

Catastrophe in Japan

First assessment of the economic consequences

The earthquake off the coast of Honshu and the ensuing tsunami are the biggest natural catastrophes in Japan's history. The extent of the damage, in particular a possible nuclear catastrophe, cannot yet be estimated with much precision. According to current information (evening, 16 March), there are 11,000 dead and missing [ca. 25,000 as of end of April 2011]. However, that is only a provisional figure and the number of victims is constantly being revised upwards. And it remains unclear what damage has occurred so far as a result of the nuclear catastrophe and what consequences a meltdown in one or more of the reactors could have.

Kobe's devastating 1995 earthquake left 6,432 dead. The region was responsible for 15 per cent of Japan's economic output, and the damage amounted to 100 billion euros or about 2 per cent of Japanese economic output. **In economic terms, the 1995 disaster was dealt with astonishingly well.** Reconstruction led to a clear and rapid revival of the economy (the 'Kobe effect'). Three months after the earthquake, industrial production in the affected region and in Japan as a whole had risen above its level before the earthquake. Reconstruction thus had the effect of a massive economic stimulus programme.

The damage arising from the latest earthquake and tsunami is still not fully known. **Barclays Capital estimates the damage at over 130 billion euros**, although that is only a first approximation. Assessments of the weight of the affected region as a part of Japan's overall economy vary between 2.5 and 15 per cent of total economic output. What is clear is the following: the affected region is geographically much larger than in 1995; more people have been affected; and the damage to buildings and infrastructure is much more significant.

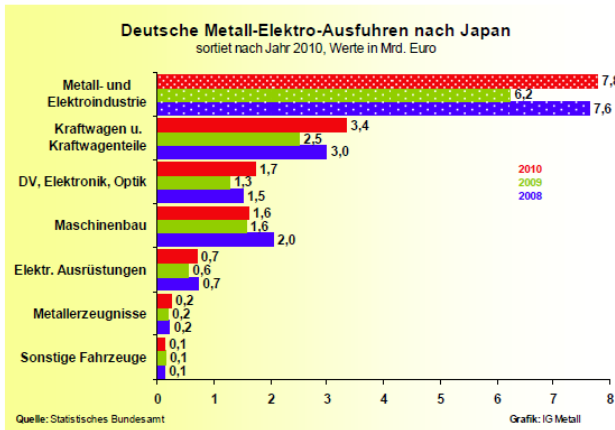
Even though the heavily industrialised region of Kobe was comparable, in economic weight, with the region affected today, these other factors will hinder and prolong reconstruction. Reconstruction could also be hindered by problems with energy supply. **Eleven of the**

54 nuclear power stations in Japan are currently shut down, and some will remain so permanently.

Also still unforeseeable at this point is the further development of the collapsed Fukushima nuclear power station. If there is long-term radioactive contamination of the region or even of greater Tokyo, where 35 million people live and 16 per cent of Japanese economic output is produced, the consequences cannot be foreseen. **Such a catastrophe would be unparalleled**, and the economic repercussions could also seriously affect the world economy.

Consequences for Germany and the World

The consequences of the current disaster (if a total meltdown in the nuclear power station is averted) will be macroeconomically limited. **Japan accounts for 5.8 per cent of global economic output and 4.8 per cent of global trade.** A major collapse in Japan would not have dramatic consequences for the world economy. Furthermore, one-third of Japanese foreign trade is with the rest of Asia. Japan's quantitative significance as a trading partner of Germany is not great: 1.4 per cent of German exports go to Japan and 2.7 per cent of German imports come from Japan.

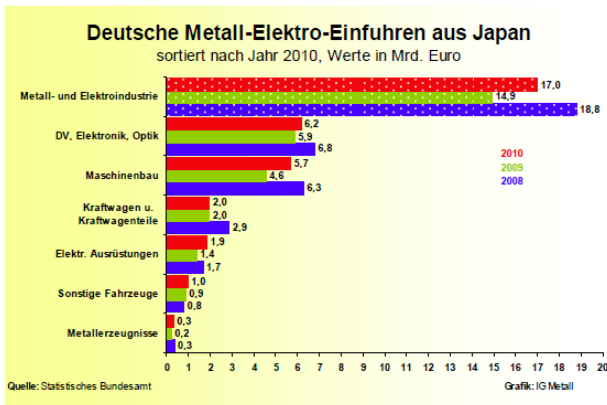


German Metal-Electrical Exports to Japan
2010, billion euros

- Other vehicles
- Metal products
- Electrical equipment
- Machine building
- Dataprocessing, electronics, optics
- Motor vehicles and motor vehicle parts
- Metal and electrical industry

Source: Statistisches Bundesamt **Figure:** IG Metall
2010
2009
2008

At present, the effects on the second, third and other levels of the value chain cannot be measured. For example, delivery interruptions in third countries could lead to problems for German companies as a result of the deep integration of the international value chain.



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The exports of the metal and electrical industry – mostly cars – represent 1.5 per cent of total exports to Japan. Imports, at 5.4 per cent, are significantly greater. The main imports are office machinery (2.3 billion euros), electronic components (1.6 billion euros), measurement and control instruments (1.3 billion euros) and optical and photographic instruments (1.3 billion euros). Electronic components in particular include many vendor parts for German industry.

On the one hand, Japan has a very similar industrial structure to Germany (cars, machine building, chemicals) and is a direct competitor in the world market. At present, production in, for example, the car industry is at a standstill, at least temporarily. The temporary interruption of Japanese production improves the market opportunities of German goods. In addition, Japanese capital is expected to flow back from abroad in order to deal with the damage and finance construction. This will lead to a revaluation of the yen, which will improve the market opportunities of German products even more. This development has been anticipated by the financial markets; they are already betting on a rising yen.

On the other hand, Japan is a significant producer of electronic components: 21 per cent of global semiconductor production comes from Japan. There are also suppliers of electronic components in the devastated region. Their production could be limited for an extended period. Many German companies depend on these supplies. Bosch has a network of 350 suppliers in Japan. BMW also fears the consequences if semiconductors are not delivered. The situation is still not clear. BMW's head of procurement Diess expects – according to FT Germany 16 March – a prognosis concerning possible consequences in seven to ten days. Cuts in production cannot be ruled out.

A Strain on the Financial Markets

The events have led to uncertainties on world financial markets. In particular, the stock

exchange in Tokyo has plunged. As of March 16, the Nikkei Index stands at around 15 per cent below pre-earthquake levels. But these are just snapshots.

Much more significant are the medium-term problems of financing. The Japanese state is highly indebted. The debt level is around 200 per cent of economic output, which is far higher than that of Greece. So far, the debt has been financed by the very high savings rate among the population. Many Japanese people have sought to provide for their old age by purchasing government bonds. The catastrophe and reconstruction will lead to a fall in the savings rate, driving up foreign debt. First estimates assume a need for new borrowings in the amount of 10 per cent of economic output. This worries financial markets. These markets are yet to recover from the global financial crisis and are still trying to cope with the European debt crisis. Furthermore, investors remain very uncertain and risk averse.

Japanese capital will be brought back from abroad, especially from the USA. This could lead to tensions in those markets. Even before the earthquake, rating agencies had downgraded Japan's creditworthiness. **Doubts concerning the solvency of the Japanese state**, could undermine the Japanese banking sector. Such doubts could also lead to a **worldwide withdrawal of investors from shares and uncertain government bonds**. That would surely exacerbate the euro-crisis and lead to capital losses due to falling share prices. The consequence would put a significant strain on companies, consumers and banks, and thus on the entire global economy.

Summary

Current estimates assume that the consequences of the nuclear catastrophe will remain manageable with no major radioactive contamination of the region. **All prognoses will count for nothing if there is extensive and long-term radioactive contamination**. The economic consequences of such a catastrophe cannot be guessed. The reconstruction after the devastation wrought by the earthquake and the tsunami will have to be

managed by the Japanese economy, even if it takes even longer than was the case after the earthquake in Kobe in 1995. The immediate repercussions for the world economy are expected to be low. **For German companies the lack of individual vendor parts could lead to problems**.

Since the Japanese state is already highly indebted and the financial markets have not yet got over the global financial crisis, **funding the rebuild and recovery from the catastrophe will impose a further heavy burden on markets in the future**.