

Revision of Seasonally Adjusted Balance of Payments Data

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Bank of Japan
International Department

The Bank of Japan has revised the seasonally adjusted data for major current account items in the Balance of Payments Statistics. The settings for each of the indicators are as follows:

1. The U.S. Census Bureau's X-12-ARIMA (Version 0.3) is used. The critical values for additive outliers and temporary changes depend on the length of the time-series data (default setting).
2. The reference period used for seasonal adjustment is from January 1996 to December 2016. The historical data rearranged based on BPM6¹ are used from January 1996 to December 2013. For data from January 2017 onward, seasonally adjusted figures are calculated by applying the predicted seasonal factors.
3. All series except for "Direct investment income" are seasonally adjusted using a logarithmic transformation with a multiplicative model. The automatic model selection command "automdl" is employed for each of the seasonal and non-seasonal components, setting the differencing order to 1 and the orders of the AR and MA parameters mostly to 0, 1, or 2 (see the table below for details of the model settings and options used). The forecast with the ARIMA model is extended up to 48 months, while backcasting is not conducted.

The seasonally adjusted data and the seasonal factors are provided on the "BOJ Time-Series Data Search" on the Bank's web site.

Settings of Models and Options for ARIMA Models

| Item (C: Credit, D: Debit) | Model | Level shift and/or ramp | Trading-day and leap-year adjustment |
|---------------------------------------|------------|-------------------------------|--|
| Exports ² | (010)(011) | Yes | Yes |
| Imports ² | (110)(011) | Yes | Yes |
| Transport (C) | (010)(011) | Yes | Yes |
| Transport (D) | (011)(011) | Yes | Yes |
| Travel (C) | (112)(011) | Yes | None |
| Travel (D) | (011)(011) | Yes | Yes |
| Other services (C) | (011)(011) | Yes | Yes |
| Other services (D) | (011)(011) | Yes | Yes |
| Compensation of employees (C) | (011)(011) | None | Yes |
| Compensation of employees (D) | (011)(011) | None | None |
| Direct investment income (C) | (210)(111) | None | Yes |
| Direct investment income (D) | (011)(011) | None | None |
| Portfolio investment income (C) | (210)(111) | None | Yes |
| Portfolio investment income (D) | (011)(010) | None | Yes |
| Other investment income (C) | (011)(011) | None | Yes |
| Other investment income (D) | (311)(011) | None | Yes |
| Other primary income (C) ³ | — | — | — |
| Other primary income (D) ³ | — | — | — |
| Secondary income (C) | (311)(011) | None | Yes |
| Secondary income (D) | (011)(011) | None | Yes |

¹ The rearranged balance of payments data based on the sixth edition of the Balance of Payments and International Investment Position Manual (BPM6) are data from January 1996 to December 2013 gathered on the basis of BPM5 rearranged in accordance with BPM6.

² Trading-day and leap-year effects are adjusted by user-defined variables, which are based on the number of business days at customs clearance in Japan.

³ Since "Other primary income" was newly introduced in January 2014 and the number of the reference data is insufficient, seasonal adjustment is not applied to "Other primary income".

Inquiries

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