



**Economic and Social  
Council**

Distr.  
GENERAL

CES/2001/25  
15 December 2000

ORIGINAL : ENGLISH

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**STATISTICAL COMMISSION and  
ECONOMIC COMMISSION FOR EUROPE**

**CONFERENCE OF EUROPEAN STATISTICIANS**

Forty-ninth plenary session  
(Geneva, 11-13 June 2001)

**REPORT OF THE SEPTEMBER 2000 ECE SESSION ON  
NATIONAL ACCOUNTING ISSUES OF CONCERN  
TO TRANSITION ECONOMIES**

Note prepared by the Secretariat

**INTRODUCTION**

1. The Special ECE Session on National Accounting Issues of Concern to Transition Economies was organised in the afternoon on the last day (29 September) of the Annual OECD National Accounts Meeting, 26-29 September 2000 at the OECD. The ECE session was attended by Croatia, Czech Republic, Hungary, Israel, Poland, Slovakia, Slovenia and The former Yugoslav Republic of Macedonia. Representatives of the United Nations Statistics Division (UNSD), IMF and Organisation for Economic Co-operation and Development (OECD) also attended.
2. The provisional agenda was adopted.

**ORGANISATION OF THE MEETING**

3. The following topics were discussed at the session:
  - (a) Estimation of inventories in the context of Quarterly National Accounts (QNA);
  - (b) Seasonal adjustment of QNA.

4. The discussion was based on presentations by IMF and OECD and papers by the ECE Secretariat and Croatia.

#### **SUMMARY OF DISCUSSION AND THE MAIN CONCLUSIONS REACHED AT THE SESSION**

5. The purpose of the session was to discuss with transition economies the theoretical and practical aspects of estimation of changes in inventories and seasonal adjustment in the context of QNA. Another goal of the session was that countries exchange experience about their practices in dealing with the two issues. The majority of the transition economies in Central and Eastern Europe began the compilation of QNA in the mid-1990s. Since then considerable progress has been made. However, in certain areas there are still some problems and issues to be resolved.

6. The estimation of changes of inventories is an important element in the measurement of GDP. While changes in inventories is a small component of GDP, they can move substantially from strongly positive to strongly negative. Consequently, this small component can be a major factor in GDP movements. Changes in inventories present particular difficulties in terms of valuation. Although the valuation problems are the same as in the annual accounts, the volatility of changes in inventories series means that the problems become relatively more significant in quarterly data.

7. The estimation of changes in inventories, both theoretical and practical aspects, is extensively discussed in two handbooks recently made available: the Eurostat Handbook on QNA and the IMF's draft Textbook on QNA Compilation. In his presentation, the IMF representative described the method recommended in the IMF's Textbook for the estimation of changes in inventories. A numerical example was also demonstrated. The paper by Croatia described the approach used by Croatia to compile QNA.

8. In the discussion that followed, it was noted that the estimation of holding gains and losses for inventories is very important under conditions of high inflation. The representatives of Czech Republic and Hungary informed the meeting that they had followed the IMF's approach. Croatia has also followed the recommendations of IMF. However, in the case of Hungary the results were not very satisfactory and a new approach is being considered. Participants noted that the great difficulty with the estimation of changes in inventories is the availability of basic data. Quarterly surveys of inventories are the main source of data. However, data on small businesses have to be estimated. In some countries the "residual method" is used to estimate the changes in inventories in the QNA. It was also stressed that while in theory it is clear to the national accounts how to estimate inventories, in practice it is not always easy to do this because of lack of data.

9. Some of the important purposes of QNA, such as providing a view on economic developments and identifying turning points in the business cycle, can be significantly distorted if seasonal patterns in the data are not taken into account. In his presentation, the OECD representative stressed that the problem with seasonal adjustment of time series is not so much how to carry it out but rather to prepare the data and time series for seasonal adjustment. The main requirements for the basic data used for time series analysis were pointed out: these are accuracy and comparability over time and a minimum time period required for different time series methods. Another essential requirement is the use of appropriate price indices and the construction of the indices. Standard programmes, such as X12-ARIMA, are then applied to seasonally adjust the time series.

10. Concerning the length of the time series required for seasonal adjustment, the minimum length of time is normally five times the length of the seasonal pattern for the main frame versions of X-11 ARIMA. The length is reduced to three times the length of the seasonal pattern for the PC versions of X11-ARIMA and X12-ARIMA. It was also noted that in many situations it is necessary to pre-process or adjust the data after they have been collected, but before they are used for monitoring and analysing short-term fluctuations in economic time series.

11. In the ensuing discussion several participants commented on the issue of seasonal adjustment in the context of QNA. Participants shared experience on the methods they use to seasonally adjust the time series as well as on the problems they encounter in doing this. Several problems were mentioned, such as how to deal with 'outliers'; the availability of short time series; break in the series and others. In this context, it was noted that when there is a break in the time series, the choice of the model is very important. The issue of whether countries should publish both seasonally adjusted and non-seasonally adjusted data was also discussed. In this respect, it was noted that both data should be published because of the two types of users. Concerning the issue who should carry out the seasonal adjustment, it was noted that the producer of the data is the best institution to do the seasonal adjustment as often some additional information is needed. Moreover, data analysis of the time series is also required.

12. Participants were also informed about the work done by OECD on seasonal adjustment of industrial production series in some transition economies in Central and Eastern Europe and the Russian Federation. The discussion which took place was successful with the representatives from the countries present actively participating.

## **RECOMMENDED FUTURE WORK**

13. The meeting emphasised that it is important to have special sessions devoted to national accounts organised for transition economies and other interested countries at regular intervals. Participants also stressed that the ECE initiative of organising sessions especially for their benefit in order to enable them to speak out on issues of concern to them should be continued. It was noted that most of the topics discussed at national accounts meetings attended by both developed and transition economies are also important for transition economies. However, often

the level of discussion on certain issues is quite advanced as compared to the experiences or immediate priorities of the transition economies.

14. Several participants also noted that for some national accounts issues, which are relatively new for transition economies, more in-depth discussion is needed. The discussion should be preceded by a lecture introducing the issue, more explanation and even illustration of the problem. In this context, it was suggested that some of the issues which had been already discussed in broader meetings attended by developed and transition economies, could be further discussed in more detail in special sessions organised only for transition economies. Such topics could include: treatment of employee share (stock) options; treatment of off-shore companies, or e-commerce. Several topics of specific concern to transition economies were proposed for the next ECE session, such as: (a) Estimation of Gross Fixed Capital Formation; (b) Productivity of general government sector; (c) Problems with the compilation of financial accounts; and (d) Exhaustiveness of the accounts. The meeting agreed that one or two topics for the next ECE session should be chosen at a later stage after the ECE secretariat consults with all transition economies.

15. The participants endorsed the proposal that the next Special ECE Session on National Accounting Issues of Concern to Transition Economies be organised back-to-back with the OECD Meeting of National Accounts Experts on 12 October 2001 in Paris. It recommended, therefore, that the Special Session be included on the Conferences work programme for 2001/2002.

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