

Standards Revised for Japan's GDP



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Nominal GDP for 2019 Revised Upward by 7.5 Trillion Yen

The quarterly estimate of GDP (Second Preliminary) for the period of July-September 2020, which was released on Dec. 8, 2020, showed the real GDP growth rate at an annual 22.9%, revised from the annual rate of 21.4% as released in the First Preliminary on Nov. 16, 2020. But what gained more attention was that the standards for GDP were revised going back to previous years, such as nominal GDP for 2019 being revised upward to 7.5 trillion yen (*Chart 1*).

GDP statistics revise the standard year almost always once every five years. The standard year up until the First Preliminary for the July-September 2020 period was 2011, but from the Second Preliminary the standard year was revised to 2015. GDP is estimated by combining various economic statistics, but what serves as the basis for the estimates is the Input-Output Table. The Input-Output Table shows the inter-industry transactions of goods and services within the domestic economy for a given period (normally one year), and one can also learn how much value-added was created for which industry in Japan domestically. With a standards revision for GDP, changes in the Input-Output Table will cause a revision to past real values. But for the most recent revision, because 2008 National Accounts of Japan (SNA), which is a global standard, was also incorporated, it has had an impact on the size of the range of revision.

Reflecting Pending Issues Such as Revision to 2008 SNA

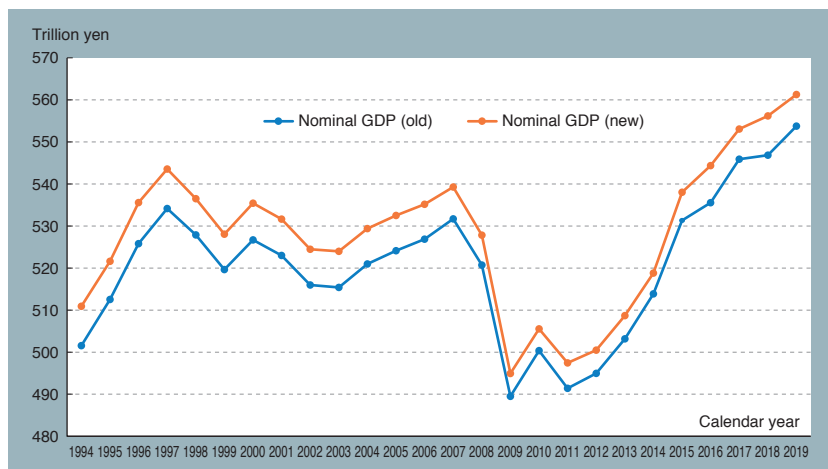
2008 SNA was first introduced to Japan's GDP in December 2016 when the standard year was revised to 2011. Nominal GDP for 2015 which was released on Dec. 8, 2016 showed a significant upward revision by 31 trillion yen and was widely talked about. The primary cause of this was research and development investment,

which had thus far been treated as intermediate input and not included in GDP but was now included. Back then not all of the elements of 2008 SNA were incorporated into Japan's GDP estimation.

One pending issue was including the originals of entertainment factors, literature, and art works into fixed assets. With the latest standards revision, acts of creating such original work would be counted as gross fixed capital formation, which is one of the elements of GDP. However, Japan already records an import surplus for copyright services, and since copyright services have now also come to be reflected in GDP, by combining these two factors, the original work and copyright services, the Cabinet Office is explaining that the impact of the new 2015 standard year on the revision of nominal GDP is close to zero.

On the other hand, sales margins for residential repairs, refurbishment and housing sales will now be included as gross fixed capital formation in the Input-Output Table for 2015. All items which were treated as intermediate consumption in the past will now be included in GDP, and the Cabinet Office is explaining that this

CHART 1
Trend in nominal GDP



Note: The "old" data was released on Nov. 16, 2020 and "new" data on Dec. 8.
Source: SNA (National Accounts of Japan), Cabinet Office

contributed to the increase in nominal GDP under the new standard year of 2015 by about 1.8%.

Miscalculation of Output for Construction Industry

As mentioned, gross fixed capital formation is impacted by a standards revision, and thus when a factor analysis for the difference in nominal GDP before and after the revision is conducted, the range of revisions in gross fixed capital formation stands out. *Chart 2* shows the breakdown for the difference in the nominal GDP standards before the revision (First Preliminary for July-September 2020) and after the revision (Second Preliminary for July-September 2020) in consumption (aggregate of private final consumption expenditure and government final consumption expenditure), gross fixed capital formation, changes in inventory (aggregate of private and public), exports, and imports, and the revision of gross fixed capital formation can be seen as wide. On the other hand, it can be noted that the range of revision is small in the early 2010s.

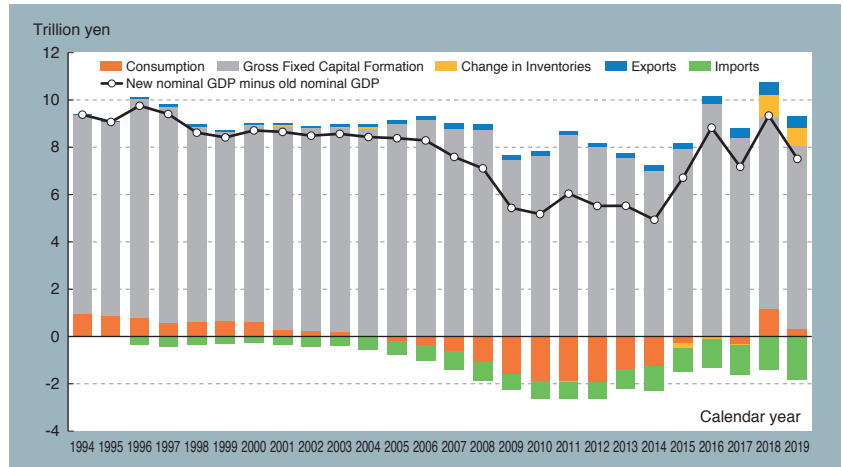
One factor behind this is the miscalculation of output for the construction industry (excluding output for construction repairs). As noted, the basis for GDP estimation is the Input-Output Table, but the table is normally only released once every five years. In GDP estimations, for years when the Input-Output Table was not created or for years beyond the standard year, various economic data are used to create a substitute for the Input-Output Table (called extended estimation). The output for each industry is also grasped from extended estimations.

In the 2011 standard before the revision, an extended estimation for output for the construction industry (excluding output for construction repairs) after 2012 was conducted using “Comprehensive Construction Statistics” (Ministry of Land, Infrastructure, Transport and Tourism). According to sources from the Cabinet Office, output for the construction industry (excluding output for construction repairs) for 2015 based on this estimate was 1.24 times that of 2011. But output for the construction industry (excluding output for construction repairs) based on the 2015 Input-Output Table was 1.16 times that of 2011. At least for the construction industry (excluding output for construction repairs), output has been overestimated.

As a result, in addition to the level of nominal GDP, the real GDP

CHART 2

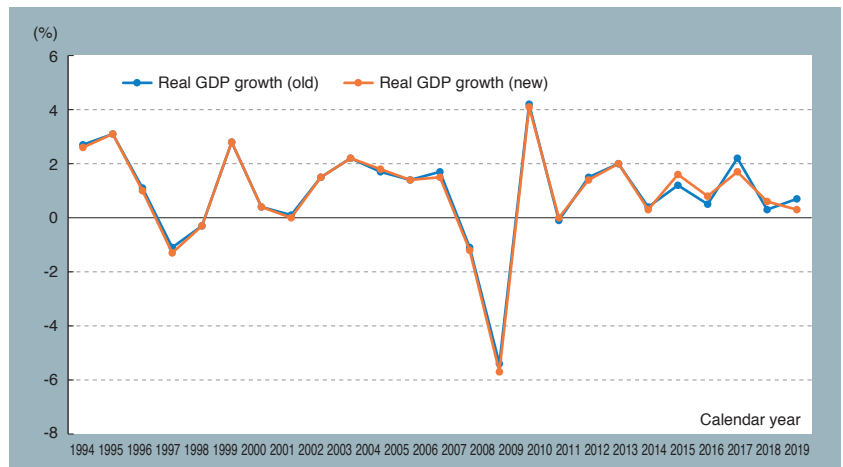
Trend in new nominal GDP minus old nominal GDP



Note: The “old” data was released on Nov. 16, 2020 and “new” data on Dec. 8.
Source: SNA (National Accounts of Japan), Cabinet Office

CHART 3

Trend in real GDP growth



Note: The “old” data was released on Nov. 16, 2020 and “new” data on Dec. 8.
Source: SNA (National Accounts of Japan), Cabinet Office

growth rate was also revised going back to past periods (*Chart 3*). The average growth rate for real GDP during the economic expansion period (January-March 2013 through October-December 2018) as a result of so-called Abenomics was 1.1% before the revision, but after the revision it is now 1.2%.

Note: This article was written based on information obtained as of Dec. 8, 2020. **JS**

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Calendar year, Quarter and Month	Real GDP		Nominal GDP		IIP rate of increase over previous year/term (month) (%)	CPI (All terms, less fresh food) rate of increase over previous year/the same term (month) of the previous year (%)
	Amount (trillion yen)	Rate of increase over previous year/term (%)	Amount (trillion yen)	Rate of increase over previous year/term (%)		
2012	517.9	1.4	500.5	0.6	0.6	-0.1
2013	528.2	2.0	508.7	1.6	-0.3	0.4
2014	529.8	0.3	518.8	2.0	2.0	2.6
2015	538.1	1.6	538.0	3.7	-1.2	0.5
2016	542.1	0.8	544.4	1.2	0.0	-0.3
2017	551.2	1.7	553.1	1.6	3.1	0.5
2018	554.3	0.6	556.2	0.6	1.1	0.9
2019	555.8	0.3	561.3	0.9	-3.0	0.6
2019/4th Qtr.	548.7	-1.9	557.4	-1.2	-3.6	0.6
2020/1st Qtr.	545.7	-0.5	554.8	-0.5	0.4	0.6
2nd Qtr.	500.6	-8.3	511.0	-7.9	-16.9	-0.1
3rd Qtr.	527.1	5.3	539.0	5.5	8.7	-0.2
2020/March	—	—	—	—	-3.7	0.4
April	—	—	—	—	-9.8	-0.2
May	—	—	—	—	-8.9	-0.2
June	—	—	—	—	1.9	0.0
July	—	—	—	—	8.7	0.0
Aug.	—	—	—	—	1.0	-0.4
Sept.	—	—	—	—	3.9	-0.3
Oct.	—	—	—	—	4.0	-0.7
Sources	"SNA (National Accounts of Japan)", Cabinet Office				"Indices of Industrial Production", Ministry of Economy, Trade and Industry	"Consumer Price Index", Statistics Bureau, Ministry of Internal Affairs and Communications

Calendar year, Quarter and Month	Foreign Trade Statistics									
	Exports amount (trillion yen)	Exports rate of increase over previous year/ the same term (month) of the previous year (%)	Imports amount (trillion yen)	Imports rate of increase over previous year/ the same term (month) of the previous year (%)	Exports amount to US (trillion yen)	Exports to US rate of increase over previous year/ the same term (month) of the previous year (%)	Imports amount from US (trillion yen)	Imports from US rate of increase over previous year/ the same term (month) of the previous year (%)	Exports amount to EU (trillion yen)	Exports to EU rate of increase over previous year/ the same term (month) of the previous year (%)
2012	63.7	-2.7	70.7	3.8	11.2	11.7	6.1	2.5	5.4	-13.9
2013	69.8	9.5	81.2	14.9	12.9	15.6	6.8	12.0	5.9	8.8
2014	73.1	4.8	85.9	5.7	13.6	5.6	7.5	10.7	6.4	8.2
2015	75.6	3.4	78.4	-8.7	15.2	11.5	8.1	6.9	6.7	4.4
2016	70.0	-7.4	66.0	-15.8	14.1	-7.1	7.3	-9.2	6.5	-2.8
2017	78.3	11.8	75.4	14.1	15.1	6.9	8.1	10.5	7.1	9.5
2018	81.5	4.1	82.7	9.7	15.5	2.4	9.0	11.4	7.7	7.8
2019	76.9	-5.6	78.6	-5.0	15.3	-1.4	8.6	-4.2	7.4	-3.0
2019/4th Qtr.	19.5	-7.8	19.8	-11.9	3.7	-13.0	2.2	-13.7	1.8	-9.5
2020/1st Qtr.	18.1	-5.5	18.3	-7.2	3.5	-9.2	2.1	-5.8	1.8	-8.6
2nd Qtr.	14.3	-25.3	16.3	-16.0	2.2	-44.7	1.9	-13.6	1.3	-29.9
3rd Qtr.	16.7	-13.0	15.7	-20.1	3.2	-13.7	1.7	-19.9	1.5	-20.2
2020/March	6.4	-11.7	6.4	-5.0	1.2	-16.5	0.7	1.1	0.6	-11.1
April	5.2	-21.9	6.1	-7.1	0.9	-37.8	0.7	1.5	0.5	-28.0
May	4.2	-28.3	5.0	-26.1	0.6	-50.6	0.6	-27.4	0.4	-33.8
June	4.9	-26.2	5.1	-14.4	0.7	-46.6	0.6	-12.6	0.4	-28.4
July	5.4	-19.2	5.4	-22.3	1.1	-19.5	0.6	-25.4	0.4	-30.5
Aug.	5.2	-14.8	5.0	-20.7	0.9	-21.3	0.6	-21.9	0.5	-19.2
Sept.	6.1	-4.9	5.4	-17.4	1.2	0.6	0.6	-10.7	0.6	-10.6
Oct.	6.6	-0.2	5.7	-13.3	1.3	2.5	0.6	-15.6	0.6	-2.6
Sources	"Trade Statistics of Japan", Ministry of Finance									

Calendar year, Quarter and Month	Cash salary amount rate of increase over previous year/the same term (month) of the previous year (%)	Active job openings-to-applicants ratio (time(s))	Unemployment rate (%)	M2 rate of increase over previous year/ the same term (month) of the previous year (%)	Balance of payments		Yen/\$ rate (averaged during the term)
					Trade balance (trillion yen)	Current balance (trillion yen)	
2012	-0.8	0.80	4.3	2.5	-4.3	4.8	79.8
2013	-0.2	0.93	4.0	3.6	-8.8	4.5	97.6
2014	0.5	1.09	3.6	3.4	-10.5	3.9	105.8
2015	0.1	1.20	3.4	3.6	-0.9	16.5	121.0
2016	0.6	1.36	3.1	3.4	5.5	21.4	108.8
2017	0.4	1.50	2.8	4.0	4.9	22.8	112.2
2018	1.4	1.61	2.4	2.9	1.1	19.4	110.4
2019	-0.4	1.60	2.4	2.4	0.4	20.5	109.0
2019/4th Qtr.	-0.1	1.57	2.3	2.6	0.3	3.9	108.7
2020/1st Qtr.	0.7	1.44	2.4	3.0	0.5	5.8	108.9
2nd Qtr.	-1.7	1.21	2.8	5.3	-1.5	1.4	107.6
3rd Qtr.	-1.2	1.05	3.0	8.5	1.5	5.3	106.1
2020/March	0.0	1.39	2.5	3.2	0.1	2.0	107.4
April	-0.6	1.32	2.6	3.7	-0.9	0.2	107.9
May	-2.3	1.20	2.9	5.1	-0.5	1.1	107.3
June	-2.0	1.11	2.8	7.2	-0.0	0.1	107.6
July	-1.5	1.08	2.9	7.9	0.1	1.5	106.8
Aug.	-1.3	1.04	3.0	8.6	0.4	2.1	106.0
Sept.	-0.9	1.03	3.0	9.0	0.9	1.7	105.7
Oct.	-0.8	1.04	3.1	9.0	1.0	2.1	105.2
Sources	"Monthly Labour Survey", Ministry of Health, Labour and Welfare	"Employment Referrals for General Workers", Ministry of Health, Labour and Welfare	"Labour Force Survey", Statistics Bureau, Ministry of Internal Affairs and Communications	"Money Stock", Bank of Japan	"Balance of Payments", Ministry of Finance		Bank of Japan

Calendar year, Quarter and Month	Foreign Trade Statistics									
	Imports amount from EU (trillion yen)	Imports from EU rate of increase over previous year/ the same term (month) of the previous year (%)	Exports amount to Asia (excluding China) (trillion yen)	Exports to Asia (excluding China) rate of increase over previous year/ the same term (month) of the previous year (%)	Imports amount from Asia (excluding China) (trillion yen)	Imports from Asia (excluding China) rate of increase over previous year/ the same term (month) of the previous year (%)	Exports amount to China (trillion yen)	Exports to China rate of increase over previous year/ the same term (month) of the previous year (%)	Imports amount from China (trillion yen)	Imports from China rate of increase over previous year/ the same term (month) of the previous year (%)
2012	6.1	3.9	23.3	-1.8	16.3	3.3	11.5	-10.8	15.0	2.7
2013	7.0	15.6	25.2	8.1	18.3	12.6	12.6	9.7	17.7	17.4
2014	7.5	6.9	26.1	3.5	19.4	6.2	13.4	6.0	19.2	8.6
2015	7.8	4.6	27.1	3.7	18.9	-2.6	13.2	-1.2	19.4	1.3
2016	7.4	-5.0	24.7	-8.7	16.2	-14.5	12.4	-6.5	17.0	-12.4
2017	8.0	7.0	28.0	13.3	18.6	14.8	14.9	20.5	18.5	8.5
2018	8.8	10.6	28.8	2.9	20.0	7.8	15.9	6.8	19.2	4.0
2019	8.8	0.3	26.6	-7.6	19.0	-5.3	14.7	-7.6	18.5	-3.9
2019/4th Qtr.	2.2	-4.7	6.8	-7.9	4.8	-10.2	4.0	-5.1	4.7	-12.2
2020/1st Qtr.	2.0	-6.6	6.4	-3.2	4.7	-2.6	3.2	-5.3	3.8	-16.7
2nd Qtr.	1.9	-15.9	5.3	-18.9	4.0	-13.6	3.6	-2.0	4.6	3.6
3rd Qtr.	1.9	-16.7	5.7	-14.2	4.0	-15.1	3.9	9.1	4.2	-9.6
2020/March	0.7	-9.7	2.3	-9.7	1.6	-3.4	1.2	-8.7	1.4	-4.4
April	0.7	-6.7	1.9	-15.2	1.4	-7.3	1.2	-4.0	1.7	11.8
May	0.6	-29.4	1.6	-17.9	1.2	-21.3	1.1	-1.9	1.5	-2.0
June	0.6	-9.5	1.8	-23.4	1.3	-12.0	1.2	-0.2	1.4	0.8
July	0.7	-14.3	1.8	-17.3	1.4	-16.9	1.3	8.2	1.5	-9.7
Aug.	0.6	-22.0	1.8	-15.0	1.3	-15.0	1.3	5.1	1.3	-7.0
Sept.	0.7	-14.1	2.0	-10.3	1.4	-13.3	1.3	14.0	1.4	-11.8
Oct.	0.6	-11.4	2.2	1.0	1.5	-10.0	1.5	10.2	1.5	-3.6
Sources	"Trade Statistics of Japan", Ministry of Finance									