15 August 2012 | 18 pages

Japan Equity Strategy

Earnings forecast update for FY3/13 and FY3/14

- **Sales and earnings set to grow in FY3/13 and FY3/14** — We revise down our macro assumptions for our earnings forecasts in response to the slowdown in the global economy and also revise down our earnings forecasts for FY3/13 and FY3/14. For FY3/13, we model aggregate sales growth of 3.2% and RP growth of 7.1% for TSE1-listed companies, while for FY3/14 the respective figures are 6.8% and 22.6%, for two straight years of sales and earnings growth.

- **Changes in our forecast assumptions** — We make four changes to our forecast assumptions. First, we revise down our industrial production assumption because of the slowdown in the global economy. Second we forecast a stronger yen against the dollar than previously, as we expect monetary easing in the US to be more prolonged. Third, we forecast a stronger yen against the euro than previously, due to the flare up of concern about the European debt crisis. Fourth, we revise down our CGPI and crude price assumptions due to the slowdown in the economy.

- **Top-down estimates** — We put TOPIX EPS at 55pts for FY3/13 and 70pts for FY3/14. The foreign investor equity ownership ratio is flattening out, so we assume that dividend growth will be only moderate and we estimate end-FY3/13 and end-FY3/14 TOPIX BPS at 850 and 900, respectively.

- **End-FY3/13 TOPIX at 850, end-FY3/14 TOPIX at 980** — We see every chance of the TOPIX PBR rising to around 1x if concerns about a made-in-Europe financial crisis ease on progress in Europe with the debate on a banking union and if Japanese equities, which are strong in spring, can demonstrate their seasonality. We model TOPIX at 850 at end-FY3/13. We think the end-FY3/14 PBR could climb to 1.08x on a rising RoE and we model TOPIX at 980 at that point.

- **Risk scenario** — In a scenario in which the global economy double-dips, RP could fall in both FY3/13 and FY3/14, there could be no PBR recovery, and TOPIX could get stuck in the 700-800 range.

- Equities

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Reasons for changes to our forecast assumptions

Four changes in our assumptions

We change the macro assumptions that underlie our top-down TOPIX EPS forecasts. The new assumptions are detailed in Figure 1, while Figure 2 lists our previous assumptions. We make the following four changes:

1. We lower our industrial production assumption due to a global economic slowdown;

2. We look for a stronger yen versus the dollar than we did previously given the likelihood that the US will retain ZIRP for a prolonged period;

3. We look for a stronger yen versus the euro than we did previously on a reignition of concerns regarding the euro area debt crisis;

4. We lower our CGPI and crude price assumptions due to an economic slowdown.

Figure 1. New forecast assumptions

	PPI YoY (%)	JPY/USD	JPY/EUR	Corporate Goods Price Index YoY(%)	Price of crude imports(JPY/kl)
FY2012	2.7	80.0	96.0	0.1	57,466.7
FY2013	4.6	82.0	97.0	1.0	51,590.1

Source: Citi Research.

Figure 2. Old forecast assumptions

	PPI YoY (%)	JPY/USD	JPY/EUR	Corporate Goods Price Index YoY(%)	Price of crude imports(JPY/kl)
FY2012	4.4	82.0	102.0	2.0	58,643.2
FY2013	3.3	86.0	100.5	2.0	66,021.0

Source: Citi Research.

We lower our industrial production assumption due to a global economic slowdown

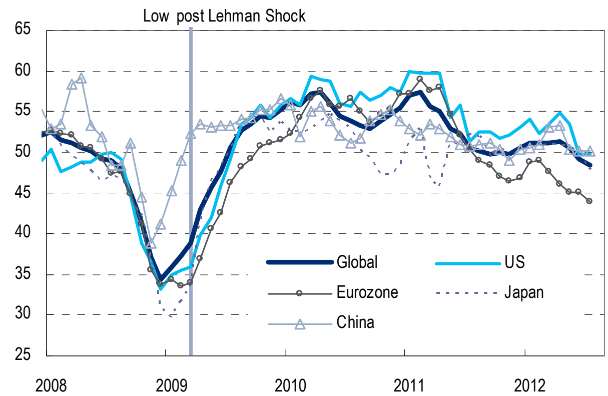
The global manufacturing PMI was 48.4 in July, a second straight month under 50 (Figure 3). In the euro area the manufacturing PMI fell to 44.0 in July, suggesting economic deterioration. Manufacturing PMIs in the US, Japan, and China fell too, dragged down by the euro area decline, suggesting a clear decline in global economic momentum.

In the 2000s, Japan's industrial production became increasingly dependent on exports (Figure 4). As the global economic slowdown is likely to have a negative impact on Japanese industrial production via exports, we lower our production estimate for FY3/13. We look for stronger growth in FY3/14, however, in part on a rebound from FY3/13 weakness, while we also expect a recovery for the global economy and benefits from rush demand prior to a consumption tax hike in Japan.

Sentiment indices, leading indicators of economic conditions in Japan, are also soft (Figure 5). The business conditions DI (level) in the Economy Watchers survey fell from 46.7 in March to 40.0 in June, while the consumer sentiment DI fell from 40.7 in May to 39.7 in July and the business conditions DI in the Shoko Chukin's monthly business outlook survey fell from 48.7 in March to 46.2 in June. We believe it will take some time for economic momentum to recover.

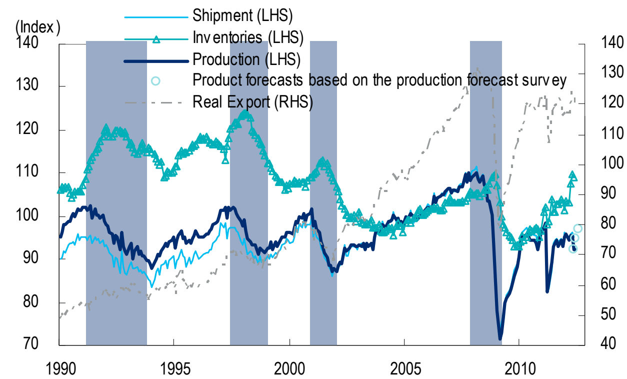
A look at forex rates shows that once again the yen is strengthening versus the South Korean won, the Taiwan dollar, and the Chinese RMB (Figure 6). This is also likely to weigh on industrial production in FY3/13.

Figure 3. Manufacturing PMI



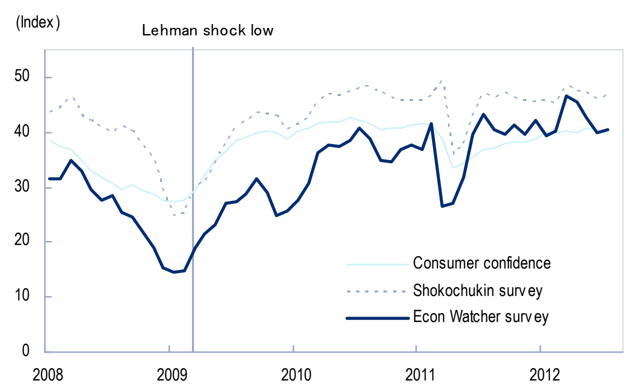
Source: Datastream, Markit, Citi Research.

Figure 4. Japanese production and real exports



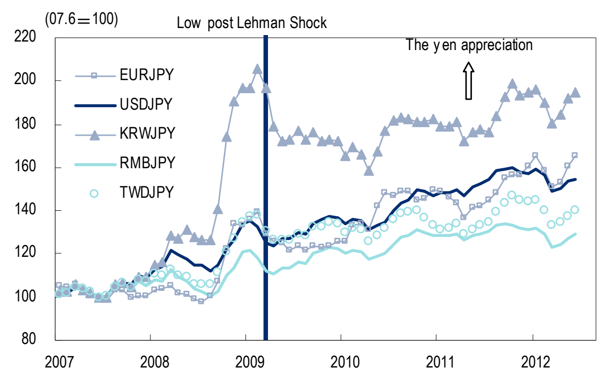
Source: BoJ, METI, Citi Research.

Figure 5. Sentiment indices



Source: Cabinet Office, Bloomberg, Citi Research.

Figure 6. Forex rates



Source: Datastream, Citi Research.

We look for a stronger yen versus the dollar than we did previously with the US likely to retain ZIRP for a prolonged period

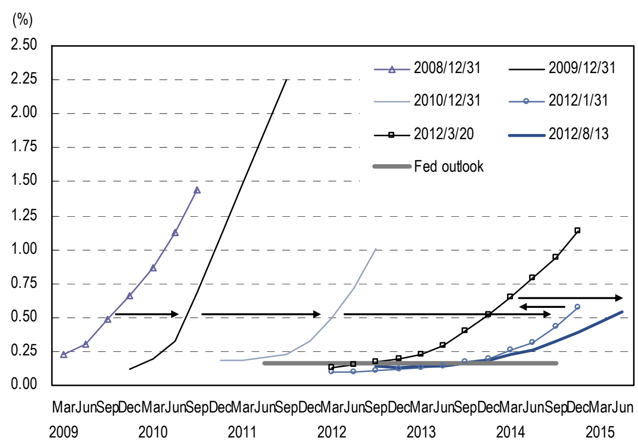
Changes in the market's outlook for the US policy rate are detailed in Figure 7. At end-March 2012 the marked expected that the initial rate hike by the FRB would come within 2013. However, thereafter the market pushed the expected timing of this hike back, and right now it looks for the initial rate hike to come in June 2015.

We believe this is because US economic indicators weakened between April and June, resulting in downward revisions for the US economic outlook. As noted above the manufacturing ISM has declined, while growth in private sector payrolls is sluggish (Figure 8). FOMC members have also lowered their real GDP forecasts (Figure 9).

Figure 10 tracks the relationship between the market's policy rate forecast for 24 months in the future and the yen-dollar rate. Right now the market expects the policy rate to be 0.31% 24 months from now, so there is little room to lower it. It is

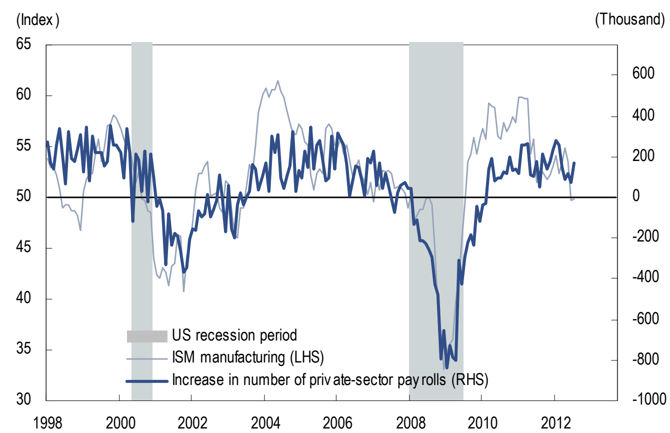
hard to imagine a dramatic surge by the yen from here, and we continue to believe that the yen has entered a longer-term phase of depreciation versus the dollar. However, we think the timing of monetary tightening in the US will come later than initially expected, and that the pace of tightening could be slower. Therefore, we believe the pace of yen depreciation against the dollar could be slower than we had expected as well.

Figure 7. Market outlook for US policy rate



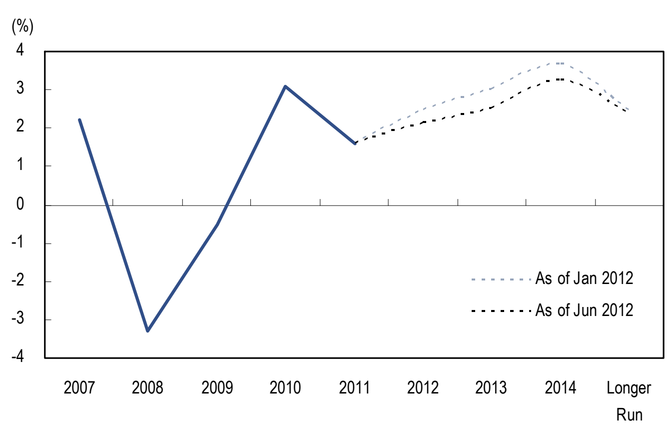
Source: Bloomberg, Citi Research.

Figure 8. US ISM and increase in private sector payrolls



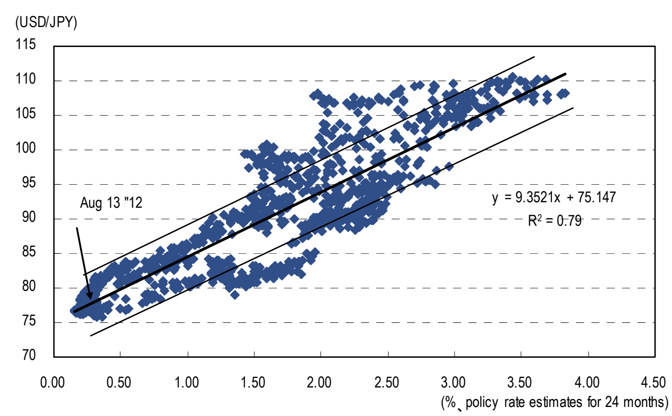
Source: Datastream, Citi Research.

Figure 9. FOMC member forecasts for real GDP growth



Note: We plot the average of the upper and lower ends of the central range for FOMC member forecasts.
Source: Citi Research.

Figure 10. Forecast for policy rate in 24 months and yen-dollar rate



Source: Citi Research.

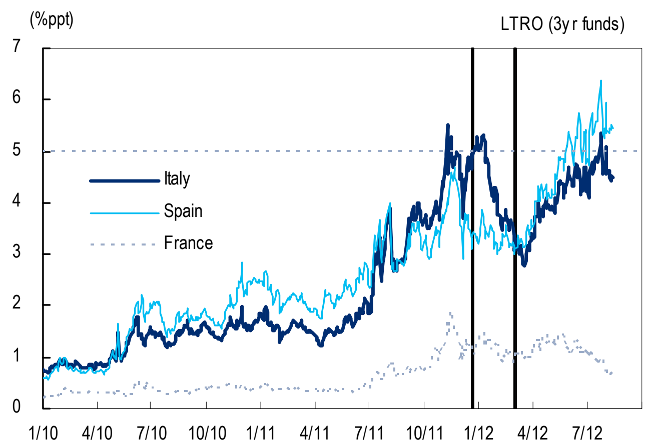
We look for a stronger yen versus the euro than we did previously on a reignition of concerns regarding the euro area debt crisis

The spread between sovereigns for major euro area nations and the German sovereign declined through April, but then rose thereafter (Figure 11). The real euro area economy deteriorated while concerns about the euro area debt crisis reignited. The unemployment rate rose, and as noted above the manufacturing PMI declined (Figure 12).

On July 26 ECB President Mario Draghi said that the ECB is ready to do whatever is necessary to preserve the euro. Inflation is down, making monetary

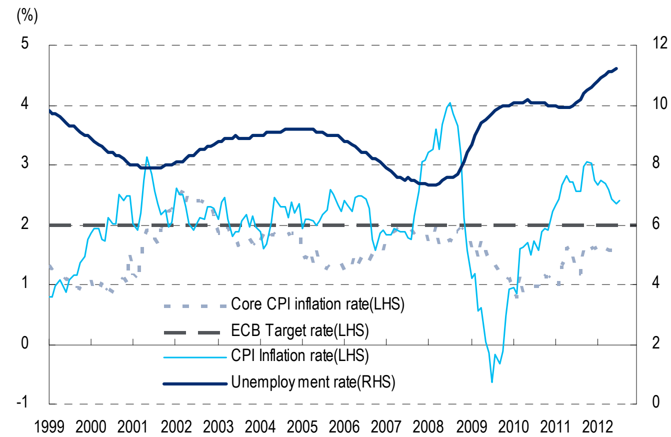
accommodation easier. We believe the ECB will lower its policy rate and implement accommodative measures that include quantitative easing (Figures 13, 14). This is likely to put upward pressure on the yen versus the euro.

Figure 11. Spread between sovereigns in major euro area nations and the German sovereign



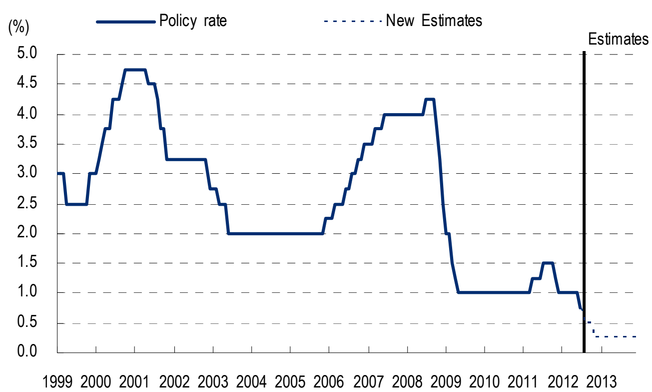
Source: Bloomberg, Citi Research.

Figure 12. Euro area inflation and unemployment



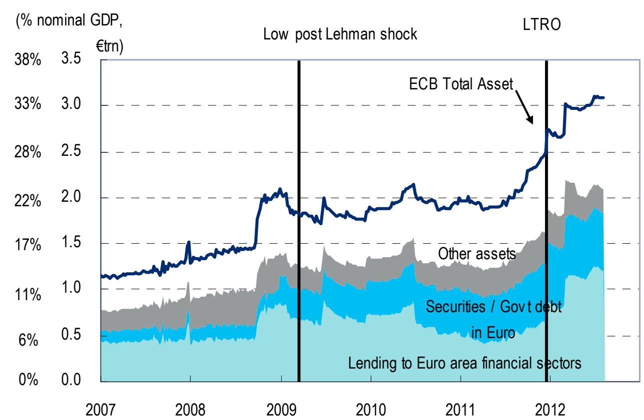
Source: Citi Research.

Figure 13. ECB policy rate



Source: Datastream, Citi Research.

Figure 14. ECB balance sheet

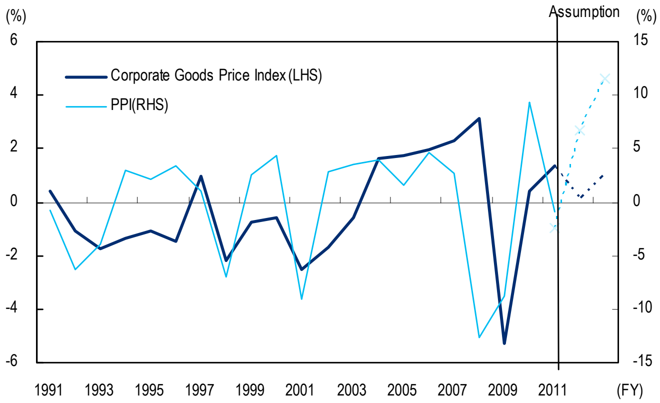


Source: Datastream, Citi Research.

We lower our CGPI and crude price assumptions due to an economic slowdown

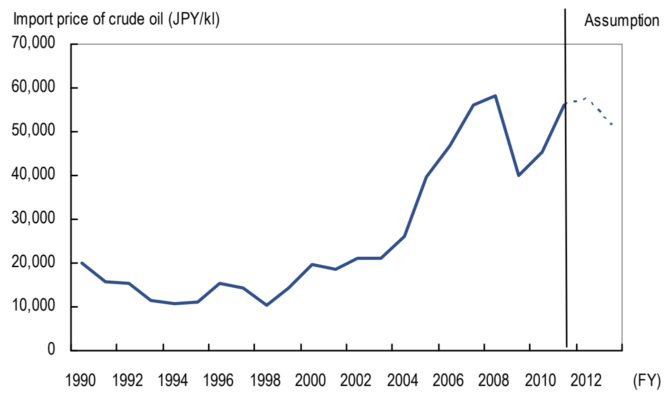
The Japan CGPI fell 2.1% YoY, or a nearly 4ppt drop from the +2.2% growth seen in July 2011. We believe this is because although commodity prices declined and production recovered due to the impact of the March 11 disaster in Japan and the Thai floods, demand has been sluggish due to an economic downturn. We thus lower our CGPI growth forecast (Figure 15). We also lower our crude price forecasts to reflect the slowing global economy (Figure 16).

Figure 15. Domestic CGPI and industrial production



Source: Datastream, Markit, Citi Research.

Figure 16. Crude import price assumption



Source: Astra Manager, Citi Research.

Top-down estimates

We calculate FY3/13 and FY3/14 TOPIX EPS in the following procedure.

1) We estimate sales growth rates from industrial production, corporate prices, and nominal effective exchange rates.

2) We estimate RP-to-sales ratios based on the relationship between historical sales levels and the price of crude and the decline in margins caused by the eastern Japan earthquake. We apply these values to sales to estimate RP.

3) We use historical values for the NP/RP ratio and estimate NP.

4) We estimate TOPIX EPS from the relationship between historical EPS and NP.

Relationship between sales and industrial production, corporate prices, and forex rates

Changes in sales can be broadly explained by industrial production and nominal effective exchange rate

Figure 17 plots the YoY percentage change in aggregate sales for all TSE1 listed stocks and industrial production. A tight correlation is observable between the two variables. Regressing the YoY percentage change in aggregate sales on the YoY percentage change in industrial production and the YoY percentage change in the nominal effective exchange rate produces the following result:

Sales YoY chg = 1.9 (3.7) +0.76 (9.1) industrial production YoY chg

–0.31 (4.4) YoY chg in nominal effective exchange rate

+0.53 (2.4) YoY chg in domestic corporate prices

Note: Numbers in parentheses are T-values.

When industrial production grows, corporate prices rise, and the yen weakens, sales grow. The R^2 is over 90%, showing that over 90% of the YoY percentage change in sales can be explained by changes in industrial production, corporate prices, and the forex rate.

Regressing the YoY percentage change in the nominal effective exchange rate (NEER) on the YoY percentage change in the dollar/yen rate and the YoY percentage change in the euro/yen rate produces the following result:

YoY chg in NEER = -0.67 (6.7) YoY chg in the dollar/yen rate

-0.28 (3.4) YoY chg in the euro/yen rate

Here, too, the R^2 is over 90%, showing that over 90% of the YoY percentage change in the nominal effective exchange rate can be explained by the dollar/yen and euro/yen rates. We think this is because the forex rates of countries other than the US are strongly correlated with the US dollar, such as through pegs to the US dollar.

Relationship between the RP-to-sales ratio and sales and the crude price

The RP-to-sales ratio tends to rise when sales grow thanks to economies of scale

Figure 18 shows trends in sales and the RP-to-sales ratio for TSE1 listed companies for FY3/01 and out. The RP-to-sales ratio has ranged between 2% and 7%. In phases when the economy is recovering and sales are rising, economies of scale kick in, so the RP-to-sales ratio tends to rise in tandem with sales growth. However, in the final stages of an economic recovery, fixed cost capex and growth in employment causes fixed costs to rise, and the RP-to-sales ratio begins to fall. Moreover, when sales slump due to an economic downturn, fixed costs are rising,

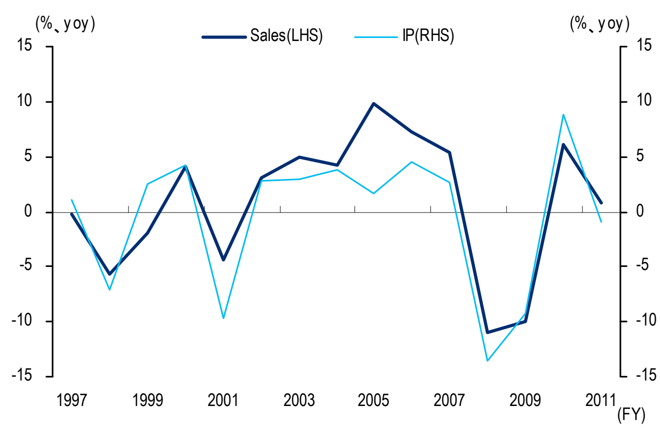
so the RP-to-sales ratio tends to slump. Also, when the price of crude rises, input costs rise and the RP-to-sales ratio tends to fall.

In order to estimate the RP-to-sales ratio for FY3/13 and FY3/14, we carried out a regression of the RP-to-sales ratio on sales and the price of imported crude. We expect the economy to be in a recovery phase in FY3/13 and FY3/14, so we exclude from the data for FY3/04 through FY3/12 the recession years of FY3/09 and FY3/10.

RP-to-sales ratio = 0.012 sales (¥trn) – 0.000045 imported crude price (¥/kl)

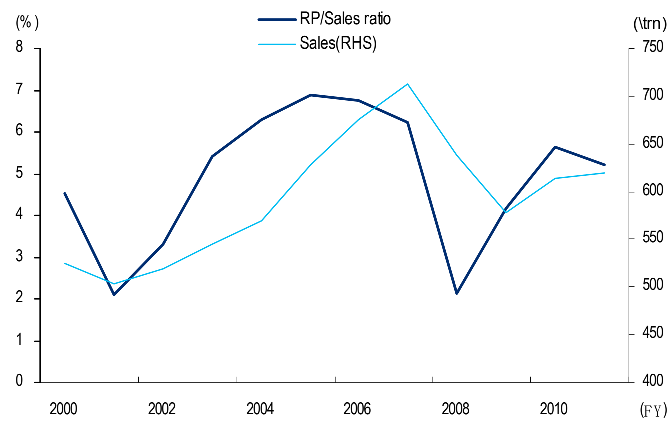
After the eastern Japan earthquake, margins undershot the level suggested by the historical relationship by around 4%, as firms held more inventory than they had previously and also widened their supply chains. Given this, we put the RP-to-sales ratio at 5.3% and 6.1% for FY3/13 and FY3/14.

Figure 17. Sales and industrial production



Note: Sales are the aggregate for TSE1 listed companies.
Source: METI, Astra Manager, Citi Research.

Figure 18. Recurring margin and sales



Note: Sales and RP-to-sales are the aggregate for TSE1 listed companies.
Source: Astra Manager, Citi Research.

NP/RP ratio

Figure 19 plots the NP/RP ratio for all TSE1 listed companies since FY3/98. In the economic recovery from FY3/04, the ratio ranged between 45% and 55%. For the economic recovery in FY3/13 and FY3/14, we use the average for FY3/04-FY3/08 of 52%.

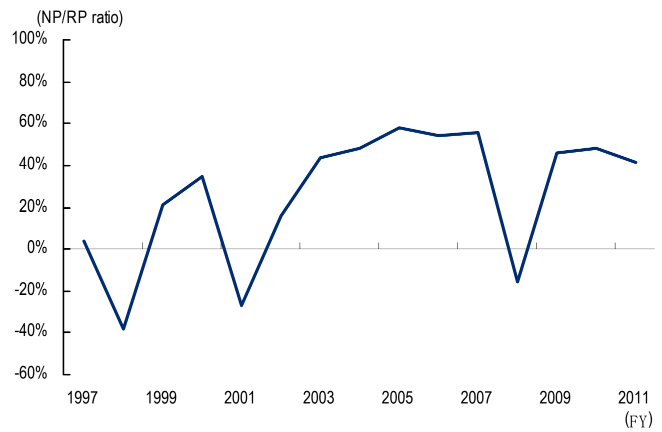
Relationship between EPS and NP

Figure 20 shows TOPIX EPS and total NP for TSE1 listed firms. There is an extremely close correlation. Regressing EPS on total NP, we obtain the following formula. The R^2 is over 90%.

EPS (points) = -5.38 + 3.46 NP (¥trn)

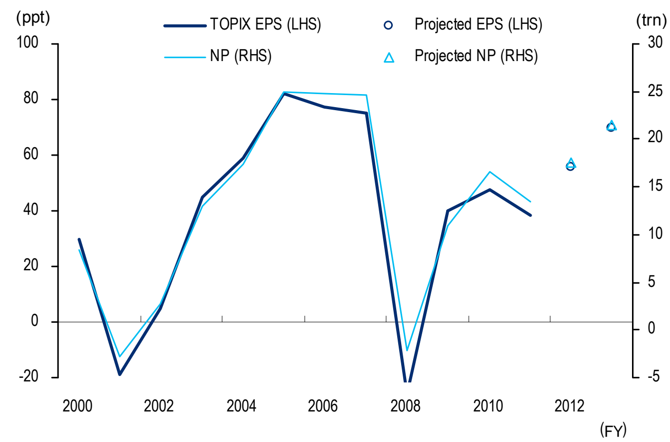
Based on calculations made under the assumptions in Figure 1 and using the parameters calculated above, we put the sales, RP, and NP growth rates for FY3/13 at 3.2%, 7.1%, and 30.7% and for FY3/14 at 6.8%, 22.6%, and 22.6% (Figure 21). Estimating TOPIX EPS from NP, we put it at 55.4pts (up 44.5% YoY) for FY3/13 and 69.6pts (up 25.6%) for FY3/14 (Figure 20).

Figure 19. NP/RP ratio



Source: Astra Manager, Citi Research.

Figure 20. TOPIX EPS and NP



Source: Astra Manager, Citi Research.

Figure 21. Sales, RP, and NP

	Sales (YoY%)	RP (YoY%)	NP (YoY%)
FY11 (A)	0.8	-9.0	-19.0
FY12(E)	3.2	7.1	30.7
FY13(E)	6.8	22.6	22.6

Source: Astra Manager, Citi Research.

End-FY3/13, end-FY3/14 TOPIX

The foreign investor equity ownership ratio, which exhibits a strong correlation with the total dividends of Japanese firms, is flattening out, so we assume that DPS growth in FY3/13 and FY3/14 is the same as in FY3/12. In this case, we put end-FY3/13 and end-FY3/14 TOPIX BPS at around 850 and around 900, respectively (Figure 22 and 23).

Forecasting an end-FY3/13 TOPIX of 850 and an end-FY3/14 TOPIX of 980

The TOPIX PBR has been below 1x since May 2012 (Figure 24). However, we see every chance of the TOPIX PBR rising to around 1x if concerns about a made-in-Europe financial crisis ease on progress in Europe with the debate on the banking union and if Japanese equities, which are strong in spring, can demonstrate their seasonality. If the PBR does rise to 1x, we could see an end-FY3/13 TOPIX of around 850.

In FY3/14, we expect PBR to rise on improvement to RoE. We see every chance of a rise to around 1.08x, as the median PBR for months since March 2009 when RoE calculated using 12-month actual EPS has exceeded 6% has been 1.08x. In this case, we could see an end-FY3/14 TOPIX of around 980.

There could be upside if RoE improvement led the PBR to rise to a level on par with the post-global financial crisis actual

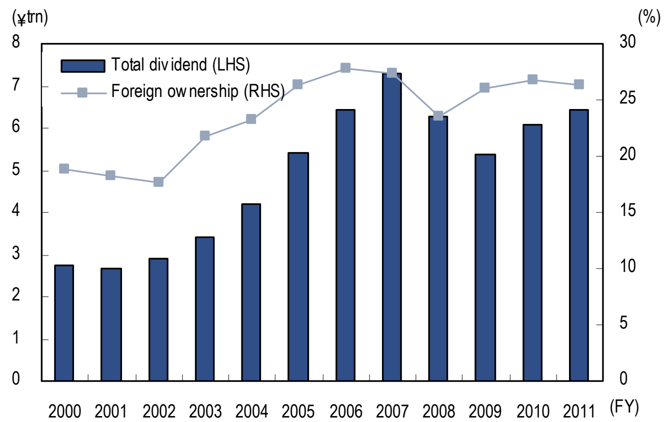
We estimate the FY3/13 RoE at around 6.5%. When RoE has been in the 6%-7% range since FY3/09, the average PBR has been 1.06x. If the PBR were to rise to that level, we could see TOPIX advancing to around 900 at end-FY3/13. We estimate the FY3/14 RoE at around 7.7%. When RoE has been in the 7%-8% range since FY3/09, the average PBR has been 1.17x. if the PBR were to rise to that level, we could see TOPIX advancing to around 1,000 at end-FY3/14.

Figure 22. TOPIX EPS

	EPS	DPS	Payout	BPS	ROE	PBR	End-FY TOPIX
FY2011	38.5	18.9	49.2	819.2	4.7%	1.04	854
FY2012(E)	55.4	19.6	35.3	855.1	6.5%	1.00	855
FY2013(E)	69.6	20.3	29.1	904.4	7.7%	1.08	977

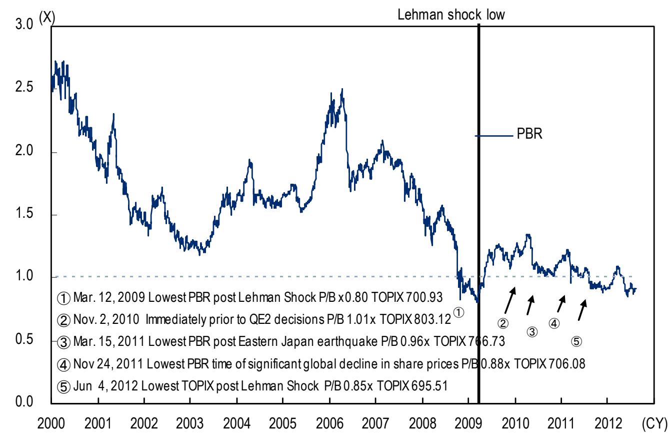
Source: Bloomberg, Citi Research.

Figure 23. Foreign investor ownership and total dividends



Source: Astra Manager, Citi Research.

Figure 24. PBR for TSE1-listed companies



Source: Citi Research.

Corporate earnings forecasts under risk scenarios

Risk scenario 1: A double-dip for the global economy, pushing down industrial production

We could imagine a case where a double-dip for the global economy results in a 5% decline for industrial production in FY3/13 and FY3/14. Assuming that a recessionary period would lower the recurring margin to 2%, we would put the FY3/13 TOPIX EPS at 15.3 points, nearly 40 points below our main scenario. We estimate that for every 1% change in industrial production growth there is a 5-point change for the TOPIX EPS.

Assuming the PBR would not recover and would stay at 0.9x, we then put the end-March 2013 TOPIX at 730. If there is a double-dip for the global economy and PBR does not rise, it is possible that TOPIX would stay in the 700-800 range through FY3/14.

Figure 25. TOPIX EPS decline via lower industrial production

		PPI Main scenario	Risk scenario	EPS change per 1% change in PPI
FY12	PPI YoY (%)	2.7	-5.0	
	TOPIX EPS	55.4	15.3	-5.2
	TOPIX (End-Mar '13)	855.1	734	
FY13	PPI YoY (%)	4.6	-5.0	
	TOPIX EPS	69.6	15.1	
	TOPIX (End-Mar '14)	1,031	731	

Source: Citi Research.

Risk scenario 2: Yen appreciation

Forex rates can swing to levels unjustified by fundamentals due to speculative activity. We estimate the TOPIX EPS were the yen to be ¥5 stronger versus the euro and dollar than in our main scenario. Based on our calculations, for every ¥1/$ change the impact on FY3/13 TOPIX EPS is 0.42 points, while for every ¥1/€ change the impact is 0.15 points.

Based on the correlation between change in TOPIX PBR and change in forex rates since March 2009, we assume a PBR of 0.966x in FY3/13 and 1.043x in FY3/14 for the scenario in which the yen is stronger than we expect versus the dollar. In the scenario in which the yen is stronger versus the euro, we assume an FY3/13 PBR of 0.961x and an FY3/14 PBR of 1.038x. In both cases, TOPIX would be at around 820 at end-March 2013 and around 940 at end-March 2014.

Figure 26. Forex impact on TOPIX EPS

		JPY/USD Main scenario	¥5 dep.	EPS chg per ¥1 chg	JPY/EUR Main scenario	¥5 dep.	EPS chg per ¥1 chg
FY12	JPY/USD, EUR	80.0	75.0		96.0	91.0	
	TOPIX EPS	55.4	53.3	-0.42	55.4	54.7	-0.15
	TOPIX (End-Mar '13)	855	825		855	821	
FY13	PY/USD,EUR	82.0	77.0		97.0	92.0	
	TOPIX EPS	69.6	67.2		69.6	68.7	
	TOPIX (End-Mar '14)	977	942		977	939	

Source: Citi Research.

Risk scenario 3: Rise in the crude price

Concerns about Iran receded in April-June. However, P5 + 1 talks regarding Iran's nuclear development held in Moscow in June ended inconclusively, and a follow-up meeting has yet to be scheduled. This once again prompted increasing concern about Iran, pushing the crude price up.

We estimate the TOPIX EPS if the crude price were to be 10% higher than our main scenario. A 1% rise in the crude price would reduce FY3/13 TOPIX EPS by 0.29 points. Assuming the PBR is the same as in our main scenario, we forecast that TOPIX will near 850 by end-March 2013 and 970 by end-March 2014.

Figure 27. Impact of crude price rise on TOPIX

		Crude price		
		Main scenario	10% increase in crude price	EPS change per 1% crude price chg.
FY12	Crude import price(\/kl)	57,467	63,213	
	TOPIX EPS	55.4	52.5	-0.29
	TOPIX (End-Mar '13)	855	852	
FY13	Crude import price(\/kl)	51,590	56,749	
	TOPIX EPS	69.6	66.8	-0.28
	TOPIX (End-Mar '14)	977	971	

Source: 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.

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	12 Month Rating			***Relative Rating***		
Data current as of 30 Jun 2012	**Buy**	**Hold**	**Sell**	**Buy**	**Hold**	**Sell**
Citi Research Global Fundamental Coverage	53%	37%	10%	10%	80%	10%
% of companies in each rating category that are investment banking clients	44%	43%	40%	48%	43%	45%

Guide to Citi Research Fundamental Research Investment Ratings:

Citi Research stock recommendations include an investment rating and an optional risk rating to highlight high risk stocks.

Risk rating takes into account both price volatility and fundamental criteria. Stocks will either have no risk rating or a High risk rating assigned.

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