Citi Research
Economics

15 August 2014 | 11 pages

Developed Markets
Japan

Japan Economics Weekly

The BoJ's view turns more nuanced

- **The BoJ changed its economic assessment meaningfully** — The BoJ's view on the economy turned more nuanced over the past week. First, the BoJ explicitly revised down its assessment regarding exports in its policy statement published on last Friday. Second, policymakers tweaked the section regarding consumer spending in its Monthly Financial and Economic Report for August. Given that the BoJ's view on the economy tends to change only slowly and gradually, we figure that the BoJ's true view may be even more cautious than it appears.

- **The atmosphere of Mr. Kuroda's press briefing also changed** — At the press briefing last Friday, there were a number of times when Mr. Kuroda did not answer questions directly or struggled to answer in a succinct manner. This also suggests that gaps may be appearing in the BoJ's bullish economic scenario. The dominant view in recent months in the financial markets has been that the BoJ is unlikely to take further easing measures. Given the latest change in the economic assessment and Governor Kuroda's press briefing, however, the probability of additional easing appears to have somewhat increased.

- **We now expect only 0.4% growth for FY2014** — We revise our economic forecasts for Japan in the wake of the release of the second quarter GDP report this week. We now expect real GDP growth of +1.2% for CY2014 and +0.9% for 2015. At the last forecast round in late July, we had expected +1.4% and +0.9%, respectively. On a fiscal year basis, we anticipate 0.4% for FY2014 and 1.2% for FY2015 versus our previous forecasts of 0.6% and 1.2%.

Developed Markets Economics & Rates Strategy

Kiichi Murashima
+81-3-6270-4981
kiichi.murashima@citi.com

Naoki Iizuka
+81-3-6270-4997
naoki.iizuka@citi.com

The BoJ's view turns more nuanced

The Bank of Japan's (BoJ) view on the economy turned more nuanced over the past week. First, the BoJ explicitly revised down its assessment regarding exports in its policy statement published on last Friday. Second, policymakers tweaked the section regarding consumer spending in the Monthly Financial and Economic Report for August. Given that the BoJ's view on the economy tends to change only slowly and gradually, we figure that the BoJ's true view may be even more cautious than it appears. We expect the BoJ will eventually revise down its economic assessment in a way that warrants additional monetary easing in coming quarters.

In the BoJ's Monthly Financial and Economic Report published on this Monday, policymakers revised down their assessment regarding exports (from "exports have recently leveled off more or less" to "exports have shown some weakness"). Also notably, they tweaked the section regarding consumer spending: the language "[the drop-off after rush demand ahead of the tax hike] is in line with expectations," a boilerplate in recent months, has been removed.

In July, the Monthly Report stated, "According to anecdotes by firms and other information, however, the scale of the subsequent decline in demand following the increase in durable goods to date seems to have been basically within the scope that was previously projected," and "In all of these sectors, many firms have voiced that the degree of the subsequent decline following the frontloaded increase in demand has been generally within the scope previously projected…" These statements were eliminated in August, and instead the latest report said, "given the large frontloaded demand increase [for durable goods], the setback is also expected to be significant both in size and duration." The report went on to say, "In all of these sectors, many firms have voiced that the degree of the subsequent decline following the frontloaded increase in demand has been gradually easing. However, partly due to the adverse impact from unfavorable weather, some have indicated that the pace of recovery has slowed somewhat recently and that the pace of improvement has not been uniform across products and regions." These statements acknowledge spots of weakness. At any rate, we think these changes suggest the likelihood that the BoJ has become uncomfortable with its mantra, "in line with expectations," as consumption-related data fell sharply and has shown only a modest pickup.

Meanwhile, Governor Kuroda did not answer directly when asked by a journalist whether the negative impact from the tax hike was in line with expectations, even in light of June data that generally surprised to the downside. Instead, he responded with a lengthy statement, "I believe there is lots of room for argument about to whom the "expectations" belong. That aside, basically, the frontloaded demand increase was considerable, and thus the subsequent drop was also substantial. However, the adverse impact has been decreasing month by month with the drop-off gradually diminishing. I believe this trend will continue in the months to come. In this sense, I think we can say nothing unexpected has been happening."

As for a question about a drop in real wages, which we believe is an important culprit for the sharp drop in consumer spending, Governor Kuroda said, "The decrease in real wages is mostly, or totally attributable to the consumption tax hike. This impact is tentative and one-off, and will disappear after 12 months. I do not expect the current fall in real wages caused by the tax hike to continue permanently." This is tantamount to switching the focus of argument from a permanent drop in real wages due to the tax hike to the YoY change in wage growth.

There were a number of times at this press briefing when Mr. Kuroda did not answer questions directly or struggled to answer in a succinct manner. This suggests to us that gaps may be appearing in the BoJ's bullish economic scenario. The dominant view in recent months in the financial markets has been that the BoJ is unlikely to take further easing measures. However, given the latest Monthly Report and Governor Kuroda's press briefing, the probability of additional easing appears to have increased significantly. We are sticking to our view that the BoJ will act in late October when policymakers update a semi-annual economic outlook report ("Tembo Report"). But the timing may be delayed until January 2015 when they do an interim review of the Tembo Report.

Updating economic forecasts for Japan

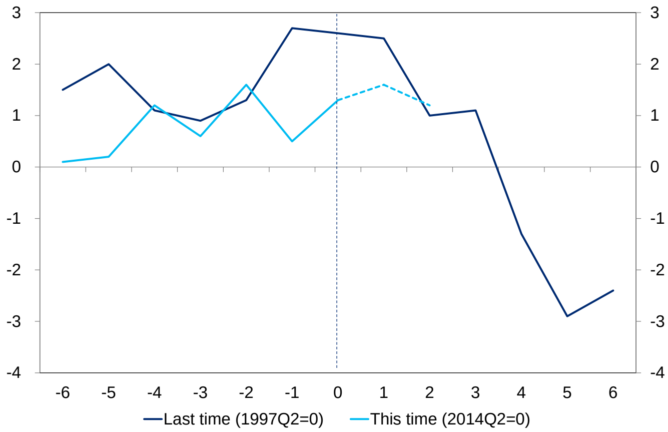
In the wake of the release of the second quarter GDP report this week, we revise our economic forecasts for Japan. We now expect real GDP growth of +1.2% for calendar 2014 and +0.9% for 2015 (see Figure 3). At the last forecast round in late July, we had expected +1.4% and +0.9%, respectively. On a fiscal year basis, we anticipate 0.4% for FY2014 and 1.2% for FY2015 versus our previous forecasts of 0.6% and 1.2%.

In the first preliminary print, Japan's real GDP in Q2 contracted 1.7% QoQ and 6.8% QoQ annualized. While this is close to the median market projection (-1.8% QoQ, -7.1% QoQ annualized), digging into the data further suggests greater weakness than would appear true from the headline numbers. First, private inventory added 1.0ppt to the QoQ GDP growth rate, a larger contribution than the market had expected. We figure that inventory accumulated unintentionally at some sectors as final demand—mostly consumer spending and exports—surprised to the downside. Second, private consumption logged a sharper-than-expected 5.0% QoQ drop, with notable weakness in areas less susceptible to the dropout of rush demand (i.e., goods and services other than durables). We think declining real income has likely taken a toll.

In our view, the most interesting aspect of the GDP report was weakness of private consumption in other areas than consumer durables: -18.9% QoQ in durables (+13.0% QoQ in Q1), -12.3% QoQ in semi-durables (+6.9% QoQ), -7.0% QoQ in nondurables (+1.8% QoQ), and -0.9% QoQ in services (-0.1% QoQ). The sharp drop in nondurables after only a modest rise in Q1 suggests that a large drop in real income weighed on consumer spending in addition to a payback to rush demand, in our view. Furthermore, sending on services, regarded as resilient, has decreased for two quarters in a row.

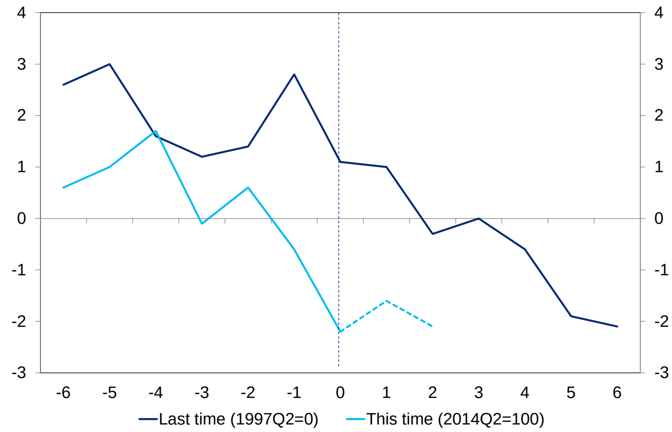
If we look at the income situation as a background factor, nominal employment income (per capita wage multiplied by the number of employees) gathered momentum to a 1.3% YoY gain in the second quarter from a 0.5% YoY rise in the first quarter. However, employment income in real terms dropped 2.2% YoY (-0.6% YoY in Q1) as the household consumption deflator (excluding imputed rent) rose 3.4% YoY (see Figure 1 and Figure 2). A path in real total employment income under the current phase has been even weaker than around the 1997 consumption tax hike.

Figure 1. Nominal Total Employment Income (YoY, Percent)



Note: The dashed line shows our estimates for 2014 Q3 (+1 on the horizontal axis) and Q4 (+2).
Source: Cabinet Office, Citi Research.

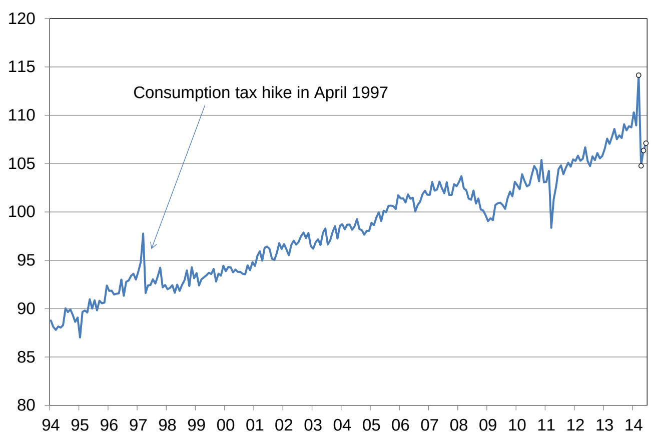
Figure 2. Real Total Employment Income (YoY, Percent)



Note: The dashed line shows our estimates for 2014 Q3 (+1 on the horizontal axis) and Q4 (+2).
Source: Cabinet Office, Citi Research.

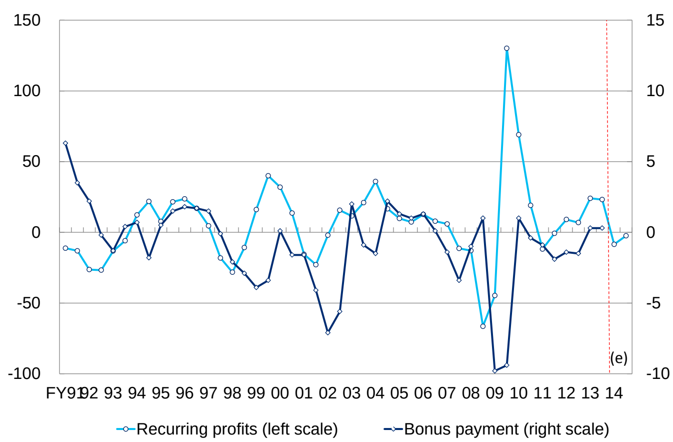
Going forward, we expect a clear turnaround to a 4.2% QoQ annualized gain in the third quarter GDP (Figure 5). First, the private consumption integrated estimates compiled by the Cabinet Office posted a 1.0% rise in June from the second quarter average, securing a positive carry-over effect into the third quarter (see Figure 3). Given this, we expect private consumption to increase over 1% QoQ in the third quarter. Second, according to the customs-clearance trade data for the first 20 days in July, exports rose 4.7% YoY and imports dropped 2.8% YoY, which suggests the likelihood of a positive contribution to GDP from net exports in the third quarter. Third, we expect public investment to increase 5.7% QoQ in the third quarter, as the impact from the FY2013 supplementary budget and frontloaded implementation of FY2014 initial budget materializes as suggested by the leading indicator (i.e., public works contracts). Finally, private business investment will likely return to a moderate growth path in the quarter, in our view, while there remains some uncertainty over this point.

Figure 3. Cabinet Office's Comprehensive Consumption Index (Real Term) (CY2005=100)



Source: Cabinet Office, Citi Research.

Figure 4. Historical Relationship between Recurring Profit and Bonus Payments (Semi-annual, YoY, %)



Note: 1. Recurring profits are for all companies excluding financials. 2. The figures for profits in FY2014 are based upon the corporate outlook in the June Tankan.
Source: Ministry of Finance, Ministry of Labour, Health and Welfare, Citi Research.

That said, we emphasize that the likely positive growth will be helped by technical factors. The April consumption tax hike generated frontloaded demand in the first quarter and the drop-off of such demand pushed consumption down in the second quarter. Therefore, private consumption is expected to show fairly strong growth simply as it returns toward the underlying level. Just as the second quarter GDP underestimates the real state of the economy, GDP in the third quarter will likely overstate the underlying strength, in our view. As a result, it will be difficult to determine the real state of the economy before the fourth quarter of this year.

Meanwhile, we expect a 1.2% QoQ annualized increase in the fourth quarter GDP (Figure 5). The economic downturn in the second quarter will likely affect household income formation by way of slowing corporate profit growth, in particular at small firms, in our view. Specifically, we expect bonus growth (YoY) to hit a peak in summer and moderate somewhat in winter (see Figure 5). If we are correct, this would be a constraint on consumer spending growth.

The Abe Administration intends to make the final decision on whether or not to implement the next consumption tax hike (to 10% from 8% currently, slated in October 2015) after having scrutinized a GDP report for the third quarter (due on November 17). Based upon our expectations of 4.2% growth annualized in the quarter, PM Abe is very likely to go ahead with the tax hike. In that case, a negative impact on households' real income will probably be meaningful again, leading to a continued bumpy ride in consumer spending. Political discussions regarding stimulus measures to offset the negative impact from the tax hike are also likely to emerge this autumn and winter.

Figure 5. Economic Forecasts Summary, 2013–2015E

	CY			FY			2013	2014				2015F				2016F
	2013	2014F	2015F	2013F	2014F	2015F	4Q	1Q	2QF	3QF	4QF	1Q	2Q	3Q	4Q	1Q
Real GDP (QoQ %)	1.5	1.2	0.9	2.3	0.4	1.2	0.0	1.5	-1.7	1.0	0.3	0.3	0.1	1.1	-1.5	1.1
(SAAR %)							-0.2	6.1	-6.8	4.2	1.2	1.4	0.5	4.5	-5.7	4.7
(YoY %)							2.4	2.7	0.0	0.7	1.1	-0.1	1.8	1.9	0.1	0.9
Domestic Demand (QoQ %)	1.8	0.9	0.4	2.6	-0.4	0.9	0.5	1.7	-2.8	0.7	0.3	0.3	0.2	1.2	-2.0	0.9
Note: Private Domestic Final Sales	1.6	0.9	0.7	2.7	-1.1	1.6	0.6	3.0	-4.8	1.0	0.6	0.5	0.6	1.3	-2.4	1.2
Private Consumption	2.0	-0.6	0.1	2.5	-2.3	0.9	0.4	2.0	-5.0	1.2	0.3	0.4	0.3	1.5	-3.1	1.3
Business Investment	-1.4	8.6	4.1	2.2	5.9	4.9	1.4	7.7	-2.5	1.3	1.5	0.9	1.5	1.2	0.8	1.2
Residential Investment	8.8	-3.6	-3.8	9.5	-9.5	-1.8	2.4	2.0	-10.3	-5.0	1.1	1.5	1.4	-1.1	-5.1	-0.9
Government Consumption	2.0	0.6	1.0	1.8	0.7	1.0	0.2	-0.1	0.4	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Public Investment	11.5	3.8	-8.7	14.6	-0.6	-9.1	1.4	-2.5	-0.5	5.7	-7.4	-4.1	-3.7	4.6	-5.2	-3.7
Inventories (Contribution)	-0.3	0.0	0.1	-0.4	0.3	-0.1	-0.1	-0.5	0.8	-0.3	0.1	0.0	-0.1	0.0	0.1	0.1
Net Exports (Contribution)	-0.2	0.4	0.5	-0.2	0.8	0.3	-0.5	0.1	0.8	0.3	0.0	0.1	-0.1	-0.1	0.5	0.3
Exports of Goods & Services	1.5	8.0	4.4	4.8	6.7	4.4	0.3	6.5	-0.4	1.6	1.4	1.6	0.3	1.1	0.9	1.6
Imports of Goods & Services	3.3	6.3	1.7	7.0	1.7	2.8	3.7	6.4	-5.6	-0.5	1.4	1.3	1.0	1.7	-2.2	0.2
Nominal GDP (QoQ %)							0.3	1.6	-0.1	0.7	0.5	0.3	0.4	0.7	-0.4	1.1
(YoY %)	0.9	2.5	1.6	1.9	2.1	1.6	2.0	2.9	1.9	2.5	2.7	1.4	1.9	1.9	1.0	1.8
GDP Deflator (YoY %)	-0.6	1.3	0.6	-0.4	1.7	0.5	-0.4	-0.1	2.1	1.8	1.6	1.5	0.1	0.0	0.9	0.9
CPI (YoY %)	0.4	2.8	1.7	0.9	3.1	1.5	1.4	1.5	3.6	3.2	2.8	2.9	0.9	0.9	2.3	2.1
Core CPI (YoY %)	0.4	2.7	1.7	0.8	3.1	1.5	1.1	1.3	3.3	3.2	3.0	3.0	0.9	0.9	2.3	2.1
Core CPI excluding the impact from the consumption tax hike (YoY %)	-	1.2	0.9	-	1.1	0.9	-	-	1.4	1.2	1.0	1.0	0.9	0.9	1.0	0.8
Current Balance (¥trn, SAAR)	3.3	1.9	3.4	1.0	4.2	3.9	0.0	-5.5	4.3	4.5	4.1	3.7	3.1	2.2	4.5	5.6
Note: Pct. of GDP	0.7%	0.4%	0.7%	0.2%	0.8%	0.8%	0.0	-1.1%	0.9%	0.9%	0.8%	0.7%	0.6%	0.4%	0.9%	1.1%
Trade Balance (¥trn, SAAR)	-8.7	-10.2	-9.2	-10.7	-8.5	-8.7	-11.2	-15.6	-8.7	-8.0	-8.4	-8.8	-9.4	-10.3	-8.0	-6.9
Yen/US$ (Average)	97.5	104.3	109.0	100.2	105.6	109.5	100.4	102.8	102.3	105.0	106.0	108.0	1080	109.0	110.0	110.0
Landed Crude Oil Price (US$/Barrel)	97.3	99.1	94.9	98.6	98.8	93.9	99.2	98.0	102.2	99.2	97.1	96.7	95.4	94.2	93.5	92.6
Industrial Production (QoQ %)							1.8	2.9	-3.8	-0.5	1.0	0.6	0.7	1.9	-2.1	0.9
(YoY %)	-0.6	2.6	1.1	3.2	-0.1	2.1	5.8	8.2	2.7	0.4	-0.5	-2.7	1.9	4.3	1.0	1.3
Unemployment rate	4.0	3.6	3.4	3.9	3.5	3.3	3.9	3.6	3.6	3.6	3.5	3.4	3.4	3.3	3.3	3.3

E: Citi Research estimates as of August 15.
Source: Cabinet Office, Ministry of Finance, Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry, Citi Research.

Figure 6. Economic Indicators

Aug. 20 (Wed) 8:50 a.m.	*Customs-Clearance Trade Balance (Jul)*	Forecast: -¥668.3n NSA; -¥618.4bn SA Previous: -¥823.2bn NSA; -¥1,080.8bn SA
	The customs-clearance trade balance likely came to a ¥668.3bn deficit before seasonal adjustment and a ¥618.4bn deficit after it in July. We estimate exports increased 4.0% YoY in July (-1.9% YoY in June), for the first monthly rise in three months, while imports dropped 1.8% YoY (+8.4% YoY) for the first gain in two months. Exports expanded 4.7% YoY in the first 20 days of July, possibly reflecting a special factor. Media sources are reporting that production of a new smartphone model, to be rolled out in autumn, has shifted into high gear in Asia since last month. We will scrutinize the breakdown of exports by region and products to determine the potential staying power of the apparent export recovery. If our forecasts are correct, real exports (the seasonally-adjusted export value divided by the seasonally-adjusted export price index) would increase 2.1% MoM in July for the second consecutive monthly gain, while real imports (the seasonally-adjusted import value divided by the seasonally-adjusted import price index) would decrease 4.3% YoY for the first fall in two months.	
Aug. 20 (Wed) 1:30 p.m.	*All Industry Activity Index (Jun)*	Forecast: -0.1% MoM; -0.7% YoY Previous: 0.6% MoM; -1.6% YoY
	We expect a 0.1% MoM drop (-0.7% YoY) in the all industry activity index for June. This would be the first fall in two months. If we look at already available indices which constitute the all industry activity index, the industrial production index declined 3.4% MoM in June along with a 0.1% MoM fall in the tertiary industry activity index and a 0.1% MoM climb in the government services, etc. index. The construction activity index, due out at the same time, will likely rise 0.2% MoM on the back of growth in public works. If we are on the mark, the all industry activity index would decrease 3.4% QoQ in the second quarter, indicating a slow recovery of domestic industrial activity after the consumption tax hike.	

Source: Ministry of Finance, Ministry of Economy, Trade and Industry, Citi Research.

Figure 7. Recent economic indicators (YoY % or units as indicated, ¥bn)

	Apr	May	Jun	Jul
PRODUCTION				
Industrial Production	3.8 %	1.0 %	3.2 %	%
Shipments	2.4	-0.8	2.2	
Inventories	-1.9	0.8	2.7	
Private Machinery Orders, Excl. Ships and Power	17.6	-14.3	-3.0	
Contracted Public Works Orders	10.0	21.1	14.3	
CONSUMPTION				
Retail Sales (METI)	-4.3 %	-0.4 %	-0.6 %	%
All Household Consumption, Nominal	-0.7	-3.9	1.3	
New Motor Vehicle Registrations	-11.4	-5.6	-0.7	-2.5
New Housing Starts	-3.3	-15.0	-9.5	
LABOR MARKET				
Employment	0.4 %	0.9 %	0.9 %	%
Unemployment Rate (Level)	3.6	3.5	3.7	
Job Offers/Seekers Ratio (Level)	1.08	1.09	1.10	
New Job Offers	10.0	4.0	8.1	
Cash Earnings (5 Workers or More)	0.7	0.6	0.4	
PRICES				
Nationwide Consumer Prices	3.4 %	3.7 %	3.6 %	%
•Excl. Fresh Food	3.2	3.4	3.3	
Domestic Corporate Goods Prices	4.2	4.4	4.6	4.3
MONEY AND CREDIT				
Monetary Base	48.5 %	45.6 %	42.6 %	42.7 %
M2	3.5	3.3	3.0	3.0
M3	2.8	2.7	2.5	2.4
L (Broadly-defined Liquidity)	3.3	3.0	3.0	3.1
Bank Lending	2.0	2.2	2.3	2.2
TRADE, CAPITAL FLOWS, AND CURRENCIES				
Trade Balance, Customs Clearance Basis, SA	-¥880.5	-¥861.3	-¥1,080.8	
Export Value Growth (Yen Basis)	5.1	-2.7	-2.0	
•Volume	2.0	-3.4	-1.7	
Import Value Growth (Yen Basis)	3.4	-3.6	8.4	
•Volume	-1.3	-4.0	7.2	
Current Account, (SA, Billion yen)	130.5	384.6	125.6	
Yen/US Dollar Spot Rate	¥102.58	¥101.60	¥101.30	¥102.78

Source: Bank of Japan, government and industry association statistics, Citi Research.

Figure 8. Net buying/selling of Japanese stocks on Tokyo & Nagoya exchanges by all 50 incorporated securities firms (¥bn)

	Individual			Corporate		Investment		Securities
	Cash	Margin	Total	Financial	Nonfinancial	Trusts	Foreign	Firms
April	-273.2	3.2	-270.0	-1777.9	-25.7	51.2	424.4	4.8
May	-490.1	-84.2	-574.3	6367.0	192.0	76.3	-82.5	-39.4
June	-974.8	31.7	-943.2	2124.5	34.6	-248.9	564.9	-55.8
July	-669.2	79.1	-590.1	580.5	192.2	-106.7	497.6	-45.2
07/14~07/18	-91.6	-24.6	-116.1	-29.2	67.3	-29.8	86.9	-6.0
07/22~07/25	-158.3	-15.0	-173.3	-20.3	18.2	-10.3	153.4	-12.6
07/28~08/01	-200.4	39.9	-160.5	-0.9	-7.3	-18.8	134.2	-14.4
08/04~08/08	240.5	210.3	450.9	21.9	98.9	73.3	-457.1	30.3

Note: Data based on net buying by 50 major securities firms with seats on the exchanges.
Source: Tokyo & Nagoya Stock Exchanges, Citi Research.

Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

NON-US RESEARCH ANALYST DISCLOSURES
Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Japan Inc.	Kiichi Murashima; Naoki Iizuka

OTHER DISCLOSURES

Statements to be presented in relation to the Article 37 of the Financial Instruments and Exchange Laws (the "FIEL")
With respect to the purchase or sale of financial instruments, we may charge you a commission (in case of stock, a commission equal to the transaction price multiplied by a commission rate agreed between you and us in advance and consumption tax, and in case of investment trust, sales commission, trust fees and other fees prescribed for each fund). Each financial instrument is subject to relevant inherent risk and a substantial amount of loss or liability may occur due to a change in domestic/overseas political, economic or financial environment, market environment such as exchange rates, stock market, commodity market and interest rates, credibility of issuers, and change in underlying assets. For trading in derivatives, you may be required to pay margin, deposit or collateral ("collateral amount") based on agreement of each transaction. In addition, you may be required to pay additional collateral amount. For such transaction, nominal amount of transaction may exceed collateral amount, etc. Collateral amount to be paid by you will vary with the contents of collateral agreement. Therefore, we cannot calculate the maximum ratio of nominal amount against the collateral amount at this moment. There is a risk that a loss or liability exceeding the collateral amount may occur due to change in underlying asset. In addition, depending on the type of transaction, the rate we show you for sell and purchase as set out in Article 16.1.6 of the Enforcement Order of the FIEL may differ. In the case that there is an exercise period, please note that there is a limit in period when you can exercise relevant right. If there is early termination clause such as early cancellation clause or automatic lapse clause, the transaction may be completed prior to the expected completion date. Before executing any transaction, please carefully read the documents provided prior to the execution of the contracts, prospectus and other materials for customers, etc. Trade Name, Etc.:Citigroup Global Markets Japan Inc. (Financial Instruments Firm, Director-General of Kanto Local Finance Bureau (Kin-Sho) No. 130). Association Membership:Japan Securities Dealers Association, The Financial Futures Association of Japan, Type II Financial Instruments Firms Association.

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The

2000. The Product is made available in Pakistan by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the Philippines through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in Poland by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the Russian Federation through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in Singapore through Citigroup Global Markets Singapore Pte. Ltd. (“CGMSPL”), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold//Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the Republic of South Africa (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in the Republic of China through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in Thailand through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 399 Interchange 21 Building, 18th Floor, Sukhumvit Road, Klongtoey Nua, Wattana ,Bangkok 10110, Thailand. The Product is made available in Turkey through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Buyukdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the U.A.E, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in United Kingdom by Citigroup Global Markets Limited, which is authorised by the Prudential Regulation Authority (“PRA”) and regulated by the Financial Conduct Authority (“FCA”) and the PRA. This material may relate to investments or services of a person outside of the UK or to other matters which are not authorised by the PRA nor regulated by the FCA and the PRA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in United States by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is authorised by the PRA and regulated by the FCA and the PRA.

Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice,