

Japan Equity Strategy

FRB duration effect strengthening and Japanese equities

■ Equities

- **US duration effect strengthening positive for Japanese equities** — We think that the September FOMC meeting is likely to see the FRB strengthen the duration effect by extending the period of low interest rates. We see two consequences of a strengthened duration effect on Japanese equities: the negative one of yen strength against the dollar and the positive of higher US equities and improved investor sentiment. We calculate that the yen would not strengthen beyond ¥77.5/\$-¥78/\$ if the low interest-rate period were to be extended to late 2015 and that this could be canceled out by a rise of 1.2% in the S&P 500. We think a strengthening of the duration effect by the FRB would be positive for Japanese equities.
- **Policy duration effect likely to be strengthened at September meeting** — According to the minutes from the FOMC meeting held from July 31 through August 1, many FOMC members supported strengthening the policy duration effect by extending ZIRP, but any decision here was postponed until September as that is when the FOMC will revise its economic outlook. Also, the minutes noted that “many members judged that additional monetary accommodation would likely be warranted fairly soon unless incoming information pointed to a substantial and sustainable strengthening in the pace of the economic recovery.” We think it likely that the policy duration effect will be strengthened at the FOMC meeting to be held on September 12-13.
- **¥77.5/\$-¥78/\$ even in “through late 2015” scenario** — We think the FRB could extend the low interest-rate period to either mid-2015 or late 2015. We think this would lower market forecasts of the policy rate in 24 months’ time and cause the yen to strengthen against the dollar. As the market lowered its 24-month policy rate forecast after the announcement of the FOMC minutes, we think that the decline, even in the late 2015 scenario, would be modest, and that the yen would only strengthen into the ¥77.5/\$-¥78/\$ range. We estimate this would trigger a TOPIX decline of around 0.8%.
- **Negative impact to be canceled out by US stock gains** — We estimate that the negative impact on Japanese equities from yen strength would be canceled out by a rise of 1.2% in the S&P 500. In 2010, as expectations of QE2 mounted, the S&P 500 added around 13%. US equity valuations have been climbing, so we do not think the rally will be as strong as in 2010, but nevertheless we do think that as expectations of additional monetary easing mount, US equities will rise and this will offset the negative of yen strength.
- **Sectors we like** — As expectations of QE3 mount the sectors we will be watching are: 1) exporters with high US sales weightings, on mounting expectations of a US economic recovery (transport equipment, etc.), 2) real estate, on a decline in longer-term call rates, 3) resource-related sectors (wholesale trade, etc.), on higher resource prices, and 4) brokers, on recovering share prices.

Kenji Abe, PhD

+81-3-6270-4890

kenji.abe@citi.com

Nachiket R Garde, CFA

+81-3-6270-4888

nachiket.garde@citi.com

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Impact on Japanese stocks from strengthening the policy duration effect

Further easing likely in September

Many FOMC members want further easing fairly soon

The minutes of the FOMC meeting held from July 31 through August 1 suggest that additional easing measures are likely in September. The minutes noted that “many members judged that additional monetary accommodation would likely be warranted fairly soon unless incoming information pointed to a substantial and sustainable strengthening in the pace of the economic recovery.”

As of August 1 many FOMC members supported extending ZIRP

In addition, many FOMC members supported strengthening the policy duration effect by extending ZIRP, but any decision here was postponed until September as that is when the FOMC will revise its economic outlook. We think it likely that at the September 12-13 FOMC meeting the FRB will adjust its stance on maintaining ZIRP from “at least through 2014” to “through mid-2015” or “through late 2015”.

Although a number of FOMC members said conditions for ending ZIRP should be directly linked to economic circumstances, this does not appear to be the majority opinion.

Depending on August job figures, the FOMC may not only strengthen the policy duration effect but also go so far as to implement a new asset purchase program (QE3).

Impact of strengthening policy duration effect on Japanese stocks

Two impacts on Japanese stocks from strengthening the policy duration effect

We see two potential impacts of strengthening the policy duration effect on Japanese equities: 1) a negative impact from yen appreciation versus the dollar stemming from lower US interest rates and 2) a positive impact from higher stock prices in the US and increased investor risk appetite.

Significant yen appreciation likely to be avoided even with strengthening of policy duration effect

Even if ZIRP extended until late 2015 we think the yen would not move below ¥77.5/\$-¥78/\$

We estimate the negative impact of a stronger yen stemming from lower interest rates in the US. Our calculations suggest that the yen would be around ¥78/\$ were ZIRP extended until mid-2015 and ¥77.5/\$-¥78/\$ were it extended until late 2015. That is, it appears significant yen appreciation can be avoided even if the policy duration effect is strengthened in September.

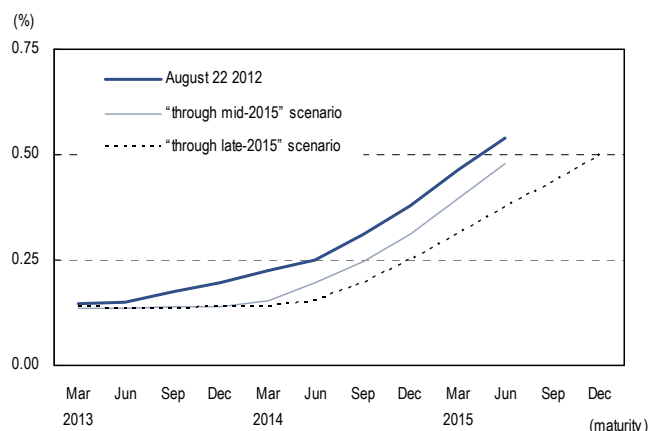
Below we describe our calculation methodology.

First, we forecast movement in the Federal Funds rate based on past trends under two scenarios: 1) that ZIRP is extended through mid-2015 and 2) that ZIRP is extended through late 2015 (Figure 1). In the “through mid-2015” scenario, we put the FF rate at 22bp in July-September 2014, and at 18bp for the “through late 2015” scenario. After the FOMC meeting minutes were published on August 22, the policy rate forecast for 24 months out was 27bp, so our estimates are 5bp and 9bp lower respectively.

The forecast for the policy rate 24 months hence is highly correlated with the yen-dollar rate (Figure 2). Based on the correlation, a 1bp decline in the policy rate forecast results in an appreciation of ¥0.09/\$. Using this relationship we calculate

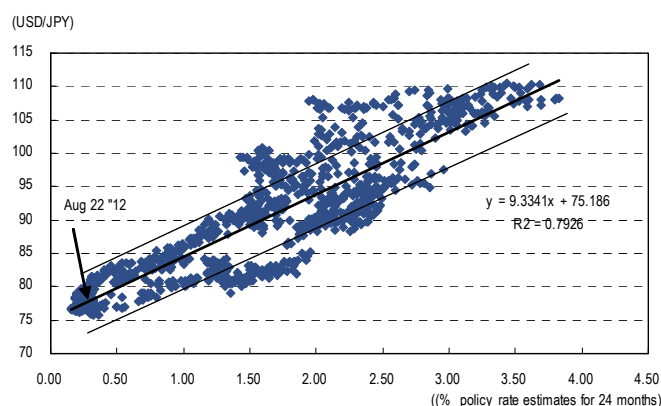
the potential impact on the yen/dollar rate based on the changes in the market's 24-month policy rate forecast. We find that in the "through mid-2015" scenario the yen would appreciate by ¥0.42/\$, while in the "through late 2015" scenario the appreciation would be ¥0.84/\$. The rate on August 22, the day the FOMC meeting minutes were published, was around ¥78.5/\$, suggesting it would be around ¥78/\$ in the "through mid-2015" scenario and ¥77.5/\$-¥78/\$ in the "through late 2015" scenario.

Figure 1. Expected policy rate movement



Source: Bloomberg, Citi Research.

Figure 2. Relationship between policy rate forecast for 24 months hence and the ¥/\$ rate



Source: Bloomberg, Citi Research.

Increase for US stocks would likely offset negative impact of stronger yen

We believe additional easing would drive US shares higher and increase risk appetite among investors, which would in turn impact Japanese stocks. Therefore, we regress the monthly change in TOPIX on the change in the S&P 500 and in the ¥/\$ rate.

$$\begin{aligned} \text{TOPIX change} &= 0.64 \text{ (6.1) S\&P500 change} \\ &+ 0.009 \text{ (4.4) ¥/$ rate change} \end{aligned}$$

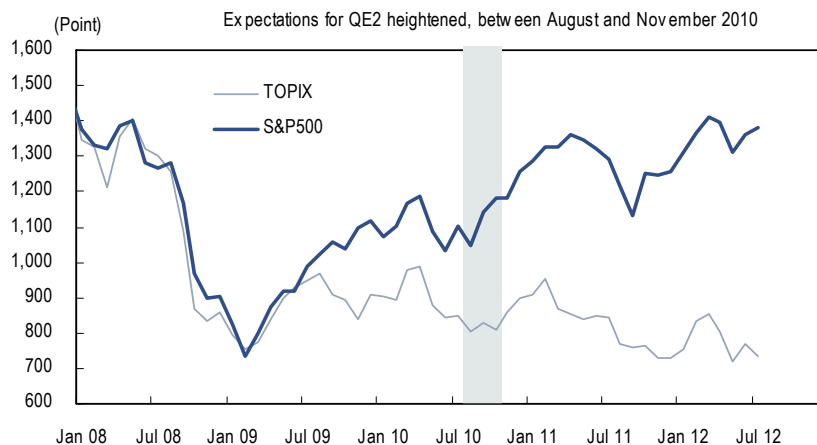
(We use data from January 2009 through July 2012, figures in parentheses are t-values).

A 1.2% rise for the S&P 500 alone would offset the negative impact of a stronger yen

If we assume the yen appreciated by ¥0.42/\$, as in the "through mid-2015" scenario, we estimate this would result in a c0.39% decline for TOPIX. Under the "through late 2015" scenario the decline would be c0.79%. If the S&P 500 were to rise by 0.6% or more in the first scenario and 1.2% or more in the second, then the negative impact of the stronger yen would be offset by the positive impact of higher US stock prices.

Between end-August and end-September 2010, when expectations for QE2 heightened, the S&P 500 rose 12.8%. Valuations are higher than they were then, so we would not expect as large a rise this time, but even so we would expect a rise for the S&P 500 as expectations for additional easing measures mount. Such a rise, would, we believe offset the negative impact from a strong yen, as calculated above.

Figure 3. S&P 500 and TOPIX



Source: Bloomberg, Citi Research.

Sectors of interest

It is possible that expectations will rise not only for a strengthening of the policy duration effect, but also for QE3. We take a look back at expectations for QE2 in 2010 as a guide for which sectors might be worth keeping an eye on.

Sector performance under heightened QE2 expectations

A look at sector performance between the August 2010 FOMC meeting and the November 2010 FOMC meeting, a time of high expectations for QE2, shows that the five sectors that performed best were real estate, REITs, non-ferrous metals, wholesale trade, and machinery. The bottom five were brokers, banks, other products, land transportation, and pulp & paper (Figure 4).

Figure 4. Sector performance when QE2 expectations were high between the August 2010 FOMC meeting and November 2010 FOMC meeting

		Aug 2010 FOMC ⇒ Nov 2010 FOMC
	TOPIX	-4.8
High-tech	Electric Appliances	4.2
	Transportation Equipment	2.8
	Information & Communication	1.8
	Machinery	4.4
	Precision Instruments	0.8
Cyclical	Chemicals	1.2
	Wholesale Trade	5.6
	Iron & Steel	-3.9
	Nonferrous Metals	6.3
	Glass & Ceramics Products	-5.4
	Textiles & Apparels	2.6
	Oil & Coal Products	3.4
	Rubber Products	-2.2
	Marine Transportation	-4.0
	Pulp & Paper	-11.8
	Mining	4.3
Pure domestic demand	Retail Trade	-1.7
	Land Transportation	-5.9
	Real Estate	12.7
	REIT	12.5
	Construction	0.8
	Other Products	-6.5
	Services	-1.2
	Metal Products	-5.6
	Air Transportation	-1.2
	Warehousing & Harbor Transportation	
	Services	-1.5
Financials	Banks	-7.7
	Other Financing Business	-3.7
	Securities	-12.0
	Insurance	0.8
Defensive	Pharmaceutical	1.9
	Electric Power & Gas	-5.2
	Foods	-3.0
	Fishery, Agriculture & Forestry	-2.8

Note: Figures for each sector are rates of change relative to TOPIX. We bold the sectors with the best performance among the TSE's 33 sectors and the TSEI REIT index and italicize the worst performers.

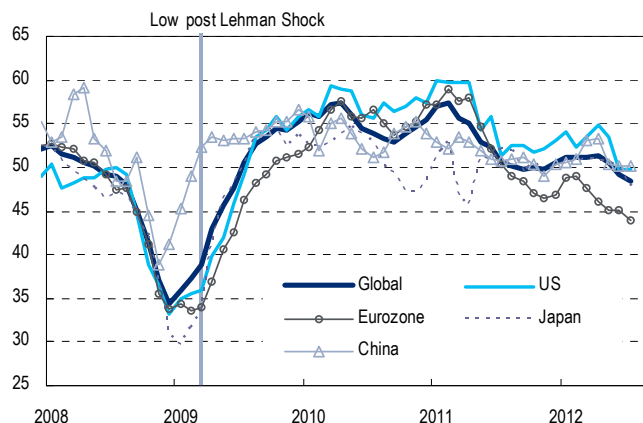
Source: Datastream, Citi Research.

Similarities and differences between the two periods

We believe a decline in longer-term call rates has benefits for real estate companies, given their high interest costs, which is why the sector was a significant outperformer in August-November 2010. We think the same mechanism will be at work as expectations for QE3 rise.

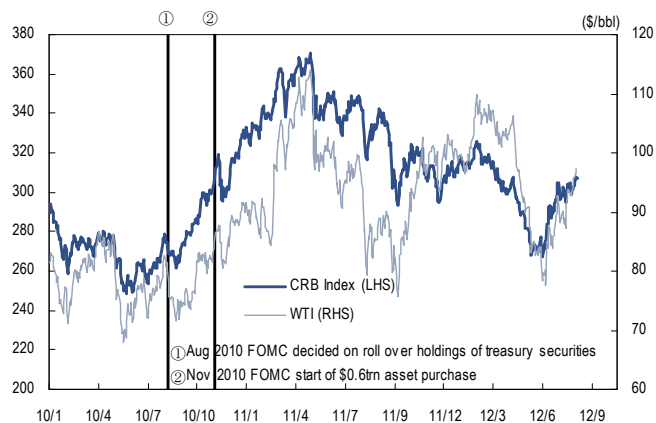
As investors expected that QE2 would push up resource prices by making the dollar weaker and stimulating the global economy, resource-related sectors like non-ferrous metals and wholesale trade were also significant outperformers in August-November 2010. The global economy looks to be somewhat weaker now than in 2010, so we think it unlikely that resource-related sectors will perform quite as well as they did in 2010 (Figures 5, 6).

Figure 5. Manufacturer PMI



Source: Datastream, Markit, Citi Research.

Figure 6. CRB and WTI prices



Source: Bloomberg, Citi Research.

In addition, share prices were sluggish in Japan in August-November 2010 as heightened QE2 expectations were accompanied by yen appreciation. We think this is why brokers were significant underperformers. As we do not expect significant yen appreciation as expectations for QE3 rise, unlike what happened in 2010, we believe Japanese shares will rise in a straightforward fashion on expectations of economic improvement in the US. This would suggest outperformance for brokers, for instance.

In 2010, transportation equipment and electronic machinery outperformed TOPIX despite yen appreciation versus the dollar. As we do not expect significant yen appreciation as expectations for QE3 rise, we believe these sectors will outperform TOPIX by an even wider margin this time. We believe companies with high US sales weightings will see particular benefits.

We highlight the following sectors for the period in which QE3 expectations increase:

- Exporters with high US sales weightings based on increased expectations for economic recovery in the US (transportation equipment, etc.);
- Real estate based on lower longer-term call rates;
- Natural resource-related sectors based on a rise in natural resource prices (wholesale trade, etc.);
- Brokers due to a share price recovery.

Below we plot PBRs for the four sectors mentioned above. The PBR for real estate is higher than it was in 2010 as the real estate sector is doing well in 2012, but it

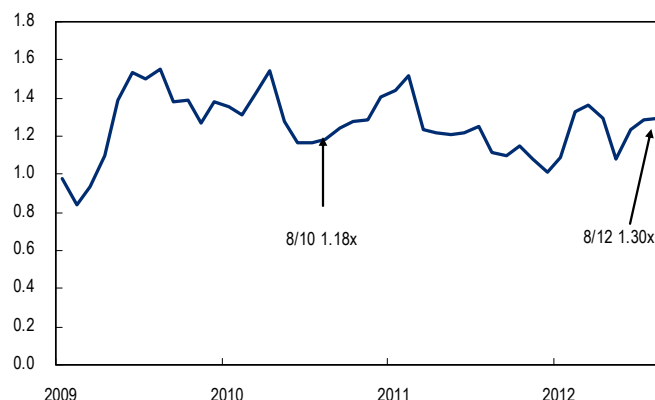
does not look that high in historical terms. PBRs for transportation equipment and wholesale trade are slightly above where they were in 2010, while the brokers PBR is lower. In our view, valuations are unlikely to dent performance in any of these sectors.

Figure 7. Transportation equipment PBR



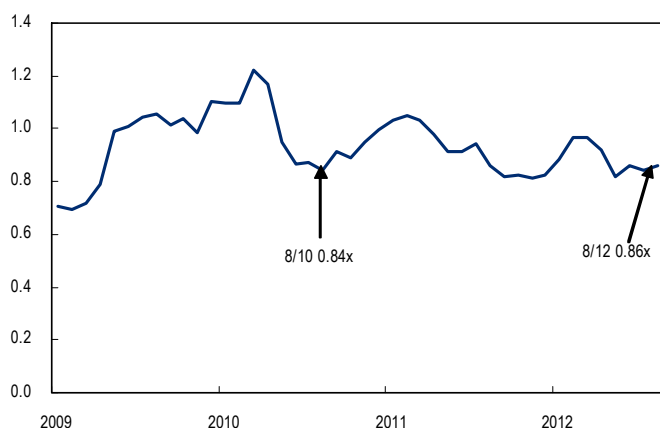
Source: Astra Manager, Citi Research.

Figure 8. Real estate PBR



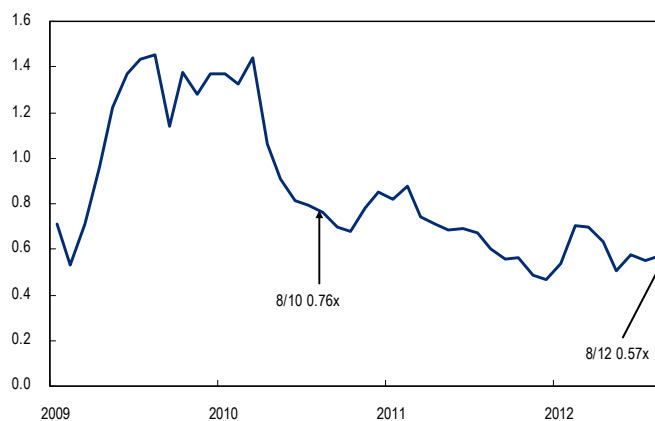
Source: Astra Manager, Citi Research.

Figure 9. Wholesale trade PBR



Source: Astra Manager, Citi Research.

Figure 10. Brokers PBR



Source: Astra Manager, Citi Research.

Figure 11. Companies with high US sales weightings and PBRs well below their five-year PBR averages

Company	Sector	MCAP (¥bn)	Share price (¥)	3m price change (%)	Deviation from 5 yr PBR avg. (%)	Div Yld (%)	FY12 PE (x)	US sales share (%)
7238 AKEBONO BRAKE INDUSTRY	Trans.Equip.	55	404	21.0	-17.8	2.5	14.9	49.3
7267 HONDA MOTOR	Trans.Equip.	4,793	2,646	3.1	-11.3	2.9	9.8	44.1
7313 TS TECH	Trans.Equip.	98	1,440	-3.7	-9.0	1.9	7.1	39.1
7312 TAKATA	Trans.Equip.	132	1,590	-6.1	-21.0	1.9	6.9	37.0

Note: As of August 23. Based on Toyo Keizai forecasts. Our universe is TSE1 stocks with market caps of at least ¥50bn, FY11 US sales weightings above 30%, and PBRs well below their five-year averages.

Source: Astra Manager, Citi Research.

Figure 12. Real estate companies with high ratios of interest-bearing debt to total assets

Company	Sector	MCAP (¥bn)	Share price (¥)	3m price change (%)	Deviation from 5 yr PBR avg. (%)	Div Yld (%)	FY12 PE (x)	Ratio of total assets versus interestbearing debt (%)
8830 SUMITOMO REALTY & DEV.	Real Estate	948	1,992	23.2	-6.7	1.0	12.3	66.2
8815 TOKYU LAND	Real Estate	216	405	21.3	-22.3	1.7	10.8	61.0
8804 TOKYO TATEMONO	Real Estate	123	283	16.0	-14.6	1.8	11.1	56.5
8933 NTT URBAN DEVELOPMENT	Real Estate	215	65,300	17.2	-37.6	2.1	20.5	54.5
3231 NOMURA REAL ESTATE HD	Real Estate	269	1,412	15.7	-16.3	2.1	12.4	54.1

Note: As of August 23. Based on Toyo Keizai forecasts. Our universe is TSE1 stocks with market caps of at least ¥50bn that are part of the real estate sector and have ratios of interest-bearing debt to total assets of 54% or more.

Source: Astra Manager, Citi Research.

Figure 13. Names in the wholesale trade, non-ferrous, and brokers sectors based on deviation from five-year PBR averages and risk scores

Company	Sector	MCAP (¥bn)	Share price (¥)	3m price change (%)	Deviation from 5 yr PBR avg. (%)	Div Yld (%)	FY12 PE (x)	Risk factor
8604 NOMURA HOLDINGS	Sec.&Com.Fut	1,097	287	10.8	-56.7	2.1	24.8	2.0
8473 SBI HOLDINGS	Sec.&Com.Fut	114	5,070	-6.5	-61.7	0.2	59.0	1.8
5801 FURUKAWA ELECTRIC	Nonfer.Mtls	114	162	-4.1	-47.3	1.9	13.9	1.6
5713 SUMITOMO METAL MINING	Nonfer.Mtls	513	882	-5.3	-41.9	3.2	7.1	0.5
2768 SOJITZ	Whsle Trade	146	117	-0.8	-54.7	2.6	7.5	0.4
8058 MITSUBISHI	Whsle Trade	2,558	1,547	-0.3	-38.6	4.5	5.0	0.2
8031 MITSUI	Whsle Trade	2,179	1,191	6.0	-31.4	4.6	5.0	0.1

Note: As of August 23. Based on Toyo Keizai forecasts. Our universe is TSE1 stocks with market caps of at least ¥50bn that are in the wholesale trade, non-ferrous, and brokers sectors, have PBRs 30% or more below their five-year averages, and risk scores of 0 or more.

Source: Astra Manager, Citi Research.

Appendix A-1

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