

THE EFFECTS OF THE NATURAL DISASTER ON JAPAN'S ECONOMY AND FEW MEASURES TO ECONOMIC RECOVERY

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Abstract: *On 11 March 2011, the northern part of Japan experienced a devastating earthquake and tsunami. The paper discusses the impact of the terrible phenomena on Japan's economy. Japan's economy, the world's third largest, has slid back into recession after the devastation caused by the earthquake and tsunami in March 2011. The earthquake and ensuing tsunami destroyed parts factories in north-eastern Japan, causing severe supply shortages for many manufacturers.*

Keywords: *Japan; recession; economic recovery; production contraction; export; investment.*

1. Earthquake, tsunami and nuclear crisis

On March 11, 2011, an earthquake struck off the coast of Japan, churning up a **devastating tsunami** that swept over cities and farmland in the northern part of the country and set off warnings as far away the west coast of the United States and South America. Recorded as 9.0 on the Richter scale, it was the most powerful quake ever to hit the country.

As the nation struggled with a rescue effort, it also faced **the worst nuclear emergency since Chernobyl**; explosions and leaks of radioactive gas took place in three reactors at the Fukushima Daiichi Nuclear Power Station that suffered partial meltdowns, while spent fuel rods at another reactor overheated and caught fire, releasing radioactive material directly into the atmosphere. Japanese officials turned to increasingly desperate measures, as traces of radiation were found in Tokyo's water and in water pouring from the reactors into the ocean. A month after the quake, nuclear officials put the crisis in the same category of severity as the Chernobyl disaster. In May, Prime Minister Naoto Kan, who had been criticized for showing a lack of leadership, said Japan would abandon plans to build

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new nuclear reactors, saying his country needed to “*start from scratch*” in creating a new energy policy that should include greater reliance on renewable energy and conservation.

By June 2011, the official count of **dead and missing was above 24,000**. Tens of thousands of people remained housed in temporary shelters or evacuated their homes due to the nuclear crisis.

2. Japan’s economic contraction

Figures released in May 2011 showed that **Japan’s economy shrank at an annual rate of 3.7 percent in the first quarter of 2011**, tipping the country into a recession, as the crisis disrupted production and prompted consumers to cut back on spending. Economists projected that the Japanese economy will shrink again in the second current quarter, but that the recession may be deep but quick.

The crisis also disrupted Japan's already **turbulent political life**, as Mr. Kan staved off a vote of no confidence only by promising to resign once the worst of the crisis was over. And it gave insight into the deep divisions between Mr. Kan's government and the alliance of bureaucrats and corporations that has dominated Japanese public life for decade. A onetime grass-roots activist, Mr. Kan struggled to manage the nuclear crisis because he felt he could not rely on the very mechanisms established by his predecessors to respond to such a crisis.

3. Japan’s long road to economic recovery

In cities such as Otsuchi, Rikuzen-Takada, and Minami Sanriku, where trashed cars sit atop gutted four-storey buildings jutting out from dusty wastelands of pulverized debris, economic activity is almost zero. Destruction in the city of Ishinomaki, former population 160,000, resembles Kobe after the 1995 earthquake – and Ishinomaki is only one of about 50 coastal areas that remind some visitors of Hiroshima after the war.

More than two months after the 9.0 earthquake and 15-metre-high tsunami struck, government and business leaders are finally seeing first-hand the shocking scale of devastation along the 600-kilometre-long disaster area.

The human and economic losses are so overwhelming, even the government’s top advisers are estimating it will take at least a decade to rebuild northeastern Japan. “*I think we will not even be finished after 10 years,*” says a political scientist recently appointed to oversee the

government's reconstruction panel. *"It will take three years just to clear debris out of the area."*

Former economics minister estimates that **Japan lost about 5 per cent of its capital stock as a result of the disasters**, compared with 2 per cent from the Kobe quake.

After initially playing down the economic impact of the March 11 quake, tsunami and the nuclear disaster that soon followed, the government announced **Japan has officially fallen into recession**, with gross domestic product shrinking over the past six months.

GDP, a broad measure of the value of goods and services produced, fell 0.9 per cent in the January-to-March quarter, a 3.7-per-cent annualized retreat, government data showed on Thursday. The contraction follows a decline of 0.8 per cent between October and December last year, amid a high yen and decreased exports. Many analysts expect the GDP decline will continue in the April-to-June quarter, and that power shortages and a breakdown of Japan's supply chain could also drag the economy down until the government's ¥4-trillion (\$49-billion) initial spending package kicks in.

"The Japanese economy is expected to remain weak for the time being," Economics Minister Kaoru Yosano told. He said the economy would likely shrink further in the April-to-June quarter, but over all, it would grow nearly 1 per cent in the current fiscal year ending March, 2012.

Many analysts, however, say **Japan's downturn is worse than expected. Private consumption**, which accounts for about 60 per cent of the economy, **fell 0.6 per cent**, after an estimated 500,000 tsunami survivors in north-eastern Japan lost their homes, automobiles and nearly everything else.

"The nuclear disaster showed just how much is wrong in Japan, actually," Martin Schulz¹. *"And many things that seemed so stable and sure, like electricity supply ... are looking not safe at all."*

Japan's National Police Agency estimates that at least 200,000 buildings were obliterated, meaning that many small and medium-size enterprises – the backbone of Japan's economy – were liquidated with them.

Insurance companies have been hit with more than 400,000 claims for property damage, while many survivors say they had no insurance to cover earthquakes and tsunamis.

¹ Senior economist at Fujitsu Research Institute in Tokyo.

With no jobs and no money to buy anything, the survivors will likely drag down levels of production and consumption in Japan for years. This would mean reduced earnings for Japanese corporations, whose best customers have always been close to home.

Sales of cars, trucks and buses in Japan, excluding minicars, fell 51 per cent in April from a year earlier, the Japan Automobile Dealers Association said. It was the lowest monthly total since 1974. Toyota Motor Corp.'s vehicle sales in Japan plunged 69 per cent in April.

"After a natural disaster, people tend to refrain from spending and you get a sense that factory output will shrink," Mr. Yosano said. *"In some areas, the impact could be very big."*

From Hachinohe in the north, where ships lie like beached whales on roads, to the damaged ports and farms of Chiba, an hour's drive from Tokyo, the March 11 tsunami is continuing to hit the economy in northern Japan and the Tokyo area, which together comprise half of the world's third-largest economy, according to investment bank Nomura Holdings.

Almost the **entire northeastern fishing industry**, which once provided **25 per cent of Japan's seafood, was wiped out**. Ships, cars, homes and other debris continue to clog harbours, making shipping impossible in most of northern Japan, home to nine million people. Sales of fish - normally a staple of Japanese diets - have dropped by a third, amid Tokyo Electric Power Co.'s release of radioactive water into the ocean around the stricken Fukushima nuclear power plant.

In Kamaishi, Nippon Steel Corp.'s building partly fell into the port, and its massive steelyards have become a dump for debris. In one of many examples of Japanese corporations taking jobs and investments overseas, Nippon Steel said on April 4 it will invest \$300-million to begin making steel sheets in Rayong province of Thailand.

Further south in the larger urban areas of Kesennuma, Ishinomaki and Sendai, factories and warehouses were gutted by flooding or fires, and reconstruction might be impossible on grounds that have sunk by a metre.

"It's not enough to restore things as before," said a political scientist, speaking after meeting with Prime Minister Naoto Kan. *"We have to pursue creative reconstruction. We can't just build homes where they were before so that they can be destroyed by tsunami waves again."*

At least a third of the 70 major production bases across seven quake-affected prefectures still haven't been restored, the Industry Ministry said.

Even the **industrious Kansai area in western Japan is feeling the fallout**. Osaka-based Panasonic Corp., the world's largest maker of plasma TVs and Japan's biggest maker of home appliances said on April 28 it will cut 17,000 jobs over two years, and stop investing in plasma and liquid-crystal display operations. Sharp Corp. had to halt LCD production at two plants near its Osaka headquarters owing to lack of industrial supplies such as gas.

"We have to hit rock bottom before we can spring back stronger," said a political scientist, a former visiting fellow at Harvard who worked on the reconstruction of Kobe. *"I think everybody in Japan understands how enormous this disaster was. So this is an opportunity to have a springboard to build a new Japan."*

4. Reducing Japanese exports as a result of natural disasters

The second biggest component of the world's third largest economy is trade. Exports made up 13.5% and imports 12.7% of gross domestic product in 2009. The massive earthquake and tsunami devastated exports, while the costs of imports rose due to high commodity prices.

Japan's exports fell for the first time in 16 months in March, hit by the fallout from last month's massive earthquake and tsunami, which destroyed factories and damaged ports. Auto exports especially took a beating as the twin disasters forced Toyota Motor Corp., Honda Motor Co. and Nissan Motor Co. to suspend their all Japanese production due to shortages of components. Vehicle exports, which account for 10 per cent of Japan's total shipments, plunged 27.8 per cent in March, the finance ministry said Wednesday. U.S.-bound auto exports dropped 27.2 per cent with vehicle shipments to Asia down 23.4 per cent.

"It is very frustrating for automakers and other manufacturers. Despite steady demand abroad, they simply could not make their products due to a supply crunch following the disasters," said Hiroshi Watanabe².

Overall exports in March declined 2.2 per cent to JPY 5.87 trillion (USD 71 billion), marking the first year-on-year fall in 16 months. Imports rose 11.9 per cent to JPY 5.67 trillion last month, the ministry said. The trade surplus for the month was JPY 196.5 billion, down 78.9 per cent from a year earlier.

The magnitude-9.0 earthquake and tsunami on March 11 destroyed many factories in northeastern Japan, crippling production of auto parts

² Economist at the Daiwa Institute of Research.

and other industrial components. The disasters also damaged ports and a major airport in the region, severely hampering exports.

The human toll, too, was vast, with some 25,000 people killed.

Hajime Inoue, an economist at the Japan Research Institute, warned the fall in exports could worsen to between 20 per cent and 30 per cent in the coming months.

“At least for March, some manufacturers were able to keep limited output by relying on stock. But by now, stock will be gone, forcing companies to completely shut down production,” he said.

By regions, Japan’s exports to the United States declined 3.4 per cent to JPY 828.7 billion, the first year-on-year fall in 15 months. Asia-bound exports slipped to JPY 3.4 trillion, marking the first fall in 17 months.

Japanese exports to China edged up 3.8 per cent, while those to the European Union grew 4.3 per cent in March, the ministry said.

The parts shortage after the disasters forced Toyota Motor Corp., the world’s No. 1 automaker, to halt its entire production in Japan from March 14 to March 25. The company has said the disasters have caused a production loss of 260,000 cars. It has now resumed production at half normal levels.

Around 46 per cent of Toyota vehicles made in Japan were shipped for export last year. Nissan exported more than half its Japan car production and Honda about 30 per cent. Nissan shut down all Japanese output for three days after March 11, while Honda Motor Co. halted operations at all its factories in Japan from March 14 to April 10.

5. Effects of disasters on production and exports Toyota

Toyota Motor Corp. said it will maintain output at half capacity in Japan from May 10 to June 3 amid a supply crunch following the March tsunami disaster. The world’s No. 1 automaker said it still remained unclear when the company would return to full production in Japan. Toyota spokesperson said the company was struggling to secure around 150 types of auto parts.

The magnitude 9.0-earthquake and ensuing tsunami on March 11 **destroyed parts factories in northeastern Japan**, causing severe supply shortages for Toyota and other automakers. The twin disasters have caused Toyota a production loss of 260,000 cars, Hashimoto said. Toyota has shut down all output in Japan except at three plants, which are running at limited capacity to produce the Prius, two Lexus hybrids and Corolla vehicles.

Because of the parts shortage, Toyota also has reduced output somewhat at its plants in North America. There was no production at its plants in Cambridge and Woodstock on Friday, and production also will be suspended on April 18, 21 and 25.

Toyota will resume production at all its Japanese plants at half capacity from April 18 to 27, and then halt output from April 28 to May 9, a period that includes Golden Week holidays when factories would normally close. Limited output will resume at the plants from May 10 to June 3. Hashimoto said Toyota will decide later on production plans after June 6. Amid uncertainty over the supply crunch, Toyota's share price has dropped nearly 10 per cent since March 11 to close at JPY 3,240 (USD 39) on Friday.

The auto analysts said Toyota would likely incur an operating loss of JPY 328 billion in the April-June quarter due to the fallout from the post-tsunami parts shortage. Toyota is again expected to post an operating loss of JPY 78 billion in the July-September quarter, he said. But the analyst forecast Toyota's Japanese production will return to full capacity in September, and the company will then swing back to the black later in the year.

"Once Toyota gets enough auto parts, it can boost domestic output to make up for production losses. Toyota will post a V-shape profit recovery" the auto analysts said. They expected Toyota to post an operating profit of JPY 414 billion in the October-December quarter, and forecast the same amount of an operating profit in the following quarter.

6. Effects of the natural disaster on Japanese transnational corporations and outward foreign direct investments.

After the devastating earthquake and tsunami on 11 March 2011, the northern region of Japan was most badly affected is home to a number of niche hi-tech companies, all major producers of specialized components (e.g. Renesas Electronics, which controls a 30 per cent share of the global market for microcontrollers).

The earthquake itself and the subsequent interruption of power supplies resulted in a severe disruption of supply chains, not only in Japan but internationally. Despite the severity of the damage, by June most of the supply chains had been restored: for example, production at Toyota had recovered to 90 per cent of its pre-earthquake level.

While Japanese firms have shown remarkable resilience, the chain of events has prompted Japanese manufacturers to reconsider their

procurement strategies. In a recent survey of Japanese firms by the Nikkei, a one-quarter of the respondents said that they would increase procurement from abroad, while a further fifth intended to diversify their procurement sources within Japan. The survey indicated that about two-thirds of the firms intended to maintain or increase their level of total investment in the aftermath of this natural disaster.

In the short term, the supply disruption will have reduced the revenues of those foreign affiliates of Japanese transnational corporations that were affected by supply disruption, and thus their reinvested earning. On the other hand, the temporary loss of revenues might have induced the parent companies of these affiliates to extend intra-company loans. In the medium term, the strategy of diversifying procurement sources could strengthen outward foreign direct investment. However, the overall impact of the earthquake on outward foreign direct investment from Japan is likely to be limited, especially against the backdrop of buoyant outward foreign direct investment through merger & acquisitions by Japanese firms. Over the long run, Japan will again be a leading investor for outward foreign direct investments.

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