

## REPORT OF 1998 ANNUAL OECD NATIONAL ACCOUNTS MEETING

### Introduction

1. Mr. Kincannon opened the meeting, noting that it was not a joint OECD/Eurostat/ECE meeting as had been the case for the past several years. He welcomed several non-OECD ECE countries who were attending the meeting as observers and said he hoped that the special session they were having on Friday afternoon would be successful.
2. Mr Kincannon then outlined the new process of joint meetings between OECD and UN regional organisations. The first was held with ESCAP in Bangkok in May 1998 and proved very successful; the OECD Secretariat particularly welcomed the participation by OECD countries from Europe and North America at that meeting. The next is scheduled to be held with ECE in Geneva in April 2000. Joint meetings on national accounts with UN regional organisations will be organised on an ad hoc basis. The OECD may also participate in meetings on national accounts organised by the UN regional organisations at other times. The annual OECD meetings in Paris will continue, with the agenda focused on issues of particular interest to OECD Member countries.
3. As far as the 1998 meeting was concerned, there were fewer documents than last year, but with the same amount of time allocated so as to allow more time for discussion. The agenda mainly consists of topics that were requested by countries at the end of last year's meeting. However, two topics were dropped because of lack of interest in preparing papers (FISIM and Institutional sectoring). In addition to topics suggested by Member countries, the OECD has also included some sessions on extensions to the national accounts because of the amount of work currently under way on such satellite accounts, and on consumer subsidies and PPPs because of their relevance to the work of the OECD Secretariat.
4. The meeting has three main themes - practical issues, theoretical issues and satellite accounts:
  - practical issues - sessions on chaining, SNA93 implementation, user education, revision policies, and employment estimates in the accounts;
  - theoretical issues - non-market sector output, consumer subsidies, and PPPs;
  - satellite accounts - tourism, health, and indicators of sustainable economic welfare.
5. There were also two short information sessions - one on classifications (which we hope are now final) and one to obtain feedback on a questionnaire on inventories which the OECD intends to send out next year.

### Agenda

6. The meeting adopted the draft agenda.

### Agenda item 1: Non-market sector output

**Presentation:** *Valuing the output of housing services in the national accounts - STD/NA(98)1 (France)*

7. The production of non-market services of dwellings has to be imputed, based on a method which matches the characteristics of owner-occupied dwellings to those of rental dwellings for which a market rent can be observed. The characteristics used are location, size, facilities, and whether the dwellings are public or private.

8. The Ministère de l'Équipement is experimenting with regression techniques using explanatory variables based on the characteristics listed in the previous paragraph but which also separately identify new and long-term renters because of their different characteristics. Details concerning the regressions used are provided in paragraphs 22 to 25 of the paper.
9. The results of using the model on different types of rental dwellings and details about the statistical tests assessing the accuracy of the model are set out in the bottom half of the table headed "Characteristic effects and accuracy of the model". It is apparent from the results that the model does not completely explain all the factors.
10. The EU recommendations stipulate that imputed rent must be calculated on the basis of all renters in the private sector. In France, the length of rental has a strong effect on the rent paid. The result is that, in the rental market, the price of the same service can vary from one person to another. Owners, however, are less likely to move than renters which implies that the valuation should be lower for imputed rent. It is clear that attributing the same length of occupancy to all owners means that the imputed rent is sensitive to the assumptions made about the length of occupancy. A method being tested is the "mobility mean", which is applied to all the households within each particular stratum. Satellite accounts are being used to show the impacts of alternative models.

**Discussion: STD/NA(98)1**

11. The issues raised during the discussion were:
  - In the regression, would better results be obtained by controlling for renter characteristics (eg, professional/other worker) rather than examining the characteristics of the housing itself. Then the model could be used to match the characteristics of renters and owners (this proposal was considered impossible to implement because of lack of data).
  - Rent control in France results in a market distortion in favour of long-term tenants so it may be better to use only new (or recent) renters for the imputation because the prices they pay more accurately reflect market prices. However, an alternative view was that rents paid by new renters are too high for use in the owner-occupied imputation because they are a relatively small subset of the rental population.
  - Variables exist which partly control for quality but it is difficult to take into account different levels of facilities and the relative levels of improvements in similar locations.
  - The regression methods have little effect on the constant price values. At the moment, the constant price estimates (on a 1990 base year) are based directly on the "quantities" of housing - the regression methods are used simply to obtain the prices to apply to the volumes to obtain current price estimates.

**Presentation: *Summary of recent Eurostat work on volume measurement: in particular for non-market services* - STD/NA(98)32 (Eurostat)**

12. There have been various discussions on prices and volumes in the EU over the past couple of years and a draft regulation has been drawn up covering issues like base year, reference year, and index number formula to be used. More recently, Eurostat Task Forces have examined non-market services in general government administration, health and education. They looked at both input and output methods. The Task Forces all agreed that output methods are to be preferred because input methods ignore labour productivity.

13. The Education Task Force considered that the preferred output method is pupil hours, although pupil numbers would normally be a reasonable proxy. However, the pupil hours would have to be adjusted for changes in quality. The Health Task Force concluded that number of treatments is the preferred method for medical output, also after adjustment for quality changes. The General Government Administration Task Force considered that output data are not sufficiently developed nor consistent to be useful and so “improved” input methods are preferred in this area, at least in the short term. In terms of possible implementation, none of the solutions is ideal because measuring the associated quality change is still a problem.

**Presentation: *Measuring government sector output and productivity in Finland - application of the output indicator method - STD/NA(98)4 (Finland)***

14. The aims of the Statistics Finland project are to:
- develop a measurement system for government sector productivity;
  - collect the data required;
  - develop alternative volume estimates for all non-market services.
15. The output indicators used in the experiments are generally based on numbers of operations such as cases heard, letters responded to, registrations processed, numbers of visitors to libraries, etc. Over the last year, the project has been extended to local government as well as central government.
16. Both output and input indexes are produced for each individual unit to assess the impacts of using the output measures. Input-based value weights are used for aggregation. Labour productivity is the ratio of output to changes in hours worked and can be calculated fairly readily. Total factor productivity also takes account of other factors such as the real value of capital used and is a much more difficult concept to measure at this degree of detail.
17. Results are presented in Table 1 in the paper. Some significant differences arise compared with the old (input-based) methods. Further improvements are required. They include better coverage (at present only about 40% of administrative services are included), and longer time series.

**Presentation: *Note on the experimental calculations of the rates of growth in non-market services (health and education) - volume comparison resistant services - STD/NA(98)2 (Poland)***

18. The aim of the Polish Central Statistical Office’s work was to estimate indexes based on output indicators to compare with the input-based estimates. The major problem encountered concerned the data sources: the output data were not sufficiently detailed to produce estimates of the quality desired. However, it was still possible to calculate some preliminary estimates, but quality changes proved to be a problem. The numbers of students in high schools and universities increased significantly with little change in teacher numbers so there was probably a decline in quality, particularly in the high schools. It is critical (but very difficult) to assess quality change. This project is only the starting point. Work will continue to improve and expand the estimates in future.

**Presentation: *Indicators for changes in output of non-market services - STD/NA(98)22 (Israel)***

19. Non-market services are a very high share of total GDP in Israel (see table 2 in the Israeli paper). A very high share of non-market services within government final consumption is contributed by defence (9.4% of GDP in 1995 which, though still high, is down from 22.2% in 1980).

20. The composition of non-market services in Israel is shown in Table 4. The main civilian services are in education and health, making up approximately 60% of civilian non-market services between them. The composition of health expenditure is quite different from that of education. For example, only 57% of health is compensation of employees, partly because of high expenditures on medicines etc, compared with 74% of education expenditure that is on compensation of employees.
21. One of the potential output measures examined was numbers insured under a health insurance scheme, using the “premium coefficients” by age for weighting purposes. The weights are determined by the government premium payments to the health management organisations (sick funds) which vary by age. Table 7 in the Israeli paper compares the growth rates of membership in funds, the age adjusted membership and constant price production costs. It shows some significant variations in the relationships between these variables over the past few years.
22. Table 9 in the Israeli paper compares growth rates of “hospitalisation days” (by type, weighted by the corresponding cost per day), “hospitalisation days” adjusted by changes in the “duration of stay”, and constant price production costs. It shows a much lower growth in “hospitalisation days” compared with the constant price production costs of hospitals.
23. One of the problems faced in putting the estimates together is that there is no proper coordination between the detailed national accounts (input) measures and the health (outputs) data so it is not always possible to match outputs with appropriate weights. The weights can change significantly from year to year because of a pattern of no wage increases for several years followed by a large “catch-up” pay increase.
24. In education, various possible output indicators including quality adjustments are compared with input measures. In the Israeli paper, Table 13 shows the annual change in the number of pupils, by level and weighted by costs, compared with constant price production costs. Table 14 shows the major components of the costs incurred in education while Table 15 shows the percentages of examinees compared with the percentages entitled to certificates. Table 16 shows the percentages of recipients of first degrees who received their degrees within five years of starting studies, classified by faculty. In deriving the total, the different types of students were weighted together by the cost of each type of course to take account of one aspect of quality change.

**Presentation: *Measuring non-market sector output - recent work by the Australian Bureau of Statistics (ABS) - STD/NA(98)3 (Australia)***

25. The aims of the ABS project are to:
  - improve the constant price estimates in the Australian national accounts;
  - help monitor microeconomic reform;
  - assist in assessing productivity change in government services.
26. The starting point was to produce some relatively crude output volume measures and then work towards developing quality-adjusted estimates. Inpatient acute-care hospitals were the starting point because detailed data were available from the “case-mix” (ie, Diagnostic Related Groups, or DRG) processes.
27. The results show that the number of bed-days has declined while the new output measures have increased, both in terms of unadjusted numbers of patients and when patients were weighted using the 667 DRG categories.

28. A question to be answered is the extent to which quality change is taken into account. While changes between DRGs are catered for, it has not been possible yet to assess quality change within the individual DRGs. However, several methods have been identified which may prove useful in tracking quality changes. A method which is to be investigated is to assess changes in health outcomes (eg, changes in average length of life) to infer something about changes in the quality of health outputs.
29. At this stage, these output estimates for health are not considered to be sufficiently developed to introduce into the national accounts. It will be necessary to establish lengthy time series on a consistent basis before it is decided to use these measures in the national accounts.

**Presentation: *Measuring output of non-market hospital services* - STD/NA(98)5 (New Zealand)**

30. Statistics New Zealand has introduced the results of their health output investigations into the national accounts. They are based on output indicators such as number of outpatient visits and number of x-rays and diagnostic tests, but some input indicators are also used for items such as “hotel-type” services and administration. The biggest weight was given to case-mix adjusted inpatient discharges. Day-patient discharges and the inpatient length of stay (number of nights) were also included. As in Australia, there are 667 DRGs and they are weighted using costs. The final outcome is an annual-weighted chain-linked volume index.
31. There is a huge difference between the old (input-based) and new (output-based) series with the former declining significantly and the latter increasing steadily over the past 10 years or so.
32. There are still some significant deficiencies in the data. The day patient indicator is not case-mix adjusted; it is an output indicator only rather than based on double deflation and it covers only public hospitals. Work is proceeding on improving the estimates.

**Presentation: *A method for the derivation of volume indices and deflators of complete treatments in hospitals* - STD/NA(98)24 (Netherlands)**

33. A basic assumption made is that no quality adjustment is required for a commodity embodying unchanged technical characteristics. This assumption, however, does not hold in the case of complementary commodities. The approach is to examine “complete treatments” (ie, operation plus nursing care), as opposed to operations and nursing care separately.
34. One approach is to weight together volumes directly based on data relating to a large number of Diagnostic Related Groups (DRGs). A second approach is to use price indexes for medical treatments as deflators. There are two ways of producing price indexes for medical treatments:
  - price the individual components of a treatment, and weight them together;
  - price the overall costs of a complete treatment.

The results are quite different; eg, see the example of an appendectomy operation in paper STD/NA/RD(98)3.

35. Data on total costs per treatment, however, are not directly available. An example to arrive at this information indirectly was elaborated. Seven activities were identified along with five product groups (ie, treatments). The activities and treatments were cross-tabulated to arrive at the total cost per treatment. Volume changes were then calculated in terms of the previous year’s prices. Table 5 in the paper demonstrates the ways in which the cross-classified data are used to produce value, volume and price indexes. Table 6 shows the differences between using activities and using complete treatments.

36. The data in the example are fictitious and have to be replaced by actual data. However, the example is based roughly on the orders of magnitude which are applicable in the Netherlands. It will also be necessary to extend the numbers of product groups and to expand the model to include medical care activities outside hospitals. Quality issues also need to be examined in more depth.

**Discussion: STD/NA(98)32, STD/NA(98)4, STD/NA(98)2, STD/NA(98)22, STD/NA(98)3, STD/NA(98)5, STD/NA(98)24**

37. The issues raised during the discussion were:

- The fundamental problem with input methods is that they do not take changes in quality and labour productivity into account.
- The purpose of the government agency collecting the data will affect the nature of the output indicators available (eg, health data relating to preventing health problems will differ from those involved in curing problems).
- In all the non-market work, a distinction needs to be made between output (which is what we are trying to measure in the national accounts) and outcomes (which can include the effects of other factors). However, outcomes can be useful in estimating the quality effect on outputs.
- Output indicators are clearly better than input series. However, measuring quality change is the key issue in obtaining better estimates of non-market output. Waiting lists for hospitals and “patient satisfaction” surveys were suggested as possible quality indicators.
- Significant progress in developing quality adjustments is unlikely in the next couple of years. It would still be best to use the output indicators at this stage even if they cannot be quality adjusted because they are likely to be less wrong than those based on inputs (New Zealand has already included its health output measures in the national accounts and the UK is now using output indicators for a wide range of government services). However, opposing views were expressed by several countries with the following points being raised:
  - implementing major changes before estimates are fully refined could be misleading;
  - international comparability could be affected;
  - it is impossible to ensure quality consistency with output measures;
  - the main criticism of input measures is that productivity is not taken into account but productivity is not likely to change significantly in education.
- Education output (and productivity) can fall significantly (eg, if there is a sharp fall in student numbers but no corresponding decline in teacher numbers); on the other hand, it is reasonable to assume large productivity improvements in health over the past few decades because of the rapid technological advances being made.
- Jack Triplett (Brookings Institute) is working on a project on quality measurement in health.
- There are different problems to face in measuring services provided directly compared with those provided indirectly or collectively. It is more difficult to measure the collective elements of non-market services, particularly if political considerations are involved.
- The short-term aim should be to focus on improving the comparability of input measures, particularly by adjusting for product changes.

- Obtaining data on as many product groups as possible is important, even if no allowance can be made in the short term for quality changes within a product group.
- Obtaining full coverage of outputs is critical because volumes of different outputs can move in different directions.
- Harmonising the basic statistics (ie, source data) is a critical issue in harmonising the national accounts.
- Seeking a perfect solution is not sensible - it is better to be roughly right than exactly wrong.
- Coverage is very important.
- Should a non-zero rate of return be used for those areas of the non-market sector which use input indicators?
- Consistency of methodology in the non-market sector is important because stepwise implementation distorts relativities within the non-market sector (ie, either input or output measures should be used exclusively rather than having some components based on outputs and some on inputs). However, alternative views were expressed along the following lines
  - there is already a mix of different methods being used in the accounts so why should the non-market sector be singled out;
  - consistency of methods does not always lead to the best (nor to the most comparable) results;
  - stepwise implementation is acceptable but each step should cover a complete function.
- Concentrating on inputs implies that multifactor productivity (MFP) is zero.
- Volumes of capital are not measured properly in hospitals and some effort should be devoted to improving this situation.
- Health data improve markedly as a country moves large parts of health from the non-market to the market sector. Double deflation will become possible and price deflators may also be available on the basis of “complete treatments”.
- It would be useful to compare productivity changes between non-market sectors and the equivalent market sectors.
- It is important to assess the plausibility of the implicit price deflators when constant price measures are based on output indicators.
- It was suggested that the OECD should establish an electronic discussion group to disseminate papers on non-market valuation issues.

## **Agenda item 2: Chain volume indexes and constant price estimates**

### **Presentation: *Introduction of chain volume measures - the Australian experience - STD/NA(98)6 (Australia)***

38. The starting point was a detailed empirical analysis to determine the effects on growth rates of using different index number formulas (Paasche, Fisher and Laspeyres). The two components most affected by chaining are imports and private gross fixed capital expenditure on equipment, largely because of computers. There is little impact on GDP growth.
39. An information paper was released reporting on the analysis. It described the issues involved and announced that the volume measures will be annually linked and reweighted Laspeyres

indexes. Implicit price deflators (ie, Paasche chain price indexes) and Laspeyres chain price indexes will also be published. The release of the information paper was followed up by seminars with groups of users in all Australian capital cities. Some users were familiar with chain estimates because the fixed-base estimates have been linked every 5 years for the historical national accounts series. Users expressed a preference for chaining in reference dollars rather than as index numbers so that relative magnitudes can be readily seen.

40. The next step was to release chain volume measures in conjunction with the fixed-base measures in the quarterly national accounts publication from the fourth quarter of 1997 until the second quarter of 1998. In the chain series, the detailed volume measures are expressed in the previous year's prices, and linked annually at the end of each financial year (ie, after the second quarter). The quarterly series will be benchmarked to the annuals. The reference base year will always correspond to the weighting base year so that data at the end of the series will be additive.
41. Understanding the process adopted by Australia to chain the quarterly data is complicated by the fact that Australia uses a fiscal year which runs from 1 July to 30 June (ie, from quarter 3 in one calendar year to quarter 2 in the following calendar year). Therefore, the chaining is based on quarters which are two quarters out of step with the equivalent European (calendar year based) data. For the latest (incomplete) year (t) and the preceding year (t-1) all quarterly movements are calculated in year t-2 prices. For earlier years, the movement from quarter 2 to quarter 3 (ie, the one which cuts across a financial year) is expressed in the prices of the financial year in which quarter 2 falls. In other words, if the financial year in which quarter 3 falls is year t, then the one in which quarter 2 falls is year t-1. The movements from quarter 2 in year t-1 to quarter 3 in year t are expressed in year t-1 prices. All the movements within year t-1 (ie, from quarter 3 to quarter 4, from quarter 4 to quarter 1 and from quarter 1 to quarter 2) are expressed in year t-2 prices.
42. Consistency is maintained between the quarters and the corresponding annual estimates by benchmarking the quarterly series using the Cholette "curve-fitting" method developed by Statistics Canada.

**Presentation: *Quarterly chain series - STD/NA(98)7 (Netherlands)***

43. The starting point is a quarterly input-output table. It is a much smaller table than the annual tables and is based on extrapolation using a wide variety of economic indicators. The table is unbalanced but the next step is to eliminate the supply/demand discrepancies, with data expressed in year t-1 prices.
44. A critical point is that the quarterly movement from one year to the next (ie, from quarter 4 in year t-1 to quarter 4 in year t) is expressed in year t-1 prices.
45. Changes in inventories are a problem. Inventories are derived as a balancing item between chained total expenditure and a chained estimate of total expenditure less inventories. The price series in the deflation process are not directly seasonally adjusted. Although implied seasonally adjusted price series can be derived, they are very similar to the original implicit price deflators.

**Presentation: *U.S. NIPAs: Annual and quarterly chain measures of quantity and prices - STD/NA(98)27 (U.S.A.)***

46. The volume estimates in the U.S. national accounts are calculated using annually-weighted chain Fisher indexes. Fisher series are used because of the symmetry between the price and volume series (i.e.  $Value_t = V_t^F * P_t^F$ ). The estimates are also shown in terms of reference dollars.

Recently, the Bureau of Economic Analysis (BEA) has developed a formula for calculating (additive) contributions to growth using the (non-additive) chain series.

47. In the national accounts, chain volume indexes are calculated quarterly using annual weights in all quarters apart from those in the latest incomplete year. The quarterly movement from one year to the next (ie, from quarter 4 in year t-1 to quarter 1 in year t) is expressed in year t-1 prices. The average of the quarterly indexes is adjusted to equal the annual total. For the latest year, quarterly weights are used until the annual revision.
48. Inventories are calculated in the chain series by using the Fisher formula directly on levels and then obtaining the change in inventories as a difference. This leads to some small inconsistencies in the estimates.
49. It was decided to publish the tables of contributions to growth so that incorrect estimates are not derived directly by users.

**Discussion: STD/NA(98)6, STD/NA(98)7, STD/NA(98)27**

50. The issues raised during the discussion were:
  - Seasonal adjustment in the U.S. accounts is carried out at a very detailed level and then the series are chained at whatever level is required.
  - It is best to chain at the most disaggregated level possible.
  - The choice of chain Laspeyres versus chain Fisher volumes in Australia came down to practical issues related to the annual supply/use balancing. It proved easier in practice to use a Laspeyres chain volume in this area.
  - Changing the reference year every year (to coincide with the weighting base) has the major advantage of maintaining additivity at the end of the series, but has the disadvantage of changing every term in the series each year in conjunction with moving to a new base year.
  - It would be useful to agree on a set of internationally-accepted terms for describing different aspects of fixed base and chain estimates.
  - Apart from the non-additivity of the components, there is a problem in the way that negatives affect the calculations for contributions to changes.
  - Canada is currently using a 1992 base year, but chains historical volume estimates every 5 years. Statistics Canada also publishes chain Fisher volume indexes every quarter, which of course are different from the fixed-base estimates (which provide the “headline” rates of growth).
  - The U.K. is planning to introduce annual chain series.
  - It is necessary to deflate the levels of stocks, not the changes, and then derive changes as the difference between the end of period and beginning of period levels.
  - Current price values of inventories are revised less with chain estimates (ie, if year t-1 prices are used) than if 5-yearly rebases are carried out.

**Agenda item 3: Tourism satellite accounts (TSAs)**

**Presentation: *A tourism satellite account for OECD countries* - STD/NA(98)21 (OECD)**

51. Mr. Alfred Franz, as chairman of the OECD expert group on Tourism Satellite Accounts, introduced the OECD System of Satellite Accounts for Tourism. He noted that tourism

authorities in OECD countries are much concerned with the importance of tourism relative to GDP as a whole; a main purpose of the OECD system was to answer this question. Two basic principles underlie the OECD system:

- comparability with national accounts definitions;
- comparability with the World Tourism Organization (WTO-OMT) basic definitions of tourism.

52. Mr. Franz explained that the OECD system was designed to make full use of the existing OECD “Tourism Economic Accounts” and of the kinds of tourist statistics typically collected by OECD countries. He emphasised that the OECD satellite accounts have an essentially practical orientation which reflects the wishes of the Member country experts who have worked with the OECD to develop the system.
53. The OECD TSA Manual sets out the concepts and definitions related to tourism. They have been set up in a way which ensures consistency with the core national accounts. The main problem areas relate to defining the tourism aspects of investment, treatment of second dwellings, determining how expenditure on package tours should be allocated, whether gross or net valuation should be used, and whether total retail sales or just the retail margins should be shown in the TSAs.
54. TSAs use a supply and use framework as their basis. It is clear that extra data are required to enable TSAs to be produced because national accounts in virtually all countries (even those with very detailed supply and use tables) are not sufficiently detailed. Broadly, additional data dissections are introduced into a standard supply and use table.
55. There is a difference in philosophy between the OECD and the WTO-OMT proposals presented to the meeting. From the beginning, the conceptual approach of the OECD manual was determined to be put into practice as soon as possible (in particular, figuring out the impact of tourism on the economy) whereas the WTO-OMT manual primarily focuses on the conceptual framework.

**Presentation: *A conceptual framework for a tourism satellite account* - STD/NA(98)20 (World Tourism Organization)**

56. Ms Marion Libreros, as consultant to the WTO-OMT, introduced the paper on the WTO-OMT system of satellite accounts for tourism. To date, the main focus of the work had been to create a conceptual framework. It will be published as a separate document to be followed by a manual giving practical advice on sources and methods.
57. The WTO-OMT system includes a central core which defines the coverage, classifications and basic definitions of the system. Additional elements provide for further extensions useful for particular kinds of analysis. The system aims also to provide a link between macro-economic statistics and the quantitative information on numbers of tourists and numbers of visits which are the kinds of data that form the basic tourism statistics in most countries. The WTO-OMT system is compatible with the SNA93 and, in particular, it fully respects the SNA production boundary. However, there has to be a certain amount of reclassification of national accounting flows in order to incorporate tourism within the SNA framework. Defining fixed capital formation for tourism is a problem which still has to be resolved.
58. Ms Libreros also noted particular problems in designing satellite accounts for tourism. These were similar to those noted by Mr Franz and included:

- treatment of package tours (should these be “unpackaged” into their separate elements (net treatment) or recorded as a composite service (gross treatment?); these issues were particularly acute in the case of outbound and inbound tourism;
- treatment of purchases of consumer durables such as motor cars and leisure boats during a trip and outside the context of a trip;
- the economic measurement of the effect of the purchases of goods by visitors as compared to that of services; and
- treatment of second residences.

**Discussion: STD/NA(98)21, STD/NA(98)20**

59. The issues raised during the discussion were:

- Concerns were raised that the OECD and WTO-OMT satellite systems were not fully harmonised, which could impose an unnecessary reporting burden on countries
  - in reply both Mr Franz and Ms Libreros noted that many of the differences were more apparent than real but they agreed that there are still inconsistencies between the two systems regarding, for example, definitions of “characteristic” tourist products and activities, the coverage of total tourism expenditures and the solutions adopted to some of the problem areas listed above.
- There was unanimous agreement by participants that they were concerned about the development of two similar satellite systems.
- The objective of OECD and WTO-OMT should be to devise systems which are compatible. One possible approach would be for the more limited OECD accounts to be viewed as building blocks for the wider WTO-OMT system. The WTO-OMT conference planned for June 1999 would provide a good occasion to demonstrate that differences between the two systems have actually been eliminated. The Chairperson undertook to bring this recommendation to the attention of the OECD Tourism Committee and the WTO-OMT Steering Group.

**Presentation: *U.S. Travel and Tourism Satellite Accounts for 1992* - STD/NA/RD(98)2 (U.S.A.)**

60. The tourism satellite accounts for the United States, which had been compiled for 1992, were to be seen as prototype accounts. In particular, user input had been limited, in some cases range rather than point estimates were shown, and there were a number of omissions compared with the OECD and WTO-OMT recommendations. During his presentation, Mr Parker emphasised that satellite accounts provide an opportunity to introduce concepts that differ from the core SNA accounts. As an example the U.S. system records the value of services produced by consumer durables, such as automobiles, rather than their acquisition prices. He argued that the international agencies should aim to provide guidelines for satellite accounts rather than strictly-applied international standards.

**Presentation: *Satellite Accounts for Tourism in Norway* - STD/NA/RD(98)9 (Norway)**

61. The Norwegian tourism satellite accounts have been compiled from 1988 and will be continued on an annual basis. As with the U.S. accounts, the annual starting point is the full supply and use table which is then re-aggregated after identifying tourism activities and products. Fourteen tourism activities are identified; package tours are treated on a gross basis and the monetary accounts are supplemented by details of employment in tourism industries. The Norwegian system incorporates features of both the OECD and the WTO-OMT satellite systems.

**Discussion: STD/NA/RD(98)2, STD/NA/RD(98)9**

62. The issues raised during the discussion were:
- In the U.S.A. the TSAs are called “Travel and Tourism Satellite Accounts” to show explicitly that they include business travel as well as tourism.
  - TSAs can legitimately diverge at times from SNA concepts (one of the major purposes of satellite accounts is to enable divergence from SNA concepts).
  - It is essential to use a very detailed supply and use table as the starting point. Further disaggregations are required for some industries and for some types of expenditures.
  - Tourism is a demand-based activity. Once the tourist demand has been calculated the output, value added, employment etc caused by this demand can be calculated by using ordinary input-output techniques. More emphasis should be given to this aspect in the OECD and WTO-OMT manuals.

**Agenda item 4: Problem areas in implementing SNA93**

**Presentation: *Remaining differences between the 1997 Canadian SNA and SNA93* - STD/NA(98)15 (Canada)**

63. It proved impossible to implement some of the SNA93 recommendations on sectoring in the CSNA. The result was that a combined sector was set up for all incorporated and unincorporated businesses in the production accounts. It is referred to as the “business sector”. The issue was a practical problem based on data availability rather than on conceptual issues. However, in the income and outlay accounts, and in the capital and financial accounts all unincorporated businesses owned by households are in the households sector as recommended in SNA93. The households sector also includes NPISHs because it proved to be impossible to obtain separate data for them.
64. At the moment, Statistics Canada is trying to set up data collections which show enterprise/establishment links to enable a better sectoral split to be included in the CSNA.
65. For presentation purposes, the CSNA shows the “Primary distribution of income account”, the “Secondary distribution of income account”, and the “Use of income account” as a single income and outlay account. However, most of the detail required for the SNA93 presentation is available.
66. SNA93 does not cover regional accounts well. In particular, it does not recognise as an establishment a unit which provides ancillary services, notably head offices. In the regional accounts, if a head office is in a different region from that of its producer units, it will have no output recorded for its activities in the region in which it is situated.
67. In the CSNA, producer units are not subdivided to meet the SNA93 requirement of creating “mutually exclusive units of homogeneous production” because it is unrealistic to do so.
68. Illegal production has not been able to be fully included in the CSNA because of data problems. Similarly, software on own account has not been able to be included as part of investment because there is no data at all on own account software. In fact, it is very difficult to even define it, so it is impossible to collect data on it.

69. Statistics Canada believes that “own funds” should be included in FISIM and has done so in the CSNA. Also, the treatment of the Bank of Canada is on the basis of input costs (as is the case for other parts of general government) rather than on the basis of the FISIM produced.
70. Fairly detailed data are available in Canada for the liabilities of the unfunded retirement benefits scheme to which all Canadian workers belong. However, Statistics Canada has not included the estimates in the CSNA at this stage because of the large government deficit which would be shown in comparison with other countries, most of whom have not included such estimates in their accounts at this stage.

**Discussion: STD/NA(98)15**

71. The issues raised during the discussion were:
- Splitting households into business and other components is contrary to SNA principles on which sectoring is based.
  - The statement that full production accounts for an institutional sector are not necessary to analyse the income and outlay accounts was questioned (see paragraph 28 of the Statistics Canada paper).
  - Omitting software on own account could have a significant effect on GDP.
  - It is very difficult to identify and separate out the assets which households hold in unfunded superannuation schemes.
  - A useful topic for next year’s meeting would be how unfunded superannuation schemes are treated and how the estimates are compiled.
  - The problem of collecting data in basic prices relates to the final users only - businesses do know what they pay in taxes and what they receive in subsidies.
  - Homogeneous production units are essential for producing homogeneous input-output tables.
  - It would be useful to have a similar session on SNA93 implementation problems at a future meeting (perhaps next year).
  - The chairman encouraged all OECD countries to produce similar documents to the Statistics Canada paper once they have implemented SNA93.

**Agenda item 5: Revisions to national accounts from introducing SNA93**

**Presentation: *The new base for annual accounts in France (ESA95) - Initial valuations of goods and services* - STD/NA(98)8 (France)**

72. The main reason for the current update of the French national accounts is to align them with ESA95 and to introduce a more up to date base year for the constant price estimates (changed from 1980 to 1995). Data were introduced from new surveys, covering issues such as housing rents and household consumption (from family budget surveys).
73. Revisions in growth based on previous year’s prices resulted from both conceptual modifications introduced via ESA95 and new evaluations. A quite different picture was presented for 1992. For estimating growth in constant price terms on a fixed base, the base year change from 1980 to 1995 was essential because the structure of prices within the economy has changed significantly in that time. A fixed base year (1995) is being used for both annual and quarterly accounts.

74. The coherence of the accounts improved, particularly in the commerce area, as new data were introduced from new business surveys. The concept used for basic prices was introduced in line with SNA93.
75. Changes in nomenclature were introduced, eg, for industries, which are now classified according to NACE. However, difficulties arose in the accounts because some data collected from enterprises in 1992 were not consistent and there were also problems with data from business surveys in 1993 and 1994. Some local reclassification of activities was required. In addition, a split of government consumption into individual and collective consumption was introduced so that the SNA93 concept of actual final consumption could be implemented.
76. The SNA93 extensions to gross fixed capital formation were introduced and foreign trade data have been compiled on the basis of both CIF and FOB (a CIF-FOB correction has been introduced as indicated in SNA93). Data on transport margins were introduced. A lot of work was involved in determining the correct treatment of transport margins, particularly the split between transport on own account and the transport industry (branch) activities.
77. As a result of the changes, the level of GDP increased by about 2%, total final consumption by a little more than 1%, and gross capital formation by about 8%; exports and imports both fell (by 4% and 1% respectively).

**Presentation: *New national accounts in Denmark - ESA95 - STD/NA(98)9 (Denmark)***

78. The presentation was divided into two main parts:
- the scope of the revision process; and
  - the effect on numbers.
79. There were 4 major types of changes to the accounts:
- using new sources and methods in the accounts;
  - introducing new classifications (NACE, rev 1 and COICOP);
  - introducing new definitions (ESA95);
  - updating the base year for constant price estimates.
80. The major part of the process was revising sources and methods. New primary statistics were used to adjust activity levels in various parts of the accounts. In the production-based estimates, all branches are now based on accounting statistics collected from businesses. A new business register was set up as one element in improving the quality and coverage of source data for the accounts. All calculations are now based on primary data at the most detailed level (including sector).
81. The new methods involved matters such as improved deflators for computers, introducing better price series for financial services, and setting up a new central accounting database. Also, new requirements of ESA95 were implemented such as calculating consumption of fixed capital for roads and bridges. The base year for constant price estimates was changed from 1980 to 1990.
82. The graphs in the Danish paper show the impact of the changes. One of the biggest changes was in gross fixed capital formation, where there was an actual increase (as opposed to definitional increase) of about 12% due to improved data sources and increased estimates of expenditure on motor vehicles.

83. Total prices growth between 1988 and 1996 is also shown graphically. The major feature was a big fall in the rate of increase for prices of gross fixed capital formation. It is attributable to the introduction of the hedonic computer price index, which declines very rapidly over the whole period.

**Discussion: STD/NA(98)8, STD/NA(98)9**

84. The issues raised during the discussion were:
- Length of backcasting of 8 years in Denmark does not seem sufficient to calculate seasonally adjusted estimates.
  - The hidden economy is slightly more than 1% in Denmark. The hidden economy is also relatively small in the French accounts and allowances were made in the old systems so there is virtually no change coming from this source in either country in introducing the new systems.
  - It is possible to derive implicit estimates of the hidden economy by, for example, calculating the maintenance required on the cars on the vehicle register and comparing this with the amount of work actually recorded.
  - Backcasting is a very time consuming task if it is done systematically. For example, under SNA93 the universities changed sector in the Canadian accounts and this was backcast to 1961. Similarly with defence equipment investment and those taxes which are now classified as the purchase of goods and services. Prorating using growth rates from the SNA68-based data was used only where it was not possible to access actual data.
  - In France, backcasting is being done using an econometric model which identifies relationships between SNA93 and SNA68 based data during the 5-year overlap. The model will then be applied to the old time series. It has been necessary to simplify the model from what was originally envisaged.
  - In Denmark, data have been published from 1988 to 1996 on an SNA93 basis. Data will be backcast to 1966 largely by using movements from the SNA68-based estimates but this approach will be modified where benchmarks are available. It is estimated it will take 3 staff 2 years to complete the backcasting.

**Agenda item 6: Educating users about changes to national accounts**

**Presentation: *Implementing SNA93: Educating the user - the Australian Bureau of Statistics strategy* - STD/NA(98)12 (Australia)**

85. The Australian national accounts include national income, expenditure and product accounts, financial accounts, balance sheets, and related estimates such as balance of payments and the international investment position.
86. SNA93 implementation was done in parallel with a number of other major tasks. The main ones were implementing the fifth edition of the Balance of Payments Manual (BPM5), adopting the input-output strategy (ie, benchmarking the annual accounts to I-O tables), improving the alignment of the accounts with other economic statistics, moving to an accruals basis in government finance statistics and extending price indexes into the business services industries.
87. An Information paper was released in December 1994, and then public seminars were held in all capital cities in February/March 1995.

88. In late 1995 there was a review of the SNA93 implementation strategy. An Economic Statistics User Group was set up in 1996 to provide advice on key aspects of the proposed changes. In February 1997, another information paper was released on “Developments in Government Finance Statistics”.
89. A seminar on chaining was held in March 1997 and two more information papers (national accounts and international accounts) were released in September 1997. In November 1997, an information paper was released describing changes to the balance of payments and the international investment position statistics. An information paper on chaining was released in March 1998 and the final information paper on the SNA93 will be released in October 1998. It will contain SNA93-based estimates for the second quarter 1998 (the SNA68-based estimates for the second quarter were released in early September).
90. The education program has worked well. The information papers were an important element and preparing them has been a major discipline on the ABS, both in working out what to do and in explaining the major changes to users.

**Presentation: *The U.K. approach to educating users - STD/NA(98)25 (U.K.)***

91. The Office for National Statistics (ONS) will be publishing SNA93-based accounts on 24 September. There are some significant changes, with the new presentation being a particularly major change.
92. While the UK accounts are currently based on SNA68, in practice the presentation has not changed much since 1946. ESA79 accounts were maintained separately from those on an SNA68 basis. In introducing SNA93, changes have included integrating SNA93 and ESA95 into a single set of accounts, rebasing to 1995, and introducing new sectors using a new business register.
93. There are four key groups of users and ONS has close contact with these groups. In particular, the National Accounts User Group meets regularly and it reviewed the changes proposed.
94. The start of the SNA93 education program was in 1996. The new SNA was described, the major changes outlined and examples of changes were provided. An “Illustrative Guide” was produced. It showed existing data in the new layout, provided background on the introduction of ESA95 and described the new concepts, sources and methods. The aims were to provide an early warning of what the new accounts would look like, check the need for some tables and test the new systems. Also, ONS released a near-final data set up to 1995 in August this year so that econometricians could re-estimate their models before facing the “live” data for the first time.
95. Producing the Guide was more difficult than expected. Users asked for more detail, particularly on the new layouts and links to the old layout.
96. The launch concentrated on users with immediate needs (press, financial analysts and marketing agents), and electronic subscribers. There will also be a series of post-launch seminars.

**Presentation: *Implementing chain-type indexes using a Fisher formula: Educating the data user in the United States - STD/NA(98)26 (U.S.A.)***

97. Presenting chain Fisher indexes as the “headline” growth rate changed their status from an interesting theoretical issue to an important measurement issue. The impact was as critical as the introduction of the hedonic price indexes for computers in the mid 1980s.

98. The starting point was the theoretical advances in price index theory pointing to the improved estimates achievable from using superlative price indexes such as Fisher or Törnqvist. There was no opposition from users on conceptual grounds. However, the issue of non-additivity in the chain indexes was a major concern to users. In particular, they disliked the idea of not being able to reaggregate estimates in the ways they had been used to doing. Non-additivity was a major problem for forecasters but the majority accepted that it was a necessary step on the way to obtaining improved growth estimates.
99. When the change to chain estimates was made, there were several press articles critical of the change and some business economists also criticised “moving the goalposts”. However, most of the critics have now accepted the need to make the change.
100. More recent steps have been to present historical data on several different reference periods and to develop new methods to calculate (additive) contributions to growth.

**Discussion: STD/NA(98)12, STD/NA(98)25, STD/NA(98)26**

101. The issues raised during the discussion were:
- France has produced constant price estimates expressed in the previous year’s prices for many years as well as fixed-base estimates. However, there was strong opposition from users to a proposal to publish only the chain volume estimates. Non-additivity and the costs of re-estimating models were the main reasons.
  - The USA used to continually rewrite economic history by using a single base year for the full length of the national accounts series (back to the 1920s). The question that should be asked is “do you want additivity in the constant price series or an accurate measure of growth”.
  - The National Accounts User Group was set up by the ONS as a means of keeping users in contact with changes in the accounts. ONS provides a secretariat for it but the group sets the agenda, for example by asking for presentations on particular aspects of the accounts. The ABS has set up a similar group (the Economic Statistics User Group). Statistics Canada has a “post-mortem” on the accounts the day after each set of quarterly accounts is released.
  - User education is becoming even more important due to a general lack of knowledge about price index theory and national accounts because so little emphasis is placed on these topics in universities.

**Agenda item 7: Consumer subsidies**

**Presentation: *Consumption subsidies in international accounts systems* - STD/NA(98)10 (Eurostat)**

102. The SNA93 identifies subsidies largely on the basis of the goods and services produced. Some subsidies, however, really impact more on households than on producers.
103. Payments by general government to market producers serve several purposes, which can be allocated into four groups:
- so producers can charge lower prices to particular categories of consumers with special social needs;
  - so producers can charge lower prices to all final consumers;
  - to help industries or regions in economic difficulties or to develop new industries;
  - to encourage employment and capital formation, or to reduce pollution.

104. Payments to market producers are excluded from subsidies if they pay entirely or in part for goods and services that those producers provide directly and individually to households in the context of social risks or needs (see definition of D.6311, D.6312, D.6313 in ESA95). This corresponds only to the first group.
105. Contrary to the first group, the second group is treated as subsidies in the SNA and in the ESA. An example of second group payments would be all households within a municipality benefiting when tickets for operas or bus fares are reduced by subsidies even though they are not paid directly to the consumers.
106. Eurostat's proposal is to develop a concept of consumer subsidies including the two first groups of payments which both impact more on households.
107. The consumption subsidies concept in ESA95 could be introduced into the redistribution of income in kind account. (The Eurostat National Accounts Working Party, at its meeting in December 1997, indicated it could eventually approve this treatment of consumer subsidies as actual final consumption.)
108. However, the meeting also considered that the concept needs to be more broadly defined to improve both spatial and temporal comparisons. It should include tax expenditures, consumption taxes, interest subsidies and capital transfers.

**Presentation: *A satellite view of taxes and subsidies* - STD/NA(98)11 (OECD)**

109. In effect, subsidies in the SNA93 can be split into two broad categories:
- small subsidies, which decrease the value of output (eg, subsidies on cheese);
  - large subsidies, which increase the value of output (eg, health or education, which add to government final consumption expenditure).
110. Subsidies are paid by government and received by enterprises. The SNA records them as negative receivables by government and as negative payables by enterprises.
111. During the SNA revision, several objections were raised to the introduction of consumer subsidies. They would increase GDP; market prices would no longer be the basis of valuation for subsidised products; and national accountants would find it difficult to identify subsidies targeted at households.
112. An alternative idea would be to consider that government pays enterprises (in the form of subsidies) to implement government policy (eg, to provide cheaper transport, or to encourage businesses to move to particular regions, or to employ specific types of individuals). In effect, the government buys government services from enterprises.
113. As compared with the present SNA, GDP would not alter in the system proposed if there are no subsidies, or if the enterprise is classified as non-market, or if subsidies are specially designated as social transfers in kind. However, GDP would alter for "small" subsidies not designated as social transfers in kind.
114. The proposal to change the treatment of subsidies means that:

- there would no longer be any need to choose the subsidies to be treated as social transfers in kind because they would be determined by the nature of the price reduction financed by the subsidy;
  - the increases in subsidies would all be in the same direction regardless of size;
  - there is a clearer articulation of the accounts;
  - the need for a market/non-market distinction disappears.
115. In SNA93, there are taxes on products, other taxes on production and on income, capital, wealth, etc but there no taxes on consumption. The proposed system treats taxes on products as taxes on consumption. Taxes payable by producers on intermediate consumption would move from being included within intermediate consumption to value added. This allows for the same price vector to be used for output, intermediate consumption and value added.
116. GDP at market prices would be equal to value added plus taxes on final demand. Alternatively, it could be expressed as total final expenditure (final consumption plus capital formation plus exports) at market prices less imports. GDP at production cost would equal total final expenditure at production cost less imports.
117. At least initially, the preferred means of showing this approach would be in a satellite account.

**Discussion: STD/NA(98)10, STD/NA(98)11**

118. The issues raised during the discussion were:
- The proposal to use satellite accounts dodges the issue. If the alternative is better it should be used for the core accounts.
  - Any change in the SNA93 convention on subsidies should be shown in the core accounts rather than in satellite accounts.
  - Satellite accounts are a means of introducing new or changed concepts and to assess their impact on the core accounts before implementing them.
  - The approach presented by Anne Harrison is a very elegant solution to a difficult problem. These estimates should be in the core accounts rather than in a satellite account in the longer term. However, in the short term it would be useful to present the data in a satellite account so that the effects on different countries could be assessed.
  - Political considerations concerning changes in the level of GDP are problems which are internal to Europe. Therefore they should not prevent the rest of the world adopting the correct approach. All subsidies should be treated as someone's consumption, someone's investment or someone's exports.
  - Some participants were uneasy about the way in which institutional differences largely disappear as a result of this new approach (eg, in the example there is no shift from the non-market to the market sector as would be the case under the current SNA framework).
  - The change in the concept of producer prices is worrying.
  - The example of transport in the Eurostat paper should really have been treated as a producer subsidy and not one paid to households.

- How do you assess the impact of transport subsidies on foreigners (eg, tourists benefiting from reduced transport fares because of general subsidies)? There are also implications for the PPPs.
- The issue should be discussed in the context of who benefits from the subsidies.
- Assumptions have to be made about who benefits from the transfers in kind as a result of subsidies and it could result in a lack of comparability between countries.
- The issue of constant prices was missing from both papers and this needs to be examined.
- The Australian Bureau of Statistics volunteered to produce a satellite account along the lines proposed in Anne Harrison's paper and present the results at next year's meeting.
- It would be sensible to produce experimental estimates in a satellite account in a similar way to that for FISIM. It would enable the impact on the core accounts to be assessed.
- The proposals have institutional sector implications, particularly with privatisations such as railways occurring so much at the moment.
- Government can impose costs on enterprises through government policy changes which impose implicit taxes, so the issue is wider than just the actual taxes imposed.
- The constant prices are really straightforward because separating out taxes and subsidies makes deflation easier, rather than harder.

#### **Agenda item 8: Employment estimates in the SNA**

##### ***Presentation: Employment measures in the OECD national accounts: Comparison between national accounts and labour force statistics - STD/NA(98)13 (OECD)***

119. Employment estimates are used for analysing productivity in the national accounts and for analysing the labour market in the labour force statistics (LFS). According to international definitions, employment should refer to the same economic activity in both cases. Nonetheless, a detailed inspection of definitions used by each OECD Member country points out some differences. For example, economic borders are more relevant to the national accounts whereas national borders are more important for the LFS.
120. There are also differences in the units used for measurement in the national accounts and the LFS (eg, numbers of jobs, numbers of hours worked, and/or numbers of full-time equivalents compared with numbers of persons with a job).
121. Sometimes, the LFS estimates are used in the national accounts but adjustments have to be made for problem areas like multiple job holding and border workers. When data from establishment surveys are used, they are often incorporated directly into the national accounts.
122. Certain types of workers are treated differently (eg, apprentices, "make-work" schemes, and the underground economy). These conceptual differences explain most of the discrepancies between the national accounts employment data and the LFS data reported to the OECD. The tables in the paper show the differences and the Annex to the paper explains the main reasons for each of the countries involved.
123. The variable differences between national accounts and labour force statistics suggest that employment data within the national accounts data reported to the OECD are not strictly comparable. Member countries were invited to discuss the implementation of SNA93 and whether there would be improvements in comparability as a result.

**Discussion: STD/NA(98)13**

124. The issues raised during the discussion were:

- The 17 percentage point gap for the Netherlands in 1990 between the LFS and the national accounts employment is deceptive. The difference appears to be caused by comparing numbers employed with full-time equivalents. In the Dutch case one should compare employment data from the National Accounts with employment data from the Labour Accounts (ie, an integrated framework for employment data in the Netherlands). At meso-level, there are only minor (statistical and conceptual) differences between both these data sets. In the near future both data sets will be fully integrated.
- Data on hours worked will be required by Eurostat for the national accounts questionnaire from 2003.
- There are big differences shown in the paper for Austria. A major project has commenced to integrate data sources for employment. Details will be available for multiple job holding, but some data sets have to be merged so that details can be obtained by branch.
- A number of improvements have been made for the UK over the past couple of years since the information was first collected

**Presentation: *Reconciliation of employee estimates from different sources - the Australian Bureau of Statistics experience* - STD/NA(98)14 (Australia)**

125. The main focus in this presentation is on work related to measuring the numbers employed. The labour force survey (LFS) is a monthly household survey, mainly aimed at obtaining estimates of both employment and unemployment. The survey of employment and earnings (SEE) is a quarterly survey of businesses and measures the numbers of jobs.
126. Since about 1990 there have been some large divergences between the LFS and the SEE. In reconciling these differences, estimates are made to account for differences in scope (workers on strike, multiple job holding etc).
127. One problem with the LFS is that some working proprietors of small businesses, contractors and persons paid purely on commission classify themselves incorrectly as employees when responding to the LFS. Certain types of employees can be omitted from the SEE as well (eg, senior managers paid through a separate payroll).
128. There are some very large differences in the industry estimates from LFS and SEE. Gaps have also opened up between full-time and part-time employment recorded (eg, someone working in two part-time jobs can be classified as full time in the LFS because they work more than 30 hours in total).
129. In the Australian national accounts, the LFS employment is used as the benchmark measure for the numbers of wage and salary earners employed. The ABS is setting up a system of labour accounts to assist in reconciling the various estimates.

**Discussion: STD/NA(98)14**

130. The issues raised during the discussion were:

- In small incorporated businesses, the owner either does not receive a wage or it is not related to the work done, so they should not be classified as an employee for national accounts purposes.

- Tax regulations are very important in determining who should be classified as an employee. There are certain employees who could not be identified as such through the data sources available. A further problem may be discontinuities over time caused by changes in tax laws.
- There is an industry classification problem arising because service components can be contracted out by businesses (eg, cleaning) which changes the industry mix. The use of temporary employees under contract from an employment agency can also constitute a problem.

**Agenda item 9: Policies for revising national accounts**

**Presentation: *U.S. National Income and Product Accounts: Release schedule and revision practice - STD/NA(98)28 (U.S.A.)***

131. The US release schedule is for the first quarterly estimates to be published 30 days after the end of the quarter, with no revisions to earlier quarters. The preliminary estimates are released 60 days after the end of the quarter with revisions to only the current quarter. The “final” estimates come out 90 days after the end of the quarter, also with revisions to the same quarter. Estimates released in July each year contain revisions to the last 3 calendar years, and the last 13 quarters. Every 4 or 5 years, a comprehensive revision is undertaken and revisions are taken back to 1929.
132. Only seasonally adjusted estimates are published for the latest quarter. Forward factors are usually used and the movements in the latest quarter are linked on to the previous quarter’s (unrevised) levels.

**Presentation: *National accounts revision policy - STD/NA(98)30 (U.K.)***

133. Current policy is much tighter than was the case in the 1970s and 1980s. Each year, revisions can be taken back only 4 years unless large changes are required and special approval is obtained. The full quarterly estimates (produced about 12 weeks after the end of the quarter) can have revisions put through for the quarters of the current calendar year. An exception is in December, when the estimates in the previous calendar year can also be revised.
134. The current policy can lead to data discontinuities and inconsistencies with other economic statistics. It is fairly resource intensive to revise back 3 or 4 years because the supply/use tables also have to be revised.
135. The questions which arise in looking at a new revision policy are:
- Should the same policy be implemented in all parts of the accounts, regardless of cause and the impact on other economic statistics?
  - Are growth or level data more important?
  - How often should comprehensive revisions be put through?
  - What do users think?

**Presentation: *National accounts revision policy - STD/NA(98)31 (Norway)***

136. Revisions have to be integrated through the institutional accounts, supply and use tables, satellite accounts etc. The 1995 major revision resulted in the level of GDP being revised up by about 10% (a similar revision was made at the 1973 major revision). Norway has a very restricted annual revision policy. No revisions are put through once a final supply/use table is published (ie, after about 3 years).

137. Quarterly revisions can be carried through for the two years prior to the existing year (ie, for periods after the last final supply/use table). When revised or improved data sources become available, priority will be given for some years to reflecting the most accurate movements at the expense of levels.
138. Backcasting is a very demanding task because of the need to change the integrated national accounts system with detailed supply and use tables in both current and constant prices. In the future, periodic revisions are planned to be undertaken roughly every 5 years.

**Presentation: *National accounts revision practice - STD/NA(98)33 (Canada)***

139. All national accounts data and associated statistics (balance of payments etc) can be revised back 4 years (16 quarters) in May each year. Only the quarters of the existing calendar year are revised between the lengthier and more detailed revision each May. Historical (ie, major) revisions are undertaken periodically (roughly every 5 years, but they can be up to 10 years apart).

**Discussion: STD/NA(98)28, STD/NA(98)30, STD/NA(98)31, STD/NA(98)33**

140. The issues raised during the discussion were:
- OECD should put together a publication on revision practices (timing and content).
  - The forthcoming Eurostat manual on quarterly accounts and a GNP Committee document provide details on current EU revision policies.
  - Eurostat proposes to discuss this issue at a National Accounts Working Party meeting. In the short term, growth rates are more important than levels but the levels should be updated at least once every five years.

**Agenda item 10: Purchasing Power Parities (PPPs)**

**Presentation: *Purchasing Power Parities (PPPs) - STD/NA(98)16 (OECD)***

141. One major problem faced in the 1996 PPP round is the treatment of non-market services. In particular, different approaches are adopted in group I, II and III countries. Group I methodology assumes there is the same level of productivity underlying non-market output in group I countries. Traditionally, Group II countries were productivity adjusted (Austria is the link country for this Group). However, data problems caused a different approach to be adopted for group III countries. It is based on the use of “proxy” PPPs (ie, using PPPs for household final consumption expenditure less housing) to apply to government consumption. There is no theoretical underpinning for this approach but the results obtained for transition countries appear to be more plausible than those using any other alternative approach.
142. The tables in the OECD paper show the various comparisons and their impact on rankings and relativities. The comparisons for relatively homogeneous countries are obviously better than those when a number of countries at a widely different stage of economic development are involved.

**Discussion: STD/NA(98)16**

143. The issues raised during the discussion were:
- Non-market services are a problem even within group I countries (eg, non-market health services in USA are double those in Sweden).

- Assumptions about relative productivity levels are required but they must necessarily be very subjective.
- Group I countries should not have any productivity adjustment made.
- PPP calculations are inevitably approximate. For example, in the case of Poland the difference between a per capita volume index (PCVI) of 27 rather than 32 (compared with Austria equal to 100) is not significant - they both indicate a PCVI of about 30.
- The PPPs are used for administrative purposes in the EU, so a political dimension is involved in addition to the statistical ones.
- It is clear that adjustments need to be made to the group II results for productivity differentials. Only rough adjustments could be made with the available data.
- The only way which holds reasonable prospects for improving the non-market PPP estimates is to use output indicators.
- PPPs are important because they provide the only means of making international comparisons, given that exchange rates are fundamentally flawed for most comparisons of real activity.
- Table I contains some implausible results for the input-price method because it is not reasonable to assume constant productivity across countries.
- The output approach would seem to be the best way to go in the longer term.
- PPPs are used rather than exchange rates because of big fluctuations in relative exchange rates. If PPPs are to be improved, it will be necessary to have more detailed prices for the existing input measures.
- GDP per capita comparisons will continue to be made no matter how poorly they are based.
- Exchange rates are clearly the worst method of making international comparisons. The proxy approach and the input approach probably provide the upper and lower limits.
- Peter Hill does not like any of the approaches presented in the paper, but he hates the proxy approach the least.
- A problem with using PPPs for private final consumption is that non-market services can be a significant element of this component as well.
- One solution could be to allocate a range to the estimates rather than to use a point estimate.
- Some participants suggested that Group III PPPs should only be published for final consumption expenditure; others noted that these would inevitably be used for converting GDP to real terms.

144. No agreement was reached by the meeting on which of the alternatives would be the best to adopt. However, it was noted that the topic is relevant for the national accounts meetings and PPP-related issues should be on the agenda for future meetings.

**Agenda item 11: Indicators of sustainable economic welfare (ISEW)**

**Presentation: *Composite indicators of sustainable development - STD/NA(98)17 (OECD)***

145. ISEWs indicate a range of things:

- well being;

- sustainable growth;
  - genuine progress;
  - to be useful they must reflect “public perception” of well-being.
146. Nordhaus and Tobin commenced this work in the 1970s followed by Japan and the U.S.A. and, more recently, other countries such as Australia and Canada (but not in the statistical agencies). There is obviously a demand for these types of indicators from the public, journalists and parliamentarians.
147. Household final consumption expenditure (from the national accounts) is the starting point but other economic factors, social factors and environmental factors are then used to produce an adjusted measure. Different developers include different factors, some of which could be considered marginal (either from lack of relevance or lack of importance in terms of their potential effect).

**Presentation: *Development of sustainability indicators in Australia* - STD/NA(98)18 (ABS)**

148. The Australian indicator is not produced by the ABS, but the ABS is interested in the work and has sponsored a seminar on it. However, the ABS is not officially associated with the work. A concern is that there is no underlying theory on what is being measured by such indicators. Also, it is not clear what the major interests are in such indicators - temporal or international comparisons?

**Presentation: *An index of economic well-being for Canada* - STD/NA(98)29 (Canada)**

149. Andrew Sharpe, Director of the Center for the Study of Living Standards (Ottawa), was invited to present this session.
150. These indicators are not a replacement for the national accounts - they provide an expansion using GDP as the starting point but taking into account a number of aspects which are not included in GDP. The 4 broad areas included are:
- consumption flows;
  - wealth stocks;
  - inequality;
  - economic security.
151. The detailed components within each of these categories are weighted together based on their relative importance in the community. However, the weights for the 4 broad groups above are arbitrary, depending on the compiler’s view of their relative importance.
152. Three of the four components have grown over the past three decades and they have not diverged significantly. However, economic security has fallen markedly, largely because of the large increase in unemployment at the same time that unemployment benefits have become less accessible. No matter what weights are used, the ISEW has grown less than GDP. In fact, based on some weighting patterns it has declined markedly.
153. A similar exercise for the U.S.A. shows a much better overall performance than Canada. One advantage of compiling such indexes in the way that has been done in Canada is that the sensitivity of the overall index to different components can be tested.

**Discussion: STD/NA(98)17, STD/NA(98)18, STD/NA(98)29**

154. The issues raised during the discussion were:

- One perception about such indexes in the U.S.A. was that they were a substitute for GDP. There was also a negative reaction from the general public to the idea of a government organisation telling people what is (or is not) good for them.
- Has there been any research on user perceptions to these types of indicators?
- In the UK, an index of this type dropped below GDP at one stage in the 1970s and this has led to querying whether or not such indicators should be weighted together or simply shown separately.
- There is a lot of information contained in the individual indicators even if they are not weighted together.
- Denmark produced a similar sort of indicator some years ago. During the construction of the indicator there were several discussions about some of the component indicators and their validity. One was whether defensive expenditures (eg, police force) should be deducted. The second was whether a single indicator was sensible or whether a series of different indicators should be presented. The overall indicator moved in a very similar way to private final consumption in the Danish accounts.
- National accountants agree that GDP does not measure well-being. A single figure of well-being may be attractive for shallow analysis (such as by journalists). However, a proper analysis will require a breakdown of the index into interlinked aspects of well-being which have a clear relationship with policy options. Furthermore, in several cases prices are being imputed to things that do not have prices, which is inconsistent. Finally, a proper conceptual framework is required.
- A Japanese index was produced during the 1970s at a time when the environment was suffering as a result of the rapid economic growth being experienced at that time. Some work on "Peoples' Life Indicators" was carried out by the Social Policy Bureau of the Economic Planning Agency; however the national accountants were not associated with this indicator. An index is currently published annually, by prefecture. The National Accounts Department is working on environmental satellite accounts and released estimates a few weeks ago and it has also published some estimates of unpaid work, which amounted to between 15% and 23% of GDP, depending on the assumptions used.
- Quality of life rankings in U.S. magazines vary tremendously from year to year, which probably reflects big variations in weights. Cost/benefit analysis may provide a means of obtaining some proxy for price weights.
- The weights are critical, and there are problems in making such indicators reflect reality.
- Some aspects of an ISEW such as unpaid work are published officially in Canada, but separately, and it does not make sense to simply combine the (useful) underlying series using arbitrary weights.
- Responsible literature is developing on this topic; generally consumption expenditure or GDP is used as a starting point and then added to. However, it is critical to be able to examine in detail what causes the overall index to change. International comparability is more difficult because, even within a homogeneous set of countries, it will be difficult to assess what they mean in relation to each other.

## **Agenda item 12: Health accounts**

### **Presentation: *A system of health accounts for international data collection* - STD/NA(98)23 (OECD)**

155. The background to health satellite accounts (HSAs) is that medical care has been taking a growing share of the economy (in the OECD as a whole it was about 4% of GDP in 1960, but this had grown to around 8% by 1996). Public spending on health was around 13% of total public expenditure in 1996. It is the medical care industries which could be called “the real job machine” in many countries. There have been many concerns expressed about the sustainability of the current growth and there are uncertainties about the future (technological progress; equity, efficiency and effectiveness of medical care; ageing populations). As a result, there is a growing demand for structural comparisons of health care systems and monitoring of ongoing reforms.
156. OECD Health Accounts are an emerging international “quasi-standard”. OECD Health Data have been collected annually over the last 15 years. Two of the issues which arise in national health accounts are that there is duplication of national reporting and there are multiple statistical standards. A further difficulty is that the boundaries of medical care provide a “moving target” because of continual changes. As a result, there are substantial problems of international comparability (eg, where do you draw the line between medical care and social care such as that for dependent elderly).
157. The purposes of a System of Health Accounts (SHA) are to:
- provide a framework for a set of standard tables for international comparisons;
  - have a methodology compatible with the national accounts;
  - link statistics in monetary and non-monetary terms;
  - enhance consistent reporting over time and across countries;
  - provide a framework for more detailed structural analysis of medical care for both economic analysis and comparative research into medical care systems in general.
158. It is clear that the SHAs must be based on agreed international classifications for these purposes to be realised.
159. The basic design of the SHA includes:
- a functional definition of characteristic goods and services;
  - a definition of medical care industries;
  - identification of ultimate beneficiaries and financing funds.
160. The OECD proposes a three dimensional International Classification for Health Accounting (ICHA) covering commodities, industries, and financing funds.
161. The implementation process will involve stepwise testing and pilot implementations in OECD Health Data. The current draft will be circulated shortly and there will be discussions on the draft until late this year with redrafting expected to be completed by the end of the year.
162. The work on SHAs is being coordinated with EC/Eurostat, especially under the Health Monitoring Programme and the Task Force on Health Care. Discussions are being held with the WHO and the World Bank (in the latter case, it is hoped to have pilot implementations in non-Member countries). The aim is to publish the SHAs early next year.

**Discussion: STD/NA(98)23**

163. The issues raised during the discussion were:

- Health satellite accounts (HSAs) are not prepared by the U.S. Bureau of Economic Analysis; they are produced within the Health Ministry. A units problem (establishments in the national accounts, enterprises in the HSAs), led to discrepancies between the U.S. NIPAs and the HSAs.
- HSAs are produced by the Australian Institute of Health and Welfare rather than the Australian Bureau of Statistics (ABS). However, the ABS is on a steering committee which is overlooking the HSAs.
- Is the current set of guidelines and classifications an OECD framework or is the intention to have it become more world wide by presenting it to the UN Statistical Commission?
  - The manual started off as an OECD document but it is now being used outside the OECD as well. It needs to be extended if it is to cater for a broader range of countries, and work is proceeding on this.
- Israel has a set of satellite accounts for health, amongst other things (culture, R&D, etc.). They cover both producers and financiers of health.

**Agenda item 13: Draft questionnaire for survey on methods to estimate inventories**

**Presentation: *Draft questionnaire on sources and methods in estimating changes in inventories - STD/NA(98)19 (OECD)***

164. The Statistics Directorate would like to distribute a questionnaire on methods used to estimate changes in inventories. The aim is to publish a report on methods used by countries which will identify best practices. Inventory changes are significant components of GDP growth, particularly for quarterly estimates but are notoriously difficult to estimate at both current and constant prices.

165. The draft questionnaire is largely based on methods used in Australia, U.K. and Finland. It may not be appropriate for all countries and so suggestions were invited from all participants. The questionnaire aims to collect information on the following topics:

- are changes estimated directly or obtained as a residual;
- do methods vary between industries;
- what are the valuation methods;
- how is information obtained about business practices in valuing inventories;
- how are costs assigned - LIFO, FIFO, etc;
- relationship between quarterly and annual estimates;
- deflation methods.

166. The Secretariat invites participants to send in comments on the questionnaire before the end of November and to supply any written information available on methods currently in use.

**Discussion: STD/NA(98)19**

167. The following suggestions were made:

- the questionnaire should deal with quarterly and annual estimates separately;

- it should be as detailed as possible by kind of activity and commodity;
- it should ask for details about exhaustiveness of the estimates for each industry;
- include “lower of cost or market” as one of the valuation methods;
- details used should be classified by commodity;
- current and constant prices need to be identified separately;
- include a question on whether (and how) chaining is used;
- it should cover work in progress including long-term architectural projects and speculative construction;
- the questionnaire should be shown to experts familiar with international accounting standards to verify the terminology;
- it will probably be necessary to have two bites at it - an initial questionnaire with a follow-up questionnaire at least partly tailored to suit each country’s specific situation;
- problems are magnified when there is high inflation;
- include livestock;
- include construction work-in-progress etc;
- there should be a question on the extent to which countries are following SNA93 concepts (eg, for speculative construction).

**Agenda item 14: Functional classifications (information item)**

**Presentation: *Draft publication: SNA93 Classifications - STD/NA/RD(98)10 (OECD)***

168. The final round of comments on the draft classifications has now been received and they are being incorporated (where appropriate) into the classifications. The draft publication will be forwarded to the UN Statistical Division by the end of October so that it can be submitted to the March 1999 meeting of the UN Statistical Commission. The OECD will release all the classifications in a Working Document in early November.

**Agenda item 15: Topics for discussion at next meeting**

169. There were two items discussed under this heading - the topics that Member countries wished to discuss at the next annual OECD National accounts meeting (to be held in Paris in autumn 1999) and the topics to be discussed at the proposed Joint OECD/ECE national accounts meeting to be held in Geneva in April 2000.

170. Topics suggested for next year’s OECD meeting were as follows (note they are not in any order of importance):

- consumer subsidies/taxes on products;
- inventories;
- imputed rent;
- PPPs;
- capital stock;
- problems encountered in implementing SNA93;

- results of introducing SNA93;
  - non-market output at constant prices;
  - measuring current price and constant price gross fixed capital formation on software;
  - unpaid household production;
  - treatment of pension funds, particularly unfunded ones;
  - environmental and natural resource accounting;
  - methods used in backcasting;
  - employment estimates in the accounts;
  - financial institutions' output at current and constant prices;
  - international comparability of data;
  - intangibles (particularly those associated with the information economy);
  - productivity measurement, particularly multifactor productivity.
171. A suggestion was also made that if expert groups (such as one of the “City Groups”) are investigating issues then the annual OECD meeting should be informed of what they are doing and the stage reached in their deliberations rather than having an in-depth discussion on these issues.
172. Topics suggested for the Joint OECD/ECE meeting in April 2000 were as follows:
- price and volume measures;
  - investment (including changes in inventories);
  - measurement of capital stock;
  - SNA93 implementation.

### **Other business**

#### **Presentation: *National accounts system of Mexico: Accounts by institutional sectors (1993-1996) - STD/NA(98)33 (INEGI)***

173. INEGI has recently completed work on producing institutional sector accounts based on SNA93. They currently cover the period from 1993 to 1996 and data for 1997 will be released shortly. The data will be updated annually in future. The sectoral splits are based on a combination of survey data and a modelling approach. The major problem is in obtaining data for the household sector. In particular, the large informal sector in Mexico creates problems at the total economy level and this is worse at the sectoral level.
174. The sectoral data have proven to be very important in better explaining what was happening in the Mexican economy during the financial problems experienced in 1994. Some sectors which were traditionally net lenders became net borrowers and vice versa. The project to develop the institutional sector accounts has also resulted in an expansion in the range of data collected by INEGI.