

Japan

Manufacturing PMI suffers record fall in March

- **PMI plunges record 6.5 points in March**
- **Decline signals 7% quarterly drop in manufacturing output which is set to push Japan temporarily back into recession**
- **Record delivery delays**

Quake-hit manufacturing

The Markit/JMMA Purchasing Managers' Index slumped 6.5 points in March, signalling a sharp downturn in Japanese manufacturing production resulting from the Tohoku earthquake, which struck on 11 March. The drop in the PMI, from 52.9 in February to 46.4 (the lowest reading since April 2009) is the largest in points terms since the survey began in late-2001. The largest fall previously seen was 5.9 points, which was recorded in December 2008, when global trade flows seized up in the aftermath of the collapse of Lehman's.

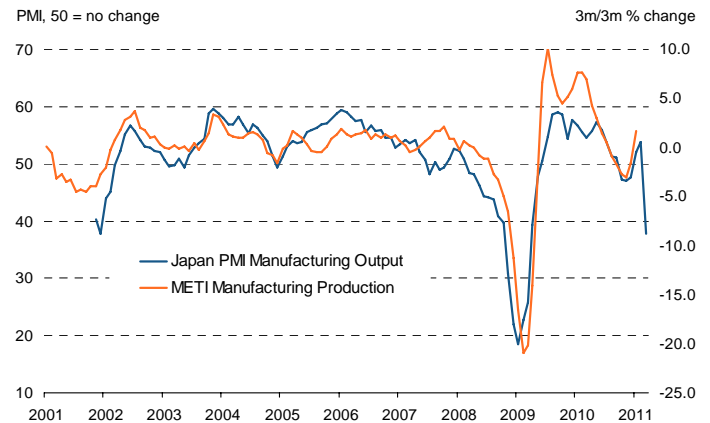
The fall in the PMI, a composite index based on five survey variables, was modest in comparison to the falls in the survey's output and new orders indices, which fell by 16 points and 15 points respectively. The largest falls previously seen in these indices were 9 and 10 points respectively (seen in December 2008).

The drop in the PMI Output Index in March is consistent with manufacturing production falling by approximately 7% in the latest three months compared to the previous three months.

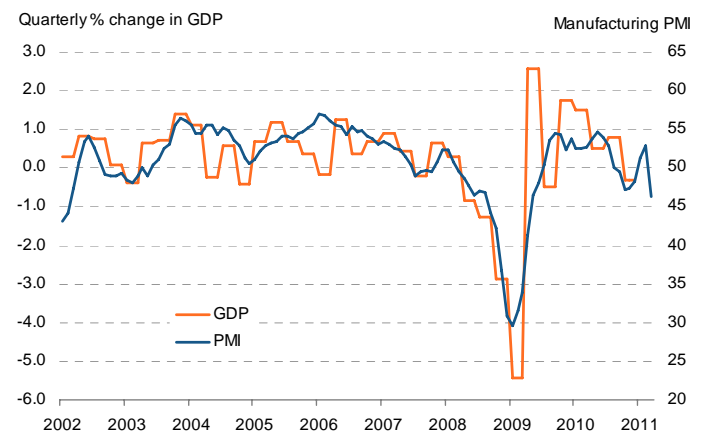
Back in recession?

The decline in March puts the PMI average for Q1 at 50.2, indicating stagnation, but up from an average of 47.6 in Q4. Any sharp weakening in the services PMI data, due to be published next week, raises the possibility that gross domestic product (GDP) may have contracted again in Q1, representing a second quarter of decline after the 0.3% fall seen in the final quarter of last year and therefore putting Japan back into a technical recession.

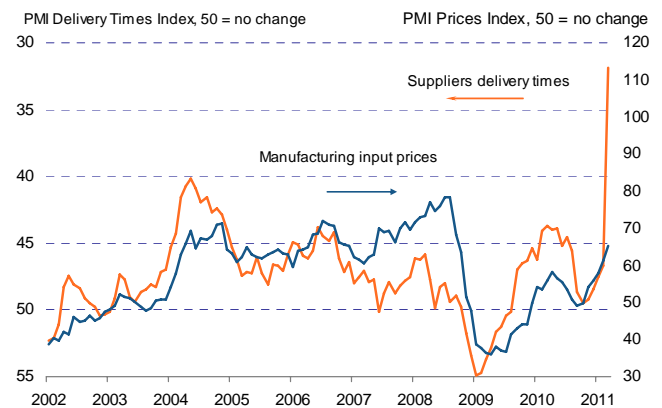
Manufacturing Production



Manufacturing PMI vs. GDP



Record delivery delays



Sources: Markit, Ecwin.

Lack of precedent to estimate longer run impact

It is possible that much of the impact of the earthquake will be reflected in Q2 data, extending a recession to three quarters, but this is difficult to ascertain due to the lack of precedent. The manufacturing PMI's history does not extend back as far as the Kobe earthquake in January 1995, so it is not possible to compare the two quakes in relation to the PMI. However, official data show that manufacturing production fell by 2.7% in the month of the Kobe quake, but then rose 2.2% in February and by a further 1.0% in March. By April 1995, output had risen 4.4% on the low seen in January and was 1.6% above the level reached in December - prior to the Kobe quake.

We can also analyse the behaviour of the PMI following the 2001 9/11 terrorist attacks in New York which, although representing a disaster of a completely different nature to the earthquake, is perhaps the closest observable shock to an economy. After 9/11, the US PMI Output Index slumped nine points in one month, but regained most of this loss within two months. By February, output growth was surging again as producers made up for the disruptions to business. The growth surge began to tail off after six months.

However, there are a number of reasons why production may be affected for longer in Japan than either the experience of Kobe or 9/11 suggest, notably because the disaster affected a wider area and is ongoing, especially in relation to the attempts to manage the situation at the Fukushima nuclear power station and the ongoing impact on peoples' lives.

Record lengthening of supplier delivery times points to production problems and rising prices

The impact on supply chains also represents a further possible risk to production in coming months. Not surprisingly, manufacturers reported that the average time taken for suppliers to deliver goods suffered the largest lengthening in the history of the survey by a wide margin in March.

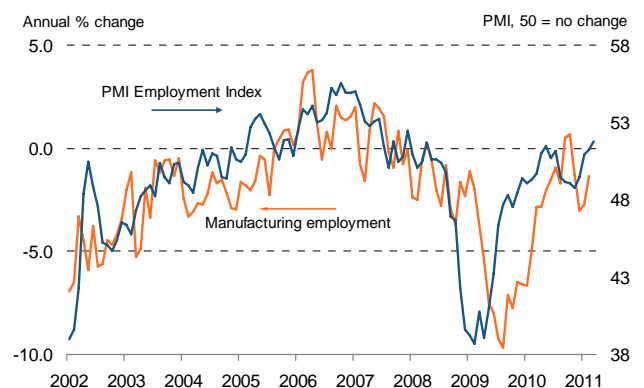
Production worries are not the only concern, however. Any Delivery Times Index below 50 signals longer lead-times, and these delivery delays tend to be associated with rising input prices, as the chart at the bottom of the previous page shows (note that the Delivery Times Index is inverted in the chart).

Economic growth to resume in second half of 2011

However, based on assuming a swift return to business-as-normal for the majority of the country's manufacturing capacity, we would anticipate economic growth to strengthen substantially in the second half of the year. This not only reflects reconstruction and order book backlog fulfilment following the crisis, but also reflects the improving trade situation that Japan was seeing before the quake struck. Prior to the disaster, the PMI had signalled an upturn in manufacturing growth in February, suggesting the economy was showing signs of picking up from a renewed downturn in the final quarter of last year. February's PMI reading had in fact been an eight-month high.

Furthermore, manufacturers had been taking on staff at an increased rate in March, until the quake hit, anticipating further order book growth in coming months. The manufacturing PMI Employment Index rose to the highest for just under three years in March, broadly consistent with a return to year-on-year growth of employment according to official statistics.

Manufacturing employment



Data collection

The March PMI data are based on responses from approximately 67% of the normal number of survey responses. The data were collected between 11-25 March. The quake hit in the afternoon of the 11 March.

As would be expected, response rates varied significantly by region, with very low numbers of replies from the worst affected areas. Responses from Tohoku region (which accounts for around 6% of Japanese manufacturing) were worst affected, with just 5% of the average number of monthly replies received. Responses from Chubu region (which accounts for the

largest proportion of manufacturing at 28%) were at 85% of the average number, while we received around 60% of the average number of responses from Kanto region (which accounts for 27% of manufacturing).

The sympathies of all at Markit are with the Japanese people as their country recovers from this terrible disaster.

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