

TL-NA 2017: Non-Oil qGDPI (e)

Sources, Methods and Assumptions

Preliminary Estimation

Given the basic sources until September 5, 2017.
(Only for illustrative purposes, not for dissemination)

NDEES/GDS, September 20, 2017

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Outline

- ◆ Short-term economic indicators
 - Quarterly GDP Indicators (qGDPI)
 - Why is an indicator?
 - Purpose of compilation
 - Decomposition of qGDPI
- ◆ Methodology
- ◆ Versions of qGDPI
- ◆ Challenges
- ◆ Way to overcome

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I. Short-term economic indicator

(What is qGDPI?)

- ▶ qGDPI in the QNA can be seen as positioned between GDP in ANA and specific short-term indicators. qGDPI are commonly compiled by combining annual GDP data with short-term source statistics and annual GDP estimates, thus providing a combination that is more timely than that of the annual GDP.
- ▶ Provide up-to-date information on the current economic situation
- ▶ More adequately reflect the dynamic relationships between economic variables

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I. Short-term economic indicator

(Why is an indicator?)

- ▶ Transparency (can be revised)
- ▶ Early estimates (released fairly shortly after the reference period)
- ▶ Consistent with to the Annual GDP

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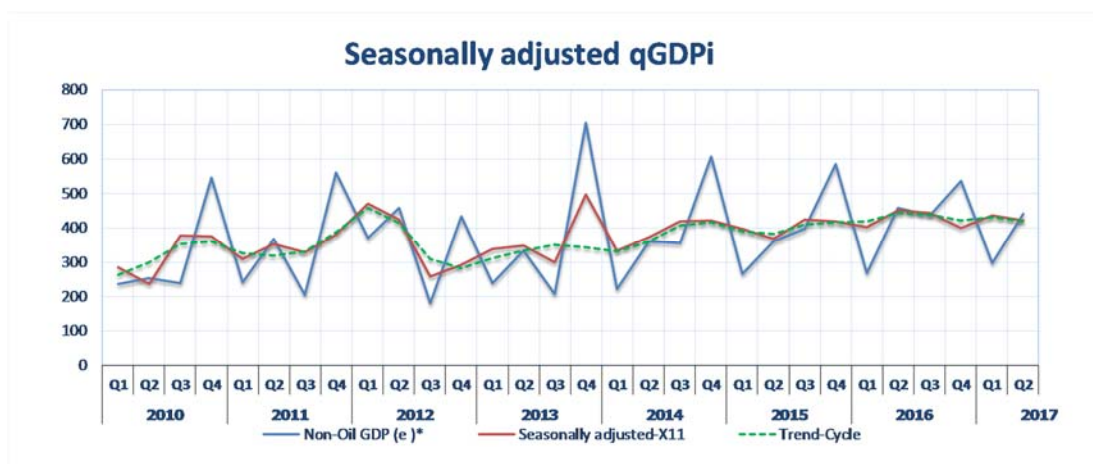
I. Short-term economic indicator (For what purpose?)

- ▶ The main purpose of qGDPi in the Quarterly National Accounts is to provide a picture of current economic developments that is more timely than that provided by the Annual National Accounts and more comprehensive than that provided by individual short-term indicators.

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I. Short-term economic indicator (quarterly GDP indicator, levels)



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Decomposition of qGDPi Time Series

- ▶ The original series is a function of trend-cycle, seasonal and irregular components

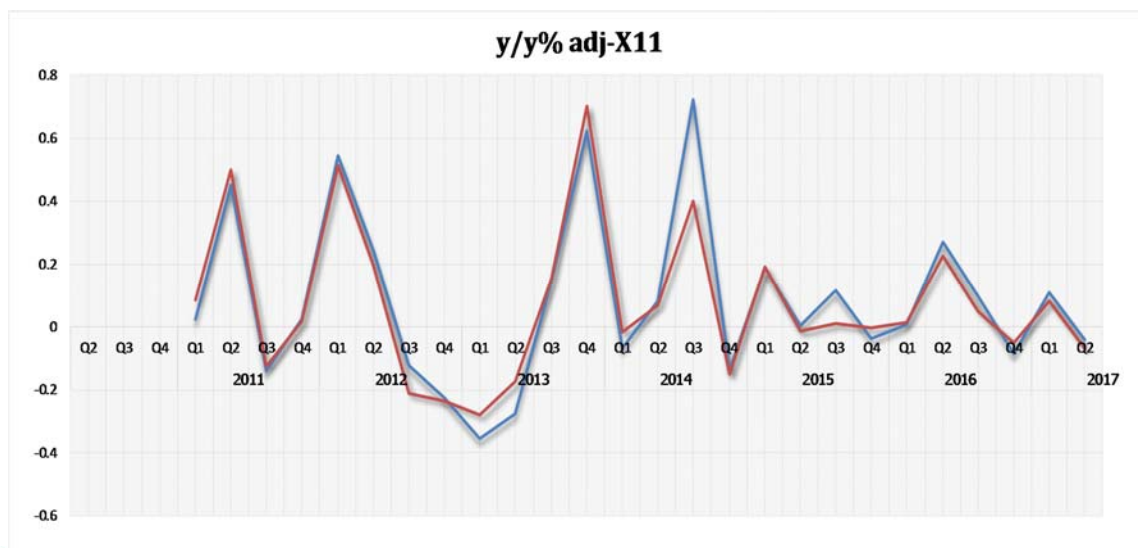
$$O_t = f(T, S, I)$$

- ▶ Thus, the seasonal adjustment of the qGDPi series was held in order to remove the seasonal component from the series and this will reveal the underlying trend of the economy

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Year-on-year Changes of qGDPi (seasonally-adjusted data)



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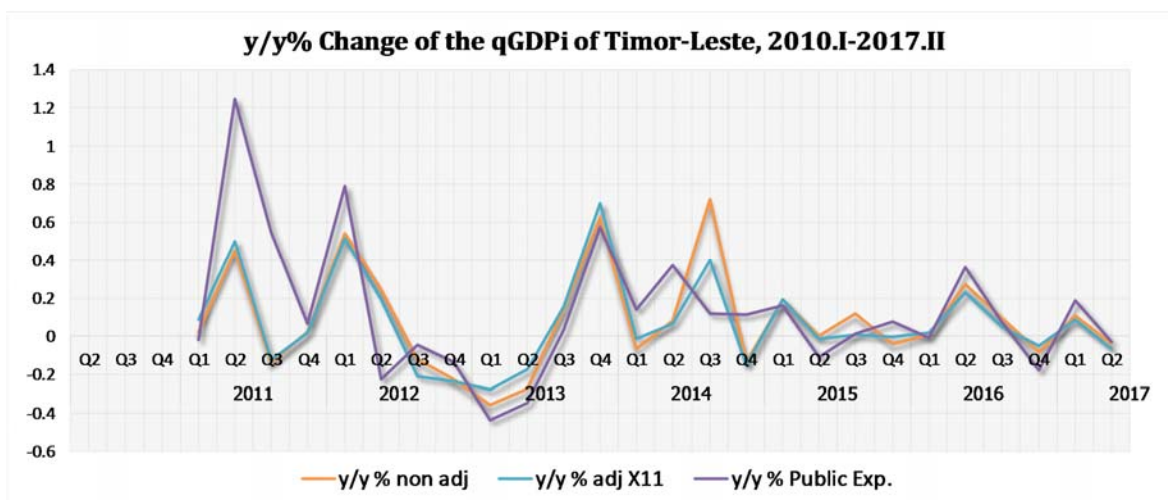
Year-on-year Changes of qGDPI (seasonally-adjusted data)

- ▶ In 2013 Q4, the qGDPI (seasonally adjusted) was very high. This is due to tendency in budget execution which tend to be higher at the 4th quarter. This big amount of execution was due to investment for the construction of power-plant made by the government
- ▶ There was presidential election in 2012 (between Q3 and Q4) which caused all the administration system in the country tend to be paralyzed and gave shock to the economy in the short-term (delay in the new formation of the government)
- ▶ The same situation is now happening in Timor-Leste due to the last presidential election in 2017

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Year-on-year Changes of qGDPI (seasonally-adjusted data)



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II. Methods

- ◆ Temporal disaggregation and extrapolation (Denton Proportional First Difference) from IMF
- ◆ ARIMA to Forecast the Indicators for temporal disaggregation and extrapolation
- ◆ Direct seasonal adjustment for the quarterly Non-oil GDP indicator series (X-13 Arima)



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III. Versions of qGDPI

- ▶ The qGDPI in Timor-Leste was categorized in three different version, such as:
 - i. Initial version (purely extrapolated without any indicator)
 - ii. Preliminary version (extrapolated with some indicators)
 - iii. Intermediate version (extrapolated with all indicators available)
 - iv. Final version (temporally disaggregated with benchmarks and all indicators available)



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IV. Challenges

- ▶ Delay in receiving the data from basic sources
- ▶ Lack of short-term indicators for every component in the qGDPI
- ▶ Only qGDPI by expenditure is published. There are no qGDPI by production and income, given the lack of data at a higher frequency



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V. Way to overcome

- ▶ A short-term data collection (surveys, administrative registers, etc.) are needed in order to increase the availability of information
- ▶ TL-NSO is now conducting business activity survey in quarterly frequency. Thus, it is possible to compile qGDPI by production along with the collection of PPI data



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Thank You

(Obrigado)



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