to the SNA questionnaire are discussed in E/CN.3/507, also before the Commission. Table 1 gives comparable information on responses to the MPS questionnaire. It is apparent that the priorities of countries using MPS, in terms of types of data developed, are much the same as those of countries using SNA. The most frequently supplied table relates to the kind of activity breakdown of output, followed by the breakdown according to final use and a distribution of capital formation by kind of activity. Five countries go on to supply information on incomes by kind of activity and institutional sector, together with substantial detail on consumption.

21. If the information now requested in the MPS questionnaire is supplied it is almost enough to permit the derivation of gross domestic product (GDP). The only source of information on consumption (or production) of non-material services in the existing questionnaire is in the table on total consumption of the population, however, and at present, only four countries supply this table. The addition of the data called for in SINS would provide the required information in a more convenient form. The reverse derivation, of MPS concepts from the SNA questionnaire, would require a small amount of additional detail in the breakdown by kind of activity, together with some information on the breakdown of intermediate consumption not now called for. The quantitative importance of these adjustments is likely to be small. Since GDP is in most respects a broader concept than net material product, adjustments from SNA to MPS are more readily made without requiring major new estimates.

22. On the second path, work may usefully continue on the detailed comparison of country practices. This part of the programme, however, could most conveniently be carried out through detailed comparative studies of selected pairs of interested countries, under the auspices of the Conference of European Statisticians, as has been done in other areas such as income distribution, input-output and ICP. It is only through the examination of the actual implementation of the two systems in specific institutional settings that a real understanding of the problems involved in developing valid comparisons can be gained. This is especially true when comparisons are considered extending beyond production and the incomes generated by



Table 1. Country responses to the MPS questionnaire  
(x signifies that the country in question has supplied some data for the table specified for at least one year)

Questionnaire table	Hungary	Czechoslovakia	Bulgaria	Yugoslavia	Poland	USSR	Byelorussian SSR	Romania	Ukrainian SSR	Albania	Cuba	German Dem. Rep.	Mongolia	Total
2b. Net material product by kind of activity of the material sphere at constant market prices	x	x	x	x	x	x	x	x	x	x		x	x	12
2a. Net material product by kind of activity of the material sphere at current market prices	x	x	x	x	x	x	x	x	x					9
1a. Net material product by use at current market prices	x	x	x	x	x	x					x			7
1b. Net material product by use at constant market prices	x	x	x	x	x						x	x		7
6b. Capital formation by kind of activity of the material and non-material spheres at constant market prices	x	x				x	x	x	x				x	7
6a. Capital formation by kind of activity of the material and non-material spheres at current market prices	x	x	x	x	x					x				6
3. Primary incomes by kind of activity of the material sphere at current market prices	x	x	x	x	x									5
4. Primary incomes from net material product	x	x	x	x	x									5
8. Personal consumption according to source of supply of goods and material services at current market prices	x	x	x	x	x									5
7a. Final consumption at current market prices	x	x	x	x										4
9a. Total consumption of the population at current market prices	x		x	x	x									4
5a. Supply and disposition of goods and material services at current market prices	x	x	x											3
7b. Final consumption at constant market prices	x	x	x											3
5b. Supply and disposition of goods and material services at constant market prices	x	x												2
9b. Total consumption of the population at constant market prices	x													1
Total	15	13	12	10	9	4	3	3	3	2	2	2	2	

it to the role of institutionally defined sectors and the analysis of the intersectoral circuits of income and outlay flows. There is in practice not as sharp a dichotomy between the institutional forms actually found in market economies and those found in centrally planned economies as the SNA and MPS guidelines would suggest; rather, a truer picture would show a continuum from pure market forms at one end to pure planned forms at the other with few (if any) countries at either extreme.

23. The Working Party on National Accounts and Balances of the Conference of European Statisticians in February 1978 proposed the expansion of its work in this direction. <sup>7/</sup> In particular, it proposed that under its direction comparative studies be undertaken by joint teams of national statisticians from pairs of countries, each pair containing one SNA user and one MPS user. Members of the teams would be expected to spend enough time actually working in the partner country to become thoroughly familiar with the concepts, methodology and data sources used, as well as the institutional setting. Comparisons could then be made on a detailed level taking institutional differences into account in a way that cannot be done centrally. To the extent that MPS is now being employed by countries outside the European region, similar paired country comparisons in other regions would also be useful. The results of such studies may provide inputs for more general work on concepts and methodology, which can be carried out by the Statistical Office under the auspices of the Statistical Commission.

24. The Working Party emphasized the importance of classification<sup>s</sup> in establishing links and, in this connexion, endorsed the work of the Conference of European Statisticians on the establishment of conversion keys for the classifications of economic activities and goods and services used in SNA and MPS.

25. In summary, it is proposed that the Statistical Office should now develop a programme of data collection and publication and, for this purpose, develop questionnaires for both countries using SNA and those using MPS to solicit the data needed for conversion to the alternate system. For the time being, the data collection effort should be limited to the main aggregates of output and its principal components. At the same time, it is proposed that work on the detailed comparison of country practices and the development of conversion keys be centred in the regional commissions, primarily the Conference of European Statisticians. In terms of conceptual and methodological studies, the Statistical Office will pursue the directions outlined above, giving major attention to further work on the relationship between SNA institutional sectors and the corresponding MPS socio-economic sectors, and to questions relating to services.

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<sup>7/</sup> CES/WP.22/55, paras. 58-60.