



Semiconductor imports in Dutch value chains

CBS World café

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Generic definition of semiconductors

HS (CN) 8541 Semiconductor devices, among which are:

- Diodes, transistors, thyristors, diacs and triacs, light-emitting diodes (LED), photovoltaic cells, parts thereof.

HS (CN) 8542 Electronic integrated circuits, among which are:

- Processors and controllers, memories, amplifiers, parts thereof.



Imports for domestic use and for re-exports

Data

- International Trade in Goods (ITG).
- National Input-Output Tables (IOT).

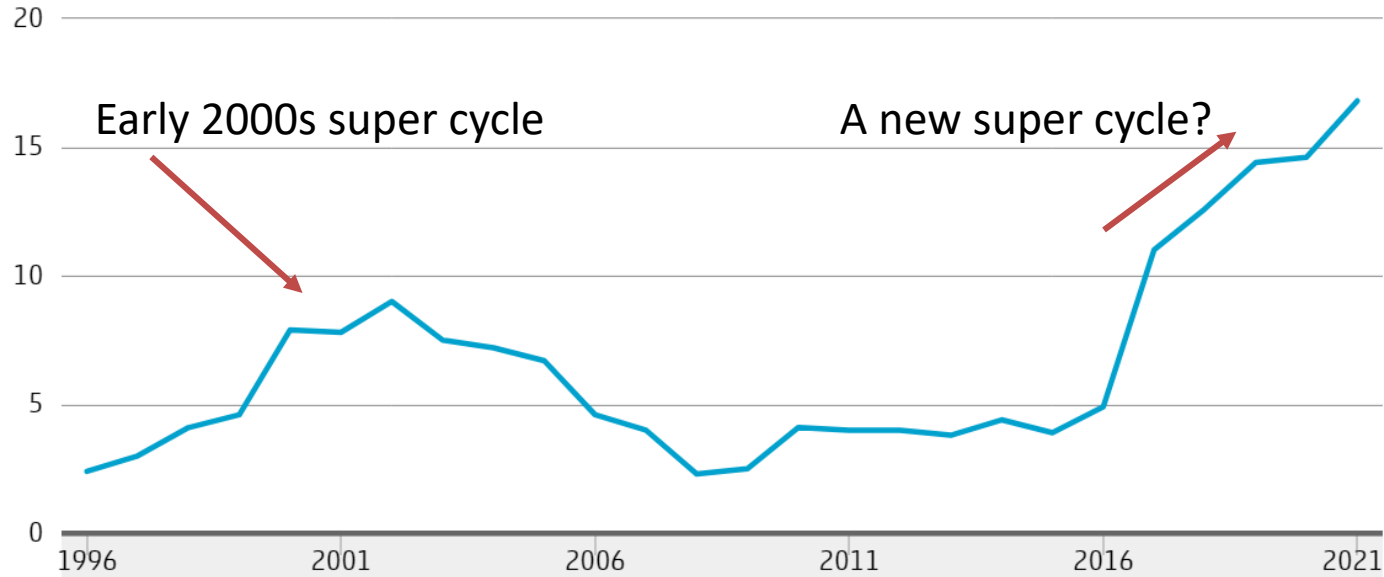
Method

- Micro-level data for imports at the firm-level is linked to the national Input-Output Table.
- Dependencies and linkages are mapped using input-output analysis.
- Import use can now be distinguished.

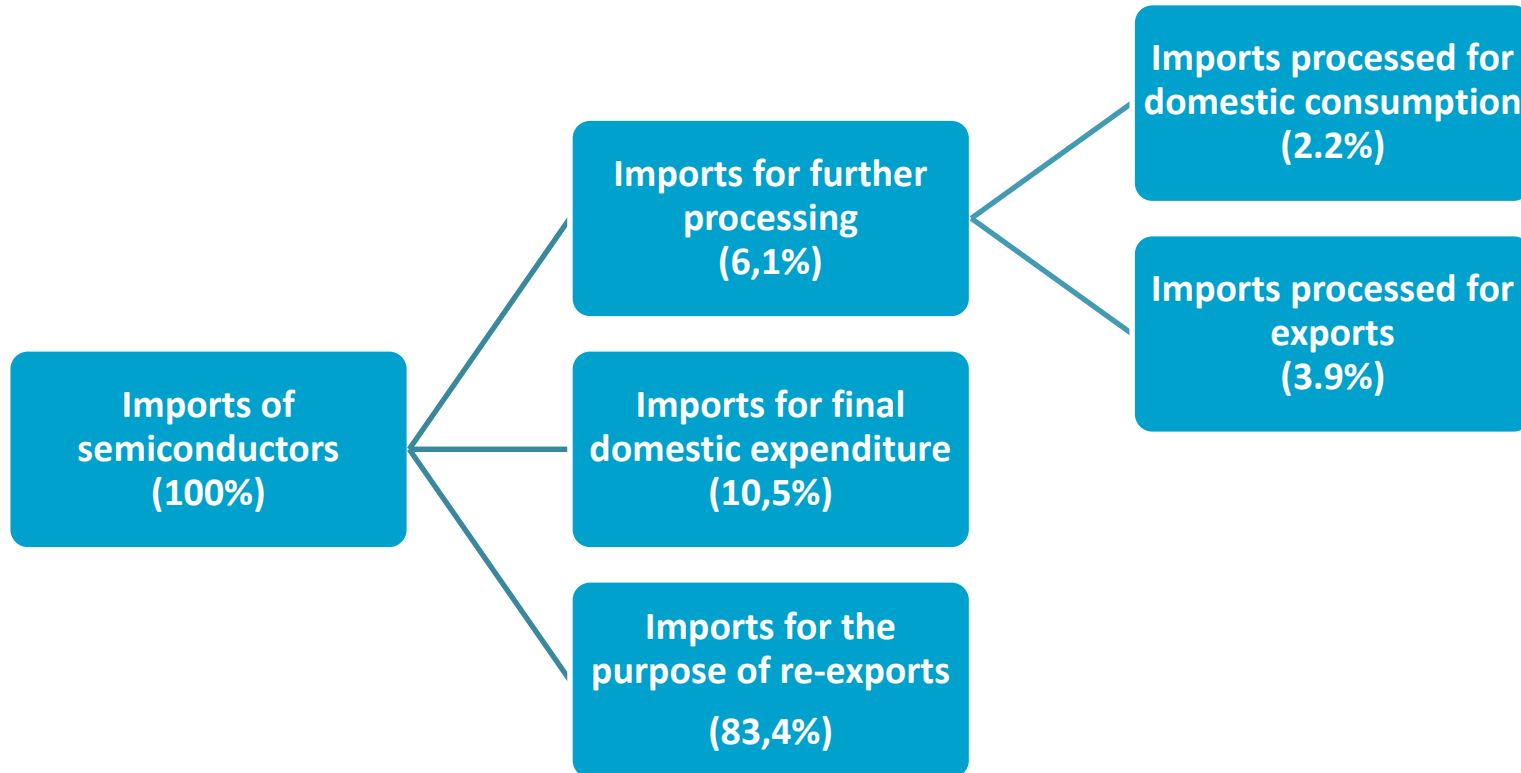
Dutch semiconductor imports highly cyclical

Semiconductor imports

Bn euro

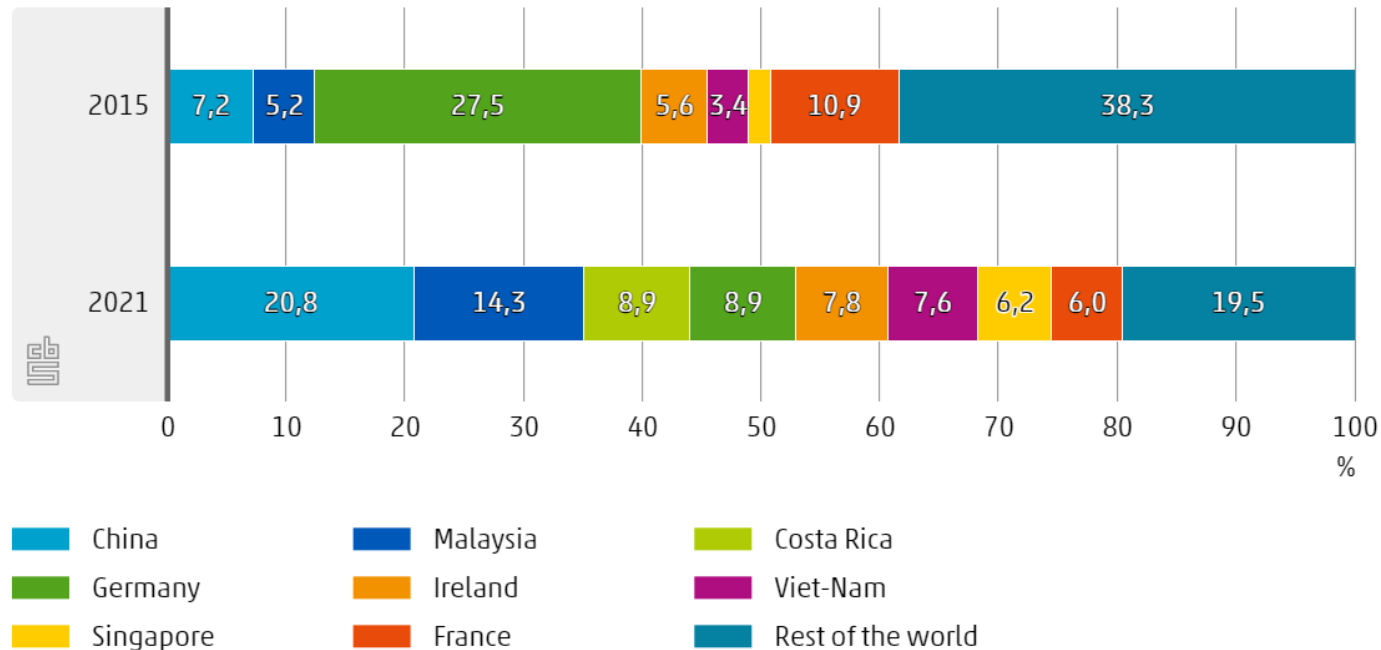


Lion's share imported semiconductors re-exported



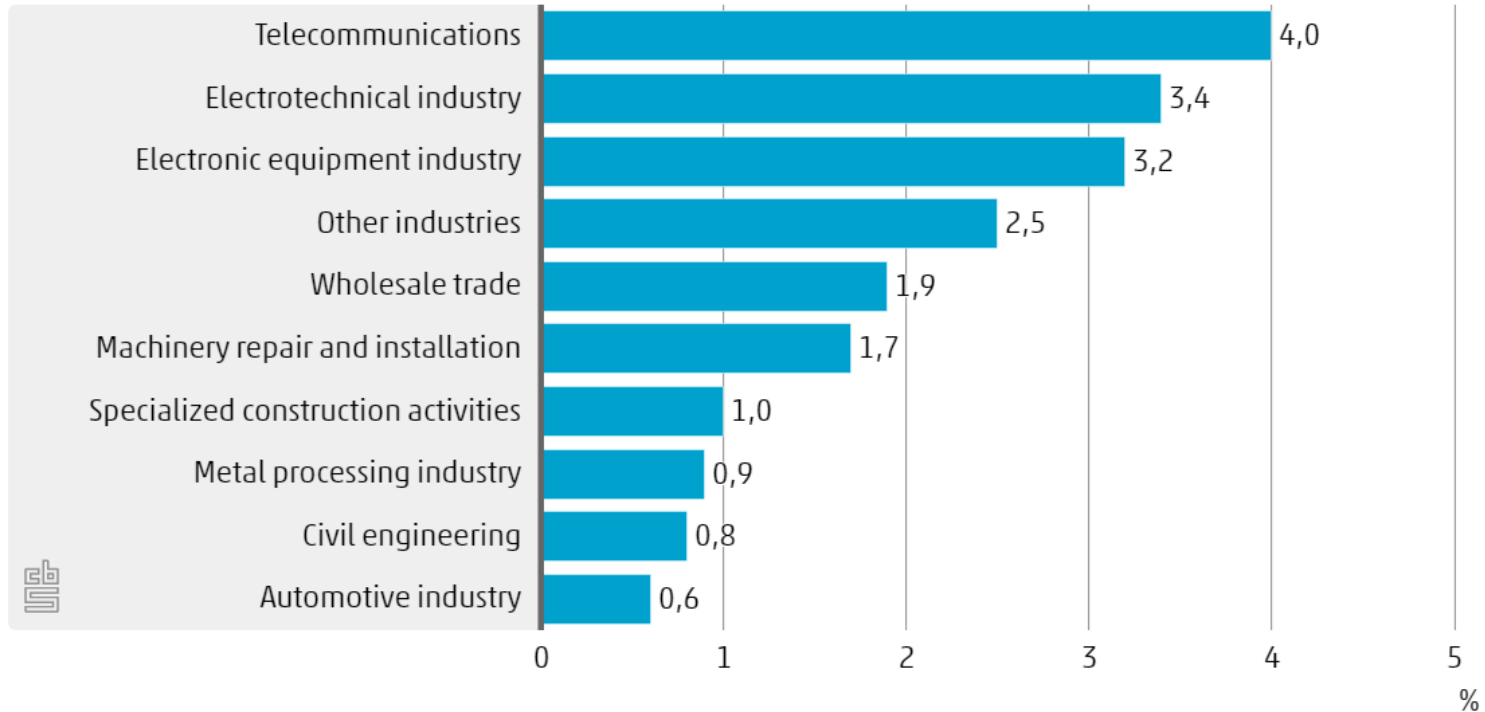
China by far the largest supplier

Semiconductor import share by country of consignment



Import dependency highest for telecommunications

Share of semiconductor imports in total sectoral imports



Conclusions and suggestions for further research

- Semiconductor imports highly cyclical.
- Majority of semiconductor imports re-exported.
- China by far the largest supplier.
- Industry, engineering and ICT most dependent on semiconductor imports.

Remains hard to pinpoint crucial imports and bottlenecks. Possible suggestions:

- Less generic definition of semiconductors.
- Shifting focus from downstream to complete semiconductor value chain.
- Identifying key hubs and spokes with the use of network analysis.
- Augmenting input-output table with separate semiconductors sector.
- Incorporating industry, company and expert insights.



Questions and/or suggestions?

- During the discussion.
- Or by email (teh.notten@cbs.nl).