

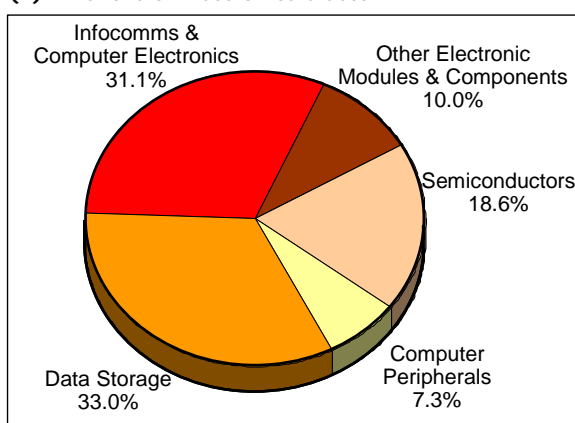
### Box 2.1 Singapore's Electronics Cluster

#### *Changing composition of the electronics cluster...*

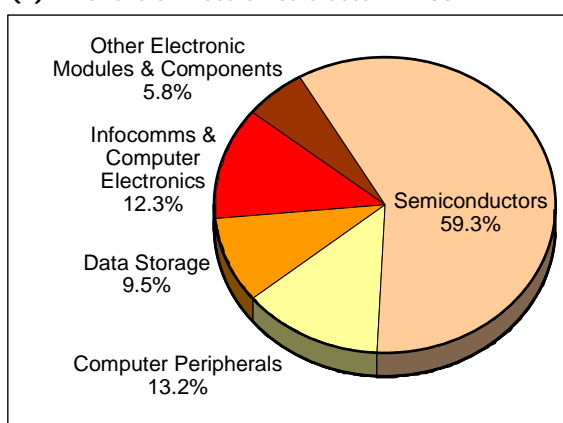
The electronics cluster is a key component of Singapore's manufacturing sector. Over the years, Singapore's electronics cluster has moved up the value chain to high value-added activities. This can be seen at two levels. First, within individual segments of the electronics cluster, there has been a shift towards higher value-added activities. For example, in the data storage segment, the production of commodity disk drives has made way for high-end server drives and disk media. Second, the electronics cluster as a whole has seen high value-added segments rise in importance (Exhibit 1). For instance, the share of the data storage segment declined from 33 per cent in 1997 to 9.5 per cent in 2007. In contrast, the share of the semiconductors segment has tripled as Singapore moved into new areas such as 12-inch wafer fabrication and DRAM chip production. In 2009, the semiconductors segment will gain more diversified capabilities when NAND flash memory production, typically used in the latest consumer electronics products such as MP3 players, comes on-stream.

**Exhibit 1: The high-value semiconductors segment has been rising in importance**

**(A) VA Share of Electronics Cluster in 1997**



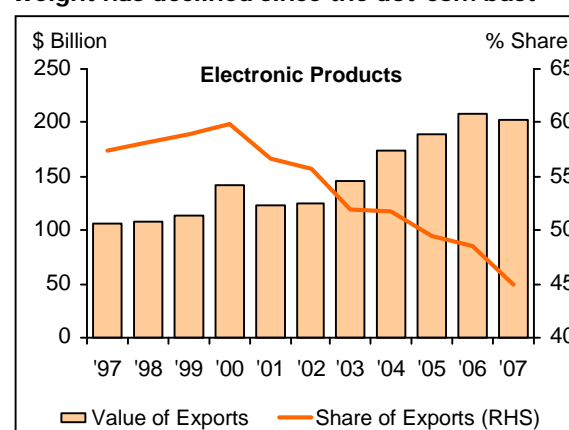
**(B) VA Share of Electronics Cluster in 2007**



#### *Electronics now has a less dominant share of Singapore's exports...*

As a small, open economy, a large share of our electronics output serves overseas markets. In 2007, electronics products<sup>1</sup> made up 45 per cent of Singapore's total exports. Although electronics exports have increased since 1997, they now account for a smaller share of exports (Exhibit 2). In comparison, oil and chemicals exports have grown in importance during this period. Their combined share of exports rose from 18 per cent in 2001 to 30 per cent in 2007.

**Exhibit 2: Although electronics products still form a large proportion of total exports, its weight has declined since the dot-com bust**



Note: Prior to 2003, data excludes Indonesia.

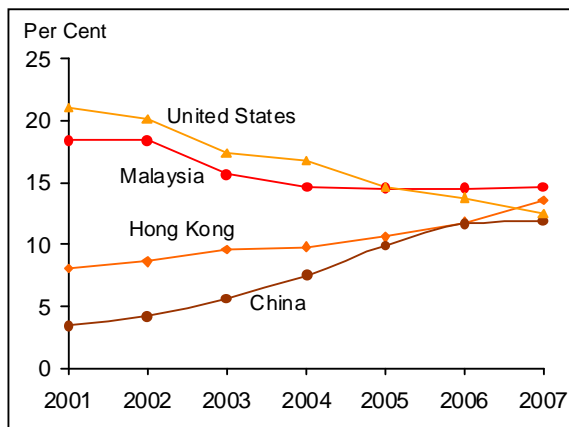
<sup>1</sup> Includes office and data machines (SITC 75), telecommunication apparatus (SITC 76) and electrical machinery (SITC 77).

**Emerging markets have grown over the years...**

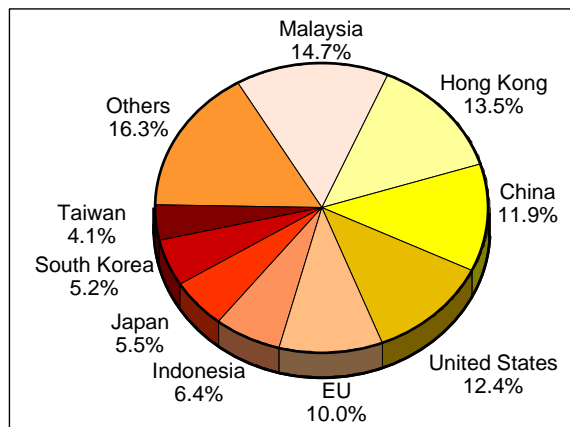
Singapore's exports to markets like China have seen healthy growth in recent years (Exhibit 3). China has become a more important export market, with its share of electronics exports rising from 3.4 per cent to 12 per cent between 2001 and 2007. Hong Kong overtook the US as Singapore's second largest export market of electronics products in 2007. However, 80 per cent of Hong Kong's re-exports originating from Singapore in 2007 were subsequently re-exported to China<sup>2</sup>, making China's role effectively larger. India's contribution as an export market for electronics exports has also doubled from 1.4 per cent to 2.9 per cent between 2001 and 2007.

**Exhibit 3: The share of electronics exports to new markets such as Hong Kong and China has increased over the years**

**(A) Export Share of Electronics Products Export**



**(B) Markets for Electronics Products in 2007**



**Conclusion**

The mix within the electronics cluster is continuing to evolve as Singapore anchors more high value-added activities. A more diversified trade basket has also reduced Singapore's reliance on electronics exports. Furthermore, the dependence on traditional export markets for Singapore's electronics products has diminished as new markets emerged.

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