

# Japan

## Manufacturing PMI™ hits two-year low in April, though even larger drop in output signalled after estimating for survivorship bias

The PMI showed ongoing disruption to the manufacturing sector in April following the 11 March earthquake. After estimating for non-responding companies, the data show that the rate of decline in the past two months has exceeded that seen in the aftermath of the US terrorist attacks in 2001. Falling production comes as no surprise. The uncertainty relates to the speed with which the economy can rebound. A return to job shedding suggests that firms are worried about order books and cautious about their ability to rebuild production as supply shortages hit a record high.

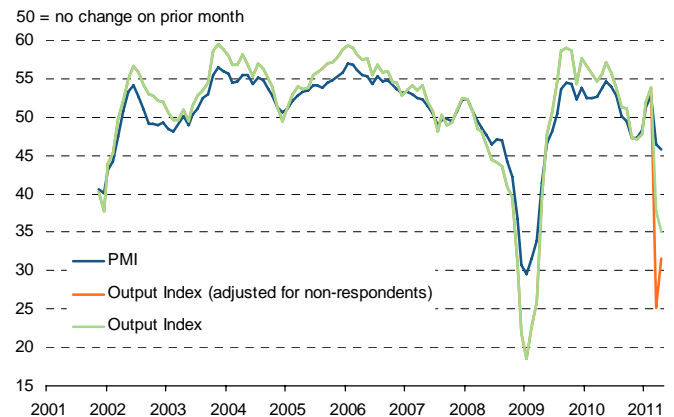
### PMI hits two-year low, though decline likely understates impact of quake

The Markit/JMMA Purchasing Managers' Index (PMI™) fell to a two-year low in April, signalling a second month of widespread disruption to the manufacturing sector following the earthquake and tsunami of 11 March.

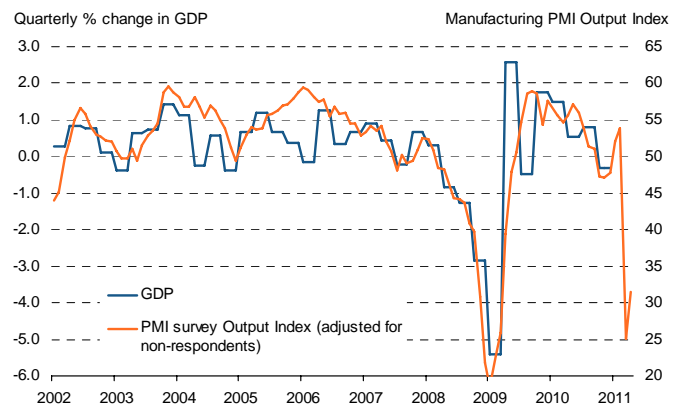
The PMI had suffered a record (6.5 index points) fall in March, indicating a renewed downturn of the sector following a brief return to growth in the first two months of the year. The index fell further into sub-50 negative territory in April, down from 46.4 to 45.7.

However, the impact of the earthquake is likely to have been even greater than the headline PMI suggests, because the PMI is a composite index based on five survey variables, one of which measures suppliers' delivery times. In normal circumstances, delivery times lengthen when suppliers are busy due to high demand for their goods, so longer delivery times serve to boost the PMI. However, a record lengthening of delivery times has been recorded since the earthquake, which has boosted the PMI because of supply disruptions, *not* because suppliers have been struggling to cope with strong demand.

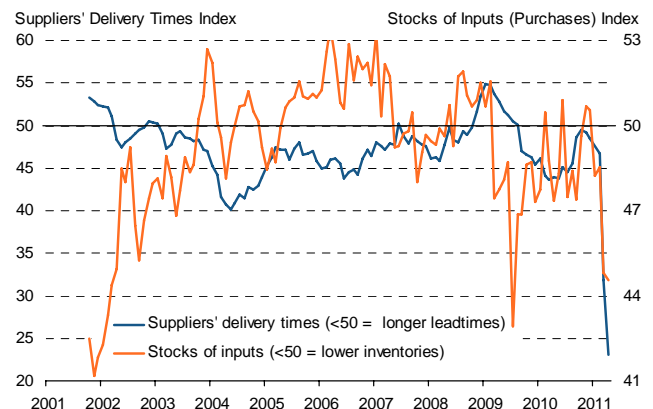
### PMI may be understating manufacturing downturn



### Economy back in recession?



### Delivery delays may threaten short-term rebound



Sources: Markit, Ecwin.

## Estimating for survivorship bias

For this reason, the PMI's Output Index is arguably a more useful gauge as to the impact of the earthquake on the manufacturing sector. The Output Index collapsed a record 16 points in March followed by a further near-three point decline in April. However, even this decline understates the impact of the quake because the survey results over the past two months take no account of what happened at non-responding companies.

Assuming that those companies unable to complete questionnaires in the past two months had reported a fall in production, the Output Index would have posted a 29-point drop in March, but then staged a 6-point rally in April. Nevertheless, while above the lows seen at the height of the financial crisis, the resulting level of the index (31.5 in April) is below that seen in the aftermath of the US terrorist attacks of 9/11. The data suggest that gross domestic product (GDP) contracted at a quarterly rate of 5% in March and 3%–4% in April.

## Delivery delays may hinder short-term recovery

With the PMI having indicated a contraction of GDP in the first quarter, and GDP having already fallen in the final quarter of last year, the data suggest that Japan has moved back into recession. The concerns relate to how quickly manufacturing can recover from the

disruption. Promisingly, the data indicate that Japan was enjoying a robust pace of expansion of its manufacturing sector prior to the earthquake, with firms taking on staff at the fastest rate since April 2008 in response to fuller order books and rising production.

However, manufacturers reduced their headcounts in April for the first time in four months, suggesting nervousness about the outlook and the speed with which business can return to normal. Worryingly, inflows of new orders fell sharply again in April, including a deterioration in demand from abroad. Furthermore, stocks of inputs showed the second-largest monthly fall in almost ten years, in many cases linked to supply problems. Suppliers' delivery times lengthened to a record extent (by a wide margin) in April, highlighting the possibility that supply shortages may affect production for some time to come.

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