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Japan's Economy: Monthly Review

Debut of BOJ Governor Haruhiko Kuroda

Economy to expand gradually but four risks should be kept in mind

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Main Points

- **Debut of BOJ Governor Haruhiko Kuroda:** With his monetary policy set on a different horizon, the debut of Haruhiko Kuroda as governor of the Bank of Japan (BOJ) sent a positive shockwave through the market. Monetary easing introduced by the new BOJ regime on 4 April was bolder than market expectations. Now that Kuroda's magic ball has been passed to the government, the market will watch the ability of the Abe administration to achieve three tasks, namely 1) to thoroughly improve Japan's foundations for economic growth, 2) to maintain fiscal discipline, and 3) to increase employee income.

- **Main scenario for Japan's economy:** Japan's economy slipped into recession after peaking in March 2012. It now appears to have hit bottom in November 2012 and to have bottomed out, and is expected to continue expanding, supported by (1) the recovery of the US and Chinese economies, (2) the continuation of reconstruction demand and the formation of a large-scale supplementary budget, and (3) the ongoing depreciation of the yen/ascent of share prices accompanying the BOJ's adoption of inflation targeting. With regard to the last, we believe that a correction of the yen's excessive appreciation is currently underway in foreign exchange markets. Also, a comparison with the real economy suggests that stock prices are potentially still undervalued at current levels.

- **Risks facing Japan's economy:** In this report, we examine four risk factors facing Japan's economy: (1) any deepening of the European sovereign debt crisis, reflecting likely political instability in Italy and Spain, (2) any worsening of Japan-China relations, (3) the US fiscal issue, and (4) a surge in crude oil prices stemming from geopolitical risk.

1. Debut of BOJ Governor Haruhiko Kuroda

Monetary policy set on a different horizon

With his monetary policy set on a different horizon, the debut of Haruhiko Kuroda as governor of the Bank of Japan (BOJ) sent a positive shockwave through the market. The baton being passed from former governor Masaaki Shirakawa to Haruhiko Kuroda was like Othello game discs flipping and changing color in the blink of an eye.

In contrast to the usual critical remarks BOJ decisions receive in overseas media, Kuroda's decisions have earned favorable comment, as in "Kuroda takes market by storm," 4 April 2013, "Japan's unfinished policy revolution," 9 April 2013, both the *Financial Times*, and "Notenbankchef Kuroda dreht den Geldhahn weiter auf," 4 April 2013, *Frankfurter Allgemeine Zeitung*.

Monetary easing measures introduced by the new BOJ regime under Governor Kuroda were bolder than market expectations. On 4 April, the BOJ announced introduction of quantitative and qualitative monetary easing to achieve the price stability target of 2% in terms of the year-on-year rate of change in CPI as early as possible with a time horizon of about two years. The bank changed the main operating target for money market operations from the uncollateralized overnight call rate to the monetary base, announced it would double the monetary base and amounts outstanding of Japanese government bonds (JGBs) as well as exchange-traded funds (ETFs) within two years, and more than doubled the average remaining maturity of JGB purchases. This would expand BOJ's balance sheet at end-2014 to Y290 trillion (59% of GDP), or twice the current asset size.

Kuroda's decision could mark a decisive break from the past. Previously, foreign investors thought BOJ's monetary easing measures were quite insufficient. While criticism of Kuroda is heard among those supporting the policies of the previous BOJ regime, it rings hollow in the face of the major shift already seen toward a weaker yen and higher stock prices.

The aggregate market value of listed stocks has increased by about Y140 trillion since the dissolution of the House of Representatives was virtually decided in mid-November 2012. In other words, wealth exceeding the annual state budget (Y90 trillion on an initial budget basis) was created accompanying the change in administration.

The yen has depreciated by about Y18 against the dollar over the same period. According to DIR's macroeconomic simulation model, a Y10 rise against the dollar would boost Japan's real GDP by roughly 0.4% (Y2 tril). Simply stated, the shift to a weaker yen accompanying change in the administration has pushed up real GDP by about Y4 trillion.

Ability to engage in dialog with market

Governor Kuroda has exhibited a superb ability of not only being able to formulate a unique monetary policy but also to engage in intelligent dialog with the market. He is recognized as a prominent member of the "currency mafia," a real professional who understands the mechanism of global currency markets and behavior of market participants.

Key for policy makers is to surprise the market. Surprise means a gap between actual decisions and market expectations. Market responses will depend on magnitude of surprise, not actual policy decisions. The point is to give a positive surprise surpassing market expectations. From this perspective, Governor Kuroda quickly brought a positive surprise to the market.

Previously, the BOJ did not ease monetary conditions before the economic/financial environment began to worsen. In other words, the bank let the matter rest until there was no alternative. In addition to slowness to respond, BOJ's easing measures failed to overshoot market expectations. As such, the market perceived easing measures as "too little, too late" and the announcement of BOJ decisions was understood to be a signal of no more room left for speculation, resulting in stock price retreats on many occasions.

Meanwhile, under Kuroda, the BOJ is displaying a talent for controlling information. Previously, the government is said to have been annoyed because of the loopholes in such control. Now, prior to the announcement of new policy measures, the BOJ has succeeded in preventing any details leaking out, thus being able to present the media and market participants with a positive surprise.

Three tasks Abenomics should realize

Now that Kuroda's magic ball has been passed to the government, and Abenomics has got off to a flying start, the market will monitor the ability of the Abe government to realize three tasks.

The first is to thoroughly improve Japan's economic foundation. Currently, Abenomics mainly consists of stimulus measures like public works spending and monetary policies. However, if the capacity for economic growth is to be strengthened in the medium to long term, efforts toward structural reform will be necessary, such as deregulation and participation in the Trans Pacific Partnership Agreement (TPP), the third priority area of Abenomics. If the government fails here, there is concern that the ascent of share prices and depreciation of the yen will come to be just passing phenomena.

The second task is to maintain fiscal discipline. Loss of fiscal discipline combined with bold monetary easing could lead to debt monetization. This could lead to a plunge in JGB prices (a boost in long-term interest rates), which might result in an uncontrollable vicious spiral of yen depreciation, higher import prices, and then stagflation (rising prices during economic downturns).

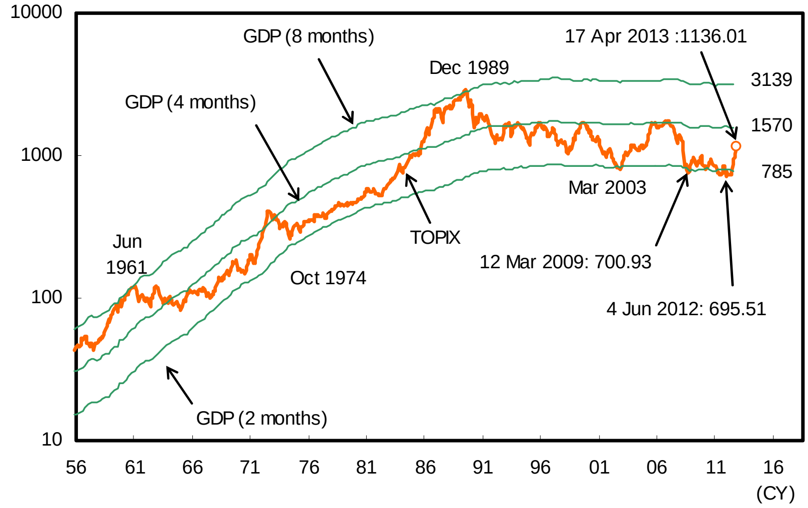
The third task is to increase employee income. An examination of the historical record discloses the existence in Japan of a cycle where an increase in sales is followed by higher wages and higher prices. In other words, about six to twelve months after sales increase, wages rise, followed by CPI after another six months. Some concern, however, is raised by sales losing some of their leading character relative to wages since the 2000s with the progress of globalization. From such a perspective, there is no doubting the need in policy terms to strengthen a transmission mechanism that will enable higher sales to propagate appropriately to wage increases.

Following the flying start we have so far seen, we anticipate that the Abe administration will move to address these tasks.

2. Main scenario for Japan's economy

Japan's economy slipped into recession after peaking in March 2012. It now appears to have hit bottom in November 2012 and to have bottomed out, and is expected to continue expanding, supported by (1) the recovery of the US and Chinese economies, (2) the continuation of reconstruction demand and the formation of a large-scale supplementary budget, and (3) the ongoing depreciation of the yen/ascent of share prices accompanying the BOJ's adoption of inflation targeting. With regard to the last, we believe that a correction of the yen's excessive appreciation is currently underway in foreign exchange markets. Also, as shown in Chart 1, a comparison with the real economy suggests that stock prices are potentially still undervalued at current levels.

TOPIX (pt) and Nominal GDP (Y100 bil) **Chart 1**



Source: Cabinet Office, Tokyo Stock Exchange; compiled by DIR.

3. Risks Facing Japan’s Economy

We now examine four risk factors facing Japan’s economy: (1) any deepening of the European sovereign debt crisis, reflecting likely political instability in Italy and Spain, (2) any worsening of Japan-China relations, (3) the US fiscal issue, and (4) a surge in crude oil prices stemming from geopolitical risk.

Risk 1: Any deepening of the European sovereign debt crisis

In the worst case, an impact comparable to the Lehman crisis

Of risks (1) to (4) above, there is no question that the greatest tail risk is (1). Chart 2 depicts the results of simulating the impact of the European sovereign debt crisis on Japan’s economy. Specifically, we established three scenarios for the size of the haircuts given to the sovereign debt of European nations and calculated the core capital shortfall that major European banks would face in each scenario. We then estimated how the resulting credit crunch would influence the world economy, factored in yen appreciation because of less alternative currency selection, and calculated how Japan’s real GDP would be affected. In the worst case (Case 3), Japan’s real GDP has the potential of experiencing downward pressure of more than 4%. It goes without saying that calculation results will need to be viewed with considerable latitude. Even so, should the European sovereign debt crisis see any worsening, such as by Greece leaving the euro, there is risk that Japan would sustain a blow comparable in size to the Lehman crisis.

Impact of European Sovereign Debt Crisis on Japanese Economy **Chart 2**

	% discount of respective nation's sovereign bonds						European banks		Impact		
	Belgium	Greece	Ireland	Italy	Portugal	Spain	Tier 1 capital shortfall (€ 100 mil)	Risk asset write-off matching half capital shortfall (% of overall risk assets)	Bank loans worldwide ($)	Nominal GDP worldwide ($)	Japan's real GDP (yen)
Case 1	0%	60%	40%	10%	40%	10%	**1,274**	**7.0%**	-1.7%	-1.6%	**-0.6%**
Case 2	15%	80%	50%	30%	50%	30%	**2,233**	**13.9%**	-3.4%	-3.2%	**-2.2%**
Case 3	30%	100%	60%	50%	60%	50%	**3,240**	**24.9%**	-6.0%	-5.7%	**-4.1%**

Source: World Bank, European Banking Authority, Cabinet Office; compiled by DIR.
Assumptions: 1) Ratio of risk asset write-off to overall risk assets corresponds to that of loan cutbacks to overall loans.
2) Case 1: the yen remains flat; Case 2: 5% appreciation; Case 3: 10% appreciation; all against the dollar.
Note: Estimated based on elasticity approach, which warrants some latitude.

Risk 2: Worsening of Japan-China relations

Effect on Japan's economy of the worsening of Japan-China relations

The second risk for Japan's economy is a deterioration in Japan-China relations. As shown in Chart 3, any deterioration in Japan-China relations would have adverse effects on Japan's economy through three channels. The assumptions for the case of exports to China stagnating for six months (first column) are given in the footnote to Chart 4.

Impact on domestic production if exports to China stagnate for six months

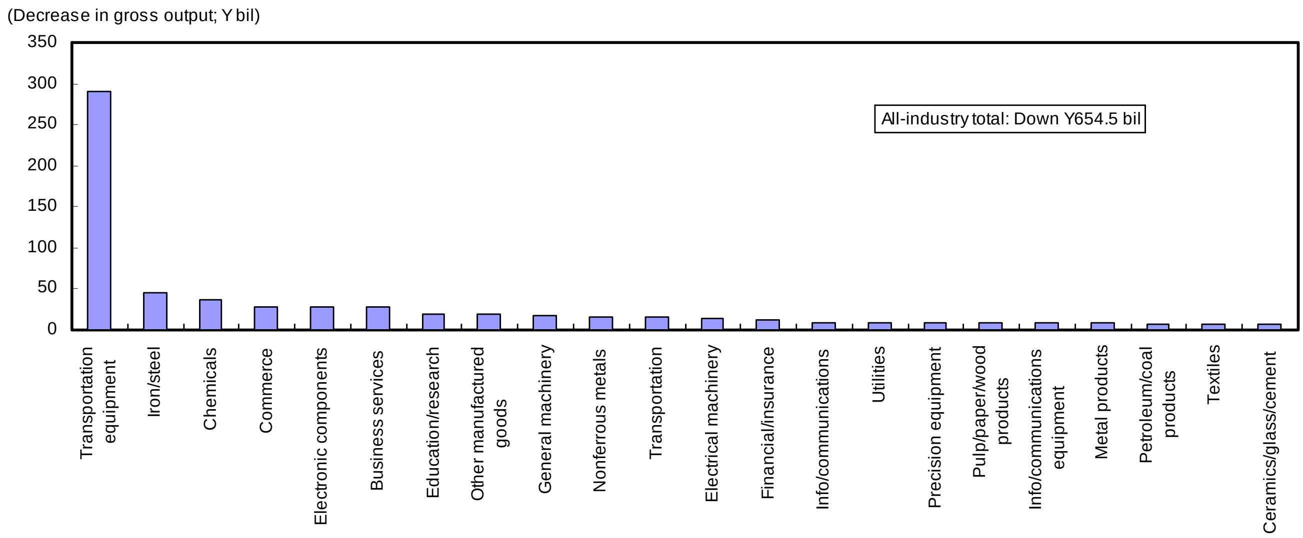
We have estimated the impact on domestic production of exports to China stagnating for six months based on *2005 Input-Output Tables for Japan* (Ministry of Internal Affairs and Communications). In this case, as shown in Chart 4, domestic production would shrink by Y654.5 billion on an all-industry basis and a wide range of industries would be impacted, including transportation equipment, chemicals, iron/steel, general machinery, and electronic components.

Impact on Japan's Economy of Deterioration in Japan-China Relations **Chart 3**

(1) Exports from Japan to China	(2) Sales of Japanese manufacturers incorporated in China	(3) No. of Chinese tourists visiting Japan
Y12 tril/year (19% of Japan's exports)	Y20 tril/year (5% of manufacturers' sales in Japan)	1.41 mil tourists/year (16% of tourists visiting Japan)
If exports to China stagnate for six months	**If business in China declines by 10% for one year**	**If Chinese tourists decline by 40% for one year**
Domestic production would decline by Y654.5 bil GDP would shrink by Y200 bil	Japanese corporate sales would decline by Y2.0 tril Recurring profit would decline by Y144 bil	Domestic production would decline by Y185 bil GDP would shrink by Y94 bil

Source: Ministry of Finance, Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry, Japan National Tourism Organization; compiled by DIR.

Impact on Industries if Exports to China Stagnate for Six Months **Chart 4**



Source: Ministry of Finance, Ministry of Internal Affairs and Communications; compiled by DIR.
Assumptions: Export value to China will decline 80% for automobiles, 20% for auto parts, and 2% for other sectors.

Slide in exports from deteriorating Japan-China relations would place downward pressure of about only 0.1% on Japan's GDP even in the worst case scenario

Chart 5 shows results of estimating how Japan's GDP would be affected by the decrease in exports ensuing from deteriorating relations between Japan and China. In this process, we first established a number of assumptions and conditions before proceeding with our estimation. We estimated the direct impact of production contracting from lower exports and the impact including the knock-on effect of lower production in a given industry spreading to other industries using inter-industry input-output tables. Estimation results indicate the downward pressure that would arise in comparison to the case where Japan-China relations do not worsen (base scenario). Hence, our estimation does not include changes in China's economy.

First, in Scenario 1, the effect of worsening Japan-China relations is assumed to end in the short term and play out in three months. In this scenario, we assumed that exports would decline by about the same amount as they did after anti-Japan demonstrations in China in September 2012. At that time, a movement to boycott Japanese products greatly undermined automobile sales, and exports of automobiles and auto parts fell sharply. There was, however, no noticeable decline in the export of other items. In this scenario, GDP would shrink by Y117.8 billion (0.02% of nominal GDP).

In Scenario 2, the slide of exports is the same as in Scenario 1, but the effect is assumed to last for six months. In this scenario, Japan's GDP would shrink by Y206.2 billion (0.04% of nominal GDP).

In Scenario 3, we assumed that the effect of worsening Japan-China relations would further deepen than CY12 and that this effect would last for a long time (12 months). In this scenario, Japan's GDP would shrink by Y540.2 billion (0.11% of nominal GDP).

Summarizing the above, worsening Japan-China relations are estimated to place downward pressure of about 0.1% on Japan's GDP in the worst case, an impact that is not very significant.

Impact on Japan's GDP of Lower Exports Due to Deterioration in Japan-China Relations **Chart 5**

		Scenario 1	Scenario 2	Scenario 3
Decline in GDP due to lower exports to China	(Y100 mil)	1,178	2,062	5,402
	(% of GDP)	(0.02)	(0.04)	(0.11)
Decline in GDP due to lower exports of automobiles and auto parts	(Y100 mil)	767	1,342	2,933
	(% of GDP)	(0.02)	(0.03)	(0.06)

Source: Ministry of Finance, Ministry of Internal Affairs and Communications, Cabinet Office; compiled by DIR.
Note: % of GDP=% of CY12 nominal GDP.
Assumptions: 1) Scenario 1: Exports to China will decline for three months by 80% for automobiles, 20% for auto parts, and 2% for all other items.
2) Scenario 2: Exports to China to decline for six months by the same degree as in Scenario 1.
3) Scenario 3: Exports to China to decline for 12 months by 80% for automobiles, 40% for auto parts, and 4% for all other items.

Risk 3: US fiscal issue

Should the fiscal issue materialize in the US, Japan's GDP would shrink by 0.3% to 0.4%

Chart 6 illustrates the effect on national and regional GDPs of fiscal expenditures being curtailed by 1% of GDP. Should the US fiscal issue materialize and should US fiscal expenditures be cut by about 1.5% to 2% of GDP (which corresponds to the top panel), Japan's GDP would shrink by around 0.3% to 0.4% (0.2% x 1.5 or 2). The direction of the US fiscal issue warrants close attention going forward.

Impact on GDP from Sustained Fiscal Spending Cutbacks of 1% of GDP **Chart 6**

		Year 1	Year 2	Year 3	Year 4	Year 5
Cutback in US	US	-0.9	-1.0	-0.6	0.0	0.5
	Japan	-0.2	-0.2	-0.1	0.0	0.1
	Eurozone	-0.1	-0.1	-0.1	-0.1	0.0
	Total OECD	-0.4	-0.5	-0.3	0.0	0.2
	Total non-OECD	-0.2	-0.1	0.1	0.1	0.1
	World	-0.4	-0.4	-0.3	0.0	0.2

		Year 1	Year 2	Year 3	Year 4	Year 5
Cutback in Japan	US	0.0	-0.1	0.0	0.0	0.0
	Japan	-0.8	-0.9	-1.1	-0.9	-0.7
	Eurozone	0.0	0.0	0.0	0.0	-0.1
	Total OECD	-0.2	-0.2	-0.2	-0.2	-0.2
	Total non-OECD	-0.1	0.0	0.0	0.0	0.0
	World	-0.2	-0.2	-0.2	-0.2	-0.1

		Year 1	Year 2	Year 3	Year 4	Year 5
Cutback in Eurozone	US	-0.1	-0.1	0.0	0.0	0.1
	Japan	-0.1	-0.1	-0.1	0.0	0.0
	Eurozone	-0.8	-0.8	-0.5	-0.3	-0.1
	Total OECD	-0.3	-0.3	-0.2	-0.1	0.0
	Total non-OECD	-0.1	-0.1	0.1	0.1	0.1
	World	-0.2	-0.2	-0.1	0.0	0.0

Source: OECD, *The OECD's New Global Model*; compiled by DIR.
Note: Percentage deviation from OECD's baseline scenario.

Risk 4: Surge in crude oil prices stemming from geopolitical risk

Impact of higher crude oil prices on Japan's economy

The fourth risk is a surge in crude oil prices in the context of geopolitical risk ushering in mini-stagflation (rising prices during an economic downturn) in Japan. An analysis using our macroeconomic forecasting model indicates that crude oil prices rising by $10/bbl would reduce Japan's real GDP 0.1% in the first year and 0.2% in the second.

Crude oil prices increasing by 10% would reduce macro earnings around 5%

Chart 7 illustrates the results of simulating the impact on macro earnings of a 10% increase in crude oil prices. Stated simply, two factors determine the impact of higher crude oil prices on corporate earnings: (1) the percentage by which overall input prices (raw material prices) rise for the corporate sector when crude oil prices increase and (2) the degree to which companies are able to pass through the increase in raw material prices to selling prices. Three scenarios were established for each of these factors, and results were calculated for a total of nine cases (= 3 x 3).

With regard to (1) the percentage by which overall input prices (raw material prices) rise for the corporate sector when crude oil prices increase, we have assumed in our main scenario that crude oil prices rising 10% would increase input prices by 1.3%.

With regard to (2) the degree to which companies are able to pass through the increase in raw material prices to selling prices, given the recent disinflation of output prices, we believe it is realistic to assume that crude oil prices rising by 10% would cause corporate earnings to contract about 5%, which can be viewed as an intermediate scenario between (1) zero pass-through and (2) actual pass-through.

Impact of 10% Rise in Crude Prices on Profits — Chart 7

			Change in input prices		
			+0.3%	+1.3%	+2.6%
Pass-through to output prices	1. Zero pass-through	0%	**-1.7%**	**-7.3%**	**-14.6%**
	2. Actual pass-through	41%	**-0.7%**	**-2.9%**	**-5.7%**
	3. Optimum pass-through	71%	**0.0%**	**0.0%**	**0.0%**

Source: Bank of Japan, Ministry of Internal Affairs and Communications, Ministry of Finance; compiled by DIR.
Notes: 1) Actual pass-through rate: average pass-through rate from 2005 to 2H 2007, when the rate was stable.
2) Optimum pass-through rate: one which offsets the effects of higher input prices.
3) Ratio of crude oil to intermediate input is 3%. Thus, theoretically, a 10% rise in crude prices will boost input prices by 0.3%. However, in actuality, a 10% rise in crude prices will boost other commodity prices, boosting input prices by 1.3%.

Outlook for Japanese Economy, Interest Rates — Chart 8

	2012	2013				2014	FY11	FY12	FY13	FY14
	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar				
Indicator	**Actual**	**DIR estimates**					**Actual**	**DIR estimates**		
Real GDP										
Q/q %, annualized	0.2	2.0	2.9	4.5	5.2	4.8				
Y/y %	0.5	-0.7	0.3	2.4	3.6	4.4	0.3	1.0	2.7	0.4
Current account balance SAAR (Y tril)	2.5	0.6	1.1	1.6	2.1	2.5	7.6	3.2	1.8	7.1
Unemployment rate (%)	4.2	4.2	4.2	4.1	4.1	4.1	4.5	4.3	4.1	4.0
CPI (excl. fresh foods; 2010 prices; y/y %)	-0.1	-0.4	-0.1	0.1	0.3	0.4	-0.0	-0.2	0.2	2.6
Unsecured overnight call rate (period end; %)	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
10-year JGB yield (period average; %)	0.76	0.66	0.60	0.60	0.70	0.70	1.05	0.76	0.65	0.75

Source: Compiled by DIR.
Note: Estimates taken from DIR's *Japan's Economic Outlook No. 176 Update*.