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## **RAPID ESTIMATES OF GDP IN CIS AND WESTERN BALKAN COUNTRIES**

Paper by the UNECE Secretariat<sup>1</sup>

### **I. INTRODUCTION**

1. A study of the ongoing work in the Commonwealth of Independent States (CIS) and Western Balkan countries on high frequency statistics (rapid estimates) is one of the current priority activities of the Statistical Division at the United Nations Economic Commission for Europe (UNECE). The purpose of this study is to have an overall picture of the strengths and weaknesses of the existing rapid estimates in order to identify areas for future work and technical assistance.

2. One of the principal high frequency indicators is Gross Domestic Product (GDP). Already in October 2003 at a workshop on national accounting for transition economies with the representatives from the CIS, Western Balkans and some of the now new EU member countries, the UNECE secretariat presented a paper on the production of flash estimates of GDP. The purpose of the paper was to raise the awareness of these countries about the practices in some OECD states and most importantly about the work done by the EU countries.

### **II. BACKGROUND**

3. The current economic downturn emphasises the need for fast, reliable and comparable statistics. The last UN Statistical Commission, held in February 2009, discussed the impact of the current financial crisis and the need for high frequency statistics which are timely, reliable and comparable over time and between countries and regions. Significant user demand for GDP rapid estimates exists in almost every country. They are seen as a vital tool in monitoring the phases of the economic cycle. The demand originates mainly from the national central banks, ministries, policy makers, economists and researchers. The international users also request the data that will enable them to analyse the recent development in different countries. Timely and reliable rapid estimates require many new estimation and sampling techniques as well as identification of new sources of data.

4. This document deals with some issues related to the production of rapid estimates in the CIS and Western Balkan countries and Mongolia. It builds on work initiated by the

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<sup>1</sup> The paper is prepared by Lyubov Chumakova, Rami Peltola and Tihomira Dimova

UNECE in 2003 and presented at the above-mentioned workshop for transition economies<sup>2</sup>.

5. Most, if not all, of the CIS and Western Balkan countries have set the alignment with EU standards as a target in their national statistical programmes. Therefore, in this paper, references are often made to the extensive work in this area done by the EU countries and Eurostat.

6. Two international manuals provide methodological guidelines for the production of high frequency statistics: the Eurostat Handbook on Quarterly National Accounts (1999) and the IMF Quarterly National Accounts Manual (2001).

7. The Eurostat Handbook on Quarterly National Accounts (QNA) 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."*

8. Because they are early estimates and of high policy relevance, the rapid GDP figures attract a lot of attention from various users and the media. By their very nature, the figures are based on incomplete data and various techniques need to be employed to bridge the gap of missing data. Therefore, the trade-off between quality and timeliness of flash estimates has to be analysed and clearly explained to the users.

9. The IMF Manual emphasises the practical concerns about educating users on the limitations of rapid estimates and that the record of revisions for quarterly national accounts should be kept under scrutiny. The IMF Manual also points out that the use of shortcut sources and methods is a common feature of QNA compilation. As such rapid estimates do not present any new conceptual issues, it is more a question of using a higher proportion of such sources and methods.

10. The Eurostat handbook emphasises the fact that the rapid estimates of GDP are not just an earlier release of the quarterly accounts, but are in fact a different product. The rapid estimates of GDP require more use of estimation methods because less source data are available. The difference between the normal estimation of quarterly accounts and the rapid estimates consists essentially of the statistical methods used.

### **III. SURVEY OF THE PRODUCTION OF RAPID GDP ESTIMATES**

11. For the *International Seminar on Timeliness, Methodology and Comparability of Rapid Estimates of Economic Trends*, the UNECE secretariat made a regional assessment of the practices in the production of high frequency statistics. The UNECE region covers the EU member states, North America, the CIS and Western Balkan countries. Since the main focus of the work of the UNECE is on the CIS and Western Balkans region, the survey and the assessment is done mainly for these countries. Short descriptions of the experiences of the following countries are given in the annex to this paper: Belarus, Kazakhstan, Mongolia, Russian Federation and Ukraine.

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<sup>2</sup> For more information, please refer to [www.unece.org/stats/documents/2003.10.sna.htm](http://www.unece.org/stats/documents/2003.10.sna.htm)

12. The survey was conducted with the aim of collecting information on the availability, timeliness, production methods and dissemination of rapid estimates of GDP. Information was also sought on the plans for future statistical work in this area.

13. The short questionnaire consisted of two parts:

- (a) The first part presented a table to collect information on the timeliness of GDP estimates. It covered both the production of the regular quarterly and annual national accounts as well as the so-called rapid or flash estimates.
- (b) The second part of the questionnaire asked for a more detailed description of how the rapid estimates are produced (sources and methods), the publication and dissemination policy, quality assessments and plans for further improvements.

14. Countries were also requested to provide any other available material that describes the methods used in the production of rapid estimates of GDP.

#### **IV. RAPID ESTIMATES OF GDP**

##### **A. Availability of Rapid Estimates in the Surveyed Countries**

15. The following countries participated in the survey:

- (a) Ten CIS countries: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan and Ukraine;
- (b) Six Western Balkan countries: Albania, Bosnia and Herzegovina, Croatia, Montenegro, Serbia and The former Yugoslav Republic of Macedonia;
- (c) Mongolia.

16. The survey shows that altogether eight countries have started to produce rapid estimates of GDP: Armenia, Azerbaijan, Belarus, Croatia, Kazakhstan, Kyrgyzstan, Russian Federation and Tajikistan. Nine countries do not have any rapid estimates of GDP: two of them (Bosnia and Herzegovina and Montenegro) do not produce QNA and one (Albania) has only recently introduced it. This fact indicates that half of the countries of concern for the UNECE secretariat still have some way to go before they develop high frequency estimates. On the other hand, it should be noted that Tajikistan does not produce QNA, but produces rapid estimates of GDP on a monthly and quarterly basis.

17. Table 1 summarises the information received with regard to the availability of rapid estimates of GDP and the release dates in the surveyed countries. From the beginning, attention should be drawn to two facts: first, the terminology used to define rapid estimates differs across the countries; and secondly, most of the CIS and Western Balkan countries still compile estimates on a cumulative basis. This is explained in more detail in the following paragraphs.

**Table 1. Availability and release dates for the GDP rapid estimates, produced by Mongolia, the CIS and Western Balkan countries**

Country	Avai- lability	Terminology used for defining the estimates	Periodicity	Release date after the end of the reference period, t+...
Mongolia	No			

**CIS**

Armenia	Yes	Flash	Monthly, cumulative*	20
		Preliminary	Monthly, cumulative*	30-31
Azerbaijan	Yes	Preliminary	Monthly, cumulative*	15
Belarus	Yes	Preliminary	Monthly, cumulative*	15
		Preliminary	Quarterly	15
Georgia	No			
Kazakhstan	Yes	Short-term economic indicator (STEI)	Monthly, cumulative*	12
		Preliminary	Quarterly	45
Kyrgyzstan	Yes	Short-term forecast	Monthly	before 30th of current month
		Preliminary	Monthly	8-12
		Preliminary	Quarterly	8-12
Moldova, Republic of	No			
Russian Federation	Yes	Preliminary	Quarterly	30
Tajikistan	Yes	Preliminary	Monthly, cumulative*	10-12
		Preliminary	Quarterly, cumulative*	10-12
Ukraine	No			

**Western Balkans**

Albania	No			
Bosnia and Herzegovina	No			
Croatia	Yes	Short-term forecast	Quarterly	45
Montenegro	No			
Serbia	No			
The FYR of Macedonia	No			

**\* Cumulative**

*The reported monthly/quarterly cumulative statistical indicators are estimated like a progressive total based on summed up data since the beginning of the year. In this way, only the estimations for the first reporting period of a year are equal to the corresponding non-cumulative (distinct) indicators.*

## B. Terminology

18. The issue of terminology used to define rapid estimates of GDP is important. The different names may or may not involve a difference in the methods used. Table 1 reflects the variety of different terms employed referring to the rapid estimates of GDP.

19. The term *flash estimate* is widely accepted by the EU countries, but the survey showed that some countries in the UNECE region also use other terms such as *preliminary estimate*, *first estimate*, *short-term forecast*, etc., meaning practically the same indicator.

20. Confusion often appears in relation to the term *preliminary* that is frequently used by the CIS countries. Sometimes the term *preliminary* is used to indicate the rapid estimate of GDP, which is produced by applying statistical methods (extrapolations, adjustments etc.) on incomplete source data. In other cases, *preliminary* designates the regular set of QNA that are produced on the complete quarterly data set but which are not yet reconciled with the annual accounts.

21. It is possible that some confusion might be caused by differences in the translation of the terms from English into Russian. It is, however, very important to communicate to the users what kind of indicator is presented. And, of course, it would be best if one common name could be defined for similar indicators.

## C. Cumulative Estimates – a Heritage from the Past

22. Traditionally, the cumulative indices were considered very important for economic analysis in the CIS countries. That was the reason why the data collection and processing systems were initially developed on a cumulative basis. The production of cumulative national accounts series is determined by the existing cumulative data sources and book-keeping standards. However, due to the limited usability of cumulative indices, they should be provided only as additional information.

23. The cumulative indices are a measure of summarising the development during the current year compared to the corresponding period of the previous year. For example, when data is available for April of the current year, new information is provided from January to April instead of separate data for each month. In practice, the series of cumulative indices are hybrids consisting of moving averages with various steps. Thus, the length of the reference period changes with each publication of data.

24. There are at least three problems with the use of cumulative indices. Firstly, a user of statistics cannot derive a correct monthly or quarterly time series. This is because the revisions to the earlier periods cannot be matched to the correct periods of time. Also as a result of these distortions, time series derived from cumulative data will have incorrect seasonality. Secondly, these data are not suitable for international comparison and analysis. The common international practice is to produce time series with information for individual periods of time. Thirdly, the cumulative indices are slow in identifying turning points as explained by the Statistical Manual of the World Bank (2006):

*“For early identification of turning points in the economy, data over discrete periods (weeks, months or quarters) rather than cumulative data are required. Period-to-period changes in discrete data give the earliest identification of turning*

*points, while year-to-year changes identify turning points on average to periods later, and year-to-year changes on cumulative data even later.”*

25. In recent years, the majority of short-term statistics in the CIS countries is published on a discrete basis. The change of the data source is an important prerequisite and allows most of the countries to switch to the production of proper time series of ‘pure’ quarters. In some of the countries, however, because of the continuing demand from domestic users, both types of estimates are published – on a discrete and on a cumulative basis.

26. The analysis that follows disregards the issue of “cummulativism”. The presented overview of the practices in the surveyed countries does not consider further the usefulness and analytical interests in the cumulative GDP estimates.

#### **D. Timeliness Targets for Rapid Estimates of GDP**

27. As mentioned above, most of the CIS and Western Balkan countries aim at aligning their statistics with the EU standards and with the ESA transmission programme in particular. Therefore, this paper often uses as a benchmark the experiences and practices applied by the EU countries and Eurostat.

28. Currently, Eurostat publishes three releases for the GDP of the EU and euro area for each quarter: the *flash estimate* at around T+45 days consisting of GDP growth for the latest quarter only. No other series are revised. More than half of the EU countries are able to produce their own flash estimates well in advance for the EU area flash estimate. The next regular releases with revisions to historical data (*first estimates*) are published at around T+63 days and the *second estimate* at around T+98 days.

29. In addition, there is user demand for producing rapid estimates faster. In the first phase the EU has set a target to further consolidate the release dates and increase the number of EU countries that compile flash estimates of GDP. The second phase is to provide quarterly flash estimates within T+30 days in 2012, if the feasibility studies undertaken in 2009 have a positive outcome.

30. The CIS and Western Balkan countries, as well as Mongolia, recognise that there is a significant user demand for rapid GDP estimates, particularly by the central banks and the various ministries. There is awareness that if the statistical agencies do not react and do not supply this information, the gap may be filled in by other institutions not coordinated within the statistical system. In this case, there is a risk that the quality and reliability of estimates can be compromised.

31. Already at the workshop held in 2003, the transition economies considered realistic target timeliness for the production of rapid estimates to be T+45 days. As the survey showed, six years later, this target has been achieved by those countries that produce rapid estimated of GDP. At the same time it should be noted that, in the case of the countries that do not yet produce rapid estimates of GDP, it is important that the need for rapid estimates be analysed with a view to the reasonable use of the scarce resources.

## V. PRACTICES AND MAIN PROBLEMS IN PRODUCING RAPID ESTIMATES OF GDP

### A. Trade-off between Timeliness and Accuracy

32. The trade-off between timeliness and accuracy has to be explored to understand the possible impact on early estimates of GDP. Unfortunately, up to a certain level they are mutually exclusive. Where timeliness improvements are possible with no or little loss in reliability, these should be examined and implemented. At an earlier stage, already back at the 2003 workshop, the CIS and Western Balkan countries emphasised that the first issue that should be addressed when developing methods for production of rapid estimates of GDP was the inconsistency between quarterly national accounts and the source statistics.

33. The quality and availability of source statistics affects the accuracy of rapid estimates of GDP. The unavailability of suitable source statistics was indicated as a problem in many of the countries that participated in the 2003 workshop. Six years later, as was observed from the survey results, most of the countries which produce rapid estimates do it in 8 – 20 days after the reference period (See Table 1), which is ahead of the current EU countries' deadline of T+45 days. The basis for production of rapid estimates of GDP is often the short-term economic statistics (STS) where the timeliness is generally good. However, in these countries STS do not cover many service activities and therefore projections and assumptions have to be made.

34. To ensure the accuracy of early estimates, it is essential to compare the results with all the alternative data sources available. Eurostat recommends that GDP be estimated from more than one approach in order to improve the accuracy. For example, if the estimates are prepared using the output approach, it would be useful to examine the results against the development of wage and employment data. But one of the trade-offs between timeliness and accuracy is that, in practice, this kind of comparison is rarely possible in the production of the fastest rapid estimates of GDP.

35. Most of the surveyed countries indicated that they have made assessments of the accuracy of their rapid estimates of GDP (see Table 2). The consistency of the first estimates with the final quarterly and annual national accounts is analysed.

36. Revisions should have a tendency to be random: equally likely to be positive or negative and centred around zero. The randomness of revisions means that they can not be predicted. Revisions may also be used as a measure of bias. If they are predictable, it is an indication that some adjustment should be made in the compilation process of statistics and accordingly the quality of the estimates be improved. Thus, for example, Tajikistan reported that their rapid estimate of GDP was regularly underestimated by a difference of 1.5 – 2.0 % in nominal terms. This bias could be analyzed so that problem areas are identified and corresponding adjustments are introduced.

37. Generally, revisions originate either from revised source statistics or from the estimation of unavailable data. Four countries provided information on the average size of revisions of rapid estimates of GDP compared to the final values. These revisions varied from 0.3% to 3.0% for nominal data and in the case of growth rates from 0.1% to 0.5%. Kyrgyzstan reported that only insignificant revisions of the rapid estimates are made compared to the final annual GDP figures. Armenia and Belarus mention that regular assessments are made, but the size of the revisions was not reported.

**Table 2. Quality assessments undertaken by the surveyed countries producing monthly or quarterly rapid estimates of GDP**

Country	Availability of undertaken assessments	Comments	Observed differences between rapid estimates and final values	
			For nominal data	For indices / growth rates
<i>CIS</i>				
Armenia	Yes	Regular comparisons with the final results; additional validation and verification of source data; data and methods adjustments.	not reported	not reported
Azerbaijan	Yes	Periodical check for consistency with final annual and quarterly data.	< 3.0 %	< 0.2 percentage points
Belarus	Yes	Regular assessments and adjustments after the accounts based on a complete set of source information are available.	not reported	not reported
Kazakhstan	No	Special assessment was not undertaken; the differences in the growth rates between the first estimates and the final series are observed	not reported	0.1-0.2 percentage points
Kyrgyzstan	Yes	Assessments undertaken after the final annual data are available.	insignificant	insignificant
Russian Federation	Yes		< 0.3%	< 0.2 percentage points
Tajikistan	Yes	The first estimate of GDP is regularly underestimated by the reported difference.	1.5 - 2.0 %	insignificant
<i>Western Balkans</i>				
Croatia	No			

**B. Estimation Methods**

38. Estimation methods, although evolving, are commonly based on the same methodology as that used for the QNA compilation. However, the earlier the estimate is produced, the more extrapolation and imputation techniques have to be applied. In the production of rapid estimates, statistical modelling, time series models, regression analysis and other econometric techniques are linked to high-frequency relationships between GDP components and a number of available indicators. Due to the uncertainties with the rapid estimates, countries tend to release their rapid estimates of GDP at a higher level of



aggregation (usually at the level of total GDP and/or total value added) than the preliminary QNA estimates.

39. Different estimation methods are used in many of the EU countries. For example, in the extrapolation approach, the relationship between the growth of an indicator and the estimated aggregate is identified and included into a multivariate model to obtain more accurate estimates. The use of even relatively simple models can refine the quality of statistics compiled from incomplete data. In the case of the CIS and Western Balkan countries, more practical methods are suitable since the limited resources affect the choice of the method. The extrapolation techniques require relatively long and consistent time series of the underlying source indicator. The problem is that such time series are not available in many of the CIS and Western Balkan countries. The use of register data could provide a solution to the lack of time series data, where the registers also include historical data.

40. Most of the surveyed countries report using econometric models and different adjustment techniques to produce rapid estimates. Estimating the unavailable data is a crucial part of the production. Projections are essentially needed for those activities or sectors where source data is not available at the time of the flash estimate. Six years ago, only a few of the CIS countries reported using econometric modelling in producing their estimates. Thus, there has been significant improvement in the production methodology.

41. The production of rapid estimates relies on the use of leading and proxy indicators such as the index of industrial production. For example, the new orders index may give better forecast information about the business cycle, whereas turnover is usually considered to be a lagging indicator, since sales happen after production. However, this always depends on the applied methodology. Thus, for example, an assessment made in the EU countries showed that the new orders index was not considered to be a successful leading indicator.

42. In the CIS and Western Balkan countries, information on industrial production, retail trade and prices are the timeliest indicators available for the projections of rapid estimates of GDP. Often the output of the given activity in volume terms is estimated by projecting the output for the same period of previous year by the corresponding volume index of industrial production. Where possible price indices are used to calculate the nominal value of the output.

43. A common problem is the estimates of the output of the services sector, which are mostly based on incomplete or non-existent data. Some countries also experience problems with finding suitable data sources to calculate the value of intermediate consumption. The missing components are approximated using partial indicators or variables such as exports and imports. For some data series, such as wages and salaries, data for only the first two months of the quarter are used.

44. In some of the CIS countries, price indices for goods and especially for services are not well developed, and these indices are necessary for the deflation of nominal data. The unavailability of price indices for services prevents the construction of suitable deflators for intermediate consumption. In this case only the producer prices for industry are used to deflate both output and intermediate consumption. This leads to applying of single deflation method which is a simplification and can cause a decrease in the accuracy of the calculations. While this is also an issue for regular QNA the problem is even more crucial for rapid estimates.

45. Currently, most of the surveyed countries compile complete QNA data using three methods in nominal and real terms. Unlike most of the EU members, the CIS countries use the output approach as a leading method to estimate GDP and to produce rapid estimate. This practice is a continuation of past practices when the division between material and non-material production existed and good (or even exhaustive) coverage of the producing units was ensured in the statistical surveys. Faster availability of data from the production side explains the early releases of rapid estimates of GDP by these countries.

46. In the last few years, many CIS and Western Balkan countries have improved the exhaustiveness of the national accounts by including estimates for non-observed economy. The replies to the questionnaire have shown that the majority of the countries incorporate these estimations and adjustments in the rapid estimates of GDP. This has considerably improved the quality of the compiled statistics.

### **C. Communication with Users**

47. Revisions are an essential part of the process of providing decision-makers with the most reliable picture of economic activity at a particular point in time. There is a common interest for users and producers of statistics in minimizing revisions without sacrificing timeliness of the first estimates or accuracy of the final estimates. In cases where revisions are caused by changes in the compilation methods or in the definitions, it is important to make this clear to users.

48. User education is considered very important by the CIS and Western Balkan countries in order to increase understanding about the reasons for revisions. All countries highlighted that much more needs to be done in order to develop the relations with the users of statistics and the media. There is a lot of sensitivity with regard to the estimate of GDP growth.

49. During the last few years, most of the surveyed countries worked effectively developing or improving their distribution policy. Among these improvements is the availability of advance release calendars. Most of the countries publish an advance release calendar for the entire year. Frequently, the calendars include a schedule for the different revisions of the GDP figures.

50. In most of the countries compiled data are made publicly available simultaneously for users at all levels. Various formats are used for distribution purposes. However, further improvement of the communication policy is still needed in some of the countries. For example, Croatia produces a short-term forecast of GDP which is not included in the release calendar and is not publicly distributed. However, countries indicated that, because of the limited resources available and other priorities for improving the production of the regular annual and QNA estimates, the communication policy is not a current priority in their work.

## **VI. CONCLUSIONS**

51. The accuracy of the estimates is the first priority in the production of rapid estimates of GDP regardless of the pressure for timeliness. If timeliness endangers accuracy, the resulting statistics may be irrelevant and misleading to the public. Therefore, continuous work remains to be done in all countries producing rapid estimates.

52. For the CIS and Western Balkan countries, timeliness and sample sizes of source statistics are in most cases sufficient. The use of estimation methods in the compilation of the estimates has become more common. In assessing the situation with the production of rapid estimates of GDP in the CIS and Western Balkan countries, the main challenges are: coverage of service sector, insufficient use of administrative data sources, frequent revisions in methodology that lead to lack of long time series and issues related to the publication policies.

53. Improvements need to be made with regard to the coverage of the economic activities. The emphasis in the economy is shifting from industrial production towards services. There are still many deficiencies in the production of statistics on services: the existing indicators are published with great delay, information about the production of services is lacking, price indicators are very rare and the services produced by manufacturing enterprises may escape the industrial production index.

54. To improve the coverage of the economy and to enhance the use of estimation methods, the possibilities of register and other administrative data sources could be further investigated in the CIS and Western Balkan countries. Increased exploitation of register data and the modernization of data collection methods would make it possible to gain new data while reducing the response burden. It should be noted that the use of registers for the production of rapid estimates of GDP will require the use of estimation methods, since the register data does not accumulate fast enough. Most often, the register data is used for the first two months of the quarter, whereas the third month is estimated.

55. At present, the methods used for the compilation of rapid estimates vary greatly across the CIS and Western Balkan countries, as they vary across the EU countries. Some differences exist with regard to the coverage of the quarterly surveys, availability of source statistics, publication delays and revision policies. The survey showed that there is a need to develop guidelines for the compilation of rapid estimates of GDP. This also means that guidelines for the production of source statistics be developed.

56. With regard to the use of econometric models in the CIS and Western Balkan countries, the lack of long time series is a problem. For most of these countries, during the last 10-15 years, there have been many changes in the classifications as well as in the methodology used for compiling basic short-term statistics and QNA. This creates additional difficulties for the application of econometric models in the production of rapid estimates of GDP.

57. Cooperation with users of statistics needs to be improved. It is important to communicate the reasons for revisions and to explain the applied methods to the public. Revisions are an inevitable part of producing rapid estimates. Thus, analysis of revisions and relations of statistics used in the compilation of rapid estimates of GDP is also important in improving the quality of estimates.

58. Most of the CIS and Western Balkan countries have produced an advance calendar to indicate the future revisions of estimates and they have formulated publication policies. However, some countries still release only cumulative indices of the rapid estimate of GDP, which hampers the international comparability of data.

59. The numerous development needs in the area of statistics require adequate resources. Lack of resources implies not only a decision on where to use the scarce resources available, but also the development of new more productive measures to react to user

needs. The improvement of productivity is a slow process, but inevitable in some of the CIS and Western Balkan countries to enable the internationally comparable and comprehensive production of statistics in the long run. Improvement of productivity requires that new technology, new statistical methods and administrative data sources be efficiently exploited.

## ANNEX

## RAPID ESTIMATES OF GDP: EXPERIENCES IN SELECTED COUNTRIES

**Belarus**

1. The National Statistical Committee of the Republic of Belarus produces monthly and quarterly rapid estimates of GDP. The output approach is used for compiling these estimates, since a more complete data set exists for preparing GDP by the production side.
2. Traditionally, time series are kept on cumulative basis taking into account the specific nature of formerly existing material production system, book-keeping standards and users' demand. Therefore, the rapid monthly estimates are cumulative and the first discrete quarterly GDP indicators are calculated from the cumulative data as differences.
3. The monthly data sources have limited coverage. Adjustment and extrapolation methods are developed in order to estimate the output components of total GDP. The quarterly data of the previous year are disaggregated by months and the respective volume and price indices are applied to calculate the aggregates of the current quarter. The estimates are published 15 days after the end of the reference period in press-releases and on the web. Regular assessments and adjustments of the firstly reported rapid estimates are undertaken when the more complete set of source data is available.

**Kazakhstan**

4. The first monthly estimates of GDP are published 12 days after the end of the month by the Agency of Statistics of the Republic of Kazakhstan. They are named *short-term economic indicators* (STEI), referred also as mini-GDP. The calculation is made from the output side on the basis of information for the following major activities: agriculture, industry, construction, trade, transport and communication. The share of these activities in the total GDP is about 67-68%. The value of output and price and volume indices (both previous period = 100 and corresponding period of previous year = 100) on monthly basis are used for the extrapolation.
5. The STEI data are regularly released in "Socio-economic development of the Republic of Kazakhstan". This publication is available as a hard copy and in electronic format at the website of the Agency of Statistics of the Republic of Kazakhstan. The Agency had not undertaken any special quality assessment for these indicators. However, the differences in the growth rates between the first estimates and the final series usually do not exceed 0.1-0.2 percentage points. For 2010, there are plans to include STEI estimations into the Plan of statistical work. The more complete set of preliminary quarterly GDP data is already reported 45 days after end of the reference quarter.

**Mongolia**

6. Currently, the National Statistical Office of Mongolia does not produce rapid estimates of GDP. However, the timely available complete set of quarterly source data allows publishing of the regular QNA already at 40 days after the end of the reference period for three first quarters and at 10 days for fourth quarter. These data are publicly available in press releases, statistical bulletins and on the web in accordance with adopted publication calendar called "Release schedule for official statistics, results from censuses

and surveys”. Only one revision to the first QNA set is undertaken later when they are reconciled with the annual data.

7. Bearing in mind that the target timeliness in the EU is T+45, the Mongolian QNA data could be qualified as rapid. Nevertheless, for 2009 the NSO of Mongolia has plans to produce an additional short-term forecast of GDP.

### **Russian Federation**

8. The Federal State Statistics Service of the Russian Federation (Rosstat) produces the rapid quarterly estimates of GDP 30 working days after the end of the quarter. The output approach in combination with extrapolations and expert analysis is used for preparing the rapid estimates. The following monthly operative data are used for the calculations: output and shipments of goods; revenues from service activities; industrial output indices for NACE Sections C, D and E; volume indices for freight and passenger turn-over, retail trade and wholesale turn-over; price indices by activities.

9. The rapid estimates are disseminated at the web as express information, used for economics reference by different Ministries and released in “Economic situation in Russian Federation” report in accordance with a publicly available calendar. Rosstat undertook quality assessment of the rapid QNA data. The outcome of the assessment was very satisfactory. The observed differences between the first and final estimates of GDP are less than 3.0 percentage points for the nominal data and only about 0.2 percentage points for the growth rates.

### **Ukraine**

10. The State Statistics Committee of Ukraine does not produce rapid estimates of GDP. Until 2008 the monthly express estimates were published 15 days after the end of the reference month. Beginning 2009 the methods for production of NA have changed. Now the short-term NA data are compiled only on quarterly basis and are published 90 days after end of the reference quarter. The expenditure approach is the leading for current prices GDP and output data is leading for constant prices estimations.

## **REFERENCES**

Eurostat (1999), *Handbook on Quarterly National Accounts*, European Communities, Luxembourg.

OECD (2007), *Revisions in Quarterly GDP of OECD Countries: An Update*, Paper prepared by R. McKenzie and Z. Adam, Working Party of National Accounts, Paris.

OECD (2008), *Assessing the Efficiency of Early Release Estimates of Economic Statistics*, Paper prepared by Richard McKenzie (OECD), Elena Tosetto (OECD) and Dennis Fixler (US BEA), Working Party on National Accounts, Paris.

United Nations Economic Commission for Europe (2003), *Producing Flash Estimates of GDP, Recent Developments and the Experiences of Selected OECD Countries*, Paper prepared by Matthew Shearing, Special Session for Transition Economies, Paris.

United Nations Statistics Division and Department of Economic and Social Affairs, IMF and the World Bank (2009), *Minutes Official Statistics and the Impact of the Global*

*Financial Crisis Meeting on the Official Statistics and the Global Financial Crisis*, New York.

World Bank (2006). *Statistical Manual*

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