

8.1

MANUFACTURING

OVERVIEW

The manufacturing sector shrank by 11 per cent in the fourth quarter of 2008. All clusters contracted due to the rapid decline in the global economic climate, except for the transport engineering, biomedical manufacturing, and general manufacturing clusters.

For 2008, the manufacturing sector contracted 4.1 per cent, down from growth of 5.9 per cent in 2007. It was affected by weak global demand in the fourth quarter, as well as lower pharmaceuticals output.

OVERALL MANUFACTURING PERFORMANCE

The manufacturing sector shrank by 11 per cent in the fourth quarter of 2008, similar to the preceding quarter ([Exhibit 8.1](#)). All clusters, except the transport engineering, biomedical manufacturing and general manufacturing clusters, contracted due to the rapid decline in the global economic climate.

For 2008 as a whole, the manufacturing sector contracted by 4.1 per cent, compared to growth of 5.9 per cent in 2007. The manufacturing sector was primarily weighed down by weak global demand and lower pharmaceutical output.

PERFORMANCE OF CLUSTERS

The transport engineering cluster's output grew by 7.8 per cent in the fourth quarter, compared to 6.9 per cent for all of 2008 and 24 per cent in 2007 ([Exhibits 8.2 and 8.3](#)). The marine and offshore engineering and aerospace segments grew 9.3 per cent and 4.3 per cent respectively, with contracts secured earlier.

The chemicals cluster saw output fall by 3.6 per cent in 2008, as the fourth quarter saw a sharp 17 per cent contraction due to a drastic fall in demand. This reversed the growth of 3.2 per cent seen in 2007. The petrochemicals and specialties segments saw annual output fall by 8.2 per cent and 1.3 per cent respectively, with several plants shut for maintenance in the second half of 2008, and temporary production shutdowns to reduce inventory in the last quarter of 2008. However, the petroleum refining segment grew by 1.0 per cent.

Exhibit 8.1 Manufacturing Growth Rates

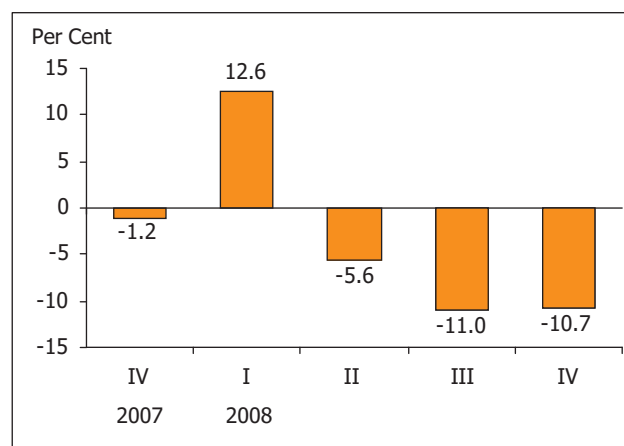
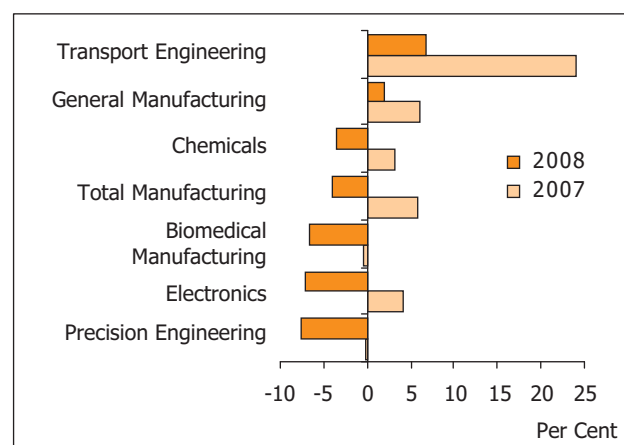


Exhibit 8.2: Manufacturing Clusters' Growth



Despite 2.7 per cent growth in the fourth quarter, the biomedical manufacturing cluster shrank 6.6 per cent in 2008, following a decline of 0.3 per cent in 2007. Pharmaceuticals output dropped by 6.9 per cent as a result of a change in the mix of active pharmaceutical ingredients produced. Some pharmaceutical facilities also started to prepare new products this year. Such activities are typically not recorded as output. The medical technology segment dipped by 2.5 per cent due to lower overseas shipments.

Weighed down by a 23 per cent contraction in the fourth quarter of 2008, the electronics cluster shrank 7.1 per cent in 2008, compared with growth of 4.1 per cent in 2007. With the relocation of mobile device production, the infocomms and consumer electronics segment contracted by 46 per cent in 2008. In addition, the data storage (-0.2 per cent) and semiconductors (-2.8 per cent) segments were particularly affected by the fallout in global electronics demand in the fourth quarter of the year. However, the computer peripherals (3.6 per cent) and other electronics modules and components (3.5 per cent) segments still managed positive growth in 2008.

With a 18 per cent contraction in the fourth quarter, the precision engineering cluster contracted by 7.5 per cent in 2008, down from a contraction of 0.2 per cent in 2007. Production in the machinery and systems segment fell by 5.1 per cent due to a decline in global capital expenditure. Output of the precision modules and components segment also fell by 9.5 per cent in tandem with the decline in the electronics cluster.

The general manufacturing cluster slowed to 0.4 per cent growth in the fourth quarter of 2008, largely due to a contraction in the printing segment. The cluster grew by 1.9 per cent in 2008, slowing from 6.1 per cent in 2007. Growth in the food, beverage and tobacco segment (7.8 per cent), as well as in miscellaneous industries (1.7 per cent), offset a 3.4 per cent contraction in the printing segment.

Exhibit 8.3: Percentage Contribution to Manufacturing Sector's Growth in 2008

