

**Technical Note and Announcement:  
Quarterly Estimates of GDP for October-December 2020  
(First Preliminary Estimates)**

**Technical Note:**

**(1) Major Factors of the Revision from the First Preliminary Estimates to the Second Preliminary Estimates**

The regular revision through incorporating newly available source statistics replaces the first preliminary estimates by the second preliminary estimates and its major factors are as follows.

<Original Series>

➤ Private Non-Residential Investment

First Preliminary: Estimates for the latest quarter are based on supply-side source statistics.

Second Preliminary: Estimates for the latest quarter integrate supply-side and demand-side source statistics, since demand-side statistics such as *Quarterly Financial Statements Statistics of Corporations by Industry* (Ministry of Finance) have become available. The supply-side estimates are also revised due to addition and revision of source statistics.

➤ Change in Private Inventories

First Preliminary: Estimates of “Materials and Supplies” and “Work-in-Progress” (nominal and real original series) for the latest quarter are provided by time-series projection with the ARIMA model used in the seasonal adjustment.

Second Preliminary: Estimates of “Materials and Supplies” and “Work-in-Progress” for the latest quarter incorporate *Quarterly Financial Statements Statistics of Corporations by Industry*. Estimates of “Finished Goods” and “Wholesale and Retail Trades” are also revised due to revision of source statistics etc.

➤ Other addition and revision of source statistics

First Preliminary: If any source statistics are not yet available for any months in the latest quarter, extrapolation is conducted. If preliminary figures are available but final figures are not, the former are incorporated. Estimates incorporate source statistics which are available on the day *Balance of Payments (Preliminary)* for the third month of the latest quarter are released.

Second Preliminary: If some source statistics have become available or been replaced by fixed estimates or revised for some reason, they are updated. Estimates incorporate source statistics which are available on the day *Quarterly Financial Statements Statistics of Corporations by Industry* for the latest quarter are released.

### <Seasonally Adjusted Series>

Seasonally adjusted series are revised from January-March 1994 (both nominal and real), since the seasonal adjustment is conducted with the latest estimates of original series updated as above.

(Note) Mean Absolute revision from the first preliminary estimates to the second preliminary estimates

Mean absolute revision of Quarterly Real GDP Growth Rate (Seasonally Adjusted Series) from the first preliminary estimates to the second preliminary estimates is 0.19 % points for the quarters from April-June 2010\* to July-September 2020 (0.75 % points for annualized rate\*\*).

\* Since the first preliminary estimates for this quarter, the method for extrapolation of the demand-side estimates in the estimation process of Private Non-Residential Investment has been changed to the current one.

\*\*The annualized rate is the annual growth rate under the assumption such that the quarterly growth rate in the quarter repeats itself for four quarters.

## (2) Other Issues

### ➤ Incorporation of the retroactive revision of source statistics

In addition to the regular revision of source statistics, the first preliminary estimates incorporate the following revision in source statistics.

Source Statistics Revised	Periods of Incorporation	Released	Revised Estimates
Current Survey of Production	From January-March 2019	January 2021	Supply-side estimates
Survey by the Food Industry Dynamics	From January-March 2019	January 2021	Supply-side estimates
Services Producer Price Index	From April-June 2019	November 2020	Deflator estimates
Building Starts	From January-March 2020	December 2020	Private Consumption estimates Private Residential Investment estimates
Quick Estimate of Construction Investment	From January-March 2020	January 2021	Supply-side estimates Public Investment estimates

### ➤ Methodological change responding to the COVID-19

The Japanese economy for October-December 2020 is still in a severe situation due to the COVID-19, but it is showing movements of picking up toward the later of the quarter. Given this, the extrapolation methods for the third month of the latest quarter for supply-side statistics are partially changed. With regard to adjusting outliers, additive outliers(AO) are applied to the series for private demand(total 12 series), net exports of goods and services(4 series), income from/to the rest of the world (2 series) and the Government Individual Consumption Expenditure for October-December 2020.

The methodology of the first preliminary estimates, including the above, are changed based on the following announcement (in January 2021).

[https://www.esri.cao.go.jp/jp/sna/data/reference1/siryu/2021/pdf/announce\\_20210128.pdf](https://www.esri.cao.go.jp/jp/sna/data/reference1/siryu/2021/pdf/announce_20210128.pdf)

- Estimates of change in private inventories by four categories in Quarterly Estimates of GDP for October-December 2020 (First Preliminary Estimates)

Estimates of change in private inventories by four categories in Quarterly Estimates of GDP for October-December 2020 (First Preliminary Estimates) are as follows (real seasonally adjusted series, annualized):

( Billions of Chained (2015) Yen )

	2019/ 10-12	2020/ 1-3	4-6	7-9	10-12	Contributions to Change in Real GDP at 2020/10-12 (%)
Change in Private Inventories	1430.8	2176.8	2745.0	1778.1	-230.0	-0.4
Materials and Supplies	103.7	-88.8	3697.2	265.0	-32.4	-0.1
Work-in-Progress	43.1	1248.7	-988.7	204.0	364.5	0.0
Finished Goods	584.8	1247.3	-976.8	-536.7	-522.2	0.0
Wholesale and Retail Trade	707.2	-232.7	964.5	1872.0	-32.4	-0.3

- Supply-side and demand-side estimates in the estimation process of Private Non-Residential Investment in Quarterly Estimates of GDP for October-December 2020 (First Preliminary Estimates)

In the estimation process of Private Non-Residential Investment for October-December 2020 in Quarterly Estimates of GDP for October-December 2020 (First Preliminary Estimates), the supply-side estimate of quarter-to-quarter percent change is 8.4% (nominal original series) based on supply-side source statistics and the demand-side estimate of quarter-to-quarter percent change is 1.7% (nominal original series) based on a tentative extrapolation with the information from supply-side estimates.

## **Announcement:**

### **Release Schedule of the Quarterly Estimates of GDP**

**Second Preliminary Estimates for October-December 2020:**

8:50 A.M. JST, Tuesday, March 9, 2021.

**First Preliminary Estimates for January-March 2021:**

8:50 A.M. JST, Tuesday, May 18, 2021.

**Second Preliminary Estimates for January-March 2021:**

8:50 A.M. JST, Tuesday, June 8, 2021.

**First Preliminary Estimates for April-June 2021:**

8:50 A.M. JST, Monday, August 16, 2021.

**Second Preliminary Estimates for April-June 2021:**

8:50 A.M. JST, Wednesday, September 8, 2021.

**First Preliminary Estimates for July-September 2021:**

8:50 A.M. JST, Monday, November 15, 2021.

**Second Preliminary Estimates for July-September 2021:**

8:50 A.M. JST, Wednesday, December 8, 2021.

**First Preliminary Estimates for October-December 2021:**

8:50 A.M. JST, Tuesday, February 15, 2022.

**Second Preliminary Estimates for October-December 2021:**

8:50 A.M. JST, Wednesday, March 9, 2022.

The above schedule may be changed due to changes in the release schedule of source statistics etc.