

### F.9. Trade in knowledge-intensive goods

■ Knowledge-intensive goods have been among the most dynamic components of international trade over the last decade. A country's ability to compete in high-technology markets is therefore important to its overall competitiveness in the world economy.

■ OECD trade in manufacturing has been mostly driven by high-technology industries over the second half of the 1990s and up to the beginning of 2005. The value of trade in high-technology manufactures then started to slow and in 2007 it stood at broadly the same level as medium-high-technology manufactures. Over the same period, trade in medium-low-technology manufactures rose sharply. The notable increase in the value of trade in medium-low-technology manufactures was due in part to the recent significant increases in commodity prices for oil, petroleum products and basic metals, particularly the metals required for the manufacture of ICT goods.

■ In individual OECD countries, high-technology exports generally grew substantially faster than medium-high-technology exports between 1997 and 2007; in the Slovak Republic, Iceland and the Czech Republic they represented about 1.5 times the value of medium-high-technology exports. They grew at somewhat under 30% in China and by about 15% in Brazil. Export growth of high-technology goods outstripped growth in total manufacturing except in most OECD accession countries (Chile, Estonia, Israel, Russian Federation, Slovenia), Sweden and Japan.

■ Trade in medium-low-technology manufactures accounted for 20% of total manufacturing trade in 2007 in the OECD area. Trade in high-technology manufactures and medium-high-technology manufactures accounted for 23% and 39%, respectively.

■ In 2007, exports were particularly oriented towards high- and medium-high-technology manufactures in Ireland, Japan, Hungary, Switzerland, Mexico and the United States. China's exports were significantly higher than the OECD average, with high- and medium-high-technology exports accounting for about 60% of its total manufacturing exports.

#### Source

- OECD (2009), *OECD Science, Technology and Industry Scoreboard 2009*, OECD, Paris.

#### For further reading

- Hatzichronoglou, T. (1997), "Revision of the High Technology Sector and Product Classification", *OECD Science, Technology and Industry Working Papers 1997/2*, OECD, Paris.
- OECD (2005), *Measuring Globalisation: OECD Handbook on Economic Globalisation Indicators*, OECD, Paris.
- Pilat, D. et al. (2006), "The Changing Nature of Manufacturing in OECD Countries", *OECD Science, Technology and Industry Working Papers 2006/9*, OECD, Paris.
- OECD (2007), *Staying Competitive in the Global Economy: Moving Up the Value Chain*, OECD, Paris.

#### Trade by technology intensity

OECD methodological work classifies manufacturing industries in four categories of technological intensity: high, medium-high, medium-low and low technology. This classification is based on indicators of (direct as well as indirect) technological intensity which reflect to some degree "technology-producer" or "technology-user" aspects.

To analyse international trade flows by technological intensity requires attributing each product to a specific industry. However, products which belong to a high-technology industry do not necessarily have only high-technology content. Likewise, some products in industries of lower technological intensity may incorporate a high degree of technological sophistication. No detailed data are available for services at present. Therefore the indicators presented here only relate to manufacturing industries.

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Figure F.9.1. OECD manufacturing trade<sup>1</sup> by technology intensity<sup>2</sup>

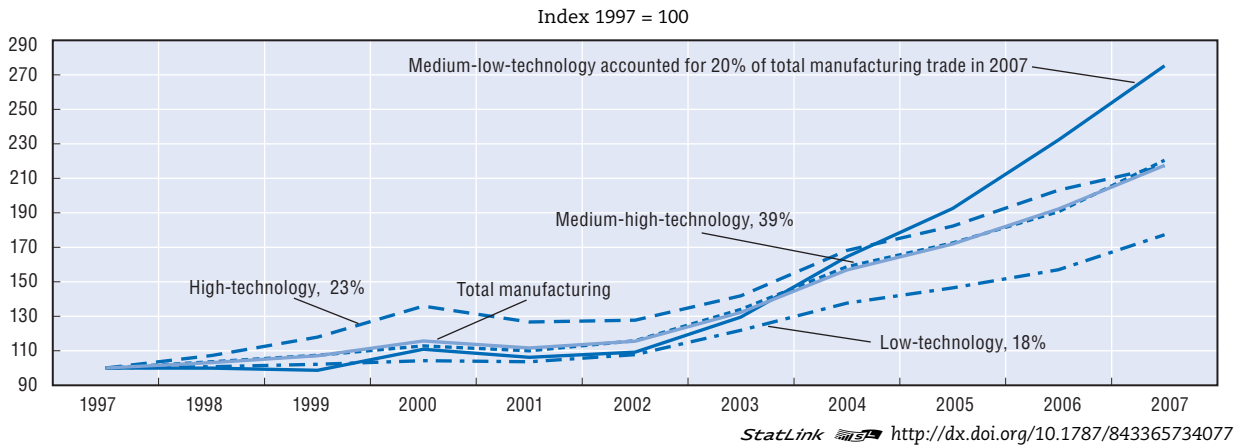


Figure F.9.2. Growth of high- and medium-high-technology exports, 1997-2007<sup>2</sup>

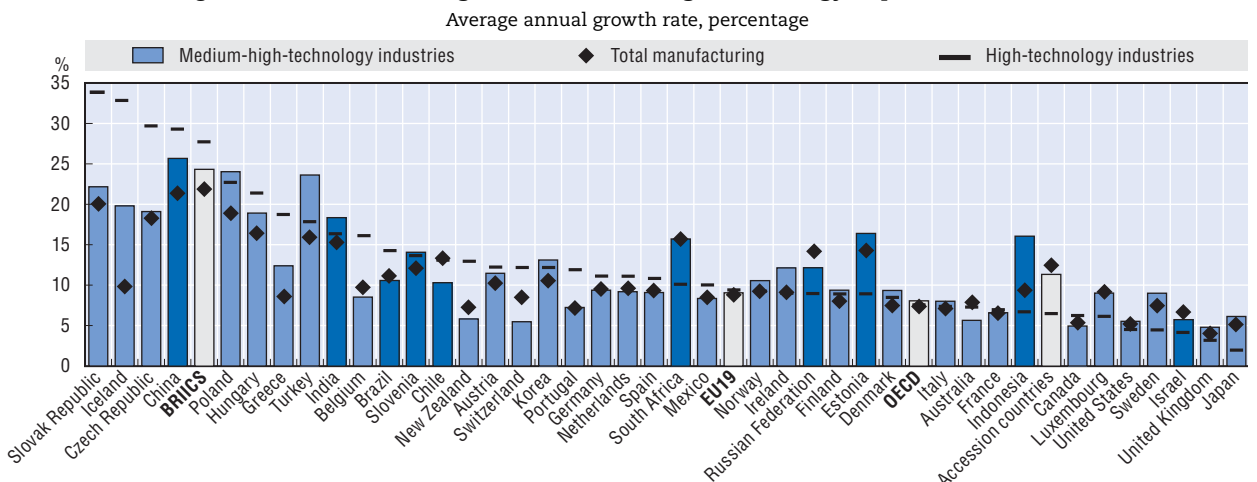
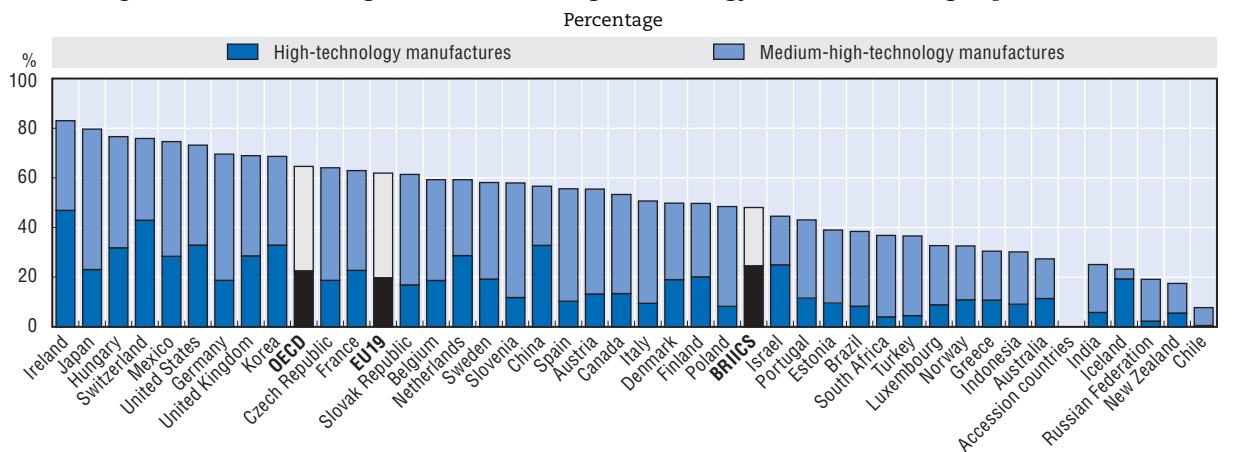


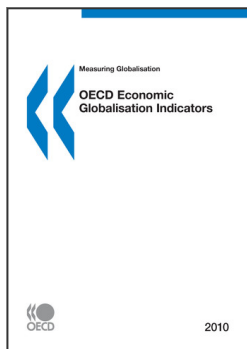
Figure F.9.3. Share of high- and medium-high-technology in manufacturing exports, 2007<sup>2</sup>



1. Average value of total OECD exports and imports of goods.

2. The OECD and EU aggregates exclude Luxembourg for which data are only available from 1999.

Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.



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