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Restoring Japan: An early macro assessment

Yoshito Sakakibara
Executive Director
Investment Research, Tokyo

Yoshito Sakakibara, *executive director*, is an economist in Investment Research in Tokyo. An employee since 2002, he joined from Merrill Lynch Japan Securities Co. Ltd, where he was a senior economist for two years. Prior to this, he worked for Goldman Sachs (Japan) Ltd for two years, also as a senior economist. Before Goldman, he spent five and a half years in the Economic and Market Analyst Group of Salomon Brothers Asia Limited. Yoshito obtained a B.A. from International Christian University in Tokyo. He also holds a M.P.I.A. (Master in Pacific International Relations) in economic policy analysis from the Graduate School of International Relations and Pacific Studies at the University of California, San Diego.

Introduction

The Tohoku region of north-eastern Japan was hit by a 9.0 magnitude earthquake on 11 March. The earthquake, which was the largest ever to hit Japan and the fourth greatest ever on record, sparked a tsunami that rose more than 15 meters in places and caused widespread devastation as it hit the coast and spread up to 12km inland across the east coast of Japan's main island, Honshu.

In this paper, Yoshito Sakakibara, an economist in our investment research team in Tokyo, presents an initial macro assessment of the Tohoku earthquake and indicates the important signals for investors to look out for on Japan's path to recovery. Based on this assessment, Yoshito also considers appropriate investment strategies going forward.

Summary

Although there are many prevailing uncertainties, we would expect that the Japanese economy should soon begin on its path to recovery from the disruption caused by the earthquake. We believe the economy will begin to recover as early as May and that the recovery could become reasonably significant by the end of the year.

Furthermore, if favourable monetary and fiscal policies are also enacted (as we hope they will be) then the medium-term outlook for Japan might see even stronger growth. Such a scenario could also potentially lead to an earlier-than-expected end to deflation – an outcome that would represent a paradigm shift for the Japanese financial markets and generate compelling investment opportunities.

Overview of the current situation

The Tohoku earthquake and resulting tsunami have caused huge economic and physical capital losses and have also sparked a nuclear crisis, with an accident at the Fukushima nuclear plant leading to growing radiation fears across the north eastern region of Japan. The Japanese Cabinet Office's initial estimate for physical damages from the earthquake, released on 23 March, put the cost of reconstruction at JPY 16-25 trillion (which for comparison is about 3.3%-5.2% of Japan's GDP).

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Both the damage to the economy and the radiation concerns have led to a substantial decline in the Japanese stock market. With the nuclear situation yet to come fully under control, investors in general appear to be confused about the outlook. In particular, there is a significant gap between some of the news reports about the situation coming from outside Japan, and the reality on the ground.

Making a firm judgement about the impact of the earthquake is difficult at this stage as the situation is still very fluid. Important new information is emerging all of the time and our learning curve is getting steeper day by day. However, we have reached a point where we can make a reasonable assessment about the impact on the economy. Our analysis suggests that, after the kneejerk initial reaction from the stock market, meaningful value has emerged for investors in Japan.

Latest news on Fukushima

The Japanese government is still maintaining its evacuation order for people living within 30km of the Fukushima plant. In the Tokyo metropolitan area, which is about 220km from Fukushima, residents are mostly unaffected while business operations are functioning almost normally.

However, there is some uneasiness about electricity shortages and some daily items are scarce in the supermarkets (such as bottled water, food, batteries, etc.), while train services have been somewhat reduced. News from Fukushima is obviously a cause for concern, but some experts are beginning to claim that circumstantial evidence suggests the worst of the crisis has now already passed.

Measuring the impact of the Tohoku earthquake

Perhaps unsurprisingly many observers are using the 1995 Kobe earthquake as a reference point when trying to assess the damage caused by this latest disaster. Kobe measured magnitude 7.2 and caused damage estimated at JPY 9.9 trillion.

Although we are also using Kobe as a guide, the more we learn about this latest catastrophe the more it seems that the impact will be much greater. Our best guess is that the economic impact of the Tohoku earthquake is going to be considerably higher than Kobe. We think that the economic impact and the recovery path from this crisis is going to be a mix of the recovery seen after the Kobe earthquake and the recovery observed subsequent to the collapse of Lehman Brothers (the Lehman Shock).

The comparison with Kobe is reasonable because like the Tohoku earthquake, the Kobe quake also resulted in major physical damage. Yet, the fact that the impacted area this time is so widespread – with the number of evacuation centres reportedly being 40 times as many as in the Kobe case – makes the Kobe earthquake look very concentrated (without wishing to lessen the tragedy). The recovery in economic activity following Kobe was relatively smooth, as resources were quickly relocated. This time, the recovery in activity is likely to proceed more slowly given the widespread physical damage and the greater psychological damage caused.

Also unlike Kobe, this disaster has been accompanied by the devastating after effects of the tsunami and also the ongoing nuclear situation, which has severely dented investor sentiment. In this sense, the psychological impact resembles the aftermath of the Lehman Shock, where investors froze in the face of unknown counterparty risks resulting from an unprecedented crisis. Of course, the psychological damage of the earthquake is more of a domestic story compared to the global impact of the Lehman Shock, which had a much deeper influence on overall economic activity worldwide. Nevertheless, the negative effect on the Japanese economy should be similar.

Finally, it’s very important to note that the Tohoku earthquake represents a supply shock to the Japanese economy, while the Lehman collapse resulted in more of a demand shock. With this overall assessment in mind, we will now turn to our own watch list for this crisis.

A watch list for investors

We think investors looking for signposts on the road to recovery should look closely at the following five issues:

- The crisis at the Fukushima nuclear plant
- The supply chain problems being faced by some manufacturers
- Electricity supply constraints
- Corporate pricing activities
- Implementation of a positive policy response

1. The crisis at the Fukushima nuclear plant

The first and most important step towards recovery will be a resolution to the crisis at the Fukushima nuclear plant. The nuclear reactors need to be stabilised and brought under full control and the radioactive leak contained. Before this can happen a way needs to be established to keep all the fuel rods cool on a sustained basis. Engineers also need to find out where the contaminated water that is currently leaking from the plant is coming from. Finally, we need to know which type of radiation has leaked and how much has escaped into the environment.

The nuclear fears are basically equivalent to unknown unknowns. They represent truly unpredictable factors and therefore while the nuclear crisis persists investors will remain nervous. Although experts from around the world explain that recriticality is highly unlikely and Fukushima is not going to turn into another Chernobyl, the ongoing crisis is obviously unsettling for the general public and for investors. Removing this factor from the equation will be an important step for a strong recovery. Without the help of special insights, we simply hope for a resolution soon, with specialists from the US and France having now arrived to join the battle to bring the reactors under control.

2. Supply chain problems for manufacturers

The second item on our watch list is the serious bottleneck problems that may impact manufacturers, especially in the auto sector. Some components for the auto industry are produced by factories in the impacted area – for example microcomputer parts from Renesas Electronics Corp. Any continued disruption to the supply of these components may cause problems as they are not easy to replace.

It is important to note that efforts by companies to restore their operations should not be underestimated. The Renesas management, for example, has expressed its determination to resume production as soon as possible. However, manufacturing activity is likely to dip through the summer due to supply constraints. The extent of the supply constraints may only be known after the current inventories are used up over the next few months.

3. Electricity supply constraints

The third factor to focus on is the electricity supply situation, with power supplies impacted by the shutdown of several power stations that were hit by the earthquake and the tsunami. The power stations affected not only include the Fukushima nuclear plant but also other nuclear plants as well as some thermal plants.

There are currently electricity shortages in both the Tohoku and Kanto regions (the latter covering the Tokyo Metropolitan area). As the temperature rises into the spring, which reduces electricity demand for heating, it is generally expected that the current blackouts will end soon. However, there are worries that electricity supplies will remain under pressure during the summer, which would affect economic activity.

Based on the available information about which power plants are expected to resume their operations and when (including those that happened to have been suspended for periodic checkups), we have tentatively concluded as our main assumption that the electricity supply is likely to be short by about 5m kilo watts – roughly 9% of the total – during summer peak hours in areas covered by the Tokyo Electric Power Company (TEPCO). As such, we would still expect some blackouts. However, the blackouts should not be implemented using uncertain ongoing rolling arrangements, as is currently the case, but by planned and agreed arrangements with large scale users. Such a planned arrangement would be estimated to reduce industrial activity by one third during the peak hours, which could amount to the loss of as much as 20% of total output in the affected areas.

4. Corporate pricing activities

Japanese corporate profits are likely to come under pressure if economic activity is restrained by physical supply-side difficulties. Our working assumption for the industrial production outlook, which will be covered later, would naturally point to negative earnings growth for the fiscal year 2011 (ending March 2012). However, a possible twist, especially for the medium-term outlook, may come from corporate pricing activity. This is because the supply shock appears to be putting upward pressure on prices in some retail goods.

As mentioned earlier, in Tokyo we are seeing shortages of some goods due to transportation disruptions and production difficulties, which is causing empty shelves at convenience stores and supermarkets. We have already discussed that there are some shortages of input materials for manufacturers. If government and central bank policy, corporate action and the media all come together to help sustain this pricing momentum, the disaster bring about a real and lasting economic improvement by bringing a complete end to deflation.

5. Implementation of a positive policy response

Finally, as was the case with both the Kobe earthquake and the collapse of Lehman Brothers, the government and central bank policy response will play a key role in determining the economic (and thus market) outlook. We have already seen a monetary policy response, with Bank of Japan (BoJ) doubling its asset purchase programme in order to buy more of Japanese Government Bonds, corporate bonds, equity exchange-trade funds and J-REITs. Also, the BoJ has been conducting very aggressive daily liquidity operations, with Japanese banks' current account balances at the central bank reaching an all-time high. These liquidity operations have been introduced to make the concerted yen-selling operations by G7 central banks look like more effective unsterilised intervention. The BoJ's policy stance may be finally helping to reduce the upward pressure on the yen.

The fiscal policy response is still uncertain. Similar to the action taken in 1995, any fiscal package is expected to be implemented at least in two instalments – one in the spring (most likely during April), which will be aimed mainly at disaster relief, and another by the early autumn, which will provide further stimulus to help support reconstruction. However, further government action may be needed to secure compensation for those affected by the Fukushima nuclear accident given the financial constraints on the plant's operators, TEPCO.

It is rumoured that the first fiscal instalment of any fiscal package could total about JPY 2-3 trillion, while the second instalment would see another JPY 5-10 trillion pumped into the economy. Such a fiscal package should help strengthen reconstruction efforts and boost economic activity.

Financing the fiscal response

Many observers wonder how the Japanese government plans to fund these large new spending commitments given the already unhealthy state of Japan's public finances. Japan's debt problem is a highly relevant issue for Japan's recovery from the earthquake and is therefore a major concern for the market as well. However, we believe that the current worries that renewed borrowing could lead to a sharp spike in Japanese government bond yields are widely misplaced.

Instead, we believe that any further Japanese government bond issuance to finance these new spending measures would be well absorbed by the market, perhaps with only a modest rise in long-term interest rates. We would be much more concerned under these exceptional circumstances if policymakers were to focus on fiscal management rather than on reconstruction and economic stimulus.

We will aim to produce another report in due course to discuss and explain the interaction between Japan's public finances and bond yields.

Assessing the economic outlook

How these various watch list items will impact the economic and market outlook is still uncertain. However, we have come up with our best estimate of how the economic recovery may play out using industrial production as a proxy. Readers should note that industrial production covers only around 20% of Japanese output and behaves somewhat differently from GDP, which is dominated by consumption. However, it's harder to estimate the likely path of consumption due to the ongoing psychological impact of the disaster. Also, as some readers may be aware, industrial production is arguably the most important economic indicator for determining the likely strength of corporate profits growth.

Our current opinion for the path of Japanese industrial production from here is based on the combination of our macro judgments and our analysts' micro perceptions about their respective industries. Both our macro judgments and our analysts' research incorporate all the relevant issues discussed so far.

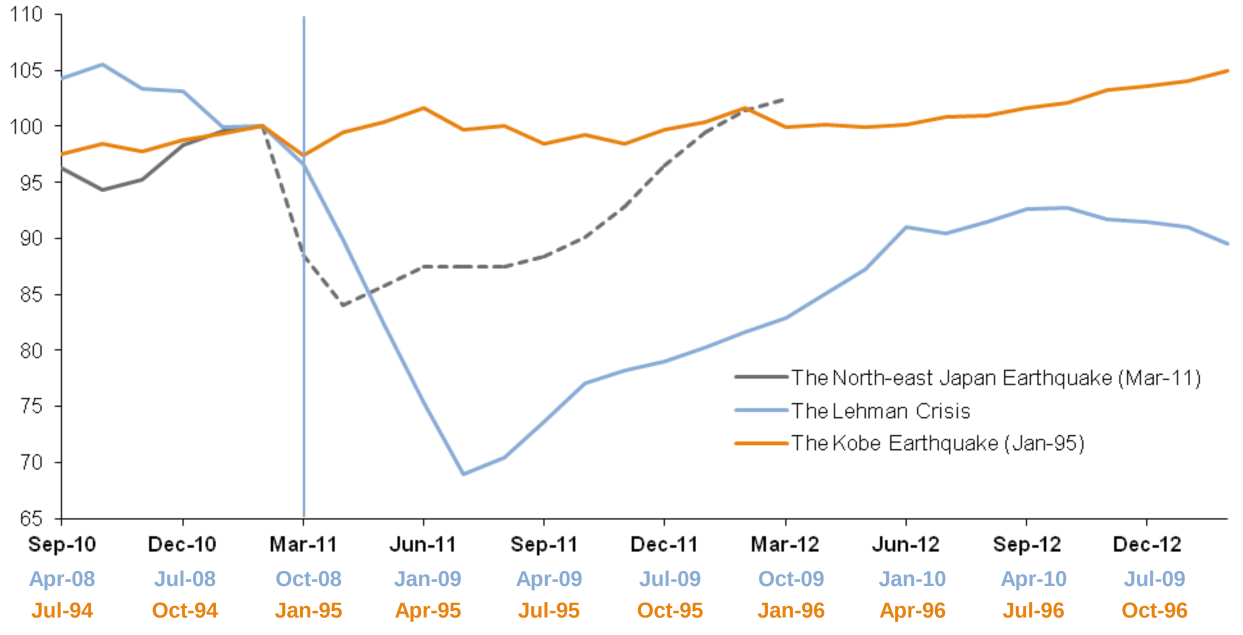
As such, we estimate that industrial production for March (data due at the end of April) will be down some 11-12% month on month. Production is expected to shrink further by another 4-5% in April, from when we should begin to see a gradual improvement, starting in May. Overall economic output should therefore bottom in May, so long as the nuclear crisis does not unexpectedly take a further turn for the worse.

Industrial production will probably be bogged down during the summer by both electricity supply shortages and bottlenecks in the supply of some input materials. However, the industrial production will accelerate from the autumn, although the magnitude will depend upon the government's efforts to stimulate reconstruction through its fiscal policy response. The likely path of industrial production is shown on the chart in exhibit 1, which is based on a conservative assumption for the government's fiscal stimulus.

Exhibit 1 – **The path of Japanese industrial production following the earthquake**

Industrial production path from a major shock

Level of the prior month to the shock = 100



Source: Ministry of Economy, Trade and Industry, J.P. Morgan Asset Management

Upside and downside risks

Risks to our economic outlook, both on the upside as well as the downside, mostly relate to uncertainty surrounding the five factors in our watch list. For example, if the Fukushima nuclear crisis is not brought under control soon, then the implications are negative as it would lead to a wider exclusion zone and further radiation worries. Such an outcome would be likely to dampen economic activity for longer.

Also, our assumptions regarding the easing of manufacturing input bottlenecks and electricity supply shortages could also prove too optimistic. If this is the case, then the recovery path would be more modest. However, in our view, we believe there is also a good chance that the manufacturing input supply bottlenecks and electricity shortages will not be as disruptive as expected.

Furthermore, if the fiscal boost to the economy is greater than assumed, or if we seen an earlier-than-expected implementation of the second stimulus instalment, then the impact will also be positive for the recovery. In particular, if the package is financed in a way that maximises the stimulus for the economy (for example, through a balance of higher taxes and debt issuance) then the positive influence on growth could be amplified.

Meanwhile, the psychological impact of the disaster may lead to greater downside risks to the economy in the short term. Consumer spending may be restrained for longer than expected as the terrible pictures and accounts of the disaster continue to dominate the press. The response to these harrowing scenes has been a mood of voluntary restraint among many Japanese consumers.

In contrast, once the reconstruction efforts begin in earnest later in the year the pent-up consumer demand should be released. If consumption follows this course, then we may see a modest V-shaped recovery for the economy', similar to some extent to the recovery seen following the collapse of Lehman Brothers.

The implication for the Japanese economy

What does all this mean for the longer-term economic outlook and for the stock market going forward? At this stage the consensus is unclear. There appears to be some optimism for a sharp V-shaped recovery, whereas others are predicting a much more modest upturn.

The more pessimistic outlook is mainly held by those who see little room for the Japanese government to implement a large-scale fiscal stimulus, due to the poor state of Japan's public finances. However, as we touched upon earlier, the perception that there is only a limited room for fiscal expansion is perhaps a greater risk to economic growth than additional large-scale issuance of Japanese government bonds.

Also, global factors should remain important for the Japanese economy. Before reconstruction efforts begin to drive the domestic economy, foreign demand will no doubt exert a critical influence on industrial activity.

The stock market outlook

While the economic path remains uncertain, many investors remain confused. The stock market looks distorted and there appears to be a significant gap between the reality of the situation on the ground and what is being reported outside Japan. As the true extent of the situation emerges these confused investors should be able to look at the market more calmly, which is likely to result in them finding many attractively valued opportunities.

Global risk appetite could be boosted if solid international fundamentals are sustained, which may help encourage investors to invest in the Japanese reconstruction theme, particularly as recovery stories begin to emerge later in the year.

Furthermore, any sign that deflation may be coming to an end would be a strong catalyst for the Japanese stock market. As argued earlier, it is important to note that the disaster has caused a significant supply shock. While domestic demand has also dropped following the earthquake corporate pricing power could gradually shift if demand picks up. The prospect of an end to deflation provides a potential silver lining to the earthquake.

Finally, we hope for an early recovery from this devastating earthquake and our thoughts remain with all the people affected.

Our thoughts and prayers are with everyone affected by this terrible catastrophe. We particularly express our heartfelt sympathy to the family members and close relatives of the victims of the disaster, and wish all those left homeless or displaced an early return to better living conditions.