Disasters in Japan and its economic impact

The earthquakes and tsunamis that struck the northeastern coastline of Japan on March 11, 2011, had caused severe damages to human lives, households' properties, factories as well as nuclear power plants in Fukushima, which resulted in radiation leakage. The incident is expected to put a drag not only on the Japanese economy in the short-term but also on the regional economy, including Thailand through our trade linkages with Japan.

Impact on Japanese economy

1. **Direct impact on Miyagi, Fukushima and Iwate prefectures**: The disasters had caused a significant slowdown in economic activities in these areas. Even though the damaged areas are not key business and industrial hubs and account for only 4 percent of Japanese GDP, there situate some industrial clusters, particularly the automotive and electronic factories, that supply components and parts to both domestic and international supply-chain productions.

2. **Electricity Shortage in Kanto region**[1/]: The shutdown of many power generating plants, including the nuclear power plant I and II in Fukushima, had led to a 32 percent reduction in electricity generating capacity in the Kanto region. The region accounts for 39.2 percent of Japanese GDP and is the region in which Tokyo is located.

To alleviate the impact of electricity shortage, the power generating company had introduced the electricity supply rationing program, which caused rolling blackouts lasting as long as 3-4 hours at a time. This rationing program resulted in some interruptions to the production plans of many industries. In particular, the electronic upstream industry that requires a stable current of electricity had to suspend its production.

Currently, the rolling blackout program has been canceled thanks to rising electricity supply from the reopening of some thermal power plants and lower demand for electricity as a result of warmer weather. However, the risk of supply shortage remains especially during peak demand in summer (or in the third quarter). In response to this threat, the power generating company plans to increase electricity supply by reopening more thermal power plants that were shut down after the earthquake as well as old plants that had been closed down earlier. Purchases of electricity supply from other power generating companies are also planned while some excess electricity generated by in-house generators is also anticipated. At the same time, to reduce the demand for electricity, the government has requested citizens to conserve electricity consumption and lowered a ceiling on factories' electricity usage during peak time by 15 to 25 percent. Going forward, the electricity shortage problem is expected to be resolved, alleviating the impact on the Japanese manufacturing sector.

3. **Upcoming economic impact**: Considering the experiences of past disasters[2/] including the Kobe earthquake in 1995, it can be expected that the negative impact on GDP will be short-lived. Moreover, a positive impact on growth from reconstruction efforts will follow. Take the Kobe incidence as a case in point. Residential investment in the damaged area initially contracted in the quarter of the impact then rebounded strongly in the following quarters and became a key driver of residential investment growth for the next 3 years.

Even though the center of damage is in the country's agricultural and service area with a low population density, the current disaster has posed greater and more widespread impact than the Kobe incident. Thus, the estimated cost of reconstruction is expected to be 1.5 to 2.5 times that of the Kobe incident. Such spending will post a positive impact on GDP in subsequent periods.

In this regard, the Bank of Japan's Monetary Policy Committee assesses that despite the disasters' severe impact, the Japanese economy will return to its previous recovery path thanks to exports and reconstruction investment by both private and public sectors. Moreover, according

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1/ In Japan, electricity distribution is divided into 10 service areas with only one electric power company in each area. Moreover, electrical frequencies in the Western and Easten regions are different (60 vs 50 Hz), posting a constraint in electrical transmission from the undamaged Western region.

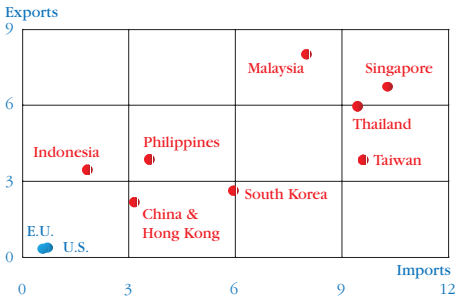
2/ For example, the earthquake in Szechwan (China 2008), hurricane Katrina (U.S. 2005), and the earthquake and tsunami incidents in Sumatra (Indonesia 2004).

to the survey conducted by Consensus Economics, the Japanese economy is expected to grow at a rate of 0.3 and 2.7 percent in 2011 and 2012, respectively.

Impacts on Thailand's trading partners and the Thai Economy

The very low trade linkages of the U.S. and the euro area with Japan imply that the impact on these economies is likely to be limited. On the other hand, the impact on Asian economies is expected to be greater, owing to their relatively high trade linkages. (Chart 1)

Chart 1 Trade share with Japan (percent of GDP)



Source: Trademap and IMF WEO,calculations by Bank of Thailand

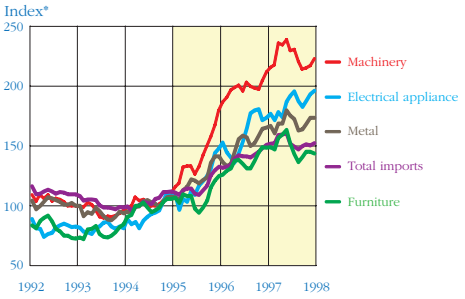
1. Trade channel: The economic slowdown in Japan will have a direct adverse impact on economies with high share of exports to Japan. However, reconstruction efforts will later demand higher imports of construction materials, furnitures, machineries and electrical appliances as well as food. Hence, exporting countries of these goods will also benefit. In addition, the shutdown of nuclear power plants will also boost imports of alternative sources of energy especially liquefied natural gas (LNG)[4/] from oil and petroleum exporting countries, in particular, Indonesia and Malaysia.

2. Supply chain Channel: Given their large shares of imports, especially those of parts and components from Japan, Asian exports are expected to be adversely affected by the supply-chain disruptions resulting from the electricity shortage and factory damages in Japan.

Currently, some industries have sufficient amounts of inventories to sustain production for the next 1-2 months. Going forward though, the impact of supply chain disruptions on Asian economies is expected to be moderate as manufacturers will manage to find alternative sources of input supplies both from inside as well as outside Japan. Meanwhile, the electricity shortage problem should be resolved. On the financial side, the impact on FDI and portfolio investment from Japan is expected to be limited as business investment plans are not likely to be affected by the disasters.

In the case of Thailand, the supply chain disruptions have affected production and exports of our automotive and electronics industries. Going forward, when the supply constraints are resolved, exports of those affected sectors are expected to rebound significantly, offsetting the previous decline. Moreover, exports of machineries, electrical appliances, furnitures, and steel as well as food products are expected to increase thanks to rising demand for reconstruction and damage substitutes as was the case during the Kobe earthquake in 1995. Moreover, Thailand will benefit from higher investment from Japan, as Japanese investors search for risk diversification opportunities.

Chart 2 Japan's imports after Kobe disaster in 1995



Note: *1995 = 100, the indices are 3-month moving average.
Source: CEIC, calculations by Bank of Thailand

3/ The U.S., Europe, China, South Korea, Taiwan, Singapore, Malaysia, Indonesia, and the Philippines.

4/ In 2007, Japan increased LNG imports for electricity generation to compensate the reduction in capacity of Kashiwazaki Kariwa nuclear plant resulting from an earthquake in nearby area. Most electric power companies rely predominantly on LNG in their power generation.