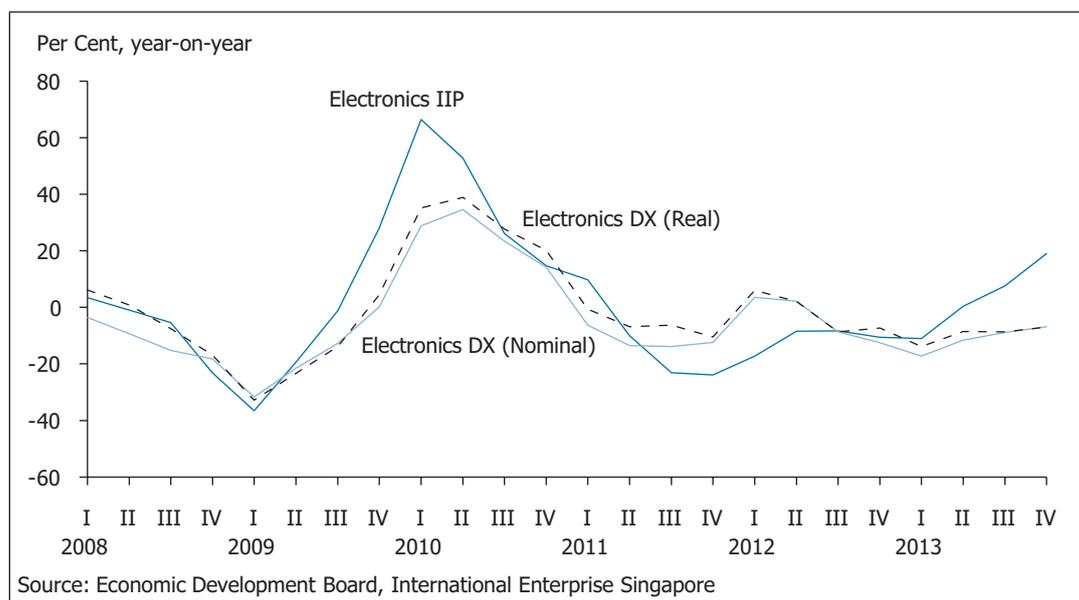


### Box 6.1: Recent Divergence in Singapore's Electronics Output and Domestic Exports Growth

Exhibit 1 shows Singapore's electronics Index of Industrial Production (IIP) and electronics domestic exports (DX).

**Exhibit 1: Growth of Electronics IIP and Electronics**



While electronics IIP and DX changes tend to track each other over time, there had been instances when divergences occurred. For the most recent case, the divergence occurred from the second quarter of 2013, when electronics output started to recover after several quarters of contraction but electronics DX remained weak. Even after deflating the electronics DX with export prices to obtain real electronics DX, the divergence between electronics output and electronics DX growth still exists.

In general, the electronics IIP and electronics DX can diverge depending on the production and export decisions of firms, in response to changing market conditions or operational needs. For instance, the current divergence can be partly explained by a build-up of inventories by electronics firms, in anticipation of stronger demand in the coming months<sup>1</sup>, as well as firm-specific factors where some electronics wholesale firms saw weak DX performance over the period. Increasingly, with production chain fragmentation, electronics firms may also decide to locate their high value-added activities, such as design, in Singapore and outsource lower value-added production activities to overseas contract manufacturers.<sup>2</sup> While such activities are captured as Singapore's electronics output, there may not be a corresponding increase in electronics NODX.

Going forward, how firms continue to react to changes in their operating environment will have an impact on the trends in electronics IIP and DX. We will continue to monitor these trends carefully.

*Contributed by:*

Economics Division

Ministry of Trade and Industry

<sup>1</sup> This is corroborated by the electronics inventory sub-index within Singapore's Purchasing Managers Index (PMI), which remained above 50 – indicating expansion – for all the quarters in 2013.

<sup>2</sup> OECD has highlighted that the fragmentation of supply chain is probably the most pervasive in the electronics industry. This is because electronics products are highly modular (due to standardisation) and has high value-weights ratio resulting in inexpensive delivery of intermediate and final electronic products across large distances. (Source: Mapping Global Value Chains, OECD, 4 December 2012)