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OECD Short-Term Economic Statistics Expert Group

**Short-term Economic Statistics Expert Group (STESEG):
Task Force on Data Presentation and Seasonal Adjustment**

Task Force recommendations for the presentation of growth rates

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Room C

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Prepared by members of the Task Force on Data Presentation and Seasonal Adjustment

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English - Or. English

TASK FORCE RECOMMENDATIONS FOR THE PRESENTATION OF GROWTH RATES

The OECD STESEG task force on presentation and seasonal adjustment developed a quite comprehensive discussion of the issues involved in the presentation of growth rates of short-term indicators, focusing on issues that arise in the dissemination of indicators (i.e., in press releases, in tables posted on the website of statistical institutions, etc.). Any particular rate of change can be useful depending on the needs of a specific analyst and this is not the concern of our analysis. Here rather, we are considering the most suitable way of presenting economic indicators to the general public, in order to prevent misunderstandings in the reading of economic events.

Rate of change with respect to previous period

Monthly or quarterly growth rates (with respect to the previous period) on raw series are not very informative, unless seasonal effects are negligible. This is the reason why statistical institutions seldom use them in their releases of indicators affected by seasonal fluctuations. The growth rate on seasonally adjusted series (or for raw data where seasonal factors are of no significance), conveys the most recent information contained in a time series (trend-cycle and irregular movements) and is the best way of presenting short-term developments, even if the irregular component is relatively large. To deal with irregular movements that blur the trend-cycle the rate of change based on two or three month's worth of values¹ can be utilised. This practice, which is customary in some countries, seems a very convenient (and transparent) way of quantifying the short term movements averaging out a reasonable part of the irregular component.

Percentage changes based on the trend-cycle component should be avoided if presenting current developments, since the trend-cycle values at the current end of the series are usually estimated by extrapolating the underlying trend of the recent past and therefore can convey misleading information about the true current movement. Although seasonally adjusted time series are also revised over time, they reveal sooner the cyclical turning points than raw or trend-cycle series.

Rate of change with respect to the same period of previous year

The change from previous year (henceforth year-on-year change, YoY) can be misleading in assessing the cyclical movements of an indicator, due to the compounding of movements over a 12 month span. However its utilisation is very common in the current practice of users and media. Where necessary, special effects contained in the base period should be highlighted when presenting YoY changes (base effect).

The YoY changes should be applied to raw data and to data adjusted for calendar effects if the latter are available; in this way the trading day effects are made clear. Technically it would not be incorrect to advise against the utilisation of YoY changes on seasonally adjusted data. In particular, when the seasonal component is not deterministic, the rate of change on raw and SA data can be different, conveying conflicting signals, leading the general public and even some informed users to question the validity of the

¹ For example, $(X_t + X_{t-1}) / (X_{t-2} + X_{t-3}) * 100 - 100$ or $(X_t + X_{t-1} + X_{t-2}) / (X_{t-3} + X_{t-4} + X_{t-5}) * 100 - 100$.

results. However, YoY change calculated on SA series is a very common practice. This is a point that deserves some discussion, maybe advising against this practice and recommending instead YoY changes on raw and calendar adjusted data.

Annualised growth rates

Extreme caution should be exercised when annualising changes that occur within the space of a year and data should only be annualised on the basis of seasonally adjusted and calendar adjusted time series which contain minor irregularities. This means that annualising the growth rate of a single month can result in misleading signals. In turn, proposing a minimum length for the period to be annualised (for instance, six months), while correct in principle, seems not very worthwhile in practice, as press releases and other dissemination formats seldom allow for such a kind of data transformation.

It is important that an explicit definition of the “annualised rate of change” be recommended (see Standard Terminology).

Recommendations for presentation of growth rates

- For rate of change with respect to previous period, seasonally adjusted data is the best way of presenting information about a time series (trend-cycle and irregular movements) and of presenting short-term developments, even if the irregular component is relatively large. To deal with irregular movements that blur the trend the “rate of change based on two or three month’s worth of values” can be utilised. Percentage changes based on the trend-cycle component should be avoided if presenting current developments, since the trend-cycle values at the current end of the series are usually estimated by extrapolating the underlying trend of the recent past and therefore can convey misleading information about the true current movement. Though seasonally adjusted time series also are revised over time, they reveal sooner the cyclical movements at turning points than raw or trend-cycle series.
- For rate of change with respect to the same period of previous year the Year-on-Year changes should be applied to raw data and to data adjusted for calendar effects if the latter are available. Where necessary, special effects contained in the base period should be highlighted when presenting YoY (base effect).
- For annualised growth rates, data should only be annualised on the basis of seasonally adjusted and calendar adjusted time series which contain just minor irregularities. This means that annualising the growth rate of a single month can result in misleading signals. If special effects result in problems when annualising, the limited informative value of these annualised growth rates would have to be indicated separately.