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PRICE STATISTICS: INTERNATIONAL COMPARISON PROJECT (ICP)

Long-term organization of the International Comparison Project (ICP)

Report of the Secretary-General

SUMMARY

Section I of the present report contains a description of the main achievements in phase III of the International Comparison Project (ICP) and a review of the programme of work relating to phase IV. Section II sets out the major goals of ICP for the next 10 years, which include (a) the publication of quantitative comparisons of gross domestic product and its main components for about 70 countries on an annual basis and (b) the development of a suitable methodology for making similar comparisons of production. Section III identifies various national and international statistical programmes, which, if geared properly to ICP data needs, would accelerate the development of the data and significantly reduce the burden of reporting for ICP. In section IV, the possible role of regional bodies in ICP is identified, and the nature of direct advisory services from the Statistical Office is outlined. Section V contains a discussion of the requirements for the proposed long-term programme. Points for discussion by the Commission are included (para. 60).

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## INTRODUCTION

1. The Statistical Commission at its twenty-first session requested that a report on the long-term organization of the International Comparison Project (ICP) should be submitted to it at its twenty-second session. <sup>1/</sup> During the preparation of the present report, consultations were held with a number of experts in the field and with representatives of various interested organizations, including regional bodies undertaking similar comparisons. The first draft of the report was considered by an Ad Hoc Working Group of Experts on the Long-term Organization of the International Comparison Project, which met at Geneva from 11 to 13 November 1981.

2. The Working Group expressed strong support for the continuation and extension of ICP and stressed that adequate financial resources should be sought for its long-term development as part of the permanent high-priority activities of the United Nations Statistical Office. In order to achieve an increased degree of regionalization of ICP, the Group emphasized the need for maximum co-operation between the Office and regional bodies so as to share the work rationally, general responsibility for co-ordination resting with the Statistical Office. The Group recommended the establishment of a central co-ordinating unit on a permanent basis with a flexible role and with the following functions: (a) to produce universal comparisons, including those between countries in different regions as well as in the same region; (b) to promote the use of uniform and improved methodologies in all participating countries and regional co-ordinating bodies; (c) to encourage the continuation of activities in countries already engaged in comparisons; (d) to develop further technical co-operation activities; and (e) to strengthen methodological research.

### I. STATUS OF THE INTERNATIONAL COMPARISON PROJECT AT THE END OF 1982

#### A. Publication of the phase III report

3. Sixteen countries were included in phase II. In phase III, the coverage was increased to 34 countries. This more than doubling of the number of participating countries provided a much wider empirical basis for the further improvement of the methodology and the testing of its application and better country representation for determining the feasibility of extending the proposed system through more economical "reduced-information" procedures. As expected, this expansion in phase III, raised a number of organizational as well as new methodological issues requiring extensive consultations with the countries and regional organizations and the testing of various alternative solutions. These factors were responsible for the delay in the publication of the phase III results until June 1982. <sup>2/</sup> A summary of the more important findings had been released to the public in the December 1981 issue of the Review of Income and Wealth. Apart from presenting the substantive results of binary and multilateral comparisons, accompanied by detailed methodological descriptions, the phase III report contains extensions of the bench-mark estimates to non-bench-mark years, both in current and constant prices, and to regional and global aggregates of real gross domestic product (GDP). The report concludes with some interesting applications of the results to demand analysis.

B. Status of work on phase IV comparisons

4. Phase IV was launched in 1979 with the objective of strengthening the core of the proposed world comparison system by increasing the number of countries participating in comprehensive comparisons and by developing and testing a less burdensome "reduced-information" methodology for further extension of the geographical coverage of the system. Of the 106 countries invited to join phase IV, 70 agreed to participate in the comprehensive comparisons. They include almost all of the 34 countries of phase III.

5. Following the withdrawal of financial support by the World Bank in July 1979, there were considerable difficulties in staffing the International Comparisons Unit of the Statistical Office and in securing the support funds for field operations that were so essential for the successful execution of the programme. Accordingly, the responsibility for the current phase needed to be shared with the regional commissions, in particular, the Economic Commission for Europe (ECE) and the Economic Commission for Latin America (ECLA), and other organizations such as the programme of Estudios Conjuntos sobre la Integración Económica Latinoamericana (ECIEL) and the Statistical Office of the European Communities (EUROSTAT). While endorsing this strategy as an immediate means to tide over the situation caused by inadequate funding of the project, the Statistical Commission, at its twenty-first session, "stressed the need for a strong co-ordinating role for the [United Nations] Statistical Office in establishing methodologies to be applied in all participating countries and in the conduct of the current work". 3/ The Statistical Office, therefore, maintained responsibility for country comparisons on a world-wide basis and for the co-ordination of the methodology applied in the different regions.

6. ECIEL has completed the price survey in the ECLA region for 1979, with 18 countries participating in or linked to it. With the involvement of ECIEL having ended as of 1 January 1982, all the data gathered are being transferred to ECLA, which, besides being directly responsible for the collection and collation of the GDP expenditure data, will undertake the final processing of all data and provide the results of intraregional comparisons for the Latin American countries, it is hoped, by the end of 1982. A review of the data, undertaken recently by a member of the United Kingdom of Great Britain and Northern Ireland Overseas Development Administration (ODA), at the request of the Statistical Office, revealed that the data gathered for ECLA comparisons might need to be supplemented, both in respect of prices and of GDP expenditure detail, before they can be used by ICP for world-wide comparisons. The Inter-American Development Bank (IDB) has expressed interest in possibly meeting any additional costs incurred in connection with the additional data collection. As soon as arrangements for funding the additional salary and travel costs are confirmed by IDB, 4/ ODA will post an expert to ECLA headquarters to undertake the scrutiny, supplementation and updating of the 1979 data for the ECLA region. The Statistical Office will provide the final classification of GDP expenditure, the lists of consumer goods and services and the lists of capital goods and construction projects required for the intraregional comparisons and will also undertake the data processing, using the ICP framework for world-wide comparisons.

7. The EUROSTAT survey relating to its 10 member countries and Spain and Portugal, with 1980 as the reference year, has been completed, and the final results have become available. Surveys in respect of six other European countries, co-ordinated by ECE, are in progress, and complete data on prices as well as on GDP expenditure are expected to be available to Austria - the base country for European comparisons - and to ECE by October 1982, when ECE will proceed to a comparison among the 18 European countries. Considerable assistance is being provided by Austria to ECE in co-ordinating the work on European comparisons. The intraregional comparisons for Europe as a whole may, therefore, be possible towards the end of 1982 or in early 1983.

8. All co-ordination in respect of 15 African countries is being provided by EUROSTAT, which has completed most of the survey work in the region and hopes to have the intraregional comparison results ready by the end of 1982.

9. In the Asian and Pacific region, where no agency could be found to assume responsibility for co-ordination and conduct of field operations, the price survey programme had to be postponed until 1983 except in Japan, where the survey is in progress, with 1981 as the reference year.

10. The Statistical Office hopes to have a revised manual ready for use by all participating countries by 1983 and perhaps to have overcome the present financial crisis which has delayed the field operations relating to the phase IV programme. By the end of 1983, at the latest, the Statistical Office plans to have provisional comparisons ready for all countries that have submitted data by the end of 1982. These comparisons would cover over 50 countries in the three regions, that is, Africa, Europe and Latin America, participating in the full-information surveys for one reference year in the period 1979 through 1981. By the end of 1984, after the results based on the full-information survey have become available for all participating countries, the full set of results, covering nearly 70 countries, should be available. <sup>5/</sup> The questions likely to arise in connection with the adoption of uniform procedures and identical sets of data for intraregional and world-wide comparisons are receiving detailed consideration by the Statistical Office, EUROSTAT and the University of Pennsylvania; the University of Pennsylvania has already carried out considerable research on the subject.

## II. GOALS TO BE ACHIEVED BY THE END OF THE DECADE

11. In addition to strengthening the core of the system of world comparisons of GDP and purchasing power parities (PPPs) through increased country coverage, the phase IV programme of work includes further improvement and testing of alternative methodologies in some more difficult areas of comparison. The areas include comparison-resistant services (in health, education, recreation and government services), "construction" and "changes-in-stock" components of GDP. (The term "comparison-resistant services" was introduced by George Szilagyi in a paper submitted to a United Nations expert group that met at Bellagio, Italy in December 1980.) Problems arising in these areas are not unique to ICP, but must be faced in all countries in the compilation of national accounts in constant prices. To make the ICP methodology fully operative on a global level, therefore, it is highly desirable to continue research on further methodological improvements during the next few years.

12. Equally important is the possible development of productivity comparisons on the basis of product-by-industry comparisons of real GDP, requiring major conceptual and methodological extensions of the currently recommended system. As a result of these extensions of the present activity, the results of ICP are likely to generate greater interest and appeal, especially for policy-making purposes. In spite of the fact that comparisons based on ICP-type results are now widely recognized to be the best available, their use for policy purposes has been limited to a few country groupings, most notably the European Economic Community (EEC). This is mainly because of the restricted geographical coverage of ICP and the delay in the availability of the results. These deterrents to the use of the ICP results will gradually be overcome during the implementation of the proposed long-term programme of work.

13. The general programme of ICP envisaged during the next decade will consist of three major components: (a) annual comparisons of real GDP and PPPs on a world-wide basis, (b) development of methodology for comparisons of the production aspect of real GDP, and (c) further improvement in methodology and promotion of research and use of results. These are discussed below.

A. Annual comparisons of real GDP on a world-wide basis

14. The ultimate objective of ICP is to provide yearly estimates of the real value of GDP and its main components and of the PPPs of currencies of all countries of the world. The basic data are supplied by the national statistical offices of participating countries. The data include GDP expenditures (in far greater detail than are reported in the United Nations Yearbook of National Accounts Statistics), national annual average prices of 500-700 representative items of final consumption and investment and some special quantitative data.

15. Written guidelines are provided to countries in the form of (a) a manual describing ICP methodology in terms of conceptual framework and overall structure of data requirements; (b) standard questionnaires for international reporting of data on expenditures and prices; and (c) a standard reference list of items to be priced. The price list includes detailed specifications of each item. The number of items on the list is greater than the number of prices necessary for the comparisons so that each country has some leeway to select items characteristic of those found in its markets. The selection of items, the correct matching of qualities and the conformance of the prices reported to the desired concepts are subjects normally involving extensive correspondence between countries and the ICP staff and occasional visits to countries by the latter. Considerable help is also made available by some countries which, under bilateral assistance programmes, provide statistical experts for short-term ICP missions to countries that need assistance in initiating the programme and in completing it on time.

16. Apart from providing the necessary guidelines and direct assistance with the empirical work undertaken by countries, the ICP staff employs statistical methods to screen the data received and to ensure their conformance to the standards of the ICP manual. Finally, binary and multilateral comparisons are undertaken by the International Comparisons Unit of the Statistical Office and are submitted to participating countries for statistical review before they are made public.

17. The co-operative character of ICP is thus inherent in the approach to the project. Also, because the data requirements largely coincide with a country's own requirements for the preparation of its national accounts, construction of time-to-time indexes of consumer and other prices and compilation of other social and economic statistics for its day-to-day uses, any step directed towards the improvement of national accounts or price statistics at the national level should be of immediate benefit to ICP and vice versa. Phases I-III have confirmed the belief that ICP, besides fulfilling the need for a world-wide comprehensive system of international comparisons of real GDP and the purchasing power of currencies, should provide an operationally convenient framework for planning and monitoring the development of several separate statistical programmes. Experience shows that the rigours of adherence to internationally developed standards by a country in respect of reporting data required for ICP can be of appreciable benefit if the country is seeking improvement of its own national statistics. Given a realistic assessment of data availabilities and willingness to expend the necessary effort required for participation in ICP, the extension of ICP to most of the countries of the world will require a flexible approach. Such an approach was described in detail in the report of the Secretary-General to the Statistical Commission at its twenty-first session (E/CN.3/544) and is summarized below.

18. Full-information survey. The ICP data requirements for a country participating in the full-information survey consists of (a) a breakdown of expenditures on GDP into approximately 150 detailed categories; and (b) national annual average prices for 500-700 items representative of the 150 categories of final expenditure. Meeting the requirements calls for substantial effort by the participating countries, since some of the required data may not be readily available. The extra effort by the national statistical office will vary from country to country, depending upon the stage of statistical development of its national accounts, price statistics, etc. It is hoped that by the end of phase IV, more than half the proposed number from this stratum will have attained the capability of reporting the full information required for world comparisons. In the remaining countries, the supplementation of existing information may have to be undertaken through direct ad hoc surveys and/or indirect estimation from existing data or through surveys less comprehensive in scope and coverage. A more positive role by ICP in all these matters should be mutually rewarding. To make the programme an effective instrument for speedier statistical development at the national level, within an international time schedule, it is proposed that direct advisory services and training be offered by the ICP staff to those participating countries that cannot arrange technical assistance under any of the existing programmes (for details, see paras. 50-55 below).

19. Full-information surveys imply a heavy workload both for the countries and for the International Comparisons Unit, and even statistically developed countries may be reluctant to carry out such surveys every year. Therefore, at present it is planned to have about 70 countries participate in the full-information operations once every five years. One possible way to achieve this is to undertake the bench-mark survey for all participating countries at the same time. This has the advantage of ensuring that all elements of the programme (for example, collection of data, verification, transmission to the International Comparisons Unit and subsequent processing) would be identical across countries with reference to time.

In practice, however, this will be difficult in light of existing priorities. Moreover, the distribution of work would be uneven, especially for the Unit. For these reasons, it is proposed to establish a staggered schedule of full-information (bench-mark) surveys, under which countries within each region will be covered only once every five years, with the results related to a common reference year for all of them. Thus, each year of the five-year cycle could be taken as a reference year, one for each of the five regions, namely, North America, Europe, Africa, Latin America and the Caribbean and Asia and the Pacific. The regional order within the five-year cycle will be determined by operational convenience for each region and the overall programme of world-wide comparisons.

20. Such a staggered schedule of full-information surveys promises a more evenly distributed work programme for the International Comparisons Unit. It also allows greater flexibility in data processing, such as making provisional comparisons when all countries have not reported the data on time. The results can be finalized after incorporating all late data. However, since the reference year will vary from region to region, the question as to how the data will be integrated to provide a complete set of comparisons for a single reference year must be satisfactorily solved. This could be achieved by producing a set of comparisons at the end of each year. Each set would be based on full-information surveys for which data were completely processed in that year plus updated results of full-information surveys of the four previous years. The updating of results of full-information surveys to subsequent years requires suitable extrapolations (see para. 23 below).

21. Reduced-information surveys. The flexible approach should make it possible, through reduced-information surveys and short-cut methods, to extend the results of the bench-mark countries to the remaining countries. On a priori considerations, the reduced-information procedure may provide the best method for extending the results of the full-information survey to non-participating countries, since it relies on the same basic data and on similar operations. As presently contemplated, this procedure would allow most countries that are not participating in the full-information survey to be included in ICP without subjecting them to a heavy workload. However, the reduced-information operation cannot be a substitute for the full-information survey, since it requires the results of the latter to serve as a base for including other countries in global comparisons. Furthermore, based on less comprehensive sets of basic data, the results of the reduced-information procedure will permit fewer detailed comparisons than those obtained through the full-information surveys.

22. Short-cut methods. Short-cut methods have sometimes been used to estimate the real value of GDP and its main components, using empirically observed correlations between these aggregates and sets of readily available physical or monetary indicators. In the context of the ICP flexible approach, such methods could be used to estimate the real value of GDP and related aggregates for those countries that may not find it possible to participate either in full-information or reduced-information surveys. It seems desirable that the validity of various available methods should be further tested and a decision arrived at as to the most efficient combination of relevant indicators on the basis of the results for more than the 34 phase III countries. It is, therefore, essential to keep a close watch



on further developments in the ongoing research on the subject, especially the work being undertaken at the University of Pennsylvania. Even after a method has been widely recognized as the best available technique, the question may still arise as to whether results based on short-cut methods should be published by the United Nations.

23. Updating the results. Among the procedures that may be used for updating ICP results, the most favoured seem to be those using time-to-time price indexes prepared by the countries or those implicit in the comparison of national accounts aggregates at current and constant prices. However, inconsistencies may arise between such time-to-time indexes compiled individually by countries using their own data and indexes derived independently by agencies for inter-country comparisons of specific socio-economic characteristics at different periods of time. Such situations have arisen in making a choice between the two sources of indexes, not only within ICP at the world level, but in several organizations carrying out similar comparisons at the regional level. One way to alleviate the problem would be to repeat annually the reduced-information surveys in all countries, including those participating in full-information operations. This would ensure that results were obtained according to the same procedure and from data collected for a specific purpose by all countries. Some limited experiments are proposed to be conducted in this direction. A wider application of the procedure would require a constant involvement of countries in data collection, which is not the case when readily available indexes are used. This may also delay the consolidation of ICP results. Until the organization for the annual collection of data within the framework of the reduced-information procedures is firmly established, ICP will continue to use countries' own time-to-time indexes - of course, in as much detail as the country data permit. It may, however, be observed that updating procedures cannot be continued indefinitely. Even when the deviation from results obtained directly through full-information surveys may be small on an annual basis, over a longer period of time (say 5 to 10 years) the accumulation of the deviations may lead to serious bias, the direction and magnitude of which cannot always be predicted with accuracy.

#### B. Development of methodology for product-by-industry comparisons

24. Ideally ICP should aim at developing quantitative comparisons for all transactions in goods and services, whether they relate to final uses of GDP or to intermediate consumption. The development and testing of methodology, including the actual preparation of binary and multilateral comparisons undertaken by ICP has, however, remained restricted to the final uses of GDP, which seemed relatively easier to pursue. As the interest in the application of ICP results continues to grow, a similar need will arise for the development of productivity comparisons on the basis of product-by-industry measures of real GDP. This would, in turn, require major conceptual and methodological extensions in the present scope of ICP. This aspect of future research is, therefore, proposed to be included in the long-term programme of the project.

25. The methodological and data problems faced during the present developmental period of ICP have turned out to be much more complex than expected, and the hope

of attempting the production approach has diminished. The continued neglect of the production approach may have tended to restrict the possible uses of ICP results; since they allow only global productivity comparisons, while branch or sectoral productivity comparisons would be of greater interest for analysing the economic situation of countries.

26. It is, therefore, proposed to initiate the necessary developmental work with (a) a study of all material on the subject in order to synthesize the previously attempted methodologies, and (b) the actual conduct of some limited experiments for a few countries and selected industries. This could be followed by a "full-scale" comparison across selected countries that have enough detailed statistics and that are willing to participate actively in the development of the alternative approach. 6/ This approach may particularly suit some developing countries where statistical reporting has been production-oriented.

27. Depending on the success of the proposed experimental studies, the ultimate objective of achieving full country coverage for productivity comparisons based on a properly developed methodology (perhaps using the same procedures, namely full-information surveys, reduced-information surveys and short-cut methods, as proposed for the present comparisons) may, at present, have to be viewed as a long-term goal. The experimental phase is expected to last well over seven years. Subsequent studies may have to be phased in terms of five- to seven-year cycles. Beyond this, it is difficult to plan a time schedule at present. For methodological developments, the International Comparisons Unit could be assisted by an expert group during the initial stages.

### C. Promotion of research and use of ICP results

28. Real GDP comparisons and the calculation of PPPs are not an aim per se but represent a new and necessary source of data for researchers and policy-makers to use in economic analysis and development planning. It may be noted that several prominent economists and statisticians all over the world have already begun making use of ICP results. In addition, some national and international organizations have also started using the results. None the less, many more applications can be developed, some of which are illustrated, inter alia, in the reports on the first three phases of ICP. Among international organizations, EEC has used the results extensively, while IDB has accepted their usefulness in principle. The United Nations has not, however, found it possible so far to use the results for official purposes, largely owing to the lack of comprehensive country coverage.

29. In addition to extending the coverage of ICP on a world-wide basis, the future programme of work should provide for continued studies on the further refinement of the methodology and the promotion of research based on actual uses of ICP results, especially those of direct use to policy-makers at the national and international level. The International Comparisons Unit should itself undertake some research to demonstrate the usefulness of ICP to potential users. It should also actively encourage the involvement of participating countries in all aspects of the work, including granting reciprocal privileges to participating countries, such as access to the basic data (but carefully observing all restrictions imposed by some

countries) and provision of facilities for ad hoc comparisons of national interest. Although the question of participation of countries in ICP depends largely on the strong support of policy-makers and supervisory bodies in the interested Governments, statisticians can influence decisions by correctly anticipating future needs for statistics, including needs for international comparisons. The need for ICP-type precise measurement of PPPs and real GDP comparisons has been growing steadily over the last decade in connection with the assessment of the relative economic position of countries and their patterns of resource use and resource pricing. This is fundamental for the effective formulation and monitoring of national and international policies involving the anticipation of future resource requirements and changes in overall demand and its composition. Likewise, interested international organizations could encourage their member countries to participate in ICP in order to accelerate their collection of the full set of internationally comparable data.

### III. RELATIONSHIP OF THE INTERNATIONAL COMPARISON PROJECT TO OTHER STATISTICAL PROGRAMMES

#### A. Co-ordination of ICP with related elements of other statistical programmes

30. In section II above, the major goals of ICP for the next decade were set out within the existing methodological framework, with provision for the development of similar methodology for future comparisons of real GDP on a product-by-industry basis. The basic input in each of these approaches will have to be the wide range of statistics that are collected and collated by individual countries in connection with their own administrative and development planning needs. Some of the data are reported by national statistical offices to various international organizations (for example, the United Nations Statistical Office, the International Labour Organisation (ILO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Health Organization (WHO), etc.) to meet their needs. With the objective of attaining maximum uniformity in statistical reporting and making inter-country comparisons of various economic data more meaningful, many statistical development schemes are in progress both at the national and international level. If, therefore, ICP is to be instituted on a regular basis, it would be most economical to integrate systematically ICP data requirements as much as possible with present and future efforts directed towards the improvement and extension of data collection and compilation at various levels. The strategy consists mainly in defining and establishing procedures for the collection and compilation of national data, which will significantly reduce both the reporting burden on participating countries and the work of the ICP staff in the preparation of the final results.

31. As confirmed by experience from the past three phases, ICP can serve both as an impetus for developing the statistics on which it relies and as an invaluable diagnostic aid in identifying the more important gaps at the national and international level and in determining future priorities, especially within a common international time-frame. Once ICP is permanently established, the accommodation of its data needs within related statistical development schemes that are handled by other units of the Statistical Office will become operationally more feasible.

32. Some developed countries have found it operationally convenient to administer part of their technical assistance programmes by gearing them to the use of ICP. In addition to such bilateral aid programmes, it is proposed to offer direct assistance to some developing countries in the form of advisory services which could be financed from available ICP support funds. Such assistance could be restricted to short periods (four to six weeks) and could deal with subjects that are directly associated with the immediate fulfilment of the ICP programme of a participating country.

33. Most of the statistical programmes discussed below are of immediate interest to ICP and, since the data are basic in character (for example, GDP expenditures, consumer prices), they would have top priority in statistical development programmes both at the national and international level. Most of them would, for this reason, qualify for technical assistance. The spatial character of ICP may, however, require special attention in some cases, which may not otherwise be the case for time-to-time comparisons within countries. For example, a less precise measurement of own-account production or even its complete omission uniformly over time may not, in many countries, significantly affect the estimation of the growth rates of their own GDP even over a long period of time. But this may lead to highly misleading results when GDP comparisons are sought across countries. Such special needs will, therefore, have to be kept in view while formulating priorities among various statistical development programmes in an international context.

34. In paragraphs 35-46 below, major programmes have been reviewed, keeping in mind ICP data requirements and prospects for their future improvement. The programmes relate to GDP expenditures, price statistics and other statistics (especially those relating to comparison-resistant services such as health, education, government administration and housing).

## B. Programmes dealing with GDP expenditures

### 1. Classification of expenditures

35. The classification used in ICP is basically the same as that recommended in the System of National Accounts (SNA), although it is sometimes necessary to break down SNA categories more explicitly into detailed and well-defined categories, each referring to a group of relatively homogeneous products. Many countries at present find it hard to furnish the expenditures for the 150 detailed categories, whereas some statistically-advanced countries prefer a still more elaborate classification (as is used by EEC, for example) in the interests of greater accuracy of the results of comparison. Anticipating the need for such increased detail, it appears desirable for the Statistical Office, in close co-operation with all interested agencies and experts, to plan to develop a "target" classification which could be used when most countries have attained the desired level of statistical capability. In the meantime, the present ICP classification seems to offer a reasonable compromise between the "target" classification and the present national possibilities for reporting expenditures on GDP. As long as all countries meet the requirements of the present classification, ICP methods make it possible to incorporate the further breakdown provided by some countries. The classification

could be reviewed periodically to accelerate the transition to the "target" classification.

## 2. National accounts questionnaire

36. An explicit incorporation of the ICP expenditures classification into the Statistical Office questionnaire on national accounts appears to be the most effective means for ensuring regular reporting of these data on an improved basis. The questionnaire table should provide for both the present classification and the "target" classification; the stubs for the former might be printed in bold-face type while those providing the further breakdown called for in the "target" classification might be in italics. Countries would be requested to complete the table in as much detail as possible, with the present classification as a minimum. The table would thus serve to obtain the most detailed information available from each country and to provide guidance for countries ready to embark on an effort to develop greater expenditure detail in their national accounts.

37. At the same time, provision should be made for tables permitting countries using the System of Balances of the National Economy (MPS) to provide expenditure data in an analogous way.

## 3. Improvement of expenditure data

38. The adoption of uniform practices in reporting and evaluating non-monetary consumption, production and exchange should be especially emphasized. The problems of measurement for the non-monetary sectors are particularly significant in the context of inter-country comparisons (see para. 30 above). While own-account consumption of food products and of other consumption items such as firewood is usually taken into account, there may be other products resulting from economic activities such as own-account production of investment goods, including self-built housing, which may escape reporting or may not be reported comparably from one country to another. In many developing countries, the problems of this sector are well appreciated, but the countries are not in a position to take the necessary measures to deal with them. Special estimates for some participating countries have had to be made in the previous ICP phases (and will be carried over in subsequent phases) in order to avoid major differences in coverage, especially in the case of construction and imputed rents. But the problem does not concern ICP alone and should have high priority in future work on national accounts procedures and compilations. The same holds true for problems arising from institutional differences, causing distortions in quantitative comparisons of services whose prices are regulated by government enterprises. 7/

## 4. Household surveys covering income and expenditure

39. National household surveys, many of which are being developed under the National Household Survey Capability Programme (NHSCP), could constitute an important source of information for estimation of the household component of final

consumption expenditure on GDP. Many countries continue to derive this component as a residual in national accounts, and its breakdown into the detailed expenditure categories is often based either on very old household expenditure survey data or on the commodity-flow approach. Household surveys could contribute to the improvement of ICP results, subject to the integration of ICP requirements into the international guidelines on the subject. For example, the ICP "target" classification for final consumption expenditure could, as a matter of principle, be proposed as a minimum schedule for gathering the details of household expenditures. Similarly, provision could be made for investigating the non-monetary components of consumption and investment in the schedules of inquiry.

#### C. Programmes dealing with prices

40. The integration of ICP data needs for prices into the price statistics programmes of individual countries would greatly facilitate their participation in ICP. In the advanced phase of ICP, which would include productivity comparisons across countries (see paras. 24-27 above), data requirements would include prices of intermediate consumption as well, which could be covered periodically by countries through their schemes relating to the compilation of wholesale price indexes. But the immediate interest of ICP lies in securing a strong empirical base for prices of consumer goods and producers' durables, unit costs of construction, prices paid by Governments for commodities and rates of compensation of civil servants. While meeting the requirements for ICP purposes under existing price collection schemes, with necessary extensions, countries should ensure that, in addition to improving their representativeness in terms of the number of items covered, the average prices compiled should relate to the whole country <sup>8/</sup> and correspond to well-defined products. It might be suggested to countries that, in the development of their price work, they should introduce as many ICP items as possible into their programmes of price collection for time-to-time indexes. Participation in ICP has already led some countries to revise and extend their previous lists of items and outlets and has even encouraged them to establish the basis for new time-to-time indexes, especially for rents, prices of producers' durables and unit costs of construction.

41. The success of the proposed integration of ICP requirements with the broader statistical programmes of the countries will depend on the extent of co-operation from countries, although each country will have to set its own statistical priorities; there is, as pointed out above, much that a country can gain from satisfying the data requirements of ICP.

#### D. Housing, health, education and other programmes

42. Some knowledge of the housing stock is required when using the ICP technique for the purpose of carrying out real comparisons of gross rent. Unfortunately, in many cases the necessary data are from old censuses or household surveys. The data on rents, which countries usually collect in connection with their consumer price indexes, often suffer from limitations of sample size and geographical coverage and lack of qualitative details of the housing units covered. The lack of information

about the physical characteristics of the housing (size, age, type of structure, etc.) to which the rents apply makes it impossible to match housing quality across countries. Such information, though less important for time-to-time rent indexes, is still helpful when it becomes necessary to replenish the sample of dwellings for which rents are collected.

43. The international comparison of services suffers from special difficulties, such as lack of clear definitions of price and quantity components of output, the non-market nature of activities and the prevalence of large qualitative differences as well as national differences in the institutional arrangements for providing the services. The comparison-resistant character of such services was discussed in great detail by the Expert Group Meeting on the Treatment of Services Provided or Priced by Government in International Product Comparisons, (Bellagio, Italy, 6-10 December 1980). While the Expert Group suggested various solutions to the problem, it concluded that it was essential to obtain the co-operation of UNESCO and WHO.

44. In the case of health services, the Epidemiological Surveillance and Health Situation and Trend Assessment division of WHO is being requested to examine the possibility of collecting information on total expenditures on health according to type of care and by the institutional sector (public, private, etc.) providing the services. The revised classification of expenditures, besides being helpful in identifying medical services according to their source - so important for price comparison purposes - should also yield improved general knowledge of health-care structure and expenditures in individual countries.

45. As regards educational services, further research is required before any major changes in the current methodology can be recommended. The Office of Statistics of UNESCO is being requested to assist in reviewing the problems of comparison and in determining future action.

46. Data on compensation of public employees are usually available in terms of salary scales for broad categories in each country's own classification. There is little knowledge of the actual compensation received by civil servants either by detailed levels of skill and education or by types of occupation (professional, administrative, technical, clerical, etc.). It is proposed to seek the assistance of ILO to see whether ICP data requirements for this major component of final government consumption expenditure can be accommodated through the extension of the survey that ILO conducts in October on wages by selected occupations or through other related ad hoc surveys in the near future.

#### IV. ROLE OF REGIONAL BODIES AND TECHNICAL CO-OPERATION AND TRAINING IN THE LONG-TERM PROGRAMME

##### A. Possible role of regional bodies in the future programme of work

47. Interest in regional comparisons has been growing steadily during the last decade and there has been notable progress in some regions (especially in Europe and, to a lesser degree, in Latin America and in Africa, where the regional

organizations have been actively pursuing studies similar to ICP). Interest in intraregional comparisons in other parts of the world is likely to develop because of the growing emphasis on increased economic co-operation among countries within regions. The promotion of research in regional comparisons has, therefore, to be viewed in a long-term perspective. Ideally, the methodological framework and the data requirements should be developed in such a way that the needs for world and regional comparisons can be met simultaneously. In fact, this aspect has recently received the highest consideration from the Statistical Office, ECE and EUROSTAT. 9/ In the interests of the optimal utilization of resources, duplication of effort in respect of the collection, collation and analysis of data must be avoided; therefore, the solution lies in the rational sharing of work between the International Comparisons Unit and the regional organizations handling similar work on comparisons.

48. The sharing of work between the Statistical Office and the regional bodies calls for maximum co-operation and a clear understanding of their underlying responsibilities, the general co-ordination resting with the Office. The following division of responsibilities is suggested.

(a) Overall responsibility for further methodological development and the formulation of standards could rest with the Statistical Office. This would include prescribing the classification system for GDP expenditures, co-ordination of the standard reference list of items at the world level and the formulation of the overall programme of work compatible with regional requirements. The regional organizations and other participating agencies should, however, be encouraged at all times to make suggestions on improving methods. The suggestions could be considered by an advisory committee whose recommendations would be made final.

(b) Regional organizations could provide all possible assistance in the organization of data collection for ICP, which means that planning for data collection at the regional level must necessarily accommodate the data requirements of the central Unit, although the data gathered need not be limited to those intended for the world-wide comparisons.

(c) The Statistical Office should produce results in respect of world-wide comparisons, whereas intraregional comparisons of GDP and its components may be produced by regional bodies whenever a need is felt for comparisons based exclusively on data of the region. In such cases, however, the central Unit and the regional bodies could consult each other, compare the results carefully and improve their understanding of the reasons for any differences in the results; this could lead to the elimination of the differences in some cases.

49. The regionalization of ICP, however, poses two problems, namely, (a) whether regional results should be obtained exclusively from the corresponding regional data or should be a sub-set of the results of universal processing, and (b) whether the proliferation of results (varying sets of results obtained by the Statistical Office through world-wide comparisons and those obtained by other organizations through intraregional comparisons) may sometimes lead to conflicting situations. The answer to (a) depends on the specific purpose for which the comparisons are required. For example, if results are sought strictly within a regional context,



the comparisons based on regional data (which would normally be expected to be more detailed and characteristic of the region) would be preferred. On the other hand, if comparisons are sought outside a regional context, world-wide comparison-based relatives (as among a specific number of countries belonging to different regions) should provide a more consistent and, therefore, a better answer. Considerable research has been done at the University of Pennsylvania on the question of regionalization on the basis of ICP data collected during phase III, and the results are presented in the detailed report. 10/ Two important conclusions that emerged from phase III data are summarized below:

"Worldwide comparisons cannot be produced simply by incorporating regional results of price and quantity comparisons for GDP and its components.

"Universal comparisons produce results for within-region pairs that do not differ greatly from regional results. The universal results may therefore serve many regional uses where there are not important operational questions in the region that depend on precise comparisons." 11/ As regards possible misinterpretation resulting from the proliferation of results, the Statistical Commission, while expressing concern about it, suggested that "the validity of each set of results should be defined at the international level and not by individual users." 12/

#### B. Technical co-operation and training through ICP

50. The potential of ICP to serve as an effective instrument for co-ordinating, monitoring and evaluating the development of various statistical schemes within an international framework need not be stressed again. Participation in ICP has led some countries to effect improvements in their national statistics (see para. 17 above). The visits of ICP staff members have been helpful in the critical evaluation of existing data and augmentation thereof through the skilful use of information not previously used. In many cases, technical co-operation was provided by ICP by arrangement with the bilateral aid agency of a developed country. Financial assistance was sometimes provided to enable countries to carry out special surveys in areas of interest to ICP or to buy office equipment when a country's own budget could not accommodate such expenditures.

##### 1. Technical co-operation and direct advisory services

51. The technical assistance provided so far has been very restricted in amount and rather indirect in form. However, particular mention should be made of the excellent co-operation received from the Governments of Hungary and the United Kingdom of Great Britain and Northern Ireland which placed the services of technical advisers at the disposal of ICP during phase III operations. Similar co-operation is being received at present in connection with phase IV from the Governments of France and the United Kingdom and from EEC. In future, however, with country coverage expanding every year, this arrangement may not always synchronize with the technical assistance offered under individual international statistical development programmes directly related to the major elements of

ICP data requirements (see sect. III above). It is, therefore, suggested that a dual course of action should be pursued in order to enhance the magnitude of technical assistance to participating countries. First, ICP data needs could be integrated with related technical assistance projects substantively supported by the Statistical Office. Secondly, the ICP budget could provide for more direct advisory services to some developing countries in order facilitate the co-ordination of ICP work there and the timely implementation of ICP. <sup>13/</sup> The integration of ICP data needs can be achieved effectively by detailing them and by according them the desired priority in the relevant international methodological guidelines (national accounts, household surveys, price statistics, housing, construction, etc.).

52. Direct advisory services would include visits to interested developing countries to assist them directly in initiating the programme and establishing liaison with various agencies whose co-operation would be imperative for organizing the collection of data in accordance with ICP rules and procedures. Such visits to countries could be of limited duration, each lasting about six to eight weeks. The first visit would be towards the beginning of the programme, when full-information surveys are to be launched, and the second, when the data are processed for transmission to the central Unit. Such visits would not be necessary in the case of members of ECE, because better arrangements already exist with EUROSTAT. The staff's familiarity with all aspects of ICP work will be of direct use to countries in the conduct of full-information surveys and will also result in training the national staff working on ICP. On the other hand, the actual data-handling experience and first-hand knowledge of various problems which the outposted staff would acquire through direct involvement in the execution of ICP in such countries should prove valuable in raising issues requiring special methodological considerations or in inviting more immediate attention from the Statistical Office or from a country.

53. Also, as part of direct advisory services, participating countries would be assisted in carrying out those surveys considered essential to fill gaps or to supplement the available data required for ICP.

## 2. Training

54. It is proposed to complement the programme of assistance outlined above by a training programme oriented to international comparisons of real GDP and the purchasing power of currencies. This could be achieved partly by introducing the subject into the curricula of various related training programmes (national accounting, time-to-time price indexes) currently being offered by several international agencies and partly by having the Statistical Office offer training programmes at United Nations Headquarters as a permanent feature of ICP.

55. The trainees in the Statistical Office programme would be the officials of national statistical offices who are directly in charge of ICP operations in their countries. Thus, the trainees would be directly exposed to all important aspects of ICP work, which would enrich their experience by more closely acquainting them with similar problems in other countries. Similarly, they would bring their own experience to the International Comparisons Unit, to their mutual advantage.

V. REQUIREMENTS FOR THE PROPOSED LONG-TERM PROGRAMME

56. In order to continue ICP as a component of its international statistical programme, the Statistical Office will need to undertake all of the following substantive activities, discussed in detail above:

(a) Annual comparisons of real GDP and PPPs on a world-wide basis, involving detailed comparisons based on periodic full-information surveys for about 70 countries (see paras. 19-20) and less detailed comparisons through annual reduced-information surveys for another 50 countries (see para. 21), the remaining countries being covered through estimates based on short-cut methods (see para. 22); the periodic full-information-based estimates will need to be updated every year in order to make possible annual comparisons (see para. 23);

(b) Provision and promotion of the use of uniform and improved methodologies in all participating countries and regional co-ordinating bodies;

(c) Initiation of research in order to develop a suitable methodology for comparisons of real GDP through the production approach; and

(d) Maintenance of effective liaison and provision of direct technical advisory services and training facilities to countries in need of such services.

57. Undertaking the above activities would entail the expansion of the scope and capabilities of the International Comparisons Unit in order to ensure the desired co-ordination and guidance of the international effort in all its aspects, to maintain uniform standards of work in the participating countries and to encourage and improve the participation of an increased number of developing countries.

58. Staff and other financial needs have, in the past, been assessed on a relatively short-term basis, partly because of the research-oriented character of ICP and partly because of the frequent uncertainty about the sources and the extent of funding. In spite of the complete transfer of technical expertise from the University of Pennsylvania and the virtual doubling of the work-load (from 34 countries in phase III to 70 in phase IV), the number of ICP staff has remained practically the same over the past few years. If ICP is to be developed further with a view to providing annual results of comparisons with extended country coverage, it will be essential to obtain the necessary resources from additional extrabudgetary resources under the special trust fund.

59. The level of resources will determine the capacity of the Unit to carry out methodological work, the extent of the product-by-industry comparisons and the number of countries that can be included in full-information and reduced-information surveys. It is unlikely that ICP will be able to capitalize on the large investments that have already been made in this programme if a long-term perspective of the situation is not taken and necessary funds do not become available. A reasonable objective, it would seem, would be to have the manual and related documents in the long-term programme ready for use by countries during 1984. During the year 1984, work could further be devoted to preparations for full-information surveys scheduled to be carried out by countries, with 1985 as the actual reference year.

## VI. POINTS FOR DISCUSSION

60. The Commission may wish to consider:

- (a) The desirability of continuing ICP beyond the current phase IV and the priority that should be assigned to it in the work programme of the Statistical Office;
- (b) The feasibility of the International Comparisons Unit undertaking research in order to achieve further methodological improvements in respect of
  - (i) Comparison-resistant services and construction components of GDP;
  - (ii) Application of reduced-information surveys and short-cut techniques; and
  - (iii) Development of an alternative approach to GDP comparisons on a product-by-industry basis, which would allow productivity comparisons;
- (c) The fulfilment of ICP data requirements by integrating them with existing national and international statistical development schemes;
- (d) The strengthening of the central Unit to fulfil the above tasks and to provide annual results of world-wide comparisons within a reasonable time; and
- (e) The need and possible ways to ensure sufficient funding for ICP as a continuing component of the statistical programme of the United Nations.

### Notes

1/ Official Records of the Economic and Social Council, 1981, Supplement No. 2 (E/1981/12), para. 77 (f).

2/ Irving B. Kravis, Alan Heston, Robert Summers, World Product and Income: International Comparisons of Real Gross Product, produced by the Statistical Office of the United Nations and the World Bank (Baltimore and London, Johns Hopkins University Press, 1982).

3/ Official Records of the Economic and Social Council, 1981, Supplement No. 2 (E/1981/12), para. 77 (c).

4/ The salary costs for a maximum period of three months are expected to be met by ODA subject to the rest of the costs being met by IDB.

5/ The additional countries include 10 which participated in phase III (India, Iran (Islamic Republic of), Jamaica, Japan, Malaysia, Pakistan, the Republic of Korea, the Syrian Arab Republic, Thailand and the United States of America) and 9 others (Austria, the Bahamas, Barbados, Canada, Haiti, Hong Kong, Indonesia, Israel and Papua New Guinea). The full list of participating countries will be available to members of the Statistical Commission during the session.

6/ Some European countries have already shown an interest in such a study. See the note by the secretariat submitted to the Conference of European Statisticians on the results of an informal meeting on the programme for European comparisons within the ICP framework, Geneva, 1-4 May 1979 (CES/417).

7/ These problems were discussed extensively by the Expert Group Meeting on the Treatment of Services Provided or Priced by Government in International Product Comparisons, Bellagio, Italy, 6-10 December 1980.

8/ Many countries collect prices in their capital cities and sometimes in other major towns, but not usually in rural areas, even though an important part of the population lives there and makes a portion of its purchases there.

9/ Multilateral Measurements of Purchasing Power and Real GDP (EUROSTAT, 1982). The report was prepared by Prof. Peter Hill at the request of the United Nations Statistical Office, ECE and EUROSTAT.

10/ Irving B. Kravis, Alan Heston, Robert Summers, op. cit.

11/ Irving B. Kravis, "Some problems related to the future operation of the International Comparison Project"; paper presented to the Ad Hoc Working Group of Experts on the Long-Term Organization of the International Comparison Project, Geneva, 11-13 November 1981, p. 17.

12/ Official Records of the Economic and Social Council, 1981, Supplement No. 2 (E/1981/12), para. 72.

13/ This provision for direct advisory services will be in addition to the possible continuation of assistance arranged through bilateral aid programmes.

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