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**REPORT OF THE SNA EXPERT GROUP MEETING ON**

**PRODUCTION ACCOUNTS AND INPUT-OUTPUT TABLES**

**Vienna, 21-30 March 1988**

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## INTRODUCTION

1. The Expert Group Meeting convened at the UNIDO Building in Vienna and was greeted by Mr. Mikoto Usui of the Industrial Policies and Perspectives Division of UNIDO. He said how appropriate it was for UNIDO to host this meeting given the interest in compiling industrial statistics on a cross country basis and the growing interest in new areas associated with industrial statistics that were covered in the annotated agenda. He cited in particular the concern caused by the difficulty in the appropriate treatment for foreign exchange rate differentials, problems associated with the environment and the need to adequately measure services and especially those provided by private non-profit institutions.

2. Jan van Tongeren then read a speech on behalf of Mr. William Seltzer, Director of the Statistical Office of the United Nations Secretariat. He wished first to give his thanks to UNIDO for agreeing to host the meeting. Mr. Seltzer regretted that he was not able to be present at the meeting himself due to other commitments. However he wished to emphasize that the revision of the SNA had been given the highest priority in the programme of the Statistical Office by the Statistical Commission. He wished members of the Expert Group to know that thanks to collaborative funding the sub-contract to the International Association for Research in Income and Wealth was now agreed and Peter Hill had formally started a period of absence from OECD in order to prepare the draft of the new Blue Book. Because of the process of co-operation of all members of the Inter-Secretariat Working Group and others the new Blue Book will represent a much better process of consultation and collaboration than the existing manual. With regard to this particular meeting he felt it was especially important to reassess production account data in the light of the growing interest in financial statistics. He concluded by hoping that the representatives would speak not just for their own countries but on behalf of all countries especially those with conditions similar to their own.

## I. STATISTICAL UNITS -

3. The Expert Group Meeting then appointed Andre Vanoli as Chairman and turned to the first item on the draft annotated agenda which was statistical units and is covered there in paragraphs 1 to 43. In addition there were three other documents relevant to this item. These were ESA/STAT/AC.33/9 entitled "Statistical units", ESA/STAT/AC.33/10 "Problems of statistical units for production accounts in the SNA and ESA", and ESA/STAT/AC.33/23 "Enterprise sector transactions in a system of national accounts" all prepared by the Statistical Office.

4. The topic was then introduced by Jan van Tongeren. Terms such as establishment and enterprise are used in the present SNA in a way that can give rise to confusion since it is not always clear when these are being referred to as reporting units or analytic units. As a first step towards seeking greater clarification of the more specific units, earlier expert group meetings had already agreed to the concept of dual classification that is using a classification by kind of activity for the production accounts and classification by institutional sector for the income and outlay and capital accumulation and finance accounts. It had also been proposed that production accounts should be compiled for institutional sectors. - Some discussion on this had already taken place at earlier Expert Group Meeting on Household . Sector Accounts and the Expert;Group Meeting on Public Sector but the present meeting had to consider the :issue specifically.

5. As far as the public sector is concerned it was agreed in the Expert Group Meeting on Public Sector Accounts that within COFOG (Classifications of Functions of Government) the appropriate statistical unit would be the **transaction or group of transactions**. This would **apply** to the **classification of expenditures** in all the accounts for the **government** sector. **However** it may still be **appropriate** to **have** a dual **classification** of the production accounts of government, by activity and by institutional subsectors of government, with accounts for example, for central government and local authorities and where regional or **state government** is important for this **level also**.

Conclusion:

6. For convenience sake the meeting agreed to use the term statistical unit as a generic label which refers both to reporting and analytical units of transactors such as establishments, enterprises, branches, etc.

A. Institutional Units

7. As the SNA does not define institutional units explicitly, the definition of institutional units in the ESA was referred to. The ESA definition reads as follows: "in general a resident unit is said to be institutional if it keeps a complete set of accounts and enjoys autonomy of decision in respect of its principle function" (see pars 212).

Conclusion:

8. The meeting agreed to endorse the general principle of the ESA definition and recommended that an institutional unit is a resident unit that keeps complete accounts and enjoys autonomy of decision in respect of its principal function.

B. Enterprises

9. In respect of the institutional classification of the corporate and quasi-corporate enterprises it was still necessary to make a decision on how to define enterprise units. How far was the distinction between enterprise and establishment determined by the degree of autonomy of decision-making? What was the appropriate way of treating ancillary activities? How should the balance be struck between reporting considerations and analytical ones?

10. It was then argued that an enterprise ought to be defined as the smallest unit that satisfies the two criteria included in the definition of

the institutional unit, i.e., autonomy of decision and complete accounts. The question was raised of whether and how far it was ever appropriate to think in terms of family of units as the basis for analysis. Particular examples were cited where this might be useful; for example, in countries where conglomerates have a great concentration of power and one may wish to undertake an analysis in terms of these conglomerates or where one may wish to do analysis based on the distinction between domestically and foreign owned or between public and privately owned enterprises. It was suggested that such analyses should be regarded as extra analyses obtained by aggregation of the basic data and they did not in general provide a good basis for defining an enterprise. It was felt that the enterprise should be defined at the smallest possible level. In many cases, though not always, this may correspond with the smallest legal entity (in some countries partnerships may be borderline cases from the point of view of legality).

11. This implies that unincorporated enterprises owned by households or government, that are not legal but have a complete set of accounts, including information on withdrawals by households are' also treated as enterprises. This would, inter alia, agree with the decision reached at the Household Sector Expert Group on how quasi corporate enterprises should be separated from the rest of the household sector. It was further clear that this linked the unit to the concept of transactor and no fundamental change in that concept was being proposed.

Conclusion:

12. In the standard accounts for corporate sectors, the statistical unit is the smallest legal entity for which complete accounts are available; this unit is called an enterprise. Unincorporated enterprises owned by households or government, that are not legal units but have a complete set of accounts, including information on withdrawals by households, are treated as enterprises. For some complementary analyses, it may be useful also to compile data based on families of enterprises.

### C. Production units

13. There was general agreement that a matrix should be included in the SNA showing the cross-classification of gross value added and its components by institutional sector and by kind of activity.

#### Conclusion:

14. Simplified production accounts will be included for all institutional sectors. These production accounts will show total gross output, total intermediate consumption and the components of value added.

#### 1. Establishments

15. As pointed out in background paper 9 between 80 and 95 per cent of enterprises may constitute only one establishment but problems arise for the minority of cases where an enterprise consists of a multiple number of establishments. In considering production accounts compiled on an establishment and an enterprise basis it was necessary to think about the relationship between these and the degree of detail in each. Three different definitions of establishment were put forward representing different levels of pragmatism. What is presently referred to as a 'homogeneous unit of production in the ESA is a unit undertaking production of a single product in a single location using a single form of technology. This accords exactly with the theoretical definition of establishment given in the SNA. In common usage, however, some countries, for example the Federal Republic of Germany, do not work at a level lower than the smallest enterprise unit for which data is directly observable thus ensuring that no subjective elements are introduced into the basic data system. As is often the case in the discussion on the revision of the SNA, it was agreed that the conceptual correct definitions was the one presently included in the SNA for an establishment, but that some flexibility might be necessary in its interpretation in different countries. In practice the establishment unit would then be the unit for which production

accounts and an analysis of capital formation by kind of activity could be compiled. These production accounts typically would contain considerable detail on the types of intermediate inputs purchased even though the SNA presently included in the production accounts only intermediate input as a total.

16. The question arose therefore about how to link this information as compiled for establishments and enterprises. In principle very detailed information would be necessary in order to make a good match but in practice the use of different sources suggested that links at the level of more aggregate indicators only would be possible. There was a general consensus that it would be **appropriate** to base the link primarily on information related to value added.

#### Conclusions:

**17. The establishment unit should continue to be the statistical unit for production accounts and capital formation by detailed kind of activity.**

**18. Statistical units must be defined in the same way in the revised versions of both the International Standard Industrial Classification of All Economic Activities (ISIC) and the SNA.**

**19. In principle, the establishment is an enterprise or part of an enterprise that engages in one kind of activity at a single physical location. In practice, some establishments may be engaged in more than one activity and at more than one location.**

## **2. Homogeneity**

20. At the end of the first day there was a brief and inconclusive discussion on the question of homogeneity. At present the definitions



**proposed** in **the** ISIC draft **relate** only to the homogeneity of output and not of the inputs used in the production process. Input considerations are covered in terms of the technical unit. The ESA definition of homogeneous unit of production basically asserts a homogeneity over both input and output but it was argued that this may be unworkably idealistic in practice. Homogeneity of input will be affected not only by the difference between the use of modern and traditional techniques but also the degree of vertical integration within a firm. It remains for consideration whether some emphasis should be given to the <sup>q</sup>uestion **of homogeneity of inputs** in order to **determine a breakdown between, say, modern and traditional methods of production as a standard part** of the SNA.

#### D. Ancillary activities

21. On Tuesday morning the discussion turned to the appropriate treatment of ancillary activities. These issues are dealt with in paragraphs 36 through 43 of the **annotated agenda**. The main issues for discussion were as follows: - **Should** the SNA **adopt** the definition of ancillary unit used in ISIC? Should outlays of ancillary units be distributed among the establishments they serve or should they be included in the same category as the predominant kind of activity of the enterprise? Under what circumstances should production not for sale in the market be identified as a separate 'establishment rather than treated as ancillary production? This is particularly important in respect of headquarter services, own produced electricity; crude oil produced and refined in the same establishment, repair activities, own account capital formation and services. In the main there are two possible approaches to this problem. One is to take the question of charging to cover cost and if the costs are **covered** either entirely or in large part this would be the basis for treating these activities as a **separate** establishment. The alternative would be to **have** a specific list of items to be **always** treated as **separate** activities.

22. The discussion quickly revealed that two types of activities were being confused here. The first were those sort of services such as book-keeping, storage, security, cleaning and maintenance which all firms typically have to undertake. Most of them are service activities and most are consumed

internally. These are what are really intended as ancillary activities. One could conceive of goods being products of ancillary activities but not generally. The other cases being considered such as the production and refining of oil and production of electricity are to be regarded as integrated activities because the degree of their existence in different enterprises depends on the degree of vertical integration existing in that enterprise.

23. In the case of ancillary activities as just defined, it was agreed that it would be appropriate to treat these as non characteristic output (secondary products) only if actually sold on the market. If the amount sold is greater than 50 per cent of the output then a separate establishment should be imputed for the production of this output and the activity would not properly be described as ancillary. It was recognized that distributing the cost of ancillary units across the various establishments of a multi-establishment enterprise would be difficult. It was felt that it would be appropriate to say they should be allocated according to some meaningful economic indicator without specifying very clearly what this would be but giving indications to the users of what sort of criteria would be appropriate. Wherever possible it would be sensible to ask the providers of the data to make this allocation since it is to be presumed their knowledge of the appropriate allocation is better than that of the compilers in the statistical office. In general, therefore, the recommendation of the present SNA in paragraph 5.19 on the allocation of ancillary activity is to be preserved.

Conclusion:

24. It is important to distinguish between ancillary and integrated activities. Ancillary activities typically involve the production of services that are for use in the enterprise they serve and that are usually found in similar enterprises. Ancillary production is only shown as non-characteristic output if actually sold on the market. If sales exceed 50 per cent of output, the unit should be treated as a separate establishment,

i.e. it is no longer ancillary. The output of ancillary activities should be divided between the establishments they serve, as recommended in the present SNA (see para 5.19).

#### E. Integrated activities

25. The appropriate treatment for integrated activities was more difficult to establish. There was some divergence of opinion about how far it was desirable to make a separation of these activities in principle. If the separation were undertaken the resulting pattern of input would be closer to the pattern of homogeneous technology, which some applications of input/output analysis assume. Against this it was argued that an input/output table should reflect the change in the vertical integration of industries over time and should be a reflection of economic activity not of engineering technique. It was recognised that if separation were the preferred alternative the question has to be asked at what level this separation should be practiced. Almost all manufacturing processes involve the creation of "semi-manufactured" products during the production process, many of which do not have a market value. It was these sort of considerations that had led to the suggestion that an exhaustive list of items to be so treated should be prepared. In general, however, this was not looked on very favourably because of the difficulty of making this list exhaustive at present and for the future as technology changes. It was generally felt that the correct theoretical approach was to go for separation of integrated activities and that this was particularly important where products concerned fell in significantly different parts of ISIC. Specifically it was felt appropriate to identify separately agriculture, mining and quarrying, manufacturing and various service categories. The degree of detail that was felt appropriate to insist on would correspond with the existing one digit level of ISIC though it was recognised that this would change with the revision to ISIC and at the first level of the hierarchy there are likely to be many more headings. This issue needs to be revisited when the revised ISIC is clearer.

26. It was recognized that implementing this decision would present a number of very difficult problems in practice because of the extreme difficulty of allocating gross operating surplus to different stages in an integrated production process. Arbitrary invention of a price for an intermediate good which does not in fact exist on the market may be unhelpful so again the recommendation was that in principle separation was to be desired but it was recognized that in practice this may not always be possible though efforts should be made to adhere to the one digit ISIC level if at all practical.

27. A second consideration that was agreed was that if vertical integration exists but the various stages of integration take place in separate locations then the activities at each location should be treated as separate establishments.

Conclusions:

28. "Integrated activities" refer to the production of different types of goods, and possibly services, such as may be carried out in a vertically-integrated enterprise. Examples include the production of crude oil together with refining and the growing of tea together with processing. If these different activities are carried out in separate locations they are always to be regarded as being produced in separate establishments; if they are carried out in the same location they, should in principle be treated as separate establishments although this may be difficult in practice.

29. Different establishments should always be created for two integrated activities if they belong to different classes of the first level of the ISIC.

F. Draft ISIC

30. Throughout the discussion there were frequent references to the detailed text in background paper 9 which is a draft of the proposed introduction to the third revision ISIC. Many participants felt that this text was in need of very careful editing and that this editing was important so that exactly the same text could be used both for ISIC definition purposes and for the Blue Book. It was understood that this paper was to be discussed at a classification meeting **at** the UNSO at the end of April and it was hoped that the concerns of this Expert Group would be represented at this meeting. The type of concern principally apparent could be described in looking at the section **headed** "Definitions" in **paragraph** 11 to 21 and **application** and choice of unit in **paragraph** 22 onwards. It should be made clear that paragraphs 22 to 28 relate to pragmatic considerations of the definition of an enterprise and not the in principle definitions, these points should be included in paragraphs 11 through 15. It was felt for example that in paragraph 19 the words "ideally" "and/or **predominantly** one" should **be** deleted from the "in principle" definition and these concepts should be introduced if necessary in the **paragraphs 34-37**. It was also felt that definitions of homogeneity should **appear** in the "in principle" part of the paper rather than the "in practice" qualifications.

31. In paragraph 11 the reference to family of legal enterprise should be delete:<sup>I</sup>3. In **paragraph** 18 and 19 references to "or predominantly one" should be deleted. In **paragraph** 21 it should be clear that **ancillary activities** relate to the production of services as well as the production of goods. In paragraph 35 there should be explicit reference to fixed capital formation also. In **paragraph** 39 to 43 the reference should be to ancillary activities not units since it has been agreed that if **these activities** can be **separated** into units they are not ancillary.

## II. SECTORING

### A. Subsectoring of unincorporated enterprises

32. The Expert Group Meeting then turned to **discuss** the question of sectoring which was introduced by Derek Blades. He referred the participants both to paragraphs 64 to 72 of the annotated agenda and also a note entitled "household subsectoring by the ILO" which was submitted as document ESA/STAT/AC.33/30. This last note was given to the meeting for information and it was not felt appropriate to re-ppen the substantive discussion which mainly concerned issues arising from the Expert Group Meeting on Household Sector Accounts. It was therefore agreed to postpone substantive discussion of this content to the first co-ordinating group.

33. The first point of substance discussed by the meeting, therefore, was whether it was useful to introduce distinctions between modern and traditional and between formal and informal subsectors. There was some discussion about whether the split between formal and informal should correpond to the split between incorporated and unincorporated enterprises. This coincidence has an intuitive appeal but it was pointed out that this may be difficult to implement in practice. For example, a respondent to a survey would not always know whether the employer was an incorporated enterprise or not. The ILO defines informal as concerning more than unincorporated and may involve aspects such as access to the market. Another possibility is that they will move instead to define formal in terms of both location and number of **employees and have** informal left as a residual. It was therefore felt this too was an area where it was impossible to reach a definitive conclusion until more information was available from the ILO.

34. On the distinction between traditional and modern methods of technology, the practical problems of implementing a definition were raised **again**. It was pointed out however that this applied not just to manufacturing industry but to all industrial activity and was particularly important in agriculture. It was felt that traditional was not a particularly helpful word and another word, might be preferred.

35. When sectoring is revisited and the guidelines for the new Blue Book are agreed it should be made clear that this level of subsectoring should be applied through all accounts including the institutional production accounts.

Conclusions:

36. The meeting agreed that there should be a socio-economic breakdown of the household sector and endorsed the proposals made by the Expert Group on the Household Sector. Further elaboration, including the distinction between the formal and informal sectors should be done in close coordination with other international organizations, including the International Labour Organization (ILO).

37. The subsectoring (including the formal-informal distinction) could then apply in all accounts of the household sector, including the simplified production accounts (which show gross output, intermediate consumption and the components of value added).

B.. Social accounting matrices

38. The logical consequence of the discussion on sectoring led to a reconsideration of the role of social accounting matrices (SAM's) in the new SNA. SAM relates consumption to production to value added to household income and back. to consumption thus making explicit the circular flow of. income whereas. the input/output framework has no direct link between value added and household expenditure. Ideally SAM's should be able to show whether there are links between groups of products, for example between the public and private or formal and informal sectors which underlines the need to carry these splits through all of the accounting for consumption, production, value added and within the household sector. Jan van Tongeren and Vu Viet introduced table 2 from their paper "An integrated matrix and accounting framework for the

**revised SNA**" which had been presented to the **Baden** meeting.<sup>1/</sup> This is a variation on table 2.1 from the existing SNA but making explicit the disaggregation of the household sector and the flows from value added to the households and the interflows among institutional sectors in terms of **disaggregated factor incomes that are** missing in SAM. **Several participants spoke enthusiastically about the desirability of incorporating such a table in** the new SNA and **explained** the specific aggregations that had been introduced in their countries. It was recognized that the variations in disaggregation that are appropriate from country to country is one of the reasons that makes for difficulty in presenting a framework such as this in the standard part of the SNA. If agreement can be reached on minimal subsectoring criteria, part of this problem could be overcome. The view was expressed that it was misleading to see a SAM as being radically different from the existing SNA structure and that table 2 as-presented demonstrated clearly that a SAM can be produced from the existing SNA structure simply by introducing a degree of elaboration with flexibility in the disaggregation of the household sector. There was general agreement with this latter point but it was felt important **that emphasis be** laid on **income** distribution and re-distribution aspects of the accounts rather than merely on production. It was important to make it clear that a table such as table 2 is both. a SAM and the standard SNA.

#### Conclusions:

39. The meeting agreed that the contents of the **Social Accounting Matrices (SAMs)** are an integral part of the SNA. However, special attention should be given to the aspect of income distribution in the future SNA. Particularly, the presentation of table 2.1 of the present SNA will be amended to give greater prominence to SAMs and to show how they can be elaborated within the system through further disaggregation of the Household Sector and further disaggregation of factor income.

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1/ Second International Meeting of Compilers of Input-Output Tables held at Baden near Vienna in the week before this Expert Group Meeting.



### C. Government subsectoring

40. On Wednesday morning the Expert Group Meeting returned to the question of sectoring in relation to other institutional sectors. In the discussion, reference was made to two conclusions reached in the Expert Group Meeting on Public Sector. The first one was that an enterprise should be regarded as public either if it is more than 50 per cent owned by the public sector (note more than 50 per cent not at least 50 per cent) or if it is controlled by the public sector even if the ownership is less than 50 per cent.

41. The summary conclusion reached by the Public Sector Expert Group was that the ownership principle would apply hierarchially; that is enterprises where the majority of the equity is held by enterprises in which the government holds more than 50 per cent of the equity would also be treated as public enterprises.

### D. Subsectoring of corporate enterprises

42. There was general agreement that it would be appropriate to specify a distinction between domestic and foreign owned enterprises as part of the standard presentation. This was very strongly supported by developing countries but to a not insignificant extent also by participants from developed countries.

43. Although the topic did not appear in the annotated agenda a strong case was put forward for requiring that a breakdown of enterprises according to some size criteria should also be required in the revised SNA since this was very illuminating on the question of industrial concentration.

44. There was then discussion about what degree of details should be shown in a kind of activity table. The present supporting table number 17 in the Blue Book is fairly detailed. It was generally felt that it would be preferable to go for the same sort of level of detail as had been discussed in the context of separating out integrated activities, that is at something corresponding approxd.matley to the one digit level of the present ISIC. Again it was recognized that this may have to be reviewed when the new ISIC is finalized.

#### Conclusions:

45. In conclusion, the meeting agreed that the accounts for corporate enterprise sectors should be subdivided according to kind of activity. This sub-division would be done by allocating entire enterprises (without splitting) to their predominant kind of activity. In principle, the allocation of multi-activity enterprises should be based on gross value added, as recommended in the draft introduction

to the proposed 3rd Revision of the ISIC. The group agreed that the activity classification should be applied to enterprises only at a low level of detail such as, for example, the 1-digit level of the present ISIC. For some countries it would be appropriate to show more specific detail for key sectors.

46. The revised SNA should include a recommendation that the accounts for corporate enterprise sectors should be prepared separately for private and government-owned as well as for resident-owned and for foreign-owned enterprises. A paper describing criteria for making the latter distinction, particularly in relation to the definition of direct investment, shall be presented to the SNA Expert Group on Financial Accounts and Balance Sheets.

47. The revised SNA should include a recommendation to classify enterprises according to some size criteria.

#### E. Enterprise accounts

48. Jan van Tongeren introduced paper ESA/STAT/AC.33/23 "Enterprise sector transactions in a system of national accounts". This paper was the first draft of a handbook on this topic. It aimed to produce bridge tables between commercial accounts and enterprise sector accounts. The UNSO has undertaken a survey and discovered that in 27 countries work on enterprise sector accounts is going on, in 10 of which this work is more or less complete. Undertaking this work often needs supplementary enquiries and the use of tax data.

49. The participants welcomed this document while recognizing that it was still in a **very** early stage of preparation. It was felt that provision of such a handbook would fill what is presently an area of omission in the

current set of publications supporting the Blue Book. However more information is needed on questions of valuation and depreciation. Reference was made to the patrimoine accounts that are being compiled in francophone West Africa. These are proving very successful because of the use of standard accounting forms and the concentration of a large proportion of industrial activity in a small number of enterprises. With the notable exception of France it seems that this was an area where more development had taken place in developing than in industrial countries.

Conclusion:

50. The group welcomed the proposal by the UN Statistical Office to compile a handbook on enterprise accounts. This handbook should explain the various adjustments that are needed to move from commercial business accounts to the items needed for the SNA accounts.

F. Terminology: other producers and other goods and services

51. Jan van Tongeren introduced a paper ESA/STAT/AC.33/11 "Concepts, definitions and terminologies of production" and also paragraph 73 to 81 of the annotated agenda. The major thrust of these suggestions was that the expressions "industries" and "other producers" should be replaced by "market producers" and "non market producers" respectively, that "commodities" and "other goods and services" should be replaced by "market goods and services" and "non market goods and services" respectively. There was also a suggestion that the difference between goods and services could be described as the difference between material products and non-material products.

52. It was recognized that the Expert Group could not take binding decisions on terminology. This was a question for the author of the Blue Book who had to pay attention to the question of translation into French and Spanish equivalents as well. However, the Group's opinion on the suggestions was sought.

53. The suggestion that goods and services should be distinguished by the use of the words material and non-material was felt to be very unhelpful because this distinction was not the same as the use of these terms in the MPS system. If adjectives are needed to qualify products it was felt that tangible and non-tangible would be a better pair. In general the other **proposed** changes in terminology were welcomed and it was felt that dropping the term "commodity" might be appropriate given its confusion with specified primary products used in international trade statistics. It was further suggested that "product" might be used as a synonym for "goods and services". This would mean that where the present *SNA* talks about the difference between industries and commodities the revised *SNA* could talk about the difference between producers and products. One consequence of this change would affect indirect taxes which are presently disaggregated into "commodity taxes" and "other indirect taxes". With the change in terminology proposed where it would be appropriate to use the ESA description of these taxes as "taxes linked to products" and "other taxes linked to production". Similar terminology would be used in respect of subsidies. The total would be referred to as "taxes or subsidies linked to production" and the expression "**indirect taxes**" would be **deleted**. In line with recommendations by the Expert Group Meeting on Public Sector, the term direct taxes will also be replaced; instead reference will be made to taxes on income and taxes on capital.

#### Conclusions:

54. **The group was strongly in favour of reforming the existing *SNA* terms "industries" and "other producers", and "commodities" and "other goods and services". There was wide support for the use of terms such as "market producers" and "non-market producers", "market goods and services" and "non-market goods and services". The term "products" might be used as a synonym for "goods and services".**

55. The group also noted that the same terminology should be used in the SNA, in external trade statistics and in the Balance of Payments manual.

56. There was considerable discussion about the role of the market and non-market distinction for producers. The first point made was that the expression "market" must be clearly distinguished from "marketed" so that production for own consumption and inter industry sales are clearly included as market production although they are not marketed.

57. After discussion it was agreed that the distinction between market and non-market was complementary to a classification by kind of activity. There should be no question of a hierarchy with one or the other assuming priority. In principle there would be a full matrix of activities by kind of activity and by type of market and the market/non-market distinction should always be separated when an activity classification is used. One of the consequences of this conceptual presentation is that non-market activity would no longer be necessarily restricted to service activities only but thought needs to be given to quite what the implications are for non-market goods production. A subsidized product could be the output of a market or non-market producer depending on whether it is competing on the market with a non-subsidized product. There would not be a complete identity between non-market products and non-market producers because these latter may have secondary production of market products. It was thought that this presentation would improve the clarity of table 7 in the Blue Book which is at present confusing.

58. A further issue for clarification will be the definition of market prices since presumably these would strictly relate only to market products. What then would be the appropriate terminology for what is now known as GDP at market prices?

Conclusion:

59. The distinction between market and non-market producers is fundamental to the SNA. It is a different dimension of economic activity than found in the ISIC. In principle, any activity could be arranged on a market or a non-market basis. It was recognized that goods production on a non-market basis does not exist in the present SNA. Further elaboration of this new concept is needed.

60. The Expert Group then turned to a consideration of two particular items presently treated as non-market goods and services, the first of these being **domestic services**. When a **household** employs a domestic **servant** directly it is the household that is the producer of the output and thus must be classified as a non market producer. By contrast if domestic service is provided to the household through a commercial cleaning service company that output is market production. **Self-employed** persons producing cleaning services also would be counted as market producers.

Conclusion:

61. **Domestic services produced in households by employees should continue to be treated as "non-market services". Enterprises (including self-employed persons with no employees) who provide similar kinds of domestic services such as window-cleaning and housecleaning will continue to be classified as "market producers".**

62. A second specific item considered was purchases by household abroad and purchases in the domestic territory by foreigners. These at present are treated as non-market goods and services and they appear in the external account rather as an adjustment item. In future it is proposed that they should be treated explicitly as market products.

63. It was emphasized again that consistency of terminology with the balance of payments is essential and that any changes to be introduced in the SNA should also be agreed by **balance** of payments experts.

Conclusion:

**64. Direct purchases by residents abroad and direct purchases in the country by non-residents should be included in market goods and services. This is a change from the present SNA, which includes these purchases with non-market goods and services.**

III,. INPUT-OUTPUT STATISTICS

A. Integration of input-output (i-o) with national accounts

**65. The Expert Group Meeting** then turned to the consideration of input/output statistics. The topics for discussion are covered in paragraphs 44 to 49 of the annotated agenda and in three background papers. These were **ESA/STAT/AC.33/6 "Consideration on revising input/output concepts in SNA and 'ESA", EST/STAT/AC.33/7 "Definition of gross output in the SNA and ESA" both prepared by the Statistical Office of the Federal Republic of Germany and ESA/STAT/AC.33/10 "Problems of statistical units for production accounts in the SNA and ESA" a note prepared by the UNSO.** The topic **was** introduced by **Vu Viet** who also referred to background paper number 28 which contained the conclusions from the previous week's meeting in Baden.

66. The first major topic for consideration was- the integration of input/output with the national accounts. There was unanimous agreement that input/output is integral to the SNA system. The question is rather one of *which tables* should be **presented** in the **Blue Book and** how much explanation should **accompany** these **tables**.

67. Some clarification of terms using the changes in terminology suggested earlier in the meeting were found necessary. The make matrix is a table, not necessarily square, showing a cross classification of supply by producers and importers in the rows and by products in the columns. The use matrix is made up of three submatrices; the leading sub matrix is the cross classification of products in the rows and producers in the columns. The two other submatrices constitute the absorption of products by categories for final demand and the use of components of value added by producers. The leading submatrix of this table will be of the same size as the make matrix and again may not be square. The make and use matrices can be combined to form two symmetric square matrices. One of these, previously called the commodity by commodity matrix, would now be referred to as product by product matrix. The other, which was previously referred to as an industry by industry matrix, would now be referred to as a producer by producer matrix. The question facing the Expert Group therefore was whether all four tables, make, use and the two symmetric tables, should appear in the Blue Book or simply the make and use matrices, or as a third alternative only the symmetric tables. This last alternative, although it is the approach currently adopted by ESA, was quickly rejected. Almost all the participants felt that it was essential that the Blue Book explain how the input/output framework can be used for quality control and "balancing supply and disposition of products in relation to the basic data. This necessarily involved working with the make and use matrices since these tables were the ones that related to data as it was collected. While it is possible to go from make and use matrices to symmetric tables it is not possible to work backwards from symmetric tables to make and use matrices reflecting the data as collected. The first conclusion, therefore, was that the make and use matrices should appear in the Blue Book along with an explanation as to how they can be used for quality control purposes. These two matrices-are sometimes referred to as "basic" matrices and, jointly, as a supply and disposition matrix.

68. The discussion then turned to whether the symmetric tables should also be included in the Blue Book. The **same** argument was put forward as had been **advanced** in Baden that there was a difference in kind between the make and use matrices which reflected data as collected and the symmetric tables which were



essentially analytic tables representing a considerable amount of manipulation data by the compilers based on assumptions for example about the type of technology being used in production. It was generally felt that while this distinction was literally true it gave a much sharper picture of a dichotomy than actually exists in practice. Even to compile the make and use matrices a great deal of subjective judgement is needed to manipulate the basic data and achieve consistency between the two tables. The type of judgement and analysis needed to go from these balanced tables to the symmetric tables was felt to be relatively small in proportion to the effort already needed to produce the basic tables. Nevertheless, it was felt that exhaustive detail about how to produce the symmetric tables and how these could be used in further analysis was out of place in the Blue Book. The recommended solution therefore was that the Blue Book should contain examples of symmetric matrices with text saying that such tables could be produced and, were useful for certain sorts of analyses and for details the reader should be referred to the Handbook.

69. The question then turned to whether one or both of the symmetric tables should be included in the Blue Book. There was considerable interest in including the product by product matrix but it is the producer by producer table that provides the link with value added by kind of activity unit. It was therefore felt that both symmetric tables should be included in the Blue Book but with reduced emphasis on them.

70. On the question of terminology again it was agreed that the input/output framework would consist of the four tables; make, use, product by product and producer by producer. A question was raised about whether it was appropriate to talk about "technology" assumptions in deriving the symmetric tables. The use of this work implies a degree of sophistication which is often missing from the manipulations undertaken and it was suggested that if a more neutral expression were used the apparent dichotomy between descriptive tables and analytical tables would be played down.

Conclusions:

71. The make and use matrices should continue to form an integral part of the *SNA*. The make matrix is a cross-classification of supply by kind of activity of producers and imports in the rows, and by type of products in the columns; the use matrix is a cross-classification by type of products and primary inputs used in the rows and kind of activity of producers and final demand categories in the columns. The Blue Book should also include the product x product and producer X producer matrices derived after merging the make and use matrices. These extensions and the conversion methods to arrive at them should, however, be given less emphasis in the Blue Book; their derivation should be worked out in detail in a Handbook.

72. The make and use matrices and the square product x product and producer x producer matrices will together constitute the i/o framework in the revised *SNA*.

B. Secondary production

73. On Thursday morning Vu Viet introduced this topic by referring to paragraphs 9 to 19 in ESA/STAT/AC.33/10. This proposed a hierarchy of items to be considered divided first between secondary and special products. **Secondary** products could be divided into subsidiary and by-products, by-products themselves being distinguished between exclusive by-products and **ordinary by-products**. **Subsidiary** products are those that are produced by secondary activities, that is using techniques of production that are different from those used by the principle activity of an establishment. By-products are technologically linked to the production of other products. They may be produced only as by-products in which case they are exclusive or

they may be produced in conjunction. with another product and independently in which case they are described here as ordinary by-products. The case of special products is rather different. The only item considered was the item known in ESA as adjacent products which refers to products whose use is similar to another product classified in a different industry because of a different method of production for example shoes made of leather rather than plastic.

74.. Secondary production is important because it explains the difficulty in going from the make and use matrices to the symmetric tables. However apart from pointing out this fact and highlighting the degree of subjectivity that needed to be used by the compiler of the data even at the level of compiling the make and use matrices, it was felt that most of this detail should be relegated to the Handbook. The SNA also introduces the concept of joint product but it was felt that there was no need to have a distinction between a joint product and an ordinary by-product nor was it felt useful to have a heading special products which included only the specific case of adjacent products. It was felt preferable to use the term secondary product to refer to both subsidiary and by-products although the ESA presently defines secondary products as being equivalent to subsidiary products. The exact use of the above terms is to be left to the author of the Blue Book.

Conclusion:

75. The term "secondary production" will be used in the revised SNA to refer to "subsidiary products" and to "by-products". The term "adjacent products" should be used when reference is made to products that are used similarly but that are produced by different methods of production (e.g. leather, rubber, plastic shoes).

C. Gross output of establishments

76. Background paper 7 was introduced by Heinrich Lutz. The SNA is rather vague on how gross output should be defined in terms of how far intra firm transactions should be included and how far transactions between producers in the same kind of activity units should be included. The ESA has clearer but complicated guidance. It specifies that all transactions between producers belonging to the same kind of activity unit should be netted out and this can lead to some transactions which are actual market transactions being deleted. On the other hand, transactions between producers in different kinds of activity units. are always included even though the units may belong to the same enterprise. In addition, the output of certain goods are always recorded even if these goods are consumed in the same unit where they are produced so in this case an imputation needs to be made for transactions which do not actually take place in the market.

77. The Expert Group agreed that there should be a much clearer statement of what was intended by gross output with specific recommendations for these type of activities. It was generally agreed that gross output should be defined according to the table below.

1.		<b>Sales</b> of own products	)	
2.	+	<b>Deliveries</b> to other establishments of the <b>same</b> enterprise	)	Deliveries to other units
3.	+	<b>Or - change in stocks of own products and work in progress</b>		
4.	+	<b>Own account fixed capital formation</b>		
5.	+	<b>Own account production for final consumption</b>	)	<b>Imputed transactions</b>
6.		Own production given in kind		

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Gross output

78. The exceptions to this table would concern flows relating to the distributive trades where only the trade margin were concerned, financial and insurance institutions where an imputed service charge would be derived as the difference between the appropriate receipts and payments, and non-market producers where output is the sum of the production costs. A further exception was suggested in connection with agriculture where it was proposed that a national farm concept where sales are to non-agriculture units only should be adopted. In the discussion, however, it proved clear that this concept is familiar only to members of the European Community and that other countries, both developed and developing, are neither familiar with this nor convinced of its usefulness at present. This issue needs to be considered again later.

79. There was general agreement that this proposed re-definition-of gross output would not only be clearer for compilers and users of data but would keep the data closer to the form in which it is originally recorded. It would also make measurements of gross output invariant under aggregation which is not presently the case.

#### Conclusion:

80. Gross output will include all deliveries between establishments of the same enterprises and will include all sales between establishments within the same activity.

#### IV. VALUATION

##### A. Basic prices

81. Vu Viet introduced this topic by referring participants to paragraph 50 to 53 of the annotated agenda, ESA/STAT/AC.33/5 "Valuation in input/output and national accounts a re-examination" a note prepared by Vu Viet and ESA/STAT/AC.33/33 "Extract from Bent Thage's input/output tables and the value

concept of the SNA". The main topic for discussion was whether approximate basic prices should remain the preferred valuation for use in the make, use and symmetric matrices both for compilation and analysis. All participants testified to the difficulty presently experienced in interpreting the existing Blue Book in respect of its definition of true and approximate basic prices and the way these related to producer and purchaser prices. It is clearly an area where major clarification is needed in the revised Blue Book.

82. There was universal agreement that the present exposition of the concept of valuation in the Blue Book is extremely misleading. The glossary defines value added at approximate basic prices as gross output in approximate basic prices less intermediate inputs at purchasers' prices. This seems to be equivalent to the definition of value added at factor cost and seems in conflict with the algebraic derivation in paragraph 4.104. This underlined the concern that approximate valuations (in the present usage) should apply only to gross output, final demand and intermediate inputs and not to value added.

83. The difference between purchaser and producer prices concerns the transport and distribution margins and is not relevant to the discussion on basic prices and is ignored here.

84. The columns of the use of matrix compiled at producer prices show intermediate inputs, value added and taxes on production divided between taxes on products and other taxes linked to production. The valuation for **intermediate** inputs and gross output is the same in that all taxes on production are included. This implies a double counting of those taxes on products that are included in intermediate demand.

85. The main reason for introducing the distinction between taxes on **products** and other taxes on production is **because** of the **analytical** interest in examining the impact of changes in the incidence of these taxes. The **concept** of basic prices is **a valuation** which eliminates the effect of taxes on products but retains the impact of other taxes on production. If all taxes on products fell on final demand it would be possible to alter the use of matrix

from a valuation of producer prices to basic prices by making deductions only from the final demand and value added submatrices. This valuation would be what the present Blue Book calls true basic prices. Although in all countries most taxes on products fall on final demand, in all countries there are exceptions where amounts that are usually small in proportion to the total continue to fall on intermediate demand. This means complications arise in trying to eliminate the effect of taxes on products from the use of matrix. If the components of taxes on products are eliminated across intermediate and final demand and from value added those elements of taxes on products that are incurred on intermediate demand will have been deducted twice. In order to balance the table, therefore, it is necessary to add back to the columns the total of taxes on products paid on intermediate demand. This is also necessary because these taxes are a part of cost of production. A table constructed like this is what is described in the present Blue Book as valued at approximate basic prices.

86. A number of consequences follow from this. Firstly the emphasis that is given to the difference between true and approximate basic prices seems disproportionate and confusing. Since a table at true basic prices cannot be measured and only calculated with extreme difficulty it is proposed that this concept be dropped and the expression "basic prices" used for what is now called approximate basic prices but without the qualification. Secondly it becomes clear that the concept of value added at approximate factor cost or approximate basic prices relates to value added plus the element of taxes on products incurred on the producer's intermediate inputs. This concept while arithmetically correct does not seem to have any economic usefulness and should be dropped. Value added should revert to being treated only at factor cost that is excluding all taxes on production or at market prices that is including both taxes on products levied by that producer and other taxes on production.

87. It was felt that basic prices was the appropriate valuation to recommend for calculation of input/output tables wherever possible. The degree to which it will be possible will depend on the tax structure of individual countries and how easy it is to separate out payment of taxes on

product from both final and intermediate demand. Where tables cannot be compiled at basic prices they would continue to be calculated on the basis of producer prices. For aid in exposition in the Blue Book it may be useful to coin a phrase which means "basic prices if possible but if not producer prices".

88. It was noted that conceptually basic prices is what might be understood by some as being the cost of production, while others may consider that as the current definition of producer prices. Consideration will, therefore, have to be given to these terminologies in the new Blue Book, as will a consideration of when it is appropriate to distinguish between prices and values.

89. There was discussion about whether it was important to retain the distinction between taxes on products and other taxes linked to production and whether the whole concept of basic prices could be dropped from the Blue Book. It was strongly argued that the concept of basic values is useful in studying price behaviour, the concept of basic values is also fundamental and therefore must be included in the Blue Book. It was felt however that most of the details regarding the links between the valuation of the use matrix and price behaviour should be included in a Handbook.

90. There was discussion about the implications of adopting a valuation at basic prices for the institutional production accounts. One participant pointed out that basic prices are the only practical valuation since taxes on products such as import duties and possibly some other taxes such as non-deductible VAT are not distributed to individual institutional sector. It is therefore not possible to derive value added at market prices disaggregated by institutional sector but only in total, by making an adjustment for taxes on products to the sum of value added by sector. An example where this is worked out is given in Table B of ESA/STAT/AC.33/33. However, there was another opinion that import duties and non-deductible VAT are linked to intermediate inputs used by individual institutional sector and can be removed. The main question is whether value added in basic prices by individual institutional sector is useful.



Conclusions:

91. Value added at approximate basic, as well as at approximate factor, values are not useful concepts and will not be referred to in the next version of the SNA.

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92. Approximate basic prices (ABP) should be used to value goods and services in the i/o framework; they would also be used in the production accounts for institutional sectors. ABP excludes direct payments of net taxes on products (i.e. taxes on products minus subsidies on products). Producers' prices (PP) may sometimes have to be used as an alternative to ABP. PP includes direct payments of net taxes on products. The distinction between "prices" and "values" should be further elaborated in the revised SNA.

93. In general explanations in the Blue Book, where the distinction between PP and ABP is not important, it maybe useful to introduce a new umbrella term to refer to both.

B. Value Added Tax (VAT)

94. The discussion then turned to a consideration of whether a use matrix should be shown net or gross of deductible VAT. The advantages of using the gross treatment is that this results in more homogeneous valuation across the rows of the use matrix. However, it does not show taxes as borne. The basic enquiries record output net of VAT and purchases net of deductible VAT. Therefore, in order to compile a table on a gross basis imputations would be necessary on a considerable scale. Special treatment would have to be adopted for cases where VAT was always deductible, for example on exports and fixed capital. The solution adopted by ESA, therefore, was to record the matrix net

of deductible VAT but also to have a matrix available of the amounts of non-deductible VAT. This can then lead to a presentation where the elements of intermediate demand are shown net of all VAT payments and a line showing payments of non-deductible VAT appears as a row underneath intermediate inputs. This presentation is frequently called the net net presentation and is the solution adopted by EUROSTAT. This is to treat non-deductible VAT in a similar way to margins or imports. It was also argued that this net net treatment is the one that is consistent with a valuation at approximate basic prices and therefore should be adopted to be consistent with the decision made above on this topic. It should be noted that other taxes may be deductible and, if so they should be treated in a similar way.

Conclusions:

95. Taking into account the above considerations, the Group agreed that goods and services flows will be recorded net of deductible VAT.

C. Taxes and subsidies linked to production (indirect taxes)

96. The annotated agenda at paragraphs 59 through 63 raised further questions on the treatment of indirect taxes. It had already been agreed that it was important to make a distinction between taxes on products and other taxes on production. It was felt the distinction should be determined by the nature of the tax and not whether it was strictly proportionate to the output of the industry. The question of payroll tax was quoted as a case in point. Even if these taxes are substantial they should be treated as other taxes linked to production and not as taxes on products.

97. It was noted that new indirect taxes were currently being considered, such as taxes on interest and taxes determined by the value added base of the enterprise. At some later point consideration needs to be given to how new indirect taxes such as these should be treated.

Conclusion:

98. Indirect taxes are now called taxes on production and divided into "taxes on products" and "other taxes linked to production". Payroll taxes are "other taxes linked to production". Subsidies should be classified in the same way as taxes on production, i.e. a distinction should be made between "subsidies on products" and "other subsidies linked to production".

D. Valuation of imports

99. On Friday morning the discussion turned to consideration of whether imports in the input/output matrix should be valued CIF or FOB. This topic was introduced by Andre Vanoli who presented his note ESA/STAT/AC.33/27 "A proposal for introduction of FOB valuation of imports-in the SNA". At the Expert Group Meeting on External Sector Transactions, considerable progress had been made in reaching harmonization between the presentation of trade data in the SNA and balance of payment statistics by agreeing that imports of goods should be recorded FOB with the insurance and freight elements recorded in services. Such a presentation avoided the distortion presently employed, when insurance and freight on imports is provided by domestic carriers and these are then imputed as exports of services as well as being recorded in imports of goods CIF. Given this agreement the question now was how far the recording of imports of goods FOB should be carried into the input/output presentation.

100. Many participants spoke in favour of the present treatment where the use matrix contains the detailed breakdown of imports of goods on a CIF basis. This treatment is practical for all countries since all countries record detailed imports CIF where very few also record them FOB. It was also argued that this was the correct theoretical treatment since it was appropriate to regard an imported good as being a joint product until it crossed the border because it was at this point that the item concerned entered the market and became competitive with domestically produced items.

Against this it was suggested that this could **lead** to anomalies where for **example** a product that had **a very** high transport cost and was produced within the country but at some considerable distance from its point of use or across the border but close to the point of use would be. portrayed very differently. Further if the real intention in an input/output matrix is to portray goods **valued at** their **point of sale** (ex-works) then **arguably** this should **apply** to imports **as well** as **domestically** produced products. An **alternative** would be to value all transactions at the point of use but for consistency this should **apply** to both **imported** and domestically produced products.. While there was some **sympathy** for this argument on the whole the majority of participants felt that the present treatment recommended in the SNA should be **preserved**, that is **detailed** imports in the use matrix should be **valued** CIF. **Even** those participants who are not wholly convinced of the theoretical justification for this procedure accepted that in practice it would usually be the only viable **alternative**.

101. Kishori Lal from Canada described the treatment of exports used in the **Canadian input/output** matrix which was to **value** the goods at their point of sale ex works and to treat the transport services provided to the border as an export of services. The question of where transport costs for both imports and exports should be recorded in a regional input/output framework was raised but not resolved.

102. Having concluded that imports-, should be recorded CIF at the detailed level it was argued forcibly that an adjustment within the supply and disposition matrix was necessary in order to present a consistent total for imports of. goods FOB in this framework that corresponded to the entries elsewhere in the national accounts and in the balance of payments statistics. While not all participants thought that such an adjustment was necessary for the sake of the supply and disposition framework per se it was agreed that harmonization with the rest of the accounts and alternative presentations suggested that such an adjustment should be shown.

103. Background paper 27 also raised the question of the appropriate treatment of insurance and the appropriate entries that were necessary **ir**

goods exported from one country were lost in transit and insurance claims were paid rather than goods arriving at their destination. This is not presently covered adequately in the SNA and was felt to be an important problem but one more appropriately addressed in the Expert Group Meeting on Financial Flows and Balances.

Conclusions:

104. In the external sector accounts of the next version of the SNA, imports of goods in total will be shown at f.o.b. values. They will therefore be consistent with the imports shown in the IMF Balance of Payments system.

105. The experts agreed that there are good analytical reasons for either f.o.b. or c.i.f. valuation in recording imports by detailed product groups in the i/o framework. However, a large majority preferred c.i.f. valuation taking into account analytical and practical grounds.

106. For each of the totals of imports of goods, imports of services, exports of goods and exports of services, the valuation should not be the cause of differences among the accounts and tables in the next version of the SNA and between the SNA and the Balance of Payments.

107. The group noted that there were several problems with the treatment of insurance on merchandise trade and asked that insurance should be taken up at the Expert Group Meeting on Financial Accounts and Balance Sheets.

## V. NON-MARKET IMPUTATIONS AND ATTRIBUTIONS

### A. Imputed bank services (output of banks)

108. This topic was introduced by Chandrakant Patel who referred to paragraphs 82 to 84 of the annotated agenda and also to five of the background working papers. These were numbers 17 "The treatment of output in the banking industry with illustration from Luxembourg data", 19 "The determination of the output of the banking industry in national income accounts - a critical survey of concepts" and a supplement to this paper tabled as background paper 41, all of which were prepared by the IMF, and also to background paper 19 "Credit institutions and national accounts" a note prepared by the Federal Republic of Germany Statistical Office and background paper 24 "The nightmare of economic accounts in a small country with a large international banking sector" prepared by the Statistical Office of Luxembourg. The services provided by banks can be grouped under three main headings: (1) providing the medium of payments, (2) intermediation; between borrowers and lenders and (3) specialized financial services. The first question is how to separate the transactions relating to each of these types of services and the second question is how to allocate them among users. The present SNA assumes that all these services are absorbed by enterprises and so the adjustment is simply a deduction from value added calculated before making allowance for bank service charges. The question for consideration was whether this deduction overstated the appropriate allocation of these services to enterprises given the amount of services rendered to final demand including exports.

109. Despite the plethora of literature on this subject, much of which is referred to in background paper 18, the participants felt that a clearly acceptable means of measuring bank output has yet to be articulated. It was generally felt to be inappropriate to refer to imputed output of banks. The output of banks was real, it was only the means of measuring it that had to be imputed. At present, there are two main alternatives that may be used. The first is the existing SNA treatment where the difference between interest paid and interest received is assumed to be a proxy for all the (implicit) services

provided by banks. The second is to build up an account from the cost incurred by banks in producing these services including the purchase of goods and non-factor services, wages and salaries, consumption of fixed capital, taxes linked to production, etc.; this alternative requires a solution to the difficult problem of measuring the net operating surplus of banks.

110. It was noted that associated with the technological change in the industry there was a tendency to move towards charging for individual services explicitly and it was felt that this may hold promise for developing more specific and relevant indicators of the services provided by banks in the future. Until this could be done it was generally felt that it was appropriate to maintain the present practice of measuring the services by the single global measure of the difference between interest paid and received but given the internationalization of banking activity, applying this as a single adjustment to enterprise output was felt to be inappropriate. In the future the adjustment therefore must be allocated across categories of final demand and across industries within intermediate demand. The consequence of attributing some of banking earnings to exports implies that similar adjustments must also be made to imports for those countries that are net importers of bank services, an adjustment which would be difficult to calculate on the basis of information on domestic banking practices and costs.

111. It has been suggested that pending the development of a more comprehensive methodology, allocation of service charges between industries should be on the basis of the sum of deposits and loans. This in turn could produce anomalies for the banking sector itself since because of their large deposits they may account for 50 per cent of the difference between interest received and paid. The question of the appropriate treatment of capital gains and losses on deposits and loans was also raised without resolution. The allocation of the use of bank services to households also raised problems since some of the services will be used by unincorporated enterprises and particularly in relation to the ownership of dwellings. Given the earlier decisions to calculate production accounts for both institutional sectors and establishments, the question of having consistent treatment of the imputed bank service charges between production and income and outlay accounts was

raised. The imputation will carry through to the income and outlay account since the separation of existing interest flows into costs which appear in the production account and reduce operating surplus, will also reduce interest payments in the income and outlay account. Similar adjustments of course would be made to receipts of interest.

112. **Despite** the fact **that tentative** conclusions were reached **by** the Expert **Group** there was a **considerable** feeling of unease that there **may** be problems with their **implementation** which **had not yet** surfaced. The Expert Group therefore urged **very** strongly that **a new and comprehensive** study on banking output and interest flows be produced in the light of which the foregoing conclusions could be reviewed. Among other subjects this comprehensive study should cover explicitly the following items: (1) Banking production of non-banks, (2) subsidies and taxes on interest paid, (3) the relationship between bank profits and operating surplus with particular reference to capital gains and losses and the provision for bad debts, (4) the possibility of distinguishing the type of services provided by banks and the recipients of these services, (5) **application** of these principles to different types of institutions including the central bank, (6) measurement of imported bank services especially for highly indebted nations, (7) the treatment of property income carried on bank's own funds, (8) the separation of bank service charges between household consumption and intermediate consumption of unincorporated enterprises and (9) the treatment of index linked financial instruments. The study should try to take note of the apparent conflict between presenting data on the banking sector that is analytically useful and in a way that is consistent with national accounts methodology for other aspects of the economy.

Conclusions:

**113. Banks produce genuine services; the problem is to measure their output.**

**114. There is a need to examine carefully the activities of banks in order to determine precisely what services they provide and to develop**



statistics to measure and value them. In the immediate future, indirect methods may have to be used to measure bank services globally, and the group favoured retaining the valuation method used in the present SNA.

115. Some participants felt that it could be preferable to value output as the sum of costs. The difficulty with this approach is to define and measure bank profits.

116. Bank service charges should be allocated to intermediate consumption of producers including producers of (non-market) government services, to final consumption of households and to exports and imports.

117. Bank service charges allocated to intermediate consumption should be broken down by kind of activity in the i/o framework.

118. Allocation of bank service charges between all these various uses should be based on meaningful economic indicators. Until a better solution can be found, the allocation could be based on the sum of deposits and loans.

119. In the income and outlay accounts interest flows should be adjusted accordingly: interest received by depositors will be increased (and interest paid by borrowers will be reduced) by the value of the service charges they are deemed to have paid. A supplementary table will show what adjustments have been made.

120. A comprehensive study on banking output and interest flows is required in the light of which the conclusions in para. 37-42 will be re-examined. It **will** cover the following matters:

- (a) Banking production of non-banks;
- (b) Subsidies and taxes on interest paid;
- (c) Relationship between bank profits and operating surplus with particular reference to capital gains and losses and to provision for bad debts;
- (d) Possibility of distinguishing the types of services provided by banks and the recipients of these services;
- (e) Application of these principles to different types of financial institutions, including the central bank;
- (f) Measurement of imported bank services, especially for highly indebted nations;
- (g) Treatment of property income earned on banks' own funds;
- (h) Separation of bank service charges between household consumption and intermediate consumption of unincorporated enterprises;
- (i) Treatment of index-linked financial instruments.

## 1. Constant price output of banks

121. The difficulty of measuring bank output at current prices is compounded when attempts are made to derive constant price volume measures. Two **alternatives are available** to the compiler either to try to deflate that current price figure **by some price index which may produce fluctuations in the constant price measure which has odd implications for productivity changes** or one may try to project constant price measures using volume indicators **directly**. This **may resolve the productivity change problem but only at the cost of implying unrealistic price indices** when current and constant price measures are contrasted. It was generally felt that until better resolution of the current price measurement problem is available the less unsatisfactory approach to take with constant price output measures was to extrapolate a base figure using volume indicators.

### Conclusion:

122. **If bank services are measured by global indirect methods (as proposed for the time being) there is no natural price index available to deflate them. Constant price output should therefore be derived by extrapolation with volume indicators.**

## 2. Gross output of non-profit institutions serving enterprises

123. There was a brief discussion of the appropriate treatment of non-profit institutions serving enterprises. It is not suggested that the present SNA treatment be changed but rather that much clearer guidance on the appropriate treatment for the activities of these institutions be given. Such institutions serving enterprises are treated in the corporate sector as long as they are not wholly or mainly financed and controlled by government and include such bodies as technical and research institutes and trade associations. They should be treated so that their output is sold to the enterprises funding them. If they are funded by membership dues or other

regular grants, these payments should be regarded as part of the intermediate consumption of the paying enterprise and a source of revenue by the non-profit institution. It should be noted that this treatment generates peculiar result in input-output analysis since increase in output of funding enterprises will automatically generate increase sales of non-profit institutions. If the non-profit institution is mainly financed by investment income from a fund **established by participating** enterprises then the non-profit institution may **have virtually no sales revenue** and its operating surplus will be negative, although it may still have positive savings when its investment income is -aken into account.

**Conclusion:**

**124. Non-profit institutions serving enterprises will continue to be treated as market producers in the enterprise sector. If they are funded by membership fees, or other regular grants, these payments should be regarded as part of the intermediate consumption of the paying enterprise and as sales revenue of the non-profit institutions.**

B. Ancillary and integrated activities of government

125. On Monday, 28 March, a discussion on the appropriate treatment of ancillary and integrated activities of government was introduced by Derek Blades. He referred to paragraph 101 of the annotated agenda and reported on the outcome of the 'Expert Group Meeting on Public Sector Accounts. Three **alternative** proposals had been put forward for dealing with what were then described as ancillary enterprises of government. The first was that if the output was sold to cover costs it should be treated as market production in both the production account and capital account. If the output was not sold or was sold at a price that did not cover costs it should be treated as non-market production. The second proposal was that a specific list of activities should be treated as market production whether the output

was sold or not and remaining activities should be treated as non-market. The third **alternative** was that all goods should be treated as market production and services as non-market.

126. There was wide agreement among the participants at this meeting that the treatment of **government output** should **be** brought into line **as far as possible with the agreements reached for treatment of enterprises. This meant for example,** that it was **inappropriate** to talk about **ancillary** enterprises of **government. Ancillary** activities such as **bookkeeping** which **by** definition **could not be separated** into **distinct** units **should be** included with **the** units which they serve. This then: left the question of secondary production and how far this should be treated as a separable unit and how far as integrated activity. Again it was felt in line with earlier. conclusions that if most of the unit's output was sold whether to purchasers inside or outside government at a price to cover costs then it should be treated as a separate establishment undertaking market production. The remaining problem concerns **secondary** activities which were usually produced by market producers but which **could be undertaken by government** who then had the choice of whether to make these products themselves or buy them from outside. This problem was seen as being closely analogous to that of integrated activities in the case of corporate enterprises. It was felt that these should be separated out wherever feasible. They should be classified according to the appropriate kind of activity classification but would be treated as non-market producers. There is no reason in principle why this should be limited to the treatment of goods. Some services may fall within this heading also. As this is done in the case of enterprises, the cost of and value added generated in ancillary activities in government are to be allocated among the various government activities that they **serve. Given** the proposal to have a cross classification **between** kind of **activity** classification **and** the distinction between market and non-market production, this treatment could be easily accommodated as could the **possibility** of a **non-market** producer having secondary market production. Such a treatment and its close parallel with corporate enterprises was felt preferable to the existing rules. Accordingly, the term departmental **enterprise** should be dropped from the new version of the Blue Book. It was felt that some flexibility must be given to the interpretation of these

guidelines. For example, the existence of a repair shop within one department would be treated as an ancillary activity but if a major repair establishment existed for the whole of government then it may be more appropriate to treat this as an integrated activity in a separate establishment where feasible. Further elaboration of this principle is needed. In deciding when separation is desirable, reference should be made to the principle established earlier of distinguishing activities at approximately the one digit heading level of the present ISIC.

127. It was noted that there could be a conflict in the recommendation if an activity sold more than 50 per cent of its output outside government but at a price that did not cover costs. Appropriate treatment for this case has yet to be considered.

Conclusions:

128. Government units that sell their output (whether to purchasers inside or outside government) at prices intended to cover the costs of production are considered to be market producers. They do not involve ancillary or integrated activities and are not considered under this heading.

129. In general, the definition and treatment of ancillary and integrated activities should be the same for both the government sector and the enterprise sector. The term "departmental enterprises" should not be used in the future Blue Book.

130. As is done in the case of enterprises, the costs of, and the value added generated in, ancillary activities in government are to be allocated among the various activities that they serve.

131. In line with the rules agreed for vertically-integrated enterprises, integrated activities in government should be separately classified by the appropriate ISIC category within non-market producers if it involves production of capital goods or if it produces goods or services that are not usually produced by government. In practice, it may be impossible to separate out integrated activities as distinct establishments. In this case the output of integrated activities will be treated as secondary production of non-market producers.

1. Gross output of the government sector

132. Jan van Tongeren then introduced consideration of the measurement of gross output of government and in particular the question of how operating surplus of government should be measured. He referred to paragraphs 102 and 103 of **the annotated agenda** and two background **papers** number 25, "Imputed rent on government buildings" prepared by EUROSTAT and number 38, and to a paper with the same title prepared by the Statistical Office of the Federal Republic of Germany. The present SNA recommends that depreciation should not be calculated in respect of roads and bridges on the grounds that the process of continuous repair makes the life length of these assets virtually infinite. It has been recognized that this assumption is not **valid** either because repair is not undertaken when necessary or because change in technology tends to make the assets inadequate for future heavier use. It was therefore suggested that in the new SNA consumption of fixed capital should be calculated in respect of these assets. It **had** also been suggested at the Expert Group Meeting on Public Sector that in future rent on government buildings should be introduced. If a firm in the private sector owned its own building, the savings on rent in intermediate costs in effect increased the gross operating surplus of that firm. Since government does not have a net operating surplus, the value of government owning and occupying its own building does not presently show in the national accounts.

133. It was pointed out that many of the costs of operating a building were already covered in government current expenditure on goods and services. However, some element of the benefit **of** the capital asset was lost. It was suggested that one way of approaching this problem might be to consider estimating the cost of capital as an imputed service and then consumed by government. This could in principle apply not just to buildings but to other assets, for example roads, though this raised the question that consumption of these services fell not just to government but more generally.

134. The **participants** felt that in principle, rent on government buildings should be included in the national accounts but were very concerned about the difficulty of making such estimates, even for the buildings occupied by civil servants. It might be difficult to obtain equivalent office rent estimates and for other buildings owned by government the difficulties would be more difficult. It was pointed out that in some countries, government owned many church buildings and associated land as well as historic monuments. The basis for estimating rent for these buildings was obviously extremely difficult. While the possibility of considering the cost of capital might be a way to **resolve** this problem the participants felt that a paper was needed explaining the consequences of this in detail and the interaction with alternative proposals on estimating rent.

Conclusion:

**135. Consumption of fixed capital will be calculated in respect of roads, dams, bridges and similar structures. The group agreed that even with normal repairs and maintenance, structures of this kind have finite lives.**

**136. The group considered a proposal made by the expert group on Public Sector Accounts to include in government output the imputed rent on government-owned buildings based on market prices. A majority of participants favoured the proposal on**



theoretical grounds, but there were serious reservations on practical grounds.

137. The group also considered a proposal to include a "cost of capital" component in government output. The experts felt a paper was needed explaining the conceptual and practical problems, including the interaction with the proposal on rent, before making a decision.

C. Employment promotion scheme` "

138. The Expert Group discussed background paper 29 with this title prepared by the ILO. This short note spelt out when someone on a training scheme would be regarded as employed and raised the question of whether payments to such people should be treated as subsidies to the enterprise employing the trainee or a direct transfer to the people on the training schemes. An apparent - conflict may arise when training takes place outside the enterprise but the trainees **are regarded as being employed** without **necessarily** contributing to the production process.

139. It was pointed out that there are at present more than 200 schemes in operation throughout the European Economic Community and it is not easy to categorize how these affect employment statist,,:s. The participants felt the primary decision rested with ILO definitions about when such people are to be regarded as employees and when not. If they were employees, payments they received should be treated as compensation of employees. Any payments to them from government in support of the training schemes, whether or not routed through the enterprise, should be regarded as subsidies to the enterprise and the payments to be recorded as wages and salaries. Only if the trainees were not **regarded** as being employed should the payments be treated as current transfers.

140. Subsidies in respect of training programmes are treated as other subsidies linked to production.

**Conclusion:**

141. On the basis of a paper by the ILO on Employment Promotion Schemes, the Group recommended that if persons on *training* programmes under employment promotion schemes are defined by the ILO as *being* in employment, the payments they receive are to be treated as compensation of employees, and any payments from government in support of the training scheme should be treated as a subsidy to the enterprise sector, . whether the payments are made to enterprises or whether they are made directly to the trainee. Subsidies in respect of training programmes are treated as other subsidies linked to production.

D. The concept of production

142. In concluding its discussion on various items associated with the measurement of production, the Expert Group considered points raised in background paper number 11 "Concepts, definitions and terminologies of production" and in particular the issues raised in paragraphs 23 and 32 of that paper. It was suggested that definition of production in the new Blue Book should pay attention to wider)°concepts of production that are used throughout the economic literature and it was agreed that this should be considered both in drafting the Blue Book and in the implications for definitions of production to be used in the associated **Handbooks**.

**Conclusion:**

143. The SNA concept of production should be defined in the future Blue Book in relation to wider concepts that are used in present economic literature and which may be used in Handbooks.

E. Exchange rate differentials

144. The **Expert** Group then turned its attention to this topic exchange rate differentials; a somewhat **complicated** subject the. implication of which have not **always** been fully **realized** or fully thought through until now. The topic was **covered** in **paragraphs** 91 to 98 of the **annotated agenda** and **in** four of the **background papers, paper 14** "The treatment of exchange **rate differentials** in the **national** accounts and its extension **ESA/STAT/AC.33/14/Add.1** both prepared **by the UNSO, paper 15** "Application in the SNA of a uniform **exchange** rate for transactions with the rest **of the world**", **a paper prepared by** ECLAC currently **only available** in **Spanish and paper 16** "Currency **conversion** in. a multiple **exchange** rate system the implications for the full set of national accounts" **prepared** by the IMF. The topic was introduced by Jan van Tongeren. An early version of background **paper 14** had been presented to the external sector. Since then Mr. Avondoglio of ECLAC had undertaken a more comprehensive study and this was presented in background paper 15. It was hoped that in future it would be possible to **provide** an English translation of the full text but at **present** a summary **version had been prepared by UNSO and this** was included in **background paper 14/Add.1.** **While** these problems **have** implications for **all** countries **they** are **particularly** acute for countries such **as many** in Latin **America** who compile their balance of payments accounts in a currency other than local, usually in US dollars. There are three types of circumstances that need to be considered: (1) Stable monetary conditions, (2) rapidly changing exchange rates and (3) multiple exchange rates. It became clear in discussion that it was helpful in fact to distinguish between multiple official exchange rates and multiple exchange rates where black market rates were involved. In all cases, if no adjustment. is made the current account balance in dollars may misrepresent the balance calculated in local currency.

145. It was agreed that in the case of a single exchange rate under stable monetary conditions, the difference between the buying and selling price of foreign currency should be treated as a bank service charge. No specific **agreement was reached** on the allocation of the service charge to sectors using the foreign exchange service of the banks.

146. In the case of a single exchange rate where there are rapid changes in the rates, the changes should appear as capital gains and losses and appear in the reconciliation account for either the central or commercial banks.

147. In the case of multiple **exchange** rates the first case that was **considered** was when all of the multiple rates are official rates, for **example**, as a result of **government** policy where different rates apply to different types of exports and imports. The case put in the UNSO paper is that the **alternative** rates are **equivalent** to the imposition of implicit taxes and subsidies and should be treated as such. It would be possible to calculate a single **average exchange** rate **equivalent** to that that would **prevail** in the **absence** of government control. In the UNSO paper, this is referred to as an accounting exchange rate but given the usage of this term in several East European countries, it was felt the IMF's usage of unitary rate is better terminology in this case. Background paper 14 contains in section 4 and in particular table 3, a worked example showing how the size or even the sign (+/-) of net lending of the external sector would be different when valued in U.S. **dollars** than **when valued** in local currency using actual exchange rates, and how the use of unitary rates, with imputations for indirect taxes and subsidies would bring the local currency value of external net lending in line with its value in U.S. dollars. This change in net lending is equivalent to the gains made by the central bank on converting foreign currency to local currency at the imposed varying rates. The case being made is that this is a real profit of the central bank and it should affect the level of GDP., If it were to be **regarded** as a **capital** gain it would **appear** only in the **reconciliation account** and not affect **GDP**. The argument is that it is appropriate to change GDP but this should be done only as a global adjustment and that changes should not be made in value added by industry or categories of final expenditure. The effect of exchange rate differentials should be calculated **separately** for imports and exports, for factor income and for capital transactions, the effects being shown separately as net indirect taxes, taxes on income and taxes on capital. In the example given in the paper, the unitary exchange rate is calculated as a weighted average, using as weights all transactions on the credit and debit side of the external account. It is possible to imagine other weighting factors being used but the

paper goes on to show in table 4 that although the components of indirect tax, tax on income and tax on capital may alter relative to one another the total imputed tax in effect on net lending is invariant under these alternative assumptions. There will however be changes in the values recorded for GDP, foreign trade surplus and savings. If it is assumed that all foreign exchange **is managed by the central bank a transfer should be imputed from the government to the central bank.** The savings and net lending figures of- the government would be unchanged but those of the central bank would change **compared** to the case where no imputed tax adjustment was made. All of these transactions **appear** in the flow **accounts** and no **adjustments** would **be needed** in **the reconciliation account.** **The ECLAC paper, background paper 15, suggests that many of the transactions should be routed through a dummy account called the foreign exchange unit.**

148. There was **general** agreement that this proposal seemed reasonable in the case of multiple official exchange rates but it was agreed that the proposal should **be referred to the Expert Group Meeting- on *Financial* Flows and Balances to consider specifically the implied** transfer between the government and the **central bank.**

149. On Tuesday morning, the discussion turned to the more complicated question of multiple exchange rates where a black market rate was involved. The main difference between- this case and the case of multiple official exchange rates is the implausibility of attributing imputed taxes'and subsidies in the case of illegal or unofficial activities and the **inappropriateness** of assuming that the effects of these transactions would show up in the net lending of the general government sector. The question arises of **where the counterpart transactions appear** in the **accounts.** After **further** discussion, it **was agreed** to postpone a decision on **the appropriate treatment** in this case until the views of the Expert Group Meeting on Financial Flows and **Balances were known and the ECLAC paper became available** in English. At this point, it would be necessary for a further paper to be **prepared** considering this aspect specifically.

Conclusions:

150. There was general agreement that the difference between sale and purchase price of foreign currency under stable monetary conditions, should be treated as a bank service charge. The exchange rate differentials caused by rapid changes over time of the value of the foreign currency should be considered as capital gains or losses.

151. The group considered at length the difficulties raised by the existence of official multiple exchange rates. It was agreed that in compiling the central accounts of the system any external flows reported in foreign currency should be converted to national currency using the exchange rates applicable to each type of transaction prevailing at the time the transaction occurred.

152. In countries with official multiple exchange rates, accounts should contain global adjustment items, as explained in paragraphs 58 to 61.

153. The global adjustment items are calculated as the differences between transactions with the rest of the world converted into national currencies using the actual multiple rates, and the same flows converted using a "unitary" exchange rate.

154. The unitary exchange rate can be calculated as an average of the multiple rates using as weights imports and exports, transactions in the income and outlay accounts, and transactions in the capital finance accounts.

155. The adjustment items are to be treated as (net) taxes on production , taxes on income and capital taxes depending on whether they are levied on **flows** in the production, income and outlay or capital finance accounts, respectively.

156. Assuming that the multiple exchange rate system is managed by the Central Bank, the adjustment items will appear in the income and outlay accounts or capital finance accounts **as** receipts of transfers by the Central Bank from government and will affect the Bank's saving and net lending; saving and net lending of government are not affected. The Expert Group on Financial Accounts and Balance Sheets will have to consider precisely how these transfers should be treated in the accounts of Central Banks.

157. A further study was requested of the current treatment in the national accounts of unofficial multiple rates and single government controlled rates.

## VI. CONSUMPTION AND CAPITAL FORMATION

### Total consumption of the population

158. The items to be considered under this heading mainly concerned a number of detailed points that had been referred forward to this meeting from earlier expert group meetings. This first item concerned the presentation of details associated with total consumption of the population in the input/output table. This is covered in paragraphs 104 to 113 of the annotated agenda and was introduced by Brian Newson. At the Expert Group Meeting of Household Sector Accounts, it had been agreed that five items should appear in the

summary of national accounts in the future and these would be collective consumption by private non-profit institutions, individual consumption by **private** non-profit institutions and individual consumption by households. The question for discussion now was whether this ordering should also be preserved in the input/output table or would it be more helpful to group the individual **consumption together and collective consumption** together. A few participants **preferred-** the latter **presentation**. However, the majority of participants thought that it was **preferable** to keep the present structure with the **breakdown by institutional** sector **bearing** the expenditure as the primary ordering and the breakdown between individual and collective as secondary. Partly, this was for continuity with the past, partly because for analysis that interest was often in the decision makers rather than the consumers. It was thought helpful to keep the same ordering in both the summary accounts and the input-output tables and therefore the order agreed at the Expert Group Meeting on Household Sector Accounts **will** be preserved.

159. A second point concerned the presentation of items bought by government but as part of individual consumption. The first **alternative** was to show **purchases** of, say, **medicines and** trade margins **as** two items of intermediate consumption under producers of government services and then show the consumption of the producers of government services in the individual consumption. The alternative was to show the medicines and trade margins separately directly in the final expenditure column for individual consumption of general government. If the second alternative is adopted then the definition of government intermediate consumption will change and will in future show only those items of goods and services purchased as part of collective consumption. It was also noted that to adopt the first-alternative would be to discard some of the information presently appearing in the schematic table shown on page 32 of the annotated agenda because the items shown there as direct final expenditure under individual consumption by government would **disappear**. On balance therefore the participants agreed to the second alternative of showing purchase of goods and services for **individual** consumption directly in the final expenditure column of the input/output table because no government production transformation is involved.



## Conclusions:

160. Most participants preferred that in the classification of consumption expenditures, the first breakdown should be by the institutional sector bearing the expenditure. Consumption expenditures of private non-profit institutions serving households and of government would then be subdivided into "individual" and "collective".

161. Most participants preferred to exclude from intermediate consumption of government any goods that are purchased by government and transferred, without transformation, to households. These goods would be shown only in individual consumption expenditure of government.

### B. Capital formation

162. The **Expert** Group then worked through a series of specific points on capital formation which were discussed in the annotated agenda paragraphs 117 to 134 and also in background paper 8 "Definition of capital formation in SNA and ESA", prepared by the Statistical Office of the Federal Republic of Germany. The topic of the first item for discussion was the appropriate treatment of work in progress in connection with the production of both **machinery** and **equipment and buildings** which **may take** more than a year to complete. At present, the SNA states that work in progress on machinery and **equipment be treated as** stocks whereas work in progress on buildings be **recorded** as fixed **capital** formation as work is put in place. In **ESA**, work in progress is treated as stocks if no buyer has been found and as fixed capital formation if a buyer has been found. **Several** participants argued against this distinction.. Their case was that the assets could not be used until complete and to include them as fixed capital before completion would lead to distortion in incremental capital output ratios (ICOR's) and was misleading because the asset did not generate income until it was complete. These

arguments suggested that all work in progress should be treated as stocks until complete. The definition of completeness is open to question and it was agreed that a more precise formulation was the present SNA statement that these items be recorded in the capital accounts at the moment when the purchasers take legal possession of the items in question. Until then progress payments should be treated as trade advances by the buyers to the producers of the equipment and should appear as financial assets in the capital account. It was noted that in the case of some construction works the asset goes into use before the work is fully completed and in these cases capital formation should be recorded at that time in accordance with the principles above. It was agreed that these principles should also carry over to the treatment of houses. Those that are completed and sold should be treated as capital formation. Any that are completed but not sold or any that are sold before completion should be reflected in changes in stocks.

163. This treatment would carry over to major repairs of capital goods. Where these repairs took longer than a year they would be treated as stocks until the repairs were 'complete and put in service. In connection with this and more generally it was felt it would not be helpful to mention minimum value in connection with the definition of fixed capital because it would be difficult to determine a sum that was appropriate for all countries.

164. In connection with dwellings it was agreed that mobile homes and dwellings on ships should be included as dwellings as should garages. If there is a change in use of an existing dwelling, this should be a transaction in the flow accounts for physical durables.

Conclusions:

165. The SNA will not establish a lower value limit in defining capital goods. No single value would be suitable for all countries using the SNA.

166. Assets which take more than one year to complete will be included in work-in-progress (i.e. in the producers' change in stocks) until a change of ownership is recorded. This change of ownership usually occurs when the assets are put to use. This rule applies, for example, to ships, aircraft, heavy machinery and all structures. For structures it **is** assumed that change of ownership occurs as value is put in place except where no buyer exists; completed buildings remain in stocks until sold.

#### 1. Nuclear fuel

167. On nuclear fuel, the Expert Group felt a distinction should be possible between fuel rods which could be regarded as physical durables and mineral ore but the Expert Group accepted that they were not expert in the definition and technical details of the industry. Further guidance needs to be sought from the relevant experts. Subject to such guidance, it was provisionally agreed that physical durables such as fuel rods be treated as fixed capital and the mineral ore as stocks.

#### Conclusion:

168. Nuclear fuel rods should be included in fixed capital formation. Further clarification will be sought on the appropriate terminology necessary to distinguish the physical durables (rods) from the mineral ores.

#### 2. Livestock

169. The difficulty of implementing the present recommendations on the treatment of livestock were noted. While the SNA treats breeding animals as fixed capital and animals for slaughter as part of stocks, in many countries, particularly developing countries, animals serve both purposes and it is

impossible to make a suitable distinction between them. It was decided that it was appropriate to refer this matter to the FAO and seek their guidance on a suitable basis for distinction.

Conclusion:

170. Most participants favoured retaining the present SNA treatment of livestock but noted that the Food and Agriculture Organization and other international organizations dealing with agriculture should be consulted on this issue. The reason is that, depending on their use, some livestock are treated as fixed capital while others are considered as changes in stocks. However, some animals may serve both types of purposes.

3. Vineyards, orchards, timber tracts

171. Turning to the treatment of timber tracts, it was noted that there was an **anomaly** in the **SNA whereby** natural growth in breeding animals was treated as fixed capital but natural growth of forests was not. It was noted that in the case of well managed woodland where a proportion was harvested every year equivalent to the natural growth in the remaining forest, it was illogical not to count this growth. However, it was agreed to temporarily accept the existing SNA recommendations until this issue could be considered further **probably** in a more **comprehensive** review of the various items associated with environmental statistics.

Conclusions:

172. The contrast of treatment between valuation of livestock where natural growth is included and timber tracks where it is not, was noted. It was agreed however to maintain the present SNA recommendation pending more comprehensive suggestions which may also embrace the appropriate treatment for natural forests.

#### 4. Mineral prospecting

173. In the case of mineral exploration, the present SNA states that only successful exploration should be treated as fixed capital. However, the practice in most countries is to treat all exploration as capital formation. This can give rise to two problems. What should be done in the case of a country where extensive exploration is undertaken but no deposits are found? In this case, the country would have recorded capital formation but have no corresponding asset. The second problem is how such an expanded definition of capital formation should be depreciated. The alternative to not treating exploration as capital formation in the start up years where there are very large negative operating surpluses. This has been a cause of concern to a number of countries over the fairly recent past. While recognizing this was an important problem, the Expert Group felt it had insufficient information on which to make a definitive decision. Carol Carson volunteered to conduct a study with the assistance of participants at the meeting and UNSO which might form the basis of a decision to be taken at the Expert Group Meeting on Financial Flows and Balances.

#### Conclusions:

174. Participants agreed to treat all mineral prospecting expenses as fixed capital formation. It was noted that a number of countries are already doing this in their own national accounts, and it was agreed that a paper would be prepared summarizing the current practices of a number of countries where mineral prospecting is important before making definitive recommendations for the new SNA. The place of this item in the classification of fixed assets by type should also be considered.

5. Transfer costs for building and land

175. The question was raised whether the transfer costs of land should in future be treated as intermediate consumption of the buyer of the assets but there was general agreement that it would be preferable to keep the existing SNA treatment where such costs are treated as gross fixed capital formation.

Conclusion:

176. Transfer cost for building and land will continue to be treated as fixed capital formation as in the present SNA.

6. Software

177. The next subject to be discussed was the treatment of computer software and whether this could be regarded as capital formation. It has been argued up until now that software when purchased with hardware could be capitalized but software purchased independently should be treated as current expenditure. This was felt to be inappropriate because standard system software and application software packages had the character of capital formation in that they had long service life and generated an income stream over a period of time. It was therefore, felt that these also should be treated as fixed capital. On the question of packages developed in-house, it was felt that if these were significantly large and also expected to have a protracted life length, it would be appropriate to treat these as own account capital formation. The Expert Group was uncertain however, whether this treatment should be extended to other computer information such as databases and felt that this needed to be examined further.

Conclusion:

178. Participants agreed to include expenditures on systems and standard applications software in fixed capital formation. The development of

application software "in-house" is to be treated as own-account capital formation if it is expected to be used for several years. Further work needs to be done to decide how far composite products such as databases and associated software should be capitalized.

## 7. Research and Development (R & D)

179. Some of the considerations associated with the costs of mineral exploration and of developing computer software in-house occur again under the discussion of how to treat research and development expenditure and how far any of this could or should be capitalized. In this case, also it may be difficult to identify all the associated costs and it was remarked that often such data is only estimated even by the firms undertaking R & D. Nevertheless, such data is recorded, for example by the OECD, and it was felt that such estimates would be adequate for national accounts purposes. On balance, the participants felt that some research and development, namely, R & D by enterprises should be included as capital formation but they were unsure where the boundary should be drawn. It should be clearly identifiable separately from other forms of capital formation. OECD, as custodians of the existing data, were asked to prepare a paper for consideration at the first SNA co-ordinating group meeting.

### Conclusion:

180. The group noted that statistics on R & D expenditures have been collected by the OECD for more than a decade and that the classification and definition of such expenditures have been systematized at the international level in the Frascati Manual. The majority of participants agreed that there is a strong case for including at least some R & D expenditures in capital formation. Due to the complexity of the matter, the OECD was asked to prepare a paper for discussion at the first Co-ordinating Group.

## 8. Military durables

181. The Expert Group Meeting concluded with a very lively discussion on the appropriate treatment in the new SNA of military durables. This topic was introduced by Carol Carson who presented background paper 31 "An informal documentary history of the treatment of military durables and construction". **She** had attempted to contact all those concerned with earlier recommendations on the appropriate treatment of military durables in the 1968 SNA to define a rationale for the present treatment. It became clear from those replies and discussion around the table that the only rationale for treating equipment bought for the armed forces differently from equipment purchased for other parts of government was the distinctive characteristic of national defense. Some participants felt that military durables do not increase the productive capacity of an economy and therefore treatment should remain unchanged. However, a number of participants felt that this argument was not theoretically robust. They said it was not clear why a computer bought by the army should be treated as current expenditure where a similar computer bought for a Statistics Office would be treated as capital expenditure. An even finer line had to be drawn in the case of an armoured personnel carrier bought for the police which would be capitalized and one bought for the armed forces which would be treated as current expenditures. They also pointed out that incorporation of military durables as capital formation would be a logical corollary of the present SNA treatment to consider production of military services as part of production of government services. There was specific discussion about whether some assets, which are mainly used for military purposes but may also **have** civilian uses such as schools, hospitals, roads and some vehicles, should be treated as fixed capital (note the annotated agenda in paragraph 122 contains a typing error in this connection where it talks about assets which are mainly used for civilian purposes but may also have some military uses). A narrow majority of the Expert Group was in favour of making this change. There were some members who would go farther than this and could see no theoretical reason for excluding any military durables and would include all of them, including armaments, in fixed capital. The alternative view point also expressed strongly was summed up concisely by saying that what was proposed was a major change, it was not demanded by the



users and presented major measurement problems. Although on a vote a narrow majority favoured the centre way of making some small extensions to the definition of military expenditure to be treated as capital, in view of the importance of the subject and the divergence of opinions held later informal discussion suggested that this was a topic which would need to be returned to in subsequent meetings.

Conclusion:

182. The group was divided between those who wished to retain the present SNA treatment of outlays on military durables as consumption expenditure and those who did not. A small majority argued that at least immovable assets, such as hospitals, schools, roads and airfields which are mainly for military use but which can also be used for civilian purposes should be treated as capital formation. Some participants wished to include all military durables as capital formation.

9. Classification of fixed capital

:183. Further study of how fixed capital is to be classified by owner and user is needed. A paper will be prepared for the Expert Group Meeting on Financial Flows and Balance Sheets.

VII. LINKS WITH OTHER STATISTICS

184. Two other topics had been introduced, one on Monday the 28th and one on Tuesday the 29th, concerning the links with other statistical systems. They are discussed here out of sequence so as not to interrupt the discussion on exchange rate differentials and the treatment of consumption and capital formation.

A. Links between SNA and environmental statistics

185. For this part of the Expert Group Meeting, Ernst Lutz from the newly created Environment Department of the World Bank was present and introduced two background papers ESA/STAT/AC.33/21 "Environmental accounting and the system of national accounts", prepared by UNSO and ESA/STAT/AC.33/22 " Links between SNA and environmental statistics" prepared by the World Bank. In his introduction, Ernst Lutz stated that after its recent reorganization, the World-Bank had affirmed its primary policy objectives as being concerned with growth, poverty alleviation and environmental resource management, all three of which were mutually inter-dependent. There was a major concern that in common usage, gross domestic product was misapplied as a welfare measure and was misleading as the level of income available to countries. What was more important was a concept of sustainable income. In order to derive this, it was necessary to make special allowance for defensive expenditure, that is expenditure undertaken to protect the environment and to maintain its basic quality and secondly to make allowances for the depletion of natural resources. It seemed counter-intuitive that higher expenditure on environmental protection programmes led to higher GDP. In order to counteract this, there was a question of whether an adjustment should be made in the central accounts or in satellite accounts. Similarly, it was felt inappropriate that depletion of natural resources should be recorded as income. There was a case for treating natural assets in parallel to the treatment of man-made assets. The Bank wished to argue that a user cost approach be adopted where true value added was separated from the cost of capital and the user cost was deducted both from gross and net product measures. Given that much of the work on environmental statistics was in an early stage, it may be appropriate that the immediate development of this area should take place in satellite accounts but in addition it was felt that it would be appropriate to advise countries where a significant proportion of GDP was based on the depletion or degradation of natural resources that they may be overstating their current income using present measures and that work should be encouraged to estimate costs and benefits of resource depletion and degradation. It was felt that other meetings could address the question of balance sheets.

186. In speaking about the UNSO paper, Jan van Tongeren suggested that some of the issues could be treated in a handbook and/or satellite accounts but there remained some issues for the central accounts. Was it possible that COFOG could be used as a basis for identifying environmental expenditure by government and COIP (classification of industrial expenditure by purposes) for private enterprises. While these approaches would be helpful they would not necessarily help to cover indirect expenses associated with environmental degradation, such as effects on health caused by urban pollution. He too mentioned the need to measure the depletion of natural resources as consumption of capital and to ensure that these resources should be recognized in the balance sheet. He also raised the question of whether it was possible to reach a figure for sustainable income by rearranging existing entries in the summary national accounts.

187. The participants expressed a strong interest in the question of environmental statistics. They felt that this was a means of showing an integration between economic and social statistics and brought together the interaction of natural, man-made and human resources.

188. Some disquiet was expressed that much of the work on environmental accounting, including the interaction with the SNA, was being done by environmental economists who had very little contact with national accountants. For some participants the two background papers were the first they had heard about this work and felt that it was inadequate as a basis for a detailed consideration of the topic, important as it clearly was. There was considerable enthusiasm for the prospect of holding a joint meeting between national accountants and environmentalists if this could be arranged. It was also felt important that a common international approach should be taken to this problem rather than having it solved repeatedly in separate countries with possibly different approaches being taken.

Conclusions:

189. It is important to develop statistics of the relationship between economic activity and the environment.

190. In the immediate future, it would be preferable to develop such statistics in a satellite account rather than in the central framework of the SNA. This procedure is designed to allow more freedom for progressive development and experimentation with these statistics without disturbing the main aggregates of the national accounts.

191. It was stressed that development of these satellite accounts requires cooperation of national *accountants* and environmentalists. It would be desirable to arrange joint meetings for this purpose.

192. Within the national accounts framework, priority should be given to developing the functional classification of government expenditure (COFOG) and the classification of enterprise expenditures (CbIP) to isolate expenditure relevant to environment analysis.

B. Links between the SNA Industrial Statistics and the MPS (System of Balances of the National Economy)

1. Links between the SNA and Industrial Production Statistics

193. The group considered a detailed report on the differences between census value added and value added in the national accounts., The members understood that the definition of census value added had been adopted on practical grounds - i.e. census value added can be reported by establishments - rather than theoretical grounds and that in consequence there was no good reason to incorporate census value added in the SNA. The group unanimously recommended that the definition of census value added should be reviewed, on the occasion of the next revision of the UN guidelines on industrial

statistics, with a view to bringing it closer into line with the SNA definition.

2. Links between SNA and MPS (System of Material Balance of the National Economy)

194. This discussion was introduced by Ms. Robyn of UNIDO who discussed paper **ESA/STAT/AC.33/12** "Comparisons between industrial statistics and national accounts - an empirical study on measures of manufacturing value added" provided by UNIDO. This report described in detail the results of an investigation as to why data from the two different sources varied by up to 15 per cent and 20 per cent in many cases. These differences were not systematic and were due to various reasons. In some cases, the comparison was between source data and survey data with a cut-off point determined by the number of employees and inadequate allowance had been made for people falling below the cut-off. Some discrepancies were also due to the difference in definitions of value added with one source using the national accounts definition and the other census value added. There were differences due to the valuation being used (producer, purchaser, basic prices). Finally, it appeared that national accounts made efforts to estimate the informal sector where industrial statistics were usually restricted only to formal activities. The causes for the divergence varied from country to country. While figures for large groups of countries varied less it was more problematic when a small group of countries or individual countries were concerned.

195. Jan van Tongeren then introduced paper **ESA/STAT/AC.33/13**, "Goods and services, value added and the production boundary" a note prepared by UNSO. He expressed the need to harmonize the SNA and industrial statistics so it would be desirable to distinguish in the SNA those services that were picked up by industrial statistics. If ways could be found to make the set of services coincide with those covered in the MPS (System of Material Balance of the National Economy), this would be an even greater aid in harmonizing alternative systems. He suggested partitioning an input/output table so that the services not covered in industrial statistics fell to the bottom and right of the table and one would be left with a leading diagonal sub-matrix of

intermediate demand which contained those entries that were covered by industrial statistics and also in the MPS. With adjustments, this could lead to deriving a modified version of value added not unlike census value added and a modified form of final demand. He noted however, that there were some differences between industrial services and material services which would need to be overcome..

**196. Many participants remarked on the importance of distinguishing goods from services. In the classification of both producers and products subdividing services further between those related to goods and others may also prove instructive.**

197. In discussion, a number of participants said that they had procedures for getting from **SNA data** to something **equivalent** to industrial statistics or the MPS and noted a number of other problems, for example the difference in the accounting year that may be report differently in industrial statistics censuses.

**198. A number of participants** said that they felt the presentation of industrial statistics in a way that was not immediately compatible with the SNA **was** confusing to the users and wondered whether it should not be possible to move closer towards reaching harmonization. The argument for deriving census value added by not allowing for the purchase of non-industrial services applied strictly only to multi-establishment enterprises and as had been noticed earlier in the meeting, in between 80 per cent and 90 per cent of firms, there was a coincidence between the enterprise and establishment concept. Participants also felt that it would be helpful if the work done by UNIDO would be expanded to cover service industries 'as well as manufacturing industries given the growing interest in this area. In response it was noted that the guidelines in industrial statistics were to be revised and it was hoped that both of these questions would be addressed.

199. It was felt that more work was necessary to detail the interaction between MPS and industrial statistics and SNA data and it was hoped that this detailed comparison would form the basis of a handbook. It was expected that

further work would be carried out on the distinction between goods and services and that the results would be available for the Expert Group Meeting on Reconciliation of SNA/MPS Standards of National Accounting.

Conclusions:

200. A clear distinction is needed in the new SNA between goods and services both in classifying producers and products. Further distinction between goods-related and other services may be useful. The possibility of this distinction should be further explored especially in connection with the reconciliation between SNA and MPS and the preparation of a handbook showing the links between the two systems.

201. Some reservations were expressed about the goal of trying to encapsulate all concerns with the environment in a single figure such as sustainable income although summary statistics are always useful. In order to be truly effective, this work must have the supporting detail necessary for in depth analysis such as might be devised through a satellite account.

202. The Expert Group Meeting concluded its discussion on this topic by hoping that it would be possible to arrange the joint meeting discussed above, although this might not have the status of a full expert group meeting, and suggested that the implications for the balance sheet and reconciliation accounts be discussed in the September meeting.