Research Focus

Japan's Economic Options: The 3.11 Crisis *

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So soon after this disaster it is difficult to consider any other subject, it is as though Japan has been frozen in its actions and thinking - the most appropriate topic for discussion at this point in time is the 3.11 crises. This paper will outline the magnitude of what has taken place in Japan, and then consider Japan’s future prospects.

The Tohoku-Kanto great earthquake and subsequent tsunami which hit Japan on March 11 has resulted in a level of destruction and devastation which is difficult to comprehend; this single event has an equalled magnitude of the Hanshin-Awaji Great Earthquake (1995), Great Kanto Earthquake (1923), the Sumatra/Indian Ocean Tsunami, Hurricane Katrina, Three Mile Island, the SARS epidemic and the Demise of the Showa Emperor combined. Additionally, it is important to distinguish between the two separate problems which have stemmed from this single event. The first problem being the earthquake and tsunami, the second is the Fukushima Daiichi Nuclear Power Plant damage and consequential power shortages, and radioactive substances leak.

The earthquake and tsunami have resulted in loss of human life and capital stock. Confirmed losses of life have reached in excess of 14,000 dead and over 12,000 missing (as of April 25). Structural losses have reached over 18,000 (units) of complete structural destruction, and over 140,000 (units) of partial structural damage. 190,000 people have been displaced and are currently living in shelters, which are experiencing food and medicine shortages. Conditions at shelters continue to be difficult. We now know the consequences and direct outcomes of this event and can make estimations and plans. Economically, the result of the earthquake and tsunami will actually stimulate investment demand to rebuild infrastructure, plants and equipment. By contrast, the second problem of the nuclear crisis is ongoing and we do not know how it will end. This uncertainty is very damaging on the sentiment of not only Tokyo, but all of Japan. It has been confirmed by the Japanese Government that radioactive materials have escaped from the reactor core and are leaking to the atmosphere and the ocean - they don’t know how to fix this. The nuclear scare has not only forced the evacuation of local people, but the nuclear substances are spreading to the neighbouring prefectures, contaminating food and drinking water. The contamination is causing widespread alarm and tension not only in these regions but also within Tokyo’s population. There was recently an announcement that the radioactive content of water supply in Tokyo was above the government recommended level, but the levels are not high enough to cause acute harm. It was recommended that babies are not fed milk which has been dissolved in tap water. Within an hour of the water contamination announcement bottled water had all but disappeared from supermarket shelves, this is a reflection on how scared people really are. The nuclear crisis is ongoing and uncertain; we cannot forecast what is going to happen, which is a serious issue.

Economically speaking, what is the estimated impact of the 3.11 earthquake and tsunami disaster? The Cabinet Office estimates a loss in stock value of 16 – 25 trillion yen (5% of GDP). This stock includes infrastructure and structures such as houses, power plants, electricity, gas, water, roads, seaports and airports. Comparatively the 3.11 disaster has suffered about two times the loss of the Hanshin Earthquake of 1995. This also translates into an impact on GDP (flow) with a short-term loss in production of about minus 1.25 – 2.25 trillion yen and a temporary loss from the broken supply chain of about minus 0.25 trillion yen (less than 1% of GDP). There will be a medium-term increase in investment demand to rebuild and repair infrastructure, structures and private-sector capital stock; the increase amount will depend on how much of this loss value will be reconstructed by governments and businesses. If all of the estimated losses are reconstructed (to the value of 16 -25 trillion yen), there will be a big boom in reconstruction of 5 - 7.75 trillion yen in FY2011 (1 to 1.5 % GDP), then a further 6 – 9.5 trillion yen in FY2012, and a further 5 - 7.75 trillion yen in FY2013. This translates into up to 2% GDP increase in 2012. But, this depends on the assumption that all stock losses will be made up by new investment in the next 3 years; this may be an overly optimistic assumption.

The Fukushima Daiichi Nuclear Plant (keep in mind that this is a separate problem to the 3.11 earthquake and tsunami disaster) has troubles with 4 of the 6 reactors. These troubles are the result of the tsunami destroying power supply, back-up generators and fuel for the backup generators. The Fuel rods in the reactors have melted down, causing leakage to outside containment vessel. In addition to the reactor core problem, the spent fuel pools were not successfully cooled so they were also damaged. As
the cooling failed a hydrogen explosion occurred and containment failed as radioactive materials are now leaking into the environment from the reactors. 50,000 people have been forced to evacuate within a 20 kilometre radius, and for 20-30 kilometre radius evacuation is voluntary. There has been little information released on how this will be restored. Later, more evacuation would be planned.

The Fukushima fallout has resulted in a wide range of immediate consequences. Radioactive materials have been found in the local air, water and in the leafy green vegetables from nearby prefectures (the government has promised compensation to farmers). In Tokyo, the rotating blackouts and nuclear scare are taking vitality out of the city – unfortunately it is to be a more permanent power shortage. Some of the results which can be seen in Tokyo are that workers are going home earlier from work due to reduced services of commuter trains (which are running on a Saturday/Sunday schedule). (Rotating blackouts were cancelled later.) Advertising (from television and newspapers) completely disappeared in the first week after the disaster. General entertainment ceased which added to the sombre mood of Tokyo. Bottled water is frequently sold out and the green vegetables from Fukushima, Ibaragi and Chiba have disappeared due to the government’s swift action in banning the spread of contaminated food products. (However, they had been cleared after three weeks.) Conferences and working events have been postponed. Foreigners are afraid to come to Tokyo so tourism is completely down. For the second half of March, foreigners visiting Japan were astonishingly 70% down from the year earlier. International students, visiting scholars and academics have been told to leave Japan. Lastly, air services have been significantly cut down. The nuclear disaster will have a huge negative impact on GDP. The nuclear industry and TEPCO have a lot of explaining to do regarding what has happened, and also how they can fix the problem.

The question of “what to do?” requires multifaceted responses, so I will scope how they can fix the problem. For the intermediate future it would be unwise for communities to recreate the structures which used to exist, instead they should reconstruct new compact cities (which are cities that have short distances between elderly-accessible amenities such as hospitals and municipal services). Although people will eventually want to return to the same locations, they should not be allowed to re-inhabit these hazardous areas. The Kobe seaport was recreated, though the Kobe seaport was recreated, though the cargos did not come back. This demonstrates that once the customers have been lost they may not come back. It also shows that Japan needs to reconsider what are the best and smartest city planning/rebuilding options for both communities and industry.

It has been predicted that it will be a very hard summer in Tokyo. The people of Tokyo have been advised not to use their air conditioners, even train lines may be shut down. A short term solution to the summer power crises could be the forced closure/vacation of non-essential industry for several weeks – the employees could take this time to leave Tokyo. Activities such as conferences should also be moved outside of Tokyo. The general mood in Tokyo instance is to share the inconvenience.

The Tokyo and the northern region uses 50hz of electricity power. The Nagoya, Osaka, and the south-western region uses 60hz (a legacy of the Meiji government decision). Therefore, the power which can be sold/bought between Tokyo and Osaka is limited as the capacity of 50hz/60hz converter is limited. As demonstrated by Tokyo’s power crisis, Japan currently has an impractical power infrastructure. There is a longer term fundamental need to develop alternative power in Japan, possibly with a smart grid or other smart power options.

The government cost of assisting financially victims of the nuclear crisis, such as the green vegetable farmers, may reach around 20 trillion yen. This financial burden should be borne by all Japanese residents; it has to be shared by the entire society. How to finance this budget will result in a budgetary reshuffle, which is crucial. April and May will prove crucial in how the budget related bills will play out in parliament. It is a good time to raise tax, which is long overdue because of the budget deficit. There should be a VAT increase plus stopping COLA for pensions. The personal income minimum tax level must be lowered (broader the tax base). Real-estate taxes should be raised. Also, the government should impose on tax-exempt entities, like religious organisations, which would be widely unpopular but effective.

Japan has been in stagnation for the last 20 years, and struggling in the last 5-10 years to devise strategies on how to regain growth potential. Medium-term growth strategies for Japan need to include trade liberalisation by accelerating free-trade agreement. Currently the Japan-Australia and Japan-Korea negotiations are stuck, and need to move forward. Japan’s participation in Trans Pacific Partnership (TPP) is key; this would override the Japan-Australia FTA and establish a Japan-US FTA. Fiscal consolidation is also imperative, fiscal debt is already high (200% of GDP) and social security expenditures are expected to continue rise.

As a result of the 3.11 Earthquake-Tsunami Japan need to reconstitute with new city planning rather than reconstruct the cities that used to be. As a result to the Fukushima Daiichi Nuclear Power Plant crisis, the plant itself needs to ring fence the damage. Overall the Government needs to accelerate trade policy to stimulate much needed growth.

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The death toll and casualty numbers have been updated, but other assessments are as of 28 March.