

# TRADE IN VALUE ADDED: DENMARK

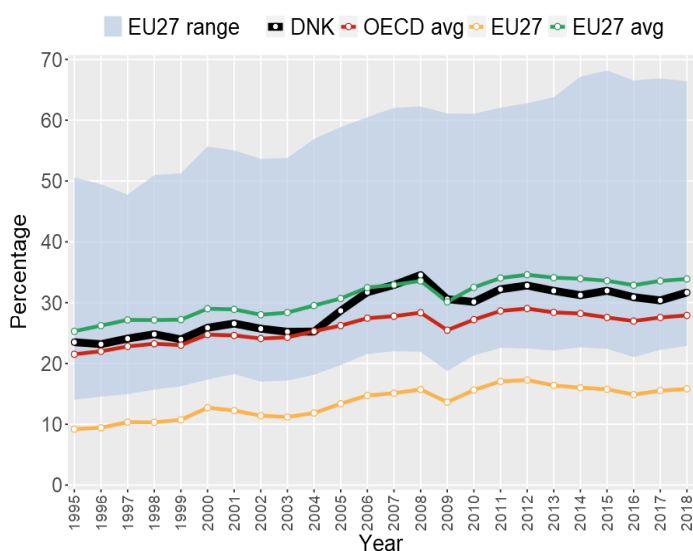
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Trade in Value Added (TiVA) indicators offer new insights into the commercial relations among economies and provide a broad view of where value is created along each stage of global value chains (GVCs). Painting a more complete picture than gross trade measures alone, the TiVA approach better reflects the significantly higher contribution made by services in GVCs, the role of imports in export performance, and the true nature of economic interdependencies. The 2021 version of the TiVA database covers 66 economies and 45 industrial sectors, for the years 1995 to 2018, and brings together indicators based on the value-added origins (both country and industry) of exports, imports and final demand. This note highlights the trade patterns in value-added terms for Denmark, with a view to informing policy making for a range of areas including trade, innovation and investment.

## Key findings

- ▶ In line with a global slowdown in GVC integration after the Financial Crisis in 2008-2009, the foreign value-added content of Danish gross exports decreased from 34.5% to 31.7% over the last decade (Figure 1). At the sectoral level, *Other transport equipment* and *Chemicals and pharmaceuticals* saw the greatest decline in foreign value-added shares from 44.8% to 33.9% and 28.1% to 18.1% respectively, suggesting a shift towards increased domestic sourcing of intermediate inputs in these sectors (Figure 3a).
- ▶ *Motor vehicles* and *Chemicals and pharmaceuticals* were the most export-oriented economic activities with the highest shares of domestic value added driven by foreign final demand at 86% and 85.2% respectively (Figure 2). However, *Transport and storage* was Denmark's most active and largest sector in GVCs in 2018, accounting for the largest share of total value added embodied in gross exports (25.4%) with the highest foreign value added content (54%) and 70% of imported intermediate imports used for exports (Figures 3a, 3b and 4).
- ▶ The United States, Germany and Sweden were Denmark's most important trading partners in 2018. Denmark also enjoyed close GVC ties with its Nordic neighbours, especially with Sweden (Figures 5 and 6).
- ▶ Services accounted for 63.4% of Denmark's total gross exports and 33.9% of value added embodied in manufactures exports in 2018 (Figure 7).

**Figure 1. Foreign value-added content of gross exports**  
As a percent of total gross exports, 1995 to 2018



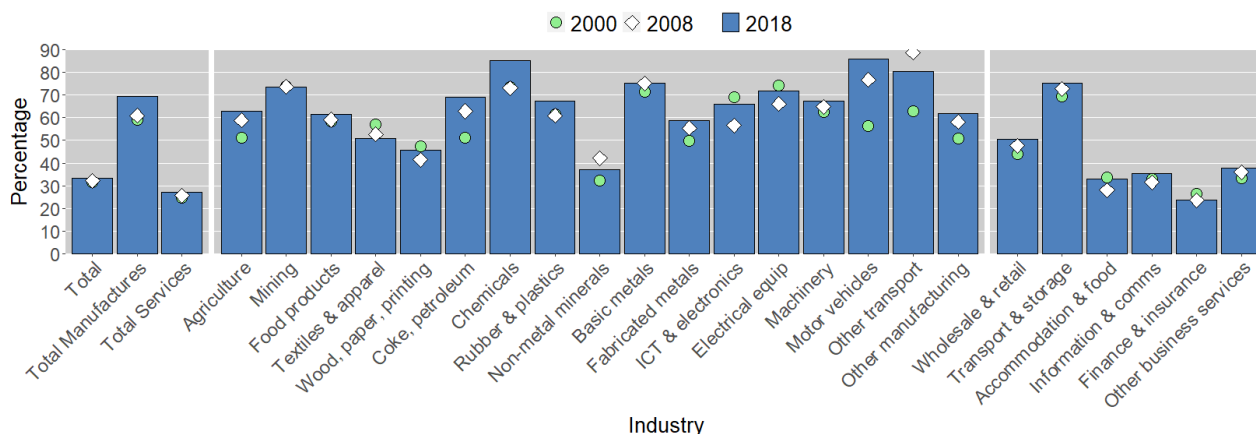
At the global level, the new TiVA indicators confirm that there has been a slowdown in GVC integration since the Financial Crisis in 2008-2009 (Figure 1). However, in general, foreign value added in trade increased between 2016 and 2018.

Between 2008 and 2018, the foreign content of Denmark's exports is estimated to have decreased from 34.5% to 31.7% - above the OECD average of 27.9%. Compared to 2008, the foreign content of exports in 2018 was 2.9 percentage points lower.

## The role of foreign final demand in domestic production

Overall, in 2018, 33.3% of Denmark's domestic value added was driven by foreign final demand, up from 32.3% in 2008. By industry, the shares ranged from *Motor vehicles* (86%) and *Chemicals and pharmaceuticals* (85.2%) at the higher end to *Financial and insurance* (23.6%) at the lower end.

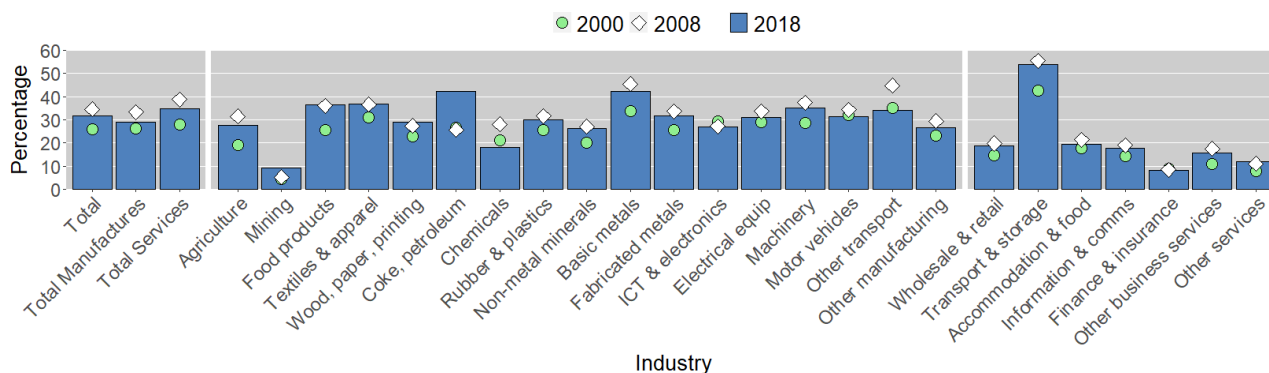
**Figure 2. Denmark - domestic value added in foreign final demand**  
As a percent of value added, by industry, 2000, 2008 and 2018



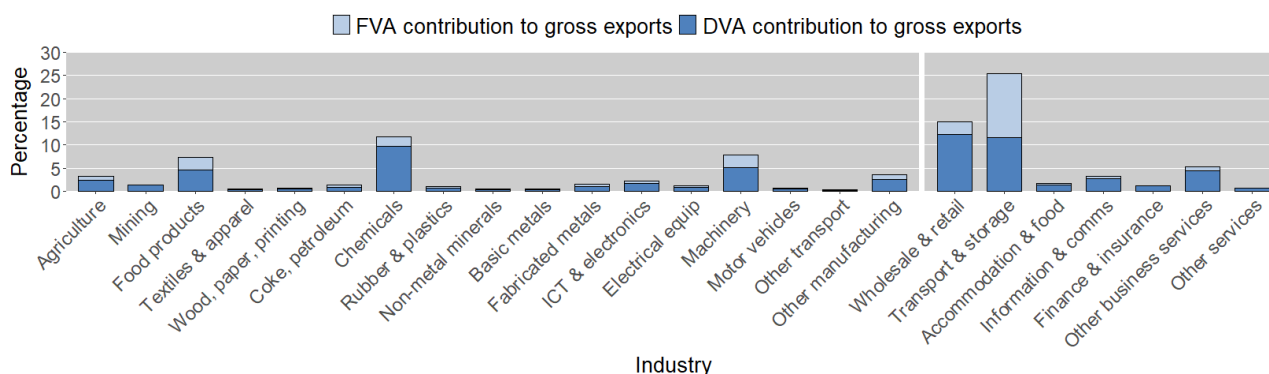
## The importance of imports for exports

The industries with the most foreign value-added contents in their exports (Figure 3a) were *Transport and storage* (54%), *Coke and refined petroleum products* (42.4%) and *Basic metals* (42.3%). *Wholesale and retail trade* generated the greatest source of domestic value-added content of exports in 2018, accounting for 12.3% of gross exports (Figure 3b), followed by *Transport and storage* (11.7%) and *Chemicals and pharmaceuticals* (9.6%). The most foreign content in total exports came from *Transport and storage* (13.7%).

**Figure 3a. Denmark - foreign value-added content of gross exports**  
As a percent of gross exports, by industry, 2000, 2008 and 2018

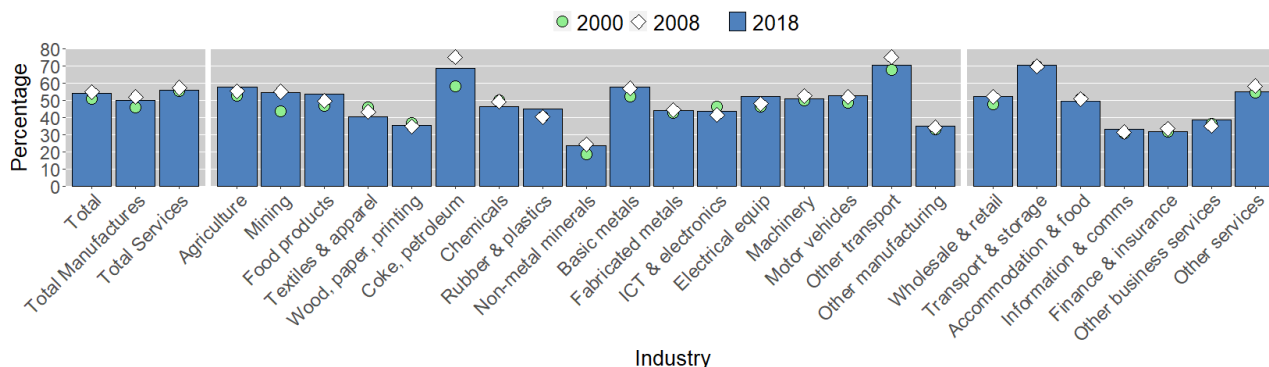


**Figure 3b. Denmark - industry share of domestic and foreign value-added content of gross exports**  
As a percent of total gross exports, 2018



Of the total value of Denmark's imports of intermediate goods and services in 2018, 53.9% was subsequently embodied in exports, above the OECD average of 47.9%, and close to the share in 2008 (55%). The originating industries with the highest shares of intermediate imports used in Denmark's exports were *Other transport equipment* (70.6%), *Transport and storage* (70.5%) and *Coke and refined petroleum products* (68.8%).

**Figure 4. Denmark - imported intermediate inputs used for exports, by industry-origin of imports**  
As a percent of intermediate imports, 2000, 2008 and 2018

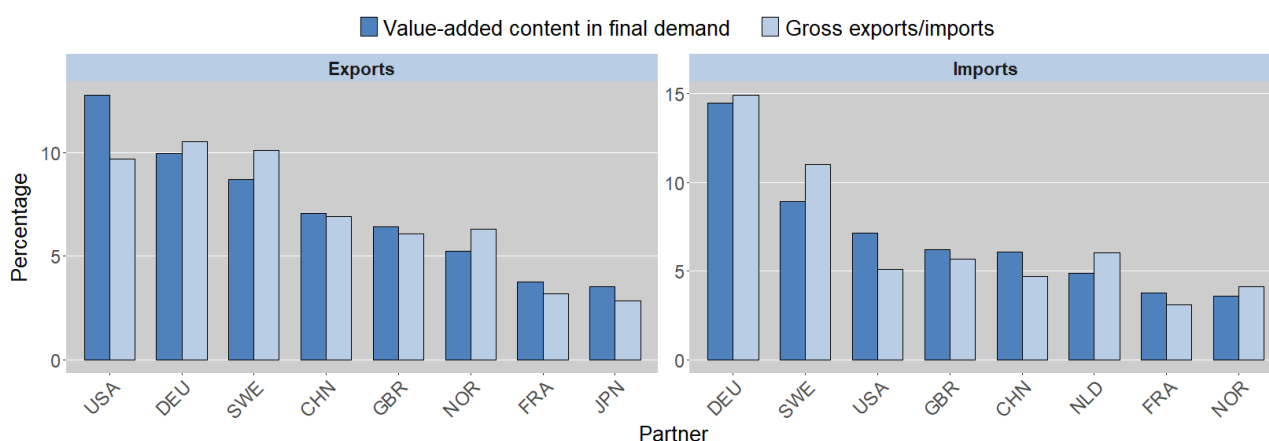


### Denmark: international flows of goods and services, main players

In gross terms, Germany (10.5%), Sweden (10.1%) and the United States (9.7%) were the three most important Danish export market destinations in 2018. The top three final destinations for Denmark's value added were the United States (12.8%), Germany (9.9%) and Sweden (8.7%).

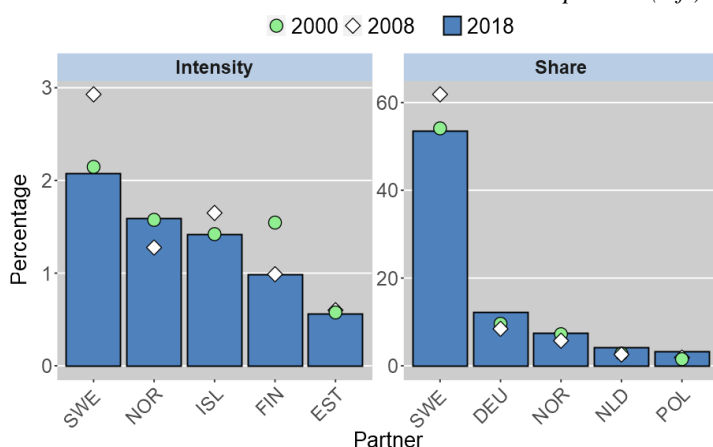
For imports in gross terms, Denmark's top three partners in 2018 were Germany (14.9%), Sweden (11%) and the Netherlands (6%), while in value-added terms, the top three were Germany (14.5%), Sweden (8.9%) and the United States (7.1%).

**Figure 5 Denmark - exports and imports: main partners**  
As a percent of total gross and value-added exports and imports, 2018



**Figure 6. Denmark's domestic value-added content of manufactured imports, top 5 partners**

As a share of total Denmark's value added embodied in Denmark's imports (right) and as a percent of total imports by partner (left)



In 2018, the highest shares of Denmark's domestic value added embodied in Denmark's manufactured imports (Figure 6, right) came from Sweden (53.4%), Germany (12.2%) and Norway (7.4%).

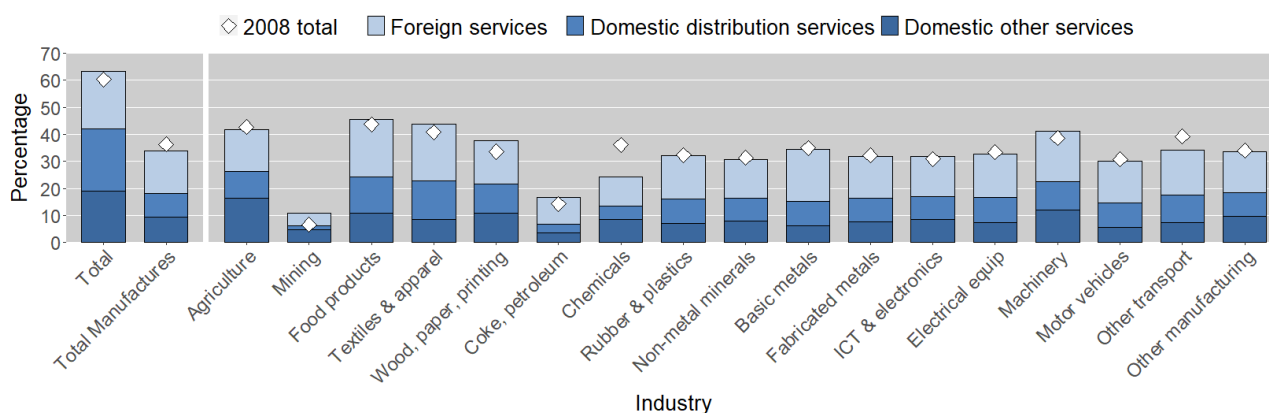
The trading partners with the highest shares of Denmark's value added in their exports of manufactures to Denmark (Figure 6, left) in 2018 were Sweden (2.1%), Norway (1.6%) and Iceland (1.4%).

### The importance of services in international trade

Services are a major contributor to Denmark's economy, accounting for 63.4% of Denmark's gross exports in 2018 (Figure 7) - above the OECD average of 55.7%. Foreign services contributed 21.4% to the value of total gross exports. For manufactures, services value-added content was 33.9% of gross exports, with the highest shares in Food and beverages (45.5%), Textiles and apparel (43.7%) and Agriculture, forestry and fishing (41.8%).

**Figure 7. Denmark - services content of gross exports**

As a percent of gross exports by industry, 2018



### Further information is available to supplement this country note:

- ▶ Access the data at: <http://oe.cd/tiva>
- ▶ Guide to TiVA 2021 Country Notes: [www.oecd.org/sti/ind/tiva-2021-guide-to-country-notes.pdf](http://www.oecd.org/sti/ind/tiva-2021-guide-to-country-notes.pdf)
- ▶ TiVA indicators are based on the 2021 version of ICIO tables: <http://oe.cd/icio>
- ▶ Related indicators of Trade in Employment <http://oe.cd/io-emp> and Trade in Embodied CO2 <http://oe.cd/io-co2>
- ▶ Trade policy implications of global value chains: <http://www.oecd.org/trade/topics/global-value-chains-and-trade/documents/trade-in-value-added-2021.pdf>

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