UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE **Working paper 2**
English only

CONFERENCE OF EUROPEAN STATISTICIANS

OECD Meeting of National Accounts Experts
UNECE Special session on issues of concern to economies in transition
(OECD, Paris, 10 October 2003)

PRODUCING FLASH ESTIMATES OF GDP:
Recent developments and the experiences of selected OECD countries

Note prepared by the ECE Secretariat,
Matthew Shearing

1. Introduction

Flash estimates of quarterly GDP are produced by many countries as there are significant pressures to provide economic data as soon as possible after the end of the reference period. This means that such estimates have to be based on incomplete data and various techniques are employed to bridge this gap with differing results in terms of accuracy. A substantial issue that national statistical institutes (NSIs) often face is the trade off to be made between timeliness and quality. Transition economies often face further problems with making earlier and earlier estimates: users may be intolerant or unfamiliar with revisions and compilers are still gaining expertise in extrapolation methods and making assumptions about growth[1].

This paper gives an overview of the current context within which flash estimates of GDP are being made, including recent developments within a selection of OECD countries and Eurostat.

2. Background

What are flash estimates of GDP?

The Eurostat Handbook on Quarterly National Accounts (2000) defines a flash estimate as:

> *"…the earliest picture of the economy according to national accounts concepts, which is produced and published as soon as possible after the end of the quarter, using a more incomplete set of information than that used for traditional quarterly accounts."*[2]

The IMF Quarterly National Accounts Manual (2001) points out that the use of shortcut sources and methods is a common feature of QNA compilation and as such flash estimates do not present any new conceptual issues, it is rather that a higher proportion of such methods have to be used. The IMF Manual does however emphasise the practical concerns about educating users on the limitations of flash estimates and that the record of revisions for QNA should be kept under scrutiny[3].

How are Flash estimates of GDP made?

Estimation methods, although evolving, are commonly based on the same methodology as for QNA compilation. But the earlier the estimate the more extrapolation and imputation techniques have to be relied upon. Statistical modelling (usually involving regression analysis) and econometric tools are linked to high-frequency relationships between GDP components and a number of indicator variables (such as indices of industrial production) that may be readily available at the end of the reference period. As errors in Flash

[1] See 'Compilation of QNA in Transition Economies', OECD, 2002
[2] Page 374.
[3] See Paragraph 1.37

estimates tend to be relatively large, countries tend to release them at higher level of aggregation than preliminary QNA estimates.

Why is there a need for Flash estimates?

Demand for increased timeliness and accuracy from users of macro-economic statistics is increasing. Flash estimates are seen by more and more users as a vital tool in monitoring the phases of the economic cycle. Many central banks and businesses judge that flash estimates allow for their policies and measures to be adapted to these phases in a more timely and thus more successful fashion.

There are also administrative pressures for more and more speedy estimates of GDP to be produced by current EU Member States, accession and candidate countries. A target delay for flash estimates of t+40 to 45 days was endorsed as one of the major infra-annual macro-economic statistical improvements required of EU Member States by the European Monetary Union (EMU) Action Plan (2000). Although the legal requirement is currently t+120 days, this means that, unlike the experiences of countries in Asia and the Pacific (where if subsequent revisions are very large and users have complained, some countries have stopped releasing flash estimates[4]), European NSIs, in general, must seek to resolve accuracy problems and increase the timeliness of flash estimates.

3. Developments at Eurostat

There is currently a great deal of variety in the release periods of different EU countries for first estimates of GDP:

Table 1: Regular delays in the transmission of the first GDP release[5]

Country	GDP	Country	GDP
Belgium	57	Netherlands	45
Denmark	59	Austria	84
Germany	45	Portugal	72
Greece	45	Finland	66
Spain	59	Sweden	64
France	50	United Kingdom	25
Ireland	127	EU and euro-zone	65
Italy	45	*United States*	*25*
Luxembourg	----	*Japan*	*70*

[4] See the 'Report of the OECD/ADB/ESCAP Workshop on QNA' (Bangkok, 2002)
[5] 'Flash Estimation of the quarterly GDP for the euro-zone and the EU - Eurostat methodology' (2003)

Eurostat, through its *Flash Project*, has developed a methodology for compiling flash estimates for the euro-zone and the EU at t+ 45 to 48 days. This delay was seen as "reasonable" due to the experiences of certain countries in undercutting this ceiling (UK and USA: 25-30 days, Italy and the Netherlands: 45 days) but trying to shorten it further would imply a considerable reduction in the available basic information.

The methodology is based on an indirect approach using the flash estimates and/or indicators of the 'major countries' in the EU economy; Germany, France, Spain, Italy and the UK. These estimates and indicators are then combined for estimating GDP for the whole EU area in the context of a regression model based approach[6]. The next targets of the project are to produce flash estimates of the main components of the output and expenditure sides of GDP and the publication of a GDP flash estimate at t+30 days.

4. Experiences of a selection of OECD countries

Australia

The Australian Bureau of Statistics (ABS) does not produce flash estimates of GDP (neither does any other government agency) and there are currently no plans to do so. This is because there is no perceived demand from any key users in Australia for such estimates and the ABS sees its regular QNA releases as meeting the requirements of macro-economic policy determination and analysis.

Germany[7]

The Federal Statistical Office of Germany (DESTATIS) faces two challenges in producing flash estimates. Firstly, the division of labour between DESTATIS and the Statistical Offices of the German Länder (or states) means that for the publication of the estimates, only the figures of some of the Länder are able to be considered and the remaining have to be estimated. DESTATIS analyses which regional figures are the most significant for national aggregation and defines an estimation method - usually based on a regression - to be applied. When the results from all the 16 states are available DESTATIS publishes the revised figures for the national aggregation level.

Secondly, the calculation of German national account data requires the input of more than 80 individual statistics or indicators, some of them produced in-house, others taken from external sources. A project was therefore initiated to investigate the possibility of introducing an ARIMA based nowcasting method with an aim to deliver estimated GDP figures at t+ 30 days. The final results of the project are not yet available but it is expected that the models involved in nowcasting will have to be recalculated periodically.

[6] For more details see: 'Flash Estimation of the quarterly GDP for the euro-zone and the EU - Eurostat methodology' (2003)
[7] For more details see: 'Use of modelling techniques and flash estimates at the Federal Statistical Office of Germany' - STESEG Task Force on Timeliness and Benchmarking, OECD (2003).

Israel

Preliminary quarterly estimates are published 45 days after the end of the quarter. The estimates are based on data for the whole quarter on exports, imports, and prices, and for only the first two months of the quarter for most of the other variables. The missing components are estimated using partial indicators or budget data, or trends if no indicators are available. The expenditure method is used for preparing the preliminary estimates, since a more complete data set exists for preparing GDP from the expenditure side. However, the results are compared with partial data on GDP from the production side, and the development of wage and employment data is also examined.

Due to problems with seasonality, trading days and lack of quarterly budget data, it has often proved more difficult to prepare quarterly early estimates than it is to produce annual estimates. The estimates for half years are also considered more reliable than the quarterly estimates, so that usually the development over half years is stressed in the press releases, and the public is warned about the lower reliability of the quarterly “flash” estimates.

Japan[8]

The first preliminary quarterly estimates of GDP were released around two months and 10 days after the end of the quarter, which was considered to be of limited use in monitoring and analysing current developments in the economy. A committee on earlier dissemination of GDP data was therefore established in 1998. It concluded that flash estimates should be produced approximately one month and 10 days after the end of the quarter but that naming them "preliminary estimates," or similar, should be avoided as they are based are more incomplete information than the first preliminary estimates. It was also found that since errors in flash estimates would be relatively large such estimates should be presented at a higher level of aggregation.

The Netherlands

Statistics Netherlands introduced a flash estimate in 1991/92 at about 8 weeks from the end of the quarter. This was shortened to t+45 in 2001/02. Exactly the same method is employed for the flash and the regular estimates, based on a quarterly updated input-output table, but flash estimates have been released at a more aggregate level and rely far greater on additional assumptions, econometric modelling and extrapolation. For large parts of the service industry forecasting has been the only possible way of including it in the flash estimate.

The United Kingdom[9]

The Office for National Statistics (ONS) releases flash estimates at 3 and half weeks (t+25 days) after the end of the quarter. These are mainly derived from the output measure of

[8] For more details see: 'A New Approach to the Estimation of Quarterly GDP: Toward production of "Flash" Estimates': Executive Summary of the Report by the Committee on earlier dissemination of GDP data (1999)
[9] For more details see: 'How the preliminary estimate of GDP is produced', ONS (2000).

GDP, which is believed to be the best indicator of short-term economic change. The methodology is essentially the same for the preliminary and subsequent estimates.

The estimates are based on incomplete data: around 58% is supplier data, 26% supplier estimates, and 16% ONS estimates. Between 1996 and 2002, however, there were only two occasions when the revision to the quarterly movement has been over +or-0.2%, where the average quarterly movement is around 0.5%. The ONS has a performance target with The Treasury (the UK ministry of finance) that no more than one estimate in four should be revised by more than 0.2%.

Flash estimates were first published in 1993 and were made possible by improvements in the quality of the early indicator results. New quarterly turnover inquiries (QTIs) were directed to many of the economically important private sector service industries. These new surveys, however, drew samples from parts of the ONS business register that had previously been little used and therefore were of poorer quality. Subsequent improvements in these parts of the register, however, meant that the sequence of estimates suffered from a series of discontinuities. Therefore, bridging adjustments are often necessary in industry series.

The new range of QTIs also meant a new range of deflators was required, but industry specific price indices were and still are rare (despite ongoing work in this intrinsically difficult area). The ONS recognises that the lack of such indices may have a greater long-term effect than short-term, as there may be a small effect on a single quarter but the estimated change in an industry's output may be caused to drift incorrectly over time. However, this should show up as an imbalance in the National Accounts and if significant it can be remedied through normal balancing adjustments.

The ONS releases the estimates at a press conference where it gives some qualitative explanation of the unpublished figures in order to explain how the aggregate is derived. The response from users has suggested to the ONS that this contributes to the value the customers receive from the estimate and to their confidence in it.

5. Issues for discussion

Participants may wish to have the following in mind when discussing the issue of producing flash estimates in a transition economy;

i) Is there enough user demand to justify the resources needed for producing flash estimates in transition economies?

ii) In OECD countries, compilers and users of short-term economic indicators have managed to build up good relationships based on user-education and transparency in methodologies. What is the experience of transition economies in trying to build such relationships?

iii) As supplier data cannot always be delivered in a timely enough fashion, what do participants feel is the minimum ratio of supplier data to estimated data which could produce reliable flash estimates? and, are there any practical ways to increase the supply of data from economic units?

References

'Eurostat Handbook on Quarterly National Accounts' - Eurostat (2000).

'Quarterly National Accounts Manual: Concepts, Data Sources, and Compilation' - IMF (2001).

'Flash estimation of the quarterly Gross Domestic Product for the euro-zone and the European Union - Eurostat methodology' - European Commission/Eurostat (2003), Methods and Nomenclatures (Theme 2: Economy and Finance).

'A Monthly Indicator of GDP for the Euro-Zone' - European Commission/Eurostat (2003), Working Papers and Studies.

'How the preliminary estimate of GDP is produced' - G. Read, ONS, Economic Trends, No.556 March 2000.

'Real-Time GDP Forecasting in the Euro Area' - A. Baffigi, R. Golinelli, & G. Parigi (2002).

'Report of the OECD/ADB/ESCAP Workshop on Quarterly National Accounts - Bangkok, 17-21 June 2002' - ESCAP (2002).

'Compilation of Quarterly National in Transition Economies' - F. Maitland-Smith, OECD (2002).

'How much Information is in the UK Preliminary Estimate of GDP?' - G. Read, ONS, paper submitted to IARIW Conference, August 2001.
