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Tariffs and Danish exports: Insights from three decades of microdata

Written by

Henrik Yde Andersen
Advisor

hya@nationalbanken.dk
+45 3363 6325

Thomas Krause
Senior Research Economist

thk@nationalbanken.dk
+45 2340 2393

Foreign tariffs on Danish exports have fallen by more than half over the past three decades, yet substantial differences remain across products. Drawing on historical product-level tariff data, foreign trade statistics, and firm-level accounts, our analysis shows that exports of Danish goods decline when tariffs rise. In contrast, employment and investment among Danish exporters show no clear changes. These patterns suggest that firms adapt to higher tariffs, either by seeking new trading partners or rerouting exports through third countries, helping to cushion the broader economic impact.

Foreign tariffs imposed on Danish exporters have fallen for decades

Average tariffs on Danish exports fell from 6.5 per cent in 1993 to 2.4 per cent in 2021. In 2025, US tariffs on Danish exports rose by 15 percentage points, pushing the overall average tariff rate to 2.7 per cent. This modest increase reflects that the US accounts for only a share of Danish goods exports and that only a fraction of those shipments crosses the border and are subject to tariffs. While tariffs have declined over time, significant variation persists across products.

Tariff hikes weigh on Danish exports, but broader impacts remain limited

For every 1 per cent increase in tariffs, Danish cross-border goods exports fell by up to 0.9 per cent – consistent with international evidence. No significant changes were detected in employment or investment. While this study focuses on isolated tariff changes by single trading partners, it is important to keep in mind that broad-based and simultaneous tariff hikes across multiple partners could have more pronounced implications for real economic outcomes in Denmark.

Danish firms have adapted to tariffs by seeking new trading partners

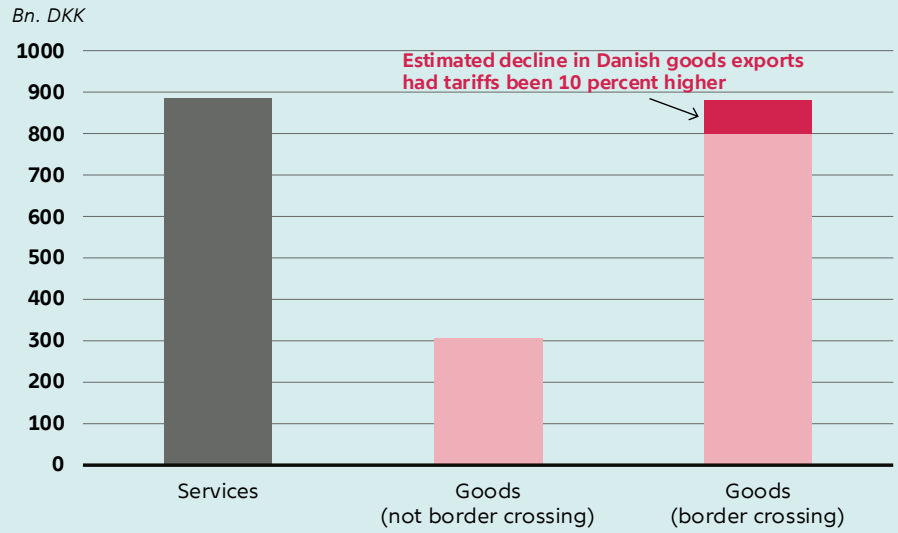
Danish exporters expand their network of trading partners when tariffs rise, reflecting strategies to bypass tariff-imposing markets – either by shifting exports to alternative destinations or rerouting goods through intermediary countries. This adaptability likely mitigates the impact of higher tariffs on the Danish economy.

Why is this important?

Tariffs affect Danish firms' export opportunities in foreign countries. Understanding developments in tariffs imposed on Denmark's exports is important for assessing the resilience and adaptability of Danish firms in global trade. This is particularly important for a small open economy like Denmark, where international trade plays a key role in economic performance.

Main chart

Danish border-crossing goods exports decline by 9 per cent if tariffs rise by 10 per cent, according to our estimates



Note: Calculations are based on 2024 foreign trade statistics at current prices, combined with the estimated trade elasticity, reflecting average firm behaviour over the sample period 1993–2021.
Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

Keywords

Danish economy | Danish foreign trade | Denmark and abroad | Economic activity | Households and corporations | International economy | Microdata and data science

1
Introduction

This Economic Memo examines the impact of tariffs on overall Danish exports as well as firm-specific outcomes. When trading partners implement increased tariffs, we hypothesise that Danish firms experience a decline in revenues, which could subsequently lead to a reduction in employment and investments. However, our empirical analysis indicates that Danish firms affected by fluctuations in tariff rates adapt by shifting their export activities to alternative trading partners, potentially mitigating the impact on their revenue.

We combine data from three sources to address these questions. These constitute highly granular customs data, newly refined product-level tariff data, and firm-level accounting data. This enables us to monitor tariff rates at the product-destination level from 1993 to 2021, assess subsequent changes in exports, and finally, evaluate real outcomes of firms directly impacted by tariff rate changes.

Our findings reveal an export elasticity of between -0.3 and -0.9 in response to a 1 per cent increase in tariffs. This sensitivity of Danish exports to foreign tariffs is similar to estimates in the international literature. For example, Teti (2024) [1] and Boehm et al. (2023)[2] estimate trade elasticities with respect to tariffs between -0.5 and -0.8. Moreover, our analysis points to Danish firms adapting to rising tariffs by increasing the number of importing trading-partner countries, while we find a no clear statistically significant impact on investment and domestic employment.

While most tariff changes are negative, we still observe some increases over time, around one in five tariff changes in our data are positive. However, the nature of our analysis calls for caution on how our findings can be extrapolated to current or future tariff developments. Our estimates are based on relatively modest historical tariff rate changes, implying that we cannot rule out the possibility that export elasticity may increase with larger shifts in tariffs.

Although our empirical evidence suggests that Danish firms have shown notable resilience to changes in tariffs, this should not be interpreted as a guarantee of future stability. Economists and policymakers continue warning that a shift toward less rule-based trade and rising protectionism poses significant risks to small, open economies like Denmark.[3] Over time, such developments are likely to dampen exports, reduce investment, and potentially weaken employment. The observed resilience may partly reflect the fact that past tariff fluctuations have been relatively limited, thanks to the expansion of international trade agreements over recent decades. A scenario in which multiple countries raise tariffs simultaneously could be far more damaging than the isolated, bilateral tariff adjustments seen in previous decades. Growing uncertainty about the future of such international trade agreements could itself become a barrier to trade, particularly for economies like Denmark that benefit from stable and predictable access to international markets.

[1] Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.
[2] Boehm, Christoph E., Andrei A. Levchenko,and NityaPandalai-Nayar (2023): The Long and Short(Run)of Trade Elasticities, American Economic Review 113(4), pp. 861 – 905.
[3] See Dansk Økonomi, De Økonomiske Råd, efterår 2025, Weaker global trade slows growth in Denmark, Danmarks Nationalbank Analysis no. 23, September 2025, and Fragmentation of global trade could challenge the Danish economy, Danmarks Nationalbank Analysis no. 16, October, 2024.

Tariffs on Danish exports 1993-2021

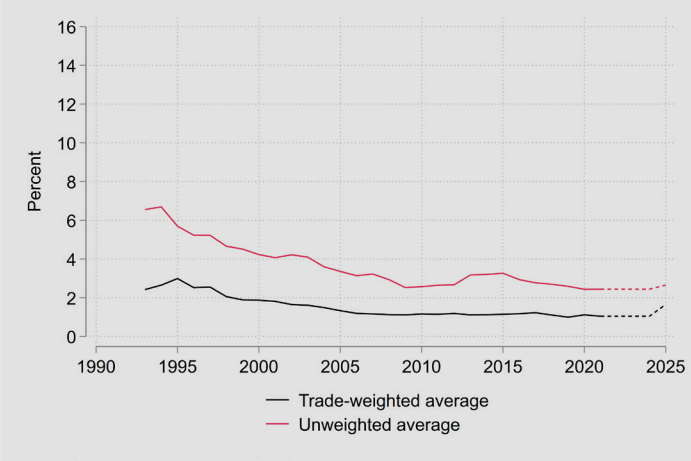
International trade has been shaped profoundly by tariff reductions over recent decades, particularly under multilateral trade agreements.[4] This is reflected in the average foreign tariff rate imposed on Danish exporters. Chart 1 illustrates that the average tariff rate declined from 6.5 per cent in 1993 to 2.4 per cent in 2021. The trade-weighted tariff rate accounts for the fact that key importing trading partners to Denmark, i.e. those that have the highest import volumes from Denmark, imposed lower tariffs, which is reflected in a much more muted decline from 1993 to 2021 from 2.4 to 1 per cent, respectively.[5]

In 2025, tariffs imposed by the US on Danish exporters will increase by 15 percentage points. As our latest data point is 2021, we assume that all other tariffs remain unchanged from 2021 to 2025 except from that of the US tariffs. Chart 1 illustrates that the average tariff rate on Danish exports is expected to increase to 2.7 per cent by 2025, while the trade-weighted average is expected to reach 1.7 per cent.

CHART 1

The average tariff rate on Danish exports has declined in past decades but is expected to rise in 2025

Average tariff rate and trade-weighted tariff rate imposed on Danish exporters

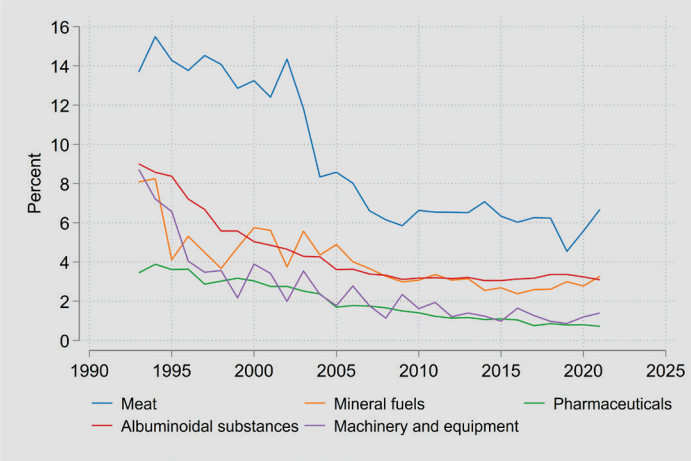


Note: Average tariff rate imposed on Danish export across all products and countries as well as the trade-weighted average tariff rate. The latter accounts for that Danish firms exporting higher volumes to trading partners that impose lower or no tariffs on Denmark.
Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

CHART 2

Developments in tariff rates reflect large differences across exported products

Average tariff rate imposed on Danish top 5 exported products



Note: Top 5 exported products based on the import volumes from Danish trading partners 2021.
Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

[4] Note that non-tariff measures have also increased over the same period, reflecting a rise in regulations that set criteria goods must meet before entering markets – restrictions that, on their own, impede trade, see Melvin Spreij and Shane Sela, Trade's hidden barriers: Navigating non-tariff measures, World Bank Blogs, May 2025.
[5] Many European countries eliminated tariffs on each other following the establishment of the customs union in 1968. However, certain sectors, such as agriculture and fisheries, were excluded from the customs union and are instead governed by common market rules under the Common Agricultural Policy (CAP) and Common Fisheries Policy (CFP).

Substantial variation in tariffs across exported products

The average tariff rate developments shown in chart 1 cover substantial differences across products. Chart 2 shows the changes in tariff rates over the same years at the product level for the five most exported product categories. For example, meat products have seen a decline from around 15 per cent in 1993 to 7 per cent in 2021. Zooming out to view all exported product categories, chart 3 shows that foreign tariffs are imposed on a broad range of Danish export products. For example, food and animal products face some of the highest tariffs, while also representing export volumes equivalent to about 3 per cent of GDP in 2021. While tariffs in 2021 were far lower than in 1993 across most exported products, the decrease since 2007 has been comparatively limited.

CHART 3

Average tariff rates decreased for almost all products over time

Average tariff rate for different years and export volume

Note: Products are sorted by average tariff rates in 2021 (left y-axis). Green bars represent export volumes as a percentage of Danish GDP in 2021 (right y-axis). Product categories are based on aggregated sections of the Harmonized System (HS) 2-digit codes, following the official HS section structure used in the EU Combined Nomenclature. The following sections were merged: II + III into Vegetable Products, IX + X into Wood and Wood Products, and XIII + XIV into Stone and Glass.

Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

BRIC countries and the United States stand out by imposing high tariffs

Focusing on Denmark's top 20 trading partners outside the EU, the Faroe Islands, and Greenland—ranked by traded volumes—nearly half imposed non-zero tariffs on Danish exports in 2021, as illustrated by chart 4. Among these, Brazil, Russia, India, and China (the BRIC economies) stand out for applying relatively high tariff rates. Other notable partners, in terms of high tariffs, include Thailand, Saudi Arabia, Taiwan, Australia, and the United States. Box 1 presents an extended list of Denmark's trading partners, highlighting that some countries

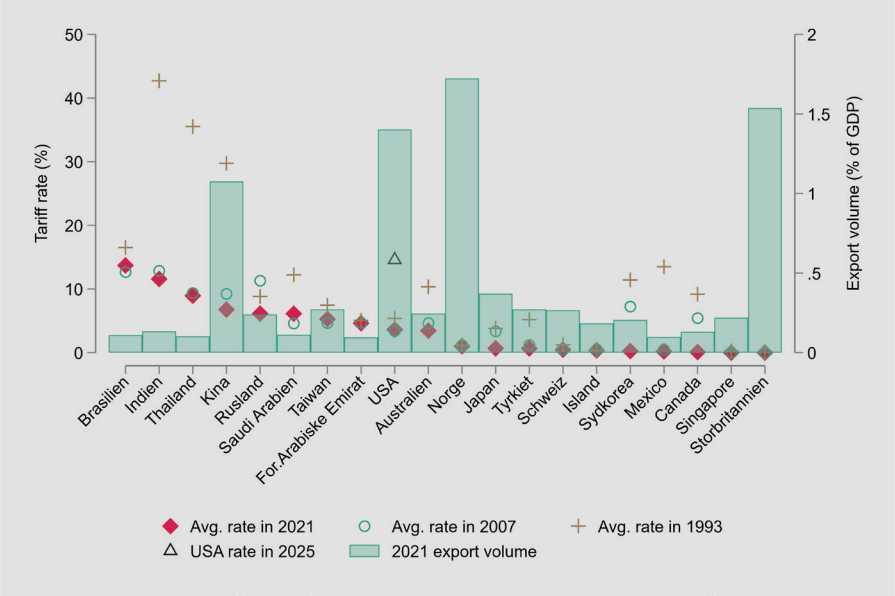
apply average tariff rates of up to 16 per cent. However, these countries account for relatively low import volumes from Denmark.

In 2025, the US administration raised its tariff on imports from the EU, including Denmark, by 15 percentage points—making it the highest tariff rate imposed on Denmark among the major trading partners. This increase is also visible in chart 1, given that the US accounts for a relatively large share of border-crossing Danish exports, equivalent to roughly 1.5 per cent of Denmark's GDP in 2021.

CHART 4

BRIC countries and the United States stand out by imposing high tariffs on Danish goods export

Average tariff rate for different years and export volume in 2021



Note: Export destinations are sorted by average tariff rates in 2021. Green bars represent Danish export volumes to each destination as a percentage of GDP in 2021 (right y-axis). Historical tariff rates from 1993 and 2007 are shown for comparison, along with projected US rates for 2025. Data points reflect simple average tariff rates.

Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

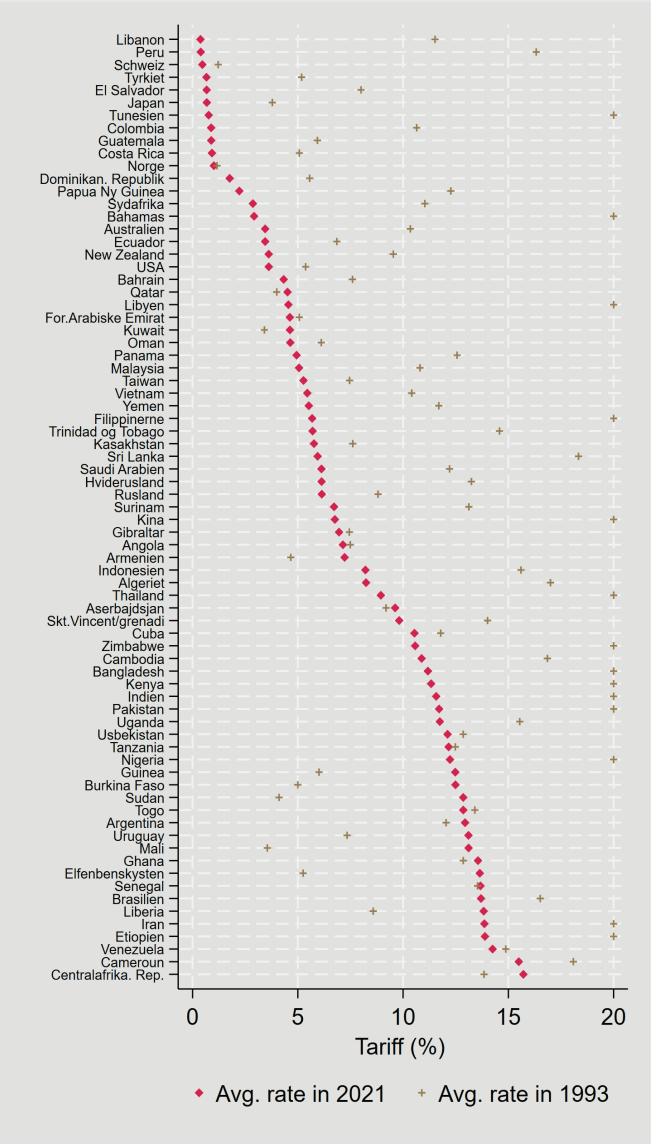
BOX 1

Non-EU trading partners impose up to 16 per cent tariff rates on Danish exports

Chart 5 shows the top 75 trading partners of Denmark, excluding members of the European Union, the Faroe Islands, and Greenland, ranked by imposed tariff rates in 2021. Tariff rates range from just above zero to 16 per cent. Most trading partners have reduced tariffs on Danish exports between 1993 and 2021, but there are some exceptions—namely Qatar, Kuwait, Armenia, Azerbaijan, Argentina, Uruguay, and several African countries.

Chart 5

Top 75 trading partners (excl. EU, Faroe Islands, Greenland)



Note: Export destinations are sorted by average tariff rates in 2021. Historical tariff rates from 1993 and 2021 are shown for comparison and values above 20 per cent have been top-coded for this illustration. Data points reflect simple average tariff rates.

Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

2 Isolating the impact of tariff changes on exports

We examine how Danish firms' export revenues evolve over time in response to changes in import tariffs imposed by Denmark's trading partners. To this end, we use highly detailed customs data that track exports at the level of individual firms, products, destinations, and months.[6]

Exporting firms are few but account for one third of employees in Denmark

Table 1 presents summary statistics for the exporting firms in our sample. The sample includes 31,841 exporting firms, representing only about 8 per cent of the 413,977 active firms registered in the Central Business Register as of 2021. However, these exporters account for an average of 48 per cent of firm employment, underscoring their disproportionate importance to the Danish economy.

On average, exporting firms in our sample are substantially larger and older than non-exporters. The mean annual revenue among exporters is 19 million DKK, compared with just 2 million DKK for non-exporters. Similarly, exporters are older on average – 29 years compared with 25 years for non-exporters. This pronounced heterogeneity in firm size and experience suggests that the aggregate response of Danish exports to foreign tariff changes is likely driven by a relatively small group of globally active firms.

TABLE 1

Summary statistics: Exporting firms, averages 1993–2021.

	Exporters	Non-exporters
No. of firms	31,841	382,136
Revenue (million DKK)	18.55	2.15
Employment	11.14	2.02
Firm age (years)	29	25
Export destinations per firm/year	10	-
Number of HS6 products per firm/year	6	-

Note: Firms are defined as exporters if they can be matched to export revenue in the customs data.
Source: Own calculations based on register data from Statistics Denmark.

Our data contain both rise and fall of tariffs at the product-level

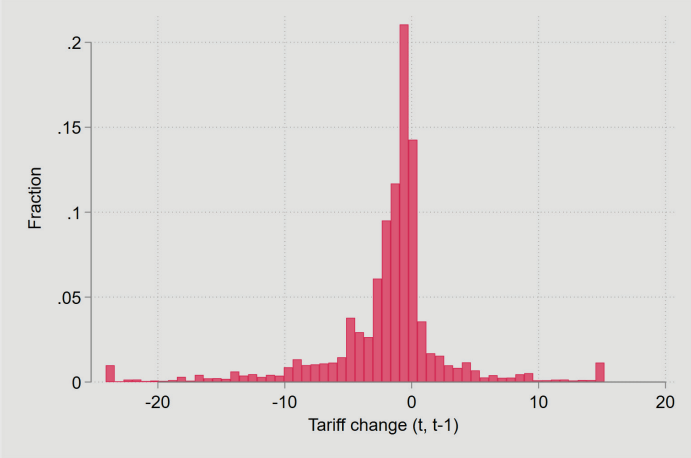
Chart 6 illustrates that Denmark has experienced substantially more tariff reductions than increases over the past three decades. The figure depicts product-destination-level non-zero tariff changes that enter our export elasticity estimations. Specifically, among the roughly 170,000 observed tariff changes, around 21 per cent represent increases in tariffs. Among these, the average tariff hike is about 3 per cent, with the largest increase amounting to 13 per cent. Note that zero tariff changes constitute the majority in our dataset and form the control group observations.

[6] It is important to note that the customs data cover only cross-border trade in goods, which accounted for 73 per cent of Denmark's total goods exports in 2024.

CHART 6

Most tariff changes imposed on Danish exporters between 1993 and 2021 were negative

Distribution of tariff changes imposed on Danish exporters from 1993 to 2021

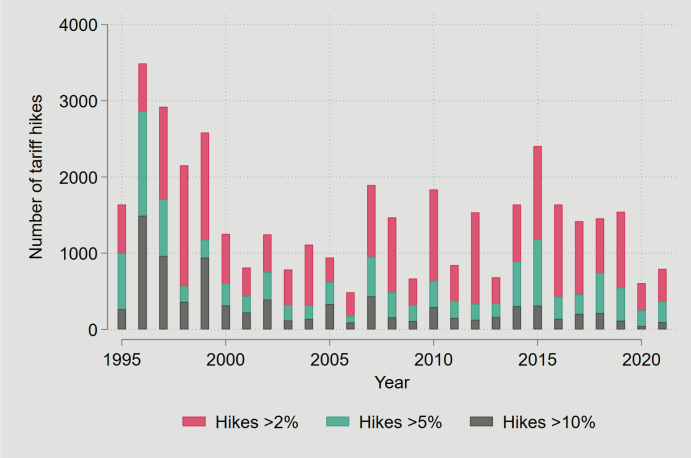


Note: Frequency distribution of non-zero tariff changes of all Danish trading partners between 1993 and 2021.
Source: Own calculations based on Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

CHART 7

Our data does, however, contain many cases each year of rising tariff rates imposed on Danish exports

Counts of tariff hikes categorised by the size of the increase in tariffs



Note: Bars show the annual number of tariff increases at the firm-product-destination level of different magnitudes. Tariff hikes occur throughout the sample period, providing substantial positive variation for identifying the effects of rising tariffs on Danish exports.
Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

Although average tariff levels have declined over the past three decades, our identification strategy relies on the substantial variation in tariff changes across products, destinations, and years. In particular, a non-trivial share of tariff adjustments is positive, providing meaningful episodes of tariff hikes from which to estimate the export response. Chart 7 illustrates this variation by showing the number of product-level tariff increases for each year of different magnitudes for the regression sample. These data confirm that tariff hikes occur regularly throughout the sample period and across destinations, ensuring sufficient variation to identify how higher tariffs affect Danish exports.

The richness of our data allows us to mitigate concerns of confounders

Estimating how sensitive exports are to tariff changes is not straightforward. One difficulty is that the direction of causality can run both ways. For instance, if a Danish company becomes more productive in making a certain product, it might sell much more to a particular country. Competing producers in that country could then lobby their government to raise import tariffs—meaning that changes in exports may themselves lead to changes in tariffs. Another challenge arises when unobserved factors affect both tariffs and exports. Suppose the importing country experiences a surge in overall demand or taste for Danish products. This could simultaneously increase its imports from Denmark and make its government more inclined to decrease tariffs, creating a misleading correlation between tariffs and exports.

The richness of our data allows us to address these issues. By controlling for a wide range of factors that differ across firms, products, countries, and time, we can better isolate the true impact of tariff changes on Danish export performance. See details of our empirical strategy in box 2.

BOX 2

Data and empirical methodology

Tariff changes
Tariff data are sourced from the World Integrated Trade Solution (WITS) database, which reports bilateral statutory tariff rates between 1988 and 2021. Because the original WITS series contains spurious interpolations, we rely on the augmented tariff data constructed by Teti (2024), who developed a new interpolation algorithm to address measurement error and selection bias. Our analysis focuses on import tariffs imposed by Denmark's trading partners at the harmonized system (HS) six-digit product level, so that tariffs vary by export destination, product, and year. Strictly speaking, tariff changes 'against Denmark' target the European Union, as trade policy is determined at the supranational level.

Firm-level data
Data on export sales come from customs data (UHDM, Statistics Denmark) and provide information on monthly export flows of all Danish exporting firms above a small yearly threshold for 8-digit Combined Nomenclature product categories between 1993 and 2021. Since export sales vary by the firm, product, export destination, and year level, we can measure how firms change their export activity if their product is subject to a tariff change imposed by a specific trading partner and thereby control for a range of confounding factors. Note that UHDM also includes data on exported quantities, which in principle would allow us to separate price and quantity effects; however, the quantity variable contains many missing observations, limiting the feasibility of such an analysis. We merge with yearly firm-level balance sheet information from the Danish business register (FIRM) and the Danish accounting statistics (FIRE) to get information on investment and employment.

Empirical method
We estimate the dynamic sensitivity of export sales to tariff changes (export elasticity) by using local projections (Jordà, 2005)[7]:

$$\Delta_h \ln X_{f,c,p,t} = \beta_h \Delta_h \ln\left(1 + \tau_{c,p,t}\right) + \delta_{f,p,t} + \delta_{c,t} + \delta_{c,p} + u_{f,c,p,t}$$

where $\Delta_h \ln X_{f,c,p,t}$ is the h-year forward log-difference in the logarithm of export revenue of firm f, country c, product p, at year t, i.e. $\Delta_h \ln X_{f,c,p,t} = \ln X_{f,c,p,t+h} - \ln X_{f,c,p,t-1}$. The coefficient $\beta_h \Delta_h$ measures the cumulative effect of a tariff change h periods after the shock.

To ensure that changes in export sales are driven by tariff changes rather than other factors, we include a comprehensive set of fixed effects. For instance, firm–product–time fixed effects account for the possibility that tariff changes themselves may be influenced by trade flows. Consider the case of a positive firm–product–specific productivity shock: if such a shock raises imports, the importing country may respond by raising tariffs to protect its domestic industry from Danish competition. Country-year fixed effects control for aggregate demand shocks in the importing country and country-product fixed effects control for time-invariant factors like taste shifters, i.e. if importers have high tastes for Danish products.

Further, we control for pre-trends in tariffs by including a lagged tariff change. Note that the baseline specification uses log-differences in export volumes as the dependent variable, thereby excluding observations with zero export values. To also capture the extensive margin of trade—that is, firms starting or ceasing to export in a given period—we follow Boehm et al. (2023) and employ the inverse hyperbolic sine (IHS) transformation of export flows, which allows us to account for trade switching from positive to zero and vice versa. Unlike the standard log transformation, the IHS transformation takes into account zero trade flows: $\ln\left(X + \sqrt{X^2 + 1}\right)$.

To analyse how tariff changes affect firms' employment and investment, we harmonize data measured at different levels. Tariff rates vary by product, destination country, and year, while employment is observed only at the firm-year level. We therefore aggregate the trade data from the firm–product–destination–year level to the firm–year level. This aggregation summarizes each firm's export activities across products and destinations within a given year, yielding firm-level indicators of total exports and average tariff exposure. The resulting dataset aligns tariff and employment information at the same level, enabling a consistent analysis of how firms' overall exposure to tariffs influences employment.

As is common in the trade literature, a tariff change is defined as the log difference of one plus the tariff rate. This captures how the tariff affects the price factor. For example, if a tariff increases from 5 to 8 per cent, the price of the good rises from 1.05 times its original level to 1.08 times. Taking the log difference of these two multipliers provides a clean measure of the percentage change in the tariff-induced price effect, which in this case is approximately 2.82 per cent.

[7] See Òscar Jordá, Estimation and inference of impulse responses by local projections, *American Economic Review*, vol. 95, no. 1, March 2005.

3 Decline in export revenue in response to rising tariffs

Our main finding is that higher tariffs imposed by Denmark's trading partners lead to a clear and measurable decline in Danish export revenue. On average, a 1 per cent increase in tariff rates reduces export revenues by 0.14 per cent the first year—a statistically significant effect as shown in chart 8. The size of this effect grows slightly over time and reaches a 0.34 per cent reduction in export revenues after four years. After that, the estimate becomes statistically insignificant (not shown).

CHART 8

Decline in Danish goods export revenue for every 1 per cent increase in tariffs

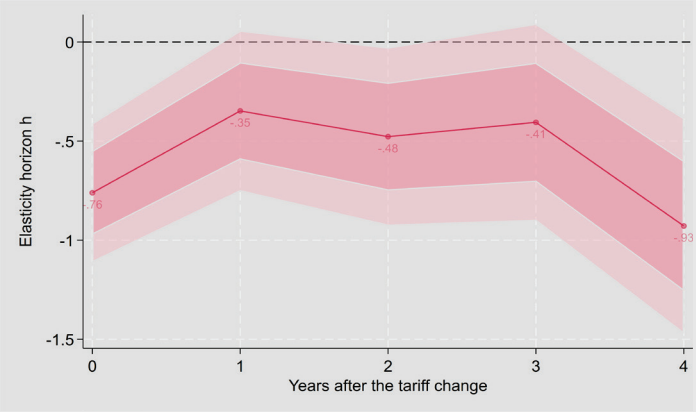
The change in export revenue for 1 per cent increase in tariffs

Note: Estimated export elasticity (in per cent) in response to a one per cent increase in tariff rates. The dark shaded area depicts the 68 per cent confidence band while lighter shaded area represents 90 per cent confidence interval. See box 2 for details about the empirical setup.
Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

CHART 9

Exports decline even more when accounting for the possibility that firms cease exporting entirely to tariff-imposing countries

The change in export revenue for 1 per cent increase in tariffs, including cases where Danish exporters cease completely to trade with tariff-imposing countries



Note: Estimated export elasticity (in per cent) in response to a one per cent increase in tariff rates, measured along the extensive margin. The dark shaded area depicts the 68 per cent confidence band while lighter shaded area represents 90 per cent confidence interval. See box 2 for details about the empirical setup.
Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

The export sensitivity increases when accounting for that Danish firms could cease exporting to trade-imposing countries

The results illustrated in chart 8 capture the *intensive margin* of export activity—that is, how much existing exporters see a reduction in export revenues when tariffs change. This approach assumes that firms continue exporting the same product to the same markets throughout the time period shown. However, tariff increases may also cause some firms to stop exporting altogether for a time and perhaps resume later. To account for this *extensive margin*—the decision of whether to export at all—we re-estimate our baseline model using a differenced inverse hyperbolic sine transformation (see box 2). This method allows us to include so-called *cliff-effects*, where export flows are zero or missing, which we interpret as a firm ceasing to export a specific product to a given destination in that particular year.

Chart 9 illustrates the dynamic effects of tariffs on the extensive margin of export activity. Compared with chart 8, the negative impact of tariff changes on export revenues is not only stronger in absolute terms but also more persistent over time. This pattern is expected, as the analysis now also captures the decisions of firms to enter or exit export markets – that is, the switching between trading and non-trading status. In the short term, a 1 per cent increase in tariffs reduces export revenues by about 0.76 per cent. Over the longer term—after up to four years—the estimated elasticity almost approaches unity, with a point estimate reaching -0.93.

Danish export sensitivity to tariffs is consistent with the existing literature
Our estimates are broadly consistent with export elasticities reported in studies that also rely on firm-level customs data. Lingduo et al. (2023)[8] estimate an export elasticity of –0.69 for Chinese firms in response to the US–China trade war. Fitzgerald and Haller (2018)[9] document larger elasticities for Irish firms, ranging from –1.5 to –3.5 in the short run and –2 to –5 in the long run, following tariff changes. Boehm et al. (2023) exploit exogenous variation in tariff changes arising from a key institutional feature of the World Trade Organization (WTO) system—the most-favored-nation (MFN) principle—to estimate the response of aggregate trade flows of minor trading partners to changes in MFN tariffs. They find elasticities between -0.62 in the short run and -2.14 in the long run. Since these estimates are likely overstated due to sample selection in the tariff data, Teti (2024) provides corrected values of -0.46 (short run) and -0.8 (long run). Our estimates of -0.3 and -0.9 fall within the range of these corrected estimates.

This analysis demonstrates that Danish firms, despite operating in a small, highly open, and advanced economy, react to trade policy in a way that is remarkably consistent with the central findings of the literature.

[8] Jiang, Lingduo, Yi Lu, Hong Song and Guofeng Zhang (2023): Responses of exporters to trade protectionism: Inferences from the US-China trade war, *Journal of International Economics* 140, pp. 1 - 29.
[9] Fitzgerald, Doireann and Stefanie Haller (2018), Exporters and shocks, *Journal of International Economics* 113, p. 154 – 171.

4 Limited real effects from past tariff changes

Danish administrative register data allow us to take the analysis one step further. To better understand how tariff shocks affect firms beyond their export performance, we complement the trade analysis with evidence from firm accounting information. For this purpose, we aggregate the customs data from the more detailed level (firm–product–destination-year) to the more aggregated level (firm–year) and link it with information on employment and investment from the Danish administrative registers (see box 2). Instead of product-level tariffs, we now use trade-weighted average tariff rates as firm-specific shocks to capture how changes in trade barriers abroad translate into real outcomes for Danish firms.

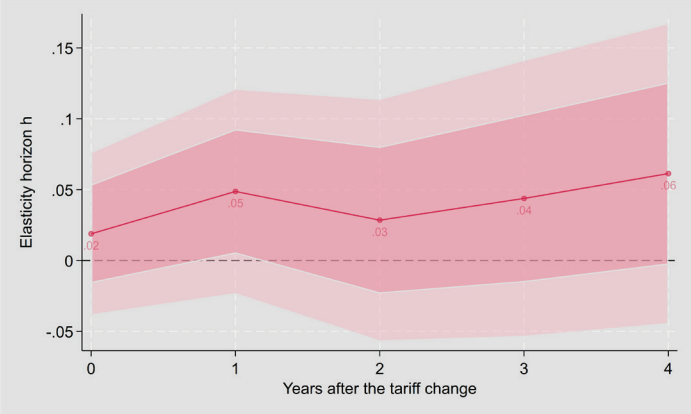
No clear adjustments to employment or investment by tariff-exposed firms

Chart 10 shows that employment tends to increase slightly after tariff increases by Denmark's trading partners. These effects are, however, statistically insignificant on all horizons, indicating that the observed employment changes cannot be attributed to tariff adjustments within any conventional level of statistical confidence.

CHART 10

No clear effect of tariff changes on employment

The change in employment for 1 per cent increase in tariffs



Note: Estimated change in firm-level employment in response to a one per cent increase in tariff rates. The dark shaded area depicts the 68 per cent confidence band while lighter shaded area represents 90 per cent confidence interval. See box 2 for details about the empirical setup.
Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

CHART 11

Investment tends to decline in response to tariffs

The change in investment for 1 per cent increase in tariffs

Note: Estimated change in firm-level investment in response to a one per cent increase in tariff rates. The dark shaded area depicts the 68 per cent confidence band while lighter shaded area represents 90 per cent confidence interval. See box 2 for details about the empirical setup.
Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590.

Chart 11 presents the impact of tariff changes on firm investment, which responds more sharply with a consistent drop in investments over the horizon. Investment falls in the first year following a tariff increase and shows a borderline statistically significant decline again around the fourth year. This pattern indicates that firms may react quickly to deteriorating export prospects by cutting or postponing capital spending, with some evidence of persistent caution in later years. Overall, the investment response is, however, also imprecisely

measured with confidence bands crossing zero for most of the estimation horizon.

When faced with higher tariffs and weaker export prospects, firms may find it easier to postpone or scale back investment projects first, as these decisions are likely easier to reverse and closely tied to expectations about future profitability. Employment, by contrast, may adjust more slowly due to hiring and firing costs and firms' incentives to retain skilled workers. To sum up, our findings uncover no clear patterns in Danish firms' adjustments to investment and employment to tariff shocks.

Danish firms have adapted to tariffs by seeking new trading partners

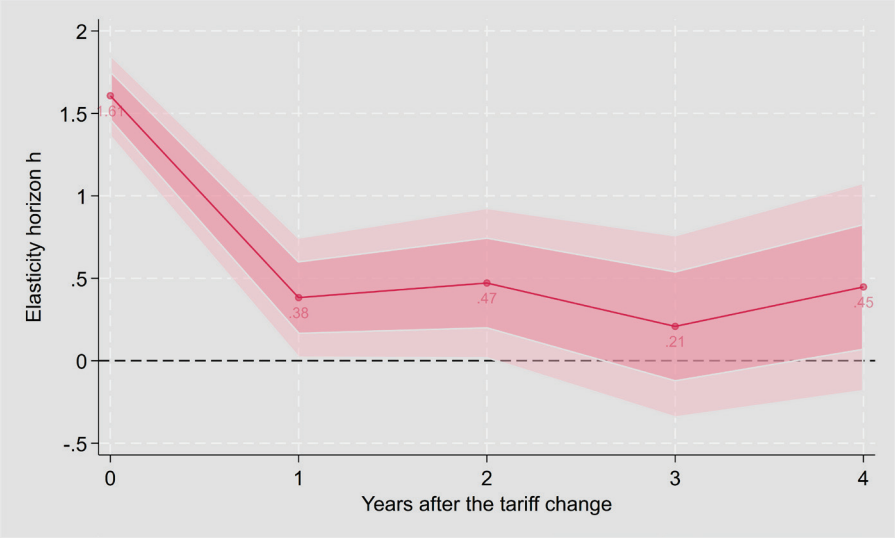
Finally, we analyse potential trade-diversion effects of tariffs. Danish firms may respond to higher tariffs by redirecting their exports away from countries that impose tariffs toward alternative destinations with lower or no tariffs. This behaviour may also indicate that firms continue exporting to tariff-imposing countries but reroute goods through intermediary nations. In either case, the data would show an overall increase in the number of trading partners.

To examine this mechanism, we estimate the dynamic response of the number of export markets to changes in tariffs. Chart 12 presents the estimated impulse response coefficients and shows that, on impact, firms expand exports to approximately 1.5 new destination countries. In the following two years, there is still a slight tendency to increase the number of trading partners, whereas the effect becomes statistically indifferent from zero hereafter. The more immediate response in the first year could also indicate that firms adjust production and export strategies in response to new tariffs, for example by seeking to place already manufactured goods in alternative markets.

CHART 12

The number of export markets increases immediately when tariffs rise

The change in number of export markets for 1 per cent increase in tariffs



Note: Estimated change in the number of export markets in response to a one per cent increase in tariff rates. The dark shaded area depicts the 68 per cent confidence band while lighter shaded area represents 90 per cent confidence interval. See box 1 for details of the empirical setup.
Source: Own calculations based on data from Statistics Denmark and Teti, Feodora A. (2024), Missing Tariffs, CESifo Working Papers No. 11590

Read also

Global value chains and tariffs: Insights from theory and model-based analysis, Danmarks Nationalbank Economic Memo no. 3, November, 2025

https://www.nationalbanken.dk/en/news-and-knowledge/publications-and-speeches/economic-memo/2025/global-value-chains-and-tariffs-insights-from-theory-and-model-based-analysis

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https://www.nationalbanken.dk/da/viden-og-nyheder/publikationer-og-taler/analyse/2024/fragmentering-af-global-handel-kan-udfordre-dansk-oekonomi

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Danmarks Nationalbank
Langelinie Allé 47
2100 Copenhagen Ø
+45 3363 6363

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