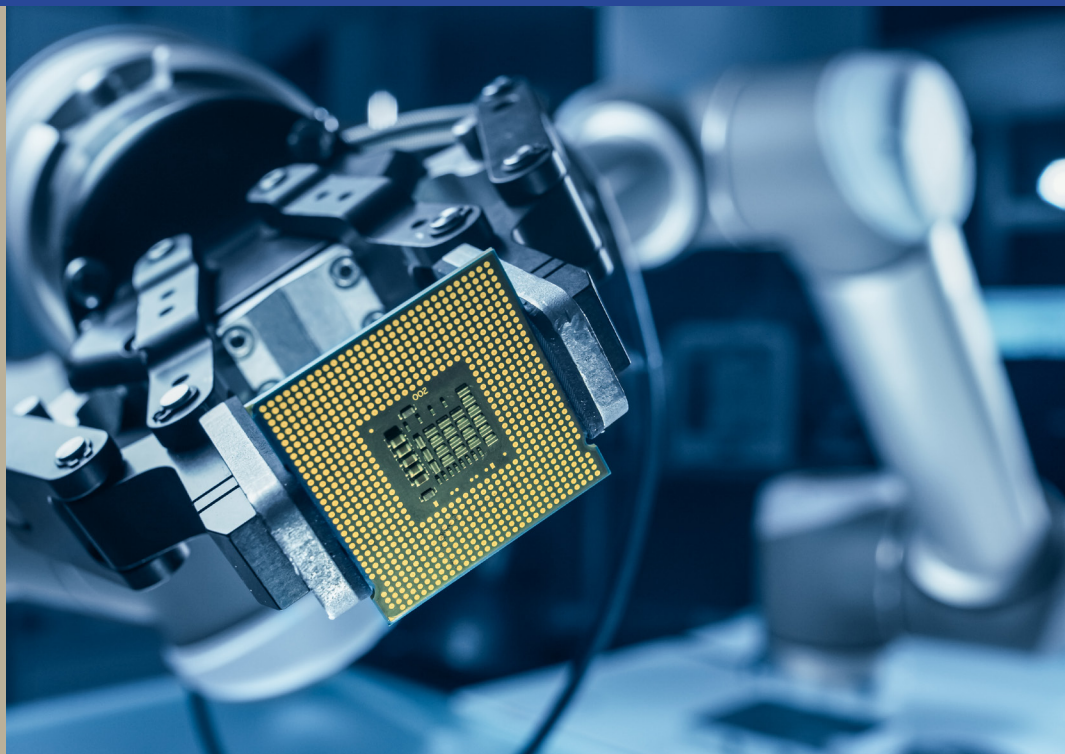




Do EU Free Trade Agreements Diversify Trade?

Evidence from agreements with
Canada, Japan, Singapore and Vietnam

October 2026



Preface

For a long time, trade policy was judged mainly by its effect on prices, efficiency and the value of exchange. Over the past decade, however, it has become inseparable from questions of economic security. The pandemic, geopolitical tensions and repeated disruptions to critical supply chains have made clear that openness alone is not enough. Governments, firms and households also need to know whether their trading relationships can withstand shocks, and whether dependence on a narrow set of suppliers or routes creates risks that markets alone do not solve.

Free trade agreements have a central place in this debate. The EU has concluded several ambitious agreements in recent years – with Canada, Japan, Singapore and Vietnam, among others – and further negotiations are under way. These agreements are often expected to broaden trade by cutting tariffs and behind-the-border barriers. Whether they in fact do so, and whether they do so where resilience matters most, is highly relevant to both policy design and public understanding.

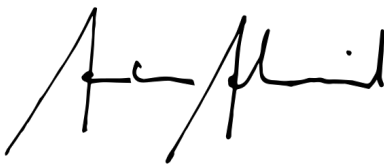
The purpose of this report is to:

- shed light on what these four agreements have meant for the breadth of EU trade;
- show why such questions must be answered country by country and sector by sector, rather than through a single EU average; and
- stimulate a more nuanced discussion about what trade agreements can and cannot be expected to do for economic security.

It is our hope that the report will give policymakers and readers a better basis for judging what trade agreements can deliver. They are an important instrument, but their contribution to diversification must be examined in detail rather than taken for granted.

The report was written by Patrik Karpaty. Valuable comments and contributions were provided by Erik Merkus, Kim Larsson and Lars Nilsson.

Stockholm, October 2026



Anders Ahnlid
Director-General
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Executive summary

Global trade is increasingly shaped by geopolitical tension, supply-chain disruption and concerns about economic security. This report asks whether four recent EU free trade agreements – with Canada, Japan, Singapore and Vietnam – have made EU and Swedish goods trade more diversified, in the sense that more distinct products are exported and imported. It uses harmonised product-level trade data for 2012–2025 and focuses on the extensive margin: the number of distinct products and the number of supplier countries. It does not study the intensive margin (changes in the value of trade within existing product relationships). Trade agreements often have their largest effects there, but the question here is specifically about diversification.

Main findings

- Imports: Vietnam stands out. After the agreement, the EU26 imported around 30 per cent more distinct products from Vietnam; the corresponding Swedish increase was around 22 per cent. Import effects for the other three agreements were small or negative.
- Exports: Canada and Vietnam show the clearest gains. The EU26 exported about 7 per cent more distinct products to Canada and 9 per cent more to Vietnam; the corresponding Swedish increases were around 11 and 14 per cent. Export effects for Japan and Singapore were small.
- The small aggregate effects are expected and conceal larger sectoral variation. Most diversification in the recent literature occurs on the intensive margin, through larger volumes in existing relationships, so new products and suppliers appear mainly in specific sectors. Gains and losses in different HS sections therefore tend to cancel in the aggregate, which is why the sectoral analysis matters.
- Sweden mostly follows the EU direction, but with larger manufacturing gains. Swedish exports of engineering products and vehicles to Vietnam rose more than the EU26 average. Swedish estimates are less precise because they rest on a single country's trade flows.
- The Vietnam result reflects deeper regional value chains rather than broad diversification. Complementary TiVA data show increasing Chinese and South Korean value added in Vietnam's exports during 2012–2022, while the separate BEC analysis indicates that the estimated expansion in imported product variety was concentrated in intermediate and capital goods rather than primary goods – precisely the links in the supply chain where import dependencies are most sensitive from an economic-security perspective. The broadening thus reached the most sensitive product categories even as the Chinese content embodied in Vietnam's exports increased.
- Supplier concentration barely moved. Import concentration remained broadly stable during 2012–2025 for both the EU26 and Sweden, with no visible break around the implementation of any of the four agreements.

Policy implications

First, utilisation matters as much as ratification. Many new products imported from Vietnam were eligible for tariff preferences, but firms used preferences for only a minority. Simplified origin procedures and targeted information for smaller firms can raise the return on agreements already signed.

Second, dependencies in inputs and raw materials need complementary instruments. Tariff preferences alone do not change where deposits, processing capacity and economies of scale are located. Instruments such as raw-materials partnerships, investment agreements with alternative producers, EU-based processing and recycling capacity, stockholding for critical inputs, and disclosure requirements are needed.

Third, sequence future agreements with the diversification objective in mind. Where the partner is already a dominant supplier of a concentrated product, the agreement will mainly deepen the existing relationship. Where the partner offers a credible alternative source, the diversification case is stronger and should be stated explicitly in the negotiating mandate rather than assumed. Such a mandate only has effect, however, if the rules of origin are simple enough for firms to actually use the preferences.

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I Introduction

Recent disruptions – the COVID-19 pandemic, the war in Ukraine, attacks on shipping in the Red Sea and recurring tensions around the Strait of Hormuz – have highlighted the vulnerability of concentrated trade and transport networks. For a small, open economy such as Sweden, dependent on imported inputs from critical raw materials to advanced manufacturing components, supply-chain resilience is now a question of competitiveness and national security (OECD, 2025a; 2025b).

The European Union has responded on two tracks: a stronger Economic Security Strategy and a wider network of free trade agreements. This report evaluates four agreements that have been in force long enough to be assessed – Comprehensive Economic and Trade Agreement (CETA), EU–Japan Economic Partnership Agreement (EPA), EU–Singapore Free Trade Agreement (EUSFTA), EU–Vietnam Free Trade Agreement (EVFTA). More recent agreements (New Zealand 2024, Chile 2025) and the agreements with Mercosur, Indonesia and Australia cannot yet be evaluated, but they make the question more pressing: do such agreements actually deliver diversification?

The report asks whether the four agreements broadened EU and Swedish goods trade in two respects: the range of products traded and the spread of supplier countries. Diversification, however, has several layers. Product diversification means that more products are traded. Supplier diversification means that imports are spread across a broader or more balanced set of supplier countries. Value-chain diversification concerns where the value and inputs embodied in traded goods actually originate. The report measures the first two. It does not measure the third systematically, but the Vietnam case illustrates why it matters: a new direct supplier may still rely heavily on inputs and value added from an established supplier country. More products, or even a new direct trading partner, therefore do not necessarily imply more diversified underlying supply chains.



An aggregate effect across all products for a whole economy can conceal movements in opposite directions across industries. The analysis is therefore carried out both in aggregate and for each of the 21 broad product groups (HS sections), for the EU26 and Sweden separately. For most of the agreements the total effect is small precisely because sectoral gains and losses offset one another.

Most existing studies measure diversification with aggregate indices (Theil, HHI) or estimate a generic “RTA effect” across many agreements at once, OECD (2023). This report differs in three ways. It treats each of the four agreements as a separate event with a known start date and a fixed comparison group. It measures diversification directly, as the number of distinct CN8 products and supplier countries, rather than inferring it from a decomposed index. And it uses a harmonised CN8 panel for 2012–2025, so that a “new” product is a genuinely new product rather than a nomenclature revision.

The report builds directly on Nilsson and Svensson (2025), who study the same four agreements at EU level, and extends their analysis in three ways. First, Sweden is estimated separately, as a deviation from the EU26 average, so that a weak EU-wide result can be distinguished from a different Swedish response. Second, sectoral results are reported with effect sizes and margins of error rather than as plus or minus signs, which makes it possible to see that positive and negative effects are of similar size and therefore cancel. Third, product diversification and supplier concentration are analysed together, showing that the agreements affected the first but not the second.

Section 2 summarises what is known and why the four agreements are not directly comparable. Section 3 describes the data and the approach. Section 4 presents the results. Section 5 concludes.

2 Background and previous research

Trade agreements can increase trade through two channels. Lower variable trade costs, such as tariffs, allow firms to sell more within existing product relationships – the intensive margin. Lower fixed costs, including simpler customs procedures, clearer rules and reduced regulatory barriers, can also make it profitable to start trading products that were not traded before – the extensive margin. Theory therefore predicts effects on both margins, but does not determine which will dominate (Melitz, 2003; Bernard, Redding and Schott, 2011).

The empirical evidence is mixed. Some studies find that trade agreements increase both the value of existing flows and the number of products traded, while others find that most of the response occurs at the intensive margin. Results vary across agreements, countries and time horizons, and deeper agreements tend to have larger long-run effects (Kehoe and Ruhl, 2013; Baier, Bergstrand and Feng, 2014; Besedeš, Kohl and Lake, 2020; Cho et al., 2018).

The broader empirical literature typically relates diversification indices to a single “trade agreement” dummy covering hundreds of agreements of very different depth and design. That shows that agreements on average coincide with more diversified trade, but it does not identify which agreement, which sector or which margin drives the result. This report replaces that dummy with four specific agreements and asks exactly those questions.

Two recent in-house studies provide benchmarks against which the present results can be read. National Board of Trade (2019) estimates gravity models on trade values and finds that EU RTAs raise trade by 48 per cent on average – 65 per cent after ten years – with effects rising with agreement depth: customs unions and the single market by 111 per cent, post-2010 FTAs by 37 per cent (CETA by 42 per cent), and EPAs by roughly 0 per cent. That report shows that the agreements deliver value; the question here is what that value consists of. CETA’s estimated +42 per cent effect on trade value is consistent with the roughly +7 per cent product-count effect reported below, though the two numbers capture different margins.

National Board of Trade (2023b) takes the opposite approach: instead of trade values, it counts HS6 products and relates them to agreement provisions. Using EU-15 aggregate data for 2005–2015 with the HS2012 classification held fixed, it finds only a weak positive association between agreement depth and the extensive margin, and only for EU exports. The association is driven by non-core provisions rather than tariff reductions. This paper reaches the same broad conclusion from a different design and method – here, only 181 of 814 preference-eligible newly imported products under EVFTA actually used preferences – and points to the same interpretation: tariff preferences alone do not explain the extensive margin.

For the four recent EU agreements examined here, Nilsson and Svensson (2025) find the clearest increase in imported products for Vietnam and smaller effects for Canada, Japan and Singapore.¹

1. The two studies are complementary. Nilsson and Svensson (2025) establish that sectoral differences exist behind weak EU-level results; this report measures how large those differences are, corrects for the fact that many sectors are tested at once, and asks whether Sweden responded differently from the EU average. Technically, the estimates here come from Poisson pseudo-maximum-likelihood regressions on product counts rather than OLS on logged counts, which keeps observations with zero products in the sample.



This report focuses on the extensive margin: the range of products traded and the number of supplying partner countries. Both dimensions capture whether FTAs add new trade relationships rather than only deepening existing ones. A large increase in import value from the same supplier raises trade without reducing dependence; adding products or credible alternative suppliers changes the options available when trade is disrupted. The analysis therefore does not evaluate the agreements' overall trade effects, which may be larger at the intensive margin. It asks the narrower question of whether they widened the range of goods and suppliers.

Two reasons suggest the answer will differ across the four agreements. First, they opened markets from different starting points. Canada and Japan concluded broad agreements covering tariffs and regulatory barriers. Singapore already applied almost no tariffs, leaving less scope for tariff-driven change. Vietnam combined substantial tariff liberalisation with rapid integration into Asian production networks. Second, formal market access does not guarantee use: rules of origin, paperwork and compliance costs can prevent firms – especially smaller ones – from using preferences (Persson and Wilhelmsson, 2016; National Board of Trade, 2018; Le and Baker, 2023). This heterogeneity is not peculiar to these agreements: Baier, Yotov and Zylkin (2019) find that most of the variation in FTA effects occurs within agreements rather than across them, with asymmetric export–import effects and pre-existing trade frictions playing large roles. Results are therefore reported separately for each agreement rather than as a single average FTA effect.

Finally, a wider product range is not necessarily a wider supplier base. Advanced inputs are often tied to durable supplier relationships, specialised production capacity and high switching costs (Ahn and Tan, 2025; Martin, Méjean and Parenti, 2026). The report therefore examines both the number of products traded and the concentration of supplier countries. It also reports sectoral results, since gains and losses in different product groups may offset each other in the aggregate and may carry very different implications for economic security.

3 Data and approach

3.1 Data

The analysis uses Eurostat Comext data on trade in individual products (CN8 level) for 2012–2025, covering all EU27 Member States’ trade with countries outside the EU. Because the Combined Nomenclature is revised annually, raw product codes may appear or disappear for administrative reasons even when the underlying product does not change. Official concordance tables are therefore used to construct constant product identifiers that can be followed throughout the period (Appendix A).

The main outcome is the number of distinct products traded by a Member State with a partner in a given year, separately for imports and exports. Use of tariff preferences for Vietnam is calculated from Eurostat customs data for 2015–2025. Chinese exports to Vietnam come from Trade Data Monitor. Supplier concentration is measured across non-EU supplier countries, separately for the EU26 and Sweden. The analysis is restricted to four bilateral agreements with sufficient post-implementation data.

3.2 Method

The analysis compares trade with each FTA partner after the agreement took effect with trade over the same period with a fixed comparison group of the EU27’s 25 largest non-EU trading partners. The comparison countries were selected before estimation based on their average trade with the EU27 during 2012–2016 (Appendix F). To avoid using partial years, treatment begins in the first full calendar year after entry into force: 2018 for Canada, 2019 for Japan, 2020 for Singapore and 2021 for Vietnam.

The statistical model removes two things that would otherwise distort the comparison: permanent differences between country pairs – Germany simply trades more products with Japan than Malta does – and events that hit all trading partners in the same year, such as the pandemic. What remains is the change in the number of products traded with the agreement partner relative to the comparison group. Results are expressed as percentage changes. Appendix B gives the estimating equation and the technical details.

The Swedish effect is estimated by allowing the agreement effect to differ for Sweden, using an interaction between the agreement indicator and a Sweden dummy. Two figures are therefore reported throughout: the EU26 effect, which applies to the rest of the EU, and the Swedish effect, which is the EU26 effect plus Sweden’s own deviation. When the Swedish effect is reported, the benchmark is the average effect for the other 26 Member States, so that Sweden is not compared with a group that includes itself.

The sectoral analysis estimates the effect separately for each of the 21 broad product groups and for each agreement. Running many statistical tests creates a risk that some sectors will appear to be affected simply by chance. To reduce this risk, the results are assessed jointly using a standard multiple-testing adjustment. Only estimates that remain statistically clear after this adjustment are highlighted and discussed. The procedure is designed so that, among the results identified as statistically significant, the expected share of false positives is no more than about 10 per cent.²

2. The Benjamini–Hochberg procedure is used to control the false discovery rate at 10 per cent across the 21 sections, separately for each agreement and trade flow (Benjamini and Hochberg, 1995). Anderson (2008) provides an established application of false-discovery-rate methods in empirical economics. Unadjusted results are available from the authors upon request.

3.3 How the results should be read

The estimates describe differences in development between the agreement partners and the comparison group, not the causal effect of the agreements alone. Unlike studies that relate diversification indices to trade-policy variables in a cross-section, this report uses the timing of four specific agreements against a fixed comparison group and reporter-partner and reporter-by-year fixed effects. Other things still changed at the same time, and the comparison group can only partly account for them, so the results should be read as carefully designed comparisons rather than proof of causality.

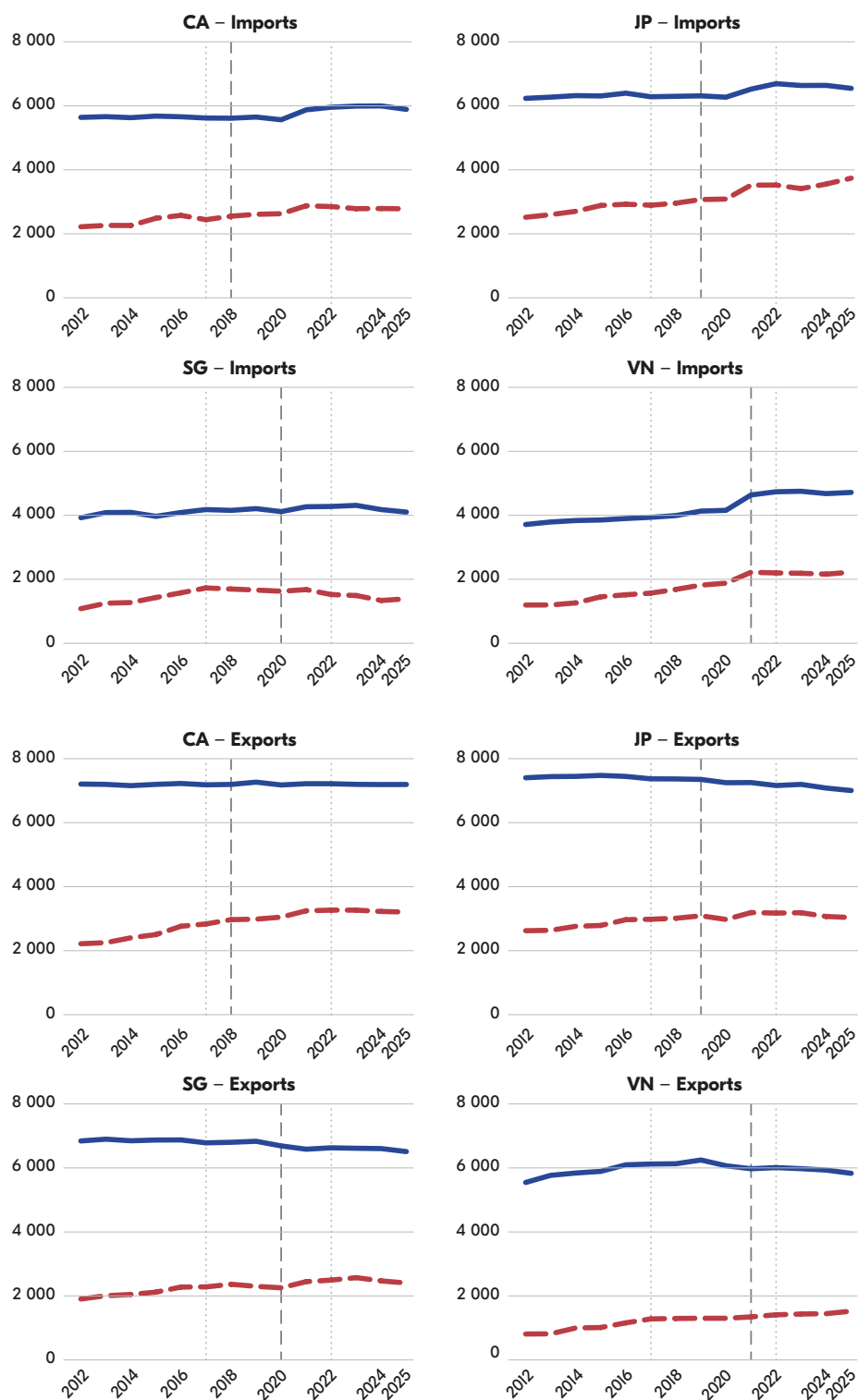
Three qualifications apply throughout. First, imports often enter the EU through the large continental ports before being distributed onwards, so customs statistics do not always record the country where a product is finally used. Swedish import figures in particular should be read with this in mind. Second, the Swedish estimates rest on the trade flows of a single country and are therefore considerably less precise than the EU26 estimates. This matters most in product groups where Sweden trades few products with the partner in question – animals, vegetables, fats and oils, arms, works of art – where a handful of new product lines can move a percentage figure a long way. Third, the comparison group can only partly account for concurrent shocks, so the results remain descriptive comparisons rather than causal estimates.



4 Results

4.1 Descriptive patterns

Figure 1. Number of distinct products traded with each agreement partner, EU26 and Sweden, 2012–2025



Note: Solid blue lines show the EU26, dashed red lines Sweden. Vertical dashed lines mark entry into force. Products are measured using constant product identifiers, so changes in the customs nomenclature do not create artificial entry and exit.

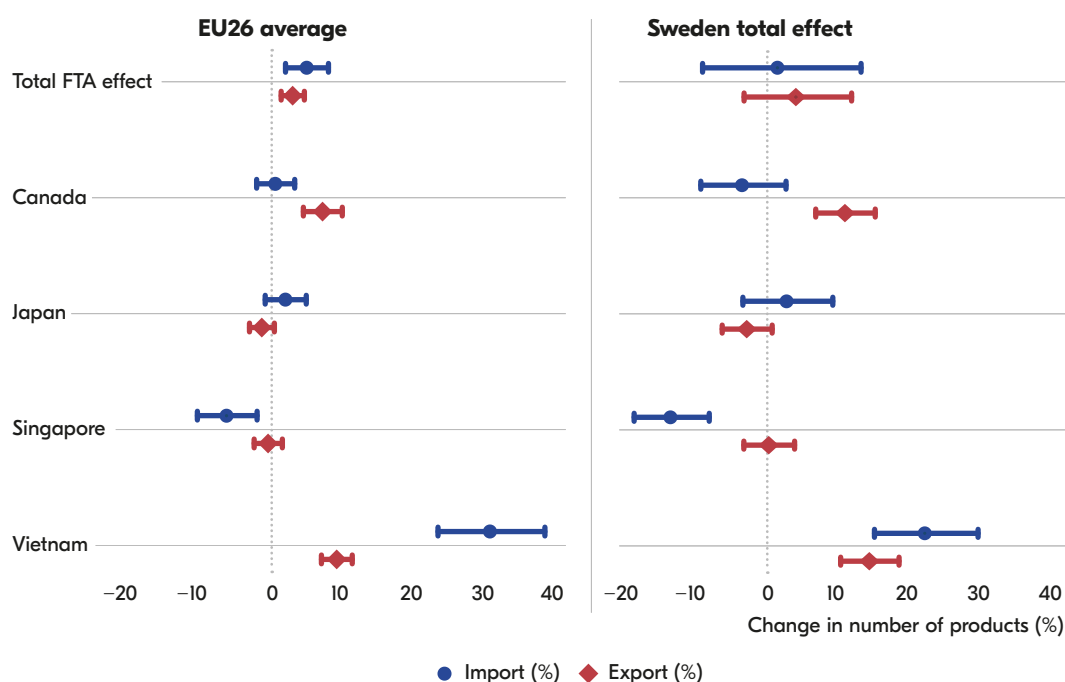
Two things stand out. First, the number of products traded is remarkably stable, and no visible break appears at entry into force for Canada, Japan or Singapore. Second, Vietnam is the exception: EU imports from Vietnam shift up to a higher level after EVFTA and stay there, and the number of newly imported products peaks in 2021.³ Sweden trades fewer products than the EU26 throughout, as its size implies, but follows the same trends.

The Vietnam movement coincides with the post-pandemic recovery, so it cannot be read as an effect of the agreement from this figure alone. The regressions in the next section account for the shocks that hit all trading partners in the same year.

These patterns describe the number of products only. Trade agreements often have larger effects on the value traded within existing product relationships, but that is not the diversification question posed here.

4.2 Aggregate effects on the number of products traded

Figure 2. Estimated effects of the FTAs on the number of traded products



Note: Effects are percentage changes, calculated as $100 \times (\exp(\beta) - 1)$. The figure shows estimated effects on the number of traded products (the extensive margin). The horizontal lines show cluster-robust 95 per cent confidence intervals. Swedish total effects are calculated as the EU26 effect plus Sweden's estimated deviation. Estimates are relative to non-FTA control partners. "Total FTA effect" denotes the pooled effect across the four agreements.

Figure 2 reports the estimated percentage effects of each FTA on the number of traded products (the extensive margin). The left-hand panel shows the average effect for the EU26, and the right-hand panel shows the total effect for Sweden. Navy circles denote imports and maroon diamonds denote exports.

3. The descriptive time-series of newly imported products is available from the authors upon request.

The clearest EU26 result is Vietnam: around 30 per cent more imported products and 9 per cent more exported products. Canada shows an export gain of about 7 per cent with essentially no import effect. Japan is small on both flows. Singapore shows no export effect and a small negative import effect, which is consistent with there having been little tariff protection left to remove on either side (European Commission, 2025; UK DIT, 2018; ITC Market Access Map).

In levels, the Vietnam import estimate corresponds to approximately 223 additional products per EU26 reporter, from a pre-agreement average of 732; for Sweden, the corresponding estimate is about 291 products from a base of 1,325. The Canadian export estimate corresponds to around 110 additional products per EU26 reporter and 263 for Sweden. These are approximate translations of the model estimates rather than raw before-and-after changes; Appendix Table H1 reports the full set of levels and makes that distinction explicit.

Sweden follows the same broad pattern with two differences. The Swedish import response to Vietnam is somewhat smaller in product counts, at about 22 per cent, though not significantly different from the EU26. Swedish export responses are stronger, both towards Vietnam (about 14 per cent) and towards Canada (about 11 per cent). Taking the four agreements together, the average Swedish effect cannot be distinguished from zero: what shows up is driven by individual agreements, above all EVFTA, not by free trade agreements in general.⁴

The pooled EU estimates also conceal variation across Member States. Appendix E (Figures E1–E4) reports country-specific estimates for each agreement, using the same PPML specification and control group as the main analysis. Canada shows positive export estimates in most Member States, whereas Japan and Singapore display more mixed patterns. Vietnam shows the clearest common pattern, with positive import estimates in almost all Member States and predominantly positive export estimates. Sweden records larger point estimates than Germany in several cases, notably for exports to Canada and trade with Vietnam. However, many confidence intervals overlap, and the analysis does not formally test differences between countries. These results therefore suggest variation in the estimated responses, rather than establish a ranking of national gains. They concern the number of traded products, not trade values or welfare.

These results line up with Nilsson and Svensson (2025) on the two points that matter most. Import effects are consistently larger than export effects, and Vietnam is by a wide margin the strongest case, while the other three lie close to zero. The ordering among those three differs slightly between the two studies – here Singapore is weakest and Canada is close to the zero line, whereas they find Canada weakest – but all three estimates are small and statistically indistinguishable from each other, so their internal ranking carries no information.

These small aggregate effects are not surprising. Recent research finds that most trade diversification in advanced economies happens on the intensive margin – firms shift volumes between existing products and suppliers – rather than by adding entirely new product lines. The question is therefore not why the totals are small, but where new products do appear. That is what the sectoral analysis turns to next.

4. These totals are small for three of the four agreements. That is consistent with two very different situations: nothing happened anywhere, or things happened in opposite directions and cancelled out. Telling them apart requires looking sector by sector, which is the subject of the next section — and the answer is the second.

4.3 Sectoral results: EU26 and Sweden

Aggregate totals can hide offsetting sectoral effects. Figures 3a and 3b therefore report the estimated effects for each of the 21 HS sections, for exports and imports separately. The four agreements differ sharply in how broad the sectoral effects are.

Canada shows broad positive effects on the export side, with 16–17 of the 21 sections positive. Import effects are mixed, with gains in some sections offset by losses in others.

Japan is positive in 13 import sections, but the small total in Figure 2 reflects offsetting sectoral effects: a +31 per cent effect on animals or +32 per cent on wood is cancelled by flat or negative effects in machinery and chemicals. Export effects are small for the same reason.

Singapore shows the same pattern of offsetting effects, with mixed results on both the export and the import side.

Vietnam is the only agreement with broad positive effects in both directions: 16–17 sections are positive for exports and 16 for imports. The effects are large across several major manufacturing groups – for example chemicals (+68 per cent), instruments (+63 per cent) and machinery and electrical goods (+60 per cent) on the import side – which is why the aggregate survives.



Sweden usually follows the EU26 direction but with wider confidence intervals and often larger magnitudes in manufacturing. Swedish vehicles to Vietnam rise by +64 per cent (EU26 +9 per cent) and base metals by +19 per cent (EU26 +14 per cent). Sweden also sees larger negative effects in thin trade groups such as animals, fats and oils, footwear and hides; these estimates are less precise, so the direction is more reliable than the exact figure.

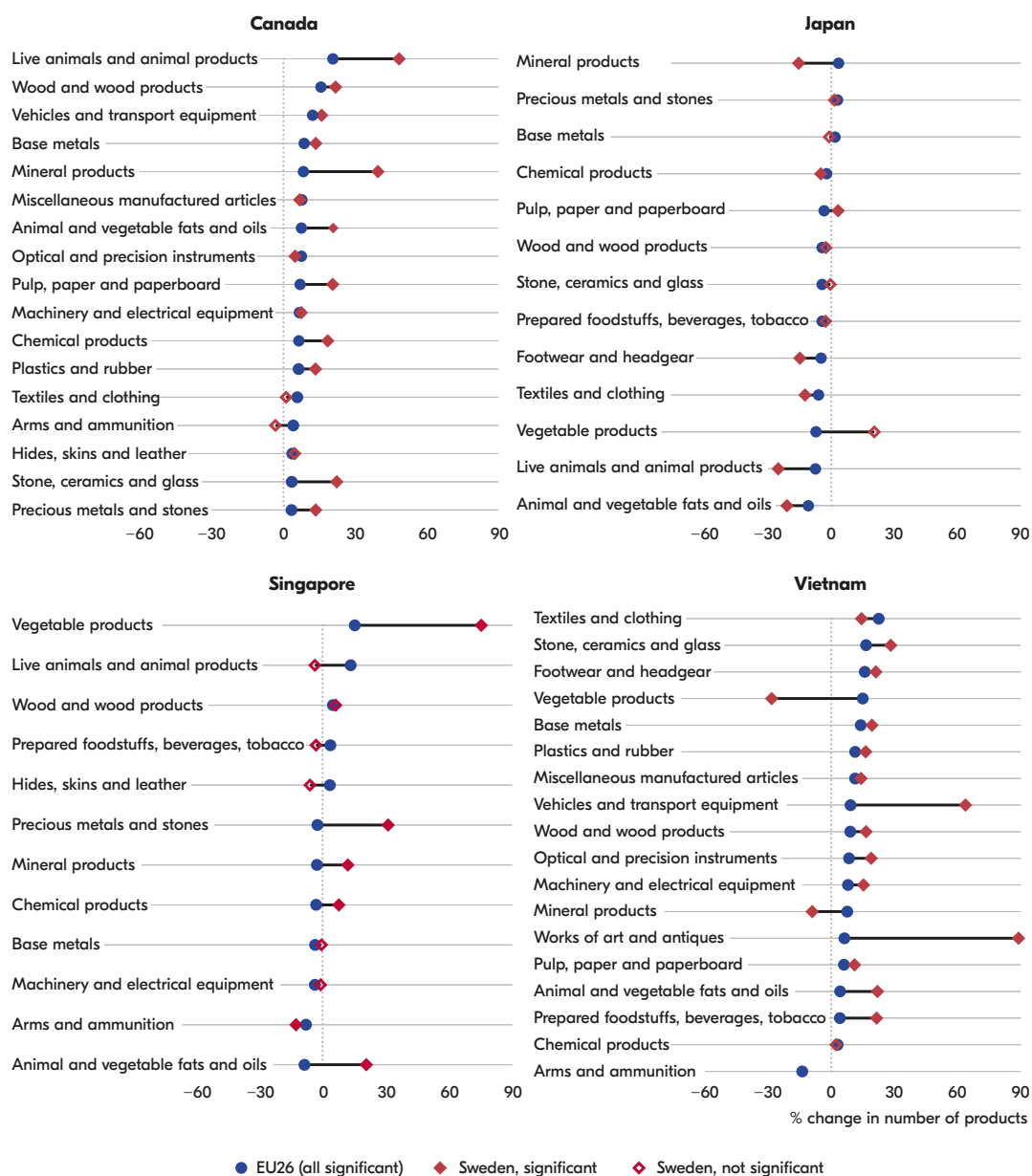
What kind of products are these? Appendix Figure C1 confirms that the Vietnamese import expansion is strongest for intermediate and capital goods, while the effect for consumption goods is considerably smaller.

The same pattern holds in two narrower product groups. For environmental goods and high-technology goods, Vietnam again accounts for the largest increases, while effects for Canada, Japan and Singapore are small or negative. Sweden follows the EU26 direction, with somewhat stronger increases in high-technology exports to Vietnam. Detailed results for these product groups are available from the author upon request.⁵

The agreements thus broaden trade where new suppliers and components can enter, but they do not on their own reduce dependence on concentrated sources of unprocessed inputs.

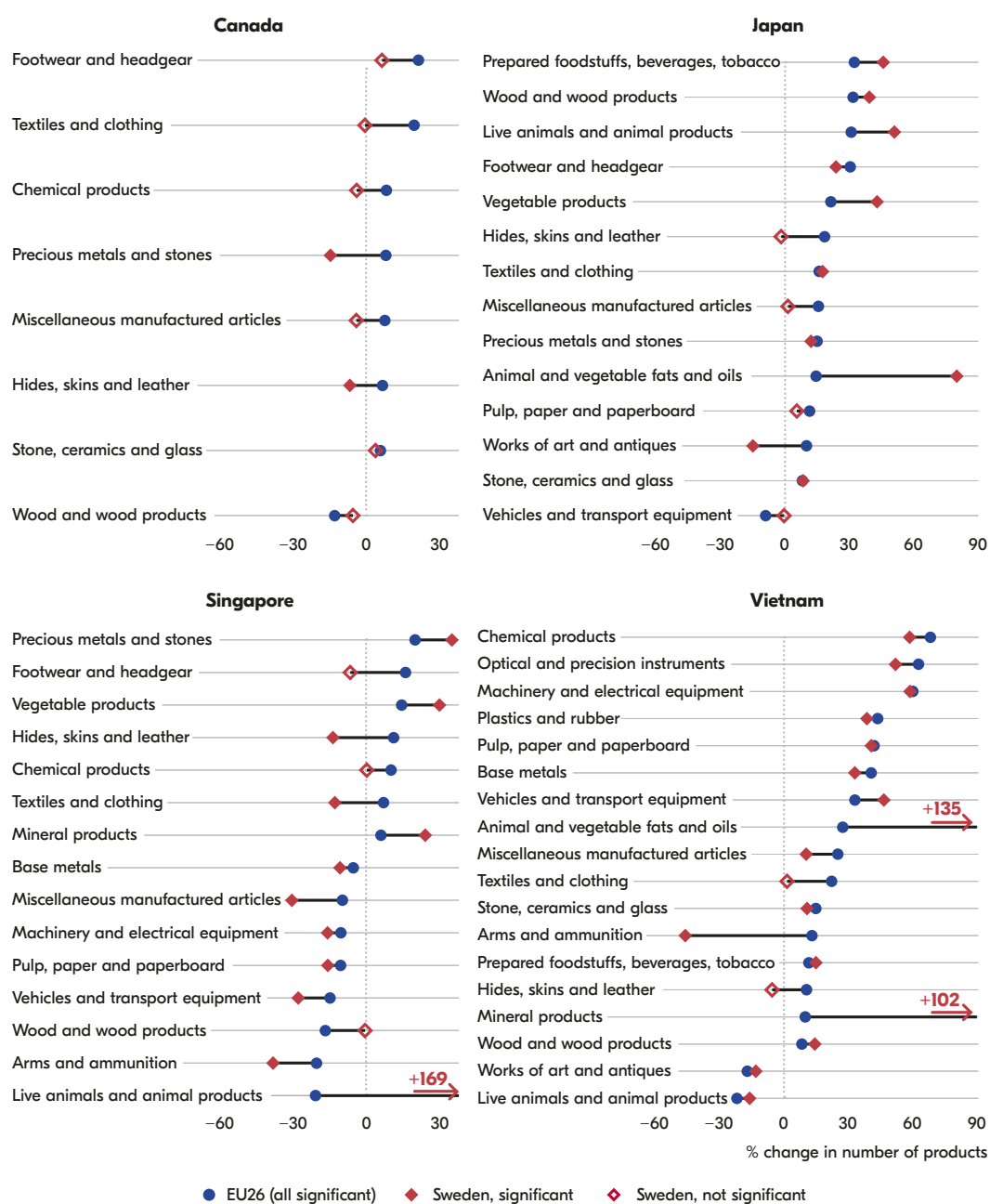
5. High-technology goods follow the Eurostat high-technology classification. Environmental goods are identified using the OECD Combined List of Environmental Goods (CLEG), as applied in international trade statistics on green industrial goods.

Figure 3a. Export effects by product group: EU26 and Sweden, by agreement.



Effects are percentage changes in the number of traded products, 2012–2025: $100 \times (\exp(\beta) - 1)$. EU26 estimates pool the 26 EU member states excluding Sweden; Swedish estimates come from a Sweden interaction. Only sections with a significant EU26 effect are shown (Benjamini–Hochberg across the 21 sections $\times$ 4 agreements, per flow and estimator), sorted by the EU26 effect. Circles show EU26 effects; diamonds show Sweden in the same section (filled = significant, hollow = not). Values beyond the $-60/+90$ per cent axis limits appear as arrows with their value. Full results for all 21 HS sections are available from the author upon request.

Figure 3b. Import effects by product group: EU26 and Sweden, by agreement



4.4 Why Vietnam stands out

Vietnam is the only agreement partner where the number of traded products increased sharply after the FTA took effect. Two explanations are plausible: firms made greater use of the new tariff preferences, or Vietnam's role in regional production networks deepened. The evidence favours the second.

4.4.1 Preference use played a limited role

Tariff preferences under the EVFTA were available for many newly imported products, but they do not appear to be the main driver. The evidence can be summarised in three steps. First, 1,166 products imported at EU27 level in 2023–2025 had not been imported in 2017–2019, and 814 of these were eligible for EVFTA preferences. Second, preferences were actually claimed for only 181 of these products – 22 per cent of the eligible new products. Third, these 181 products account for only about 7 per cent of the import value of all newly imported products, which means the largest new import flows mostly entered without preferences. One possible reason why preferences were claimed for relatively few new products is that many of them rely heavily on Chinese inputs. Under the EVFTA's rules of origin, products with a high share of non-originating content may not qualify, so exporters may pay the MFN tariff instead. However, many electronics products already face zero MFN tariffs under the WTO Information Technology Agreement, which leaves no preference to claim, and compliance costs may outweigh small tariff savings for new, low-value flows. Low utilisation is therefore consistent with, but not proof of, binding rules of origin. This 7 per cent is a value share among new products, not a measure of how intensively preferences are used on established import flows. At the product level, imports did grow faster where preference use rose more, but that relationship weakens once larger trade flows are given more weight – and the overall preference-utilisation rate rose only gradually, from 62.5 per cent in 2023 to 72.4 per cent in 2025, too smooth a path to explain a sharp jump in product counts.



4.4.2 Coverage and utilisation across the four agreements

Formal coverage is similar across the four agreements – 72–75 per cent of imported product categories are eligible – while overall preference-utilisation rates for all eligible imports range from 22 per cent (Singapore) to 68 per cent (Vietnam), with Japan at 64 per cent. These rates measure something different from the 22 per cent of newly imported eligible Vietnamese products above: they describe how often preferences are claimed on all eligible imports, not how many new products entered the market. Vietnam’s result is therefore not explained by unusually broad coverage or unusually high use. The detailed preference check is reported in Appendix D.1.

4.4.3 Regional value chains are the stronger explanation

The product pattern points to Vietnam’s deepening role in regional production networks rather than a simple preference-driven expansion. The products behind the largest increases in EU imports from Vietnam are largely the same ones for which Chinese exports to Vietnam grew, especially in electronics and ICT. This fits a picture of production being split across a regional network, with Vietnam assembling and exporting final goods that rely on inputs from China and other East Asian economies.

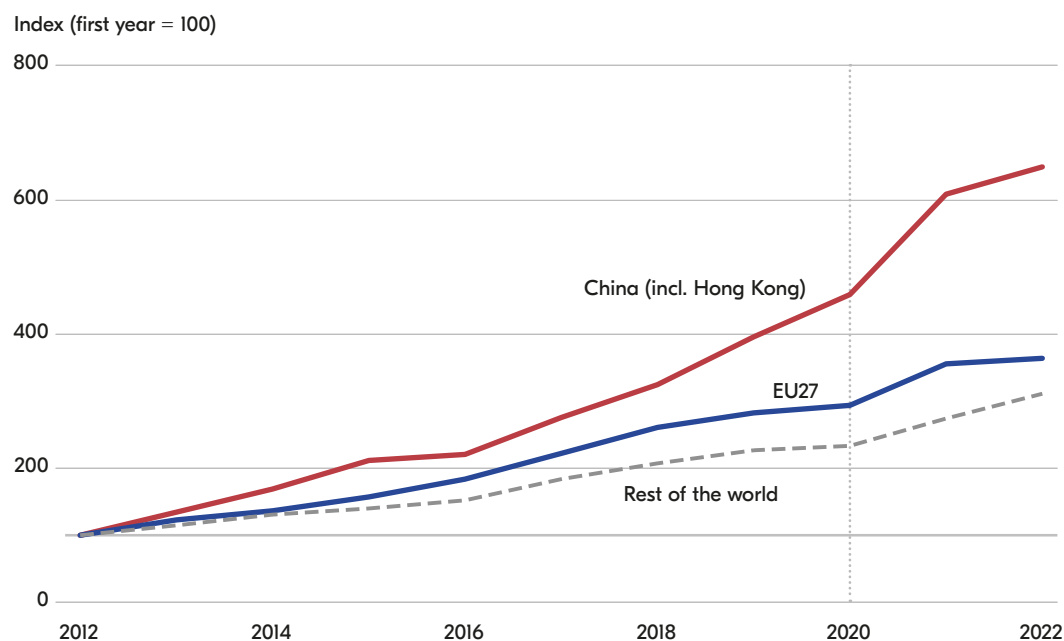
The expansion in the range of products imported from Vietnam may also partly reflect Chinese foreign direct investment that expands export-oriented production capacity in Vietnam, alongside growing imports of Chinese inputs (Hayakawa and Dinh, 2025). However, our analysis does not identify the contribution of this investment channel to the observed diversification of EU imports or establish whether it was induced by the EVFTA.

TiVA data confirm this reading (Figure 4). The foreign value-added content of Vietnam’s exports has increased markedly since 2012, with China (including Hong Kong) and South Korea accounting for the largest relative growth. No other single origin shows a comparable increase. This points to deeper integration into regional value chains rather than broad diversification across supplier countries. The expansion in the number of products exported should therefore not automatically be read as a corresponding rise in Vietnamese value added embodied in those exports; the share of domestic Vietnamese value added has declined over the same period.

4.4.4 Other channels may also play a role

Tariff preferences are not the only channel through which an agreement can affect trade. The EVFTA may also have worked as a signal, making firms aware of Vietnam as a sourcing and export market; it reduces uncertainty about future tariffs and rules, which lowers the risk of entering new product relationships; entry into force is typically accompanied by promotion efforts by governments and business organisations; and regulatory cooperation on SPS measures and standards can facilitate trade in ways that tariff data do not capture. These channels are not estimated separately here, but they are plausible complements to the value-chain explanation above – and they would apply to the other three agreements as well, which makes them unlikely to explain why Vietnam stands out on its own.

Figure 4. Growth of foreign value added in Vietnam's exports, by origin (index, 2012 = 100)



EXGRVA refers to Vietnam's exports to the world. A destination-specific breakdown for the EU is not available in the published TiVA data. The series ends in 2022. Vietnamese domestic value added (DVA) is excluded. Current prices, indexed to 2012 = 100; levels differ strongly between groups. Source: OECD TiVA 2025 (EXGRVA).



4.5 Supplier concentration

Lower trade barriers can widen the range of products traded without widening the group of countries those products come from. Supplier relationships, especially for advanced inputs, involve long-term contracts, dedicated investment and high switching costs (Martin, Méjean and Parenti, 2026).

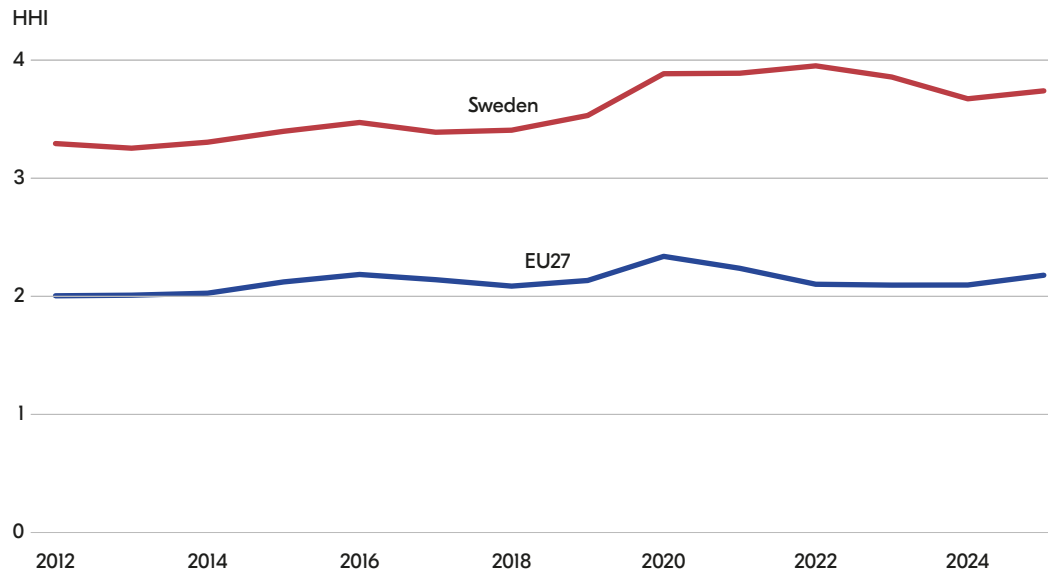
The section draws on three complementary measures. The first is the value of extra-EU imports. The second is the number of non-EU supplier countries from which a product is imported. The third is the number of distinct CN8 products imported. Four bilateral agreements cannot be expected to change the total number of supplier countries much, since each adds at most one partner to a set that is already large for most products. They can, however, shift value shares between existing suppliers. That is what the HHI captures: it responds to how import value is distributed across supplier countries, not only to how many there are.

Figure 5 shows that concentration, measured by the Herfindahl-Hirschman Index (HHI) across supplier countries, is strikingly stable across the whole period; see Appendix G for the definition and calculation. Sweden is consistently more concentrated than the EU27 as a whole (0.33–0.39 against 0.20–0.22), but neither series breaks at CETA, EPA, EUSFTA or EVFTA.⁶ Lowering bilateral barriers is evidently not enough to broaden the supplier base for products already being traded, which fits the view that concentration is driven by structural factors – where resources are located, economies of scale, long-standing industrial support – that respond weakly to trade liberalisation (Rotunno and Ruta, 2024). One qualification: the measure covers supplier countries, not firms, so a product sourced from few countries may still have several suppliers within them.

6. The concentration series covers the EU27 because it is descriptive and does not use the EU26–Sweden comparison applied in the regression analysis.

Estimating the change in concentration separately by pre-FTA HHI quartile gives small and uncertain effects for the EU27 throughout. Some movement appears for Sweden among products that were already relatively diversified, but the overall conclusion holds: there is little sign that the agreements broadened the supplier base for products already traded. Member States differ considerably in their extensive-margin growth (Appendix E), which is a further reason not to read EU averages as national outcomes.

Figure 5. Concentration of imports across non-EU supplier countries, EU27 and Sweden, 2012–2025



Concentration is measured by the Herfindahl-Hirschman Index (HHI) across supplier countries for each imported product and averaged using import values as weights. Higher values mean more concentrated sourcing. See Appendix G for the exact definition and calculation.

5 Conclusions and policy implications

EU free trade agreements can widen the range of goods traded on the extensive margin, but the effects differ substantially between agreements, sectors and Member States. The strongest effects are found for Vietnam, particularly on imports; Canada delivers clear export gains; Japan and Singapore show little. Even where the overall product-range effect is close to zero, individual sectors gain or lose materially and these movements offset each other.

The Vietnam result is better explained by Vietnam's growing integration into regional production networks than by tariff preferences alone.

Taken together, the results distinguish three layers of diversification: more products traded, imports spread across a broader set of countries, and the origin of value and inputs embodied in traded goods. The report measures the first two and finds that a wider product range did not generally reduce supplier concentration. It does not measure value-chain diversification systematically, but the Vietnam case shows why it matters: a new direct supplier may still rely heavily on inputs and value added from established supplier countries. More products are therefore not necessarily more diversification.

The BEC analysis adds an economic-security dimension to this result. The product-range broadening from Vietnam was concentrated in intermediate and capital goods rather than primary goods – precisely the links in the supply chain where import dependencies are most sensitive. At the same time, TiVA data show that the Chinese value added embodied in Vietnam's exports increased over 2012–2022. Diversification thus reached the most dependency-sensitive product categories, but partly by adding a layer of new products on top of existing dependence on Chinese inputs rather than by replacing it.



5.1 Policy implications

- 1) **Evaluate each agreement on its own terms.** Outcomes reflect the partner's structure, the agreement's design and firms' ability to use it. General claims about an average FTA effect conceal this heterogeneity.
- 2) **Complement aggregate evaluation with sector-level evidence.** An economy-wide estimate close to zero may conceal substantial sectoral gains and losses.
- 3) **Distinguish product, supplier and value-chain diversification.** A wider product range does not necessarily reduce dependence on a limited number of supplier countries, and a new direct supplier may still embody inputs from an established source.
- 4) **Recognise structural limits to trade-policy diversification.** Where supply is constrained by resource location, economies of scale or persistent barriers to entry, trade policy may need to be complemented by economic-security and industrial-policy measures.
- 5) **Do not treat EU-wide estimates as national outcomes.** Sweden's results show that industrial structure shapes the response to an agreement.

The absence of large product-range effects for most agreements – Vietnam is the clearest exception, with Canada showing clear export gains but modest aggregate effects – does not mean that free trade agreements are unimportant for diversification. As geopolitical risk rises, a broad network of agreements widens the options available to firms. But agreements are one instrument among several, and they will not reduce strategic dependence on their own. Future evaluations should ask not only whether more products are traded, but also whether sourcing becomes less concentrated and value chains become more diversified.

References

- Ahn, M. J. and Tan, B. (2025). Supply chain diversification and resilience. IMF Working Paper 2025/102.
- Anderson, M. L. (2008). Multiple Inference and Gender Differences in the Effects of Early Intervention: A Reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects. *Journal of the American Statistical Association*, 103(484), 1481–1495.
- Baier, S. L., Bergstrand, J. H. and Feng, M. (2014). Economic integration agreements and the margins of international trade. *Journal of International Economics*, 93(2), 339–350.
- Baier, S. L., Yotov, Y. V. and Zylkin, T. (2019). On the widely differing effects of free trade agreements. *Journal of International Economics*, 116, 206–226.
- Benjamini, Y. and Hochberg, Y. (1995). Controlling the False Discovery Rate: A Practical and Powerful Approach to Multiple Testing. *Journal of the Royal Statistical Society: Series B*, 57(1), 289–300.
- Bernard, A. B., Redding, S. J. and Schott, P. K. (2011). Multiproduct firms and trade liberalization. *Quarterly Journal of Economics*, 126(3), 1271–1318.
- Besedeš, T., Kohl, T. and Lake, J. (2020). Phase out tariffs, phase in trade? *Journal of International Economics*, 127.
- Cho, S. W., Choi, H. and Díaz, J. P. (2018). Do free trade agreements increase the new goods margin? *Open Economies Review*, 29, 1095–1122.
- European Commission (2025). EU–Singapore Free Trade Agreement. Access2Markets. Retrieved 20 June 2026.
- Growth Analysis (2025). Geografisk diversifiering i svenska leverantörsled: företagsstrategier och motståndskraft i globala värdekedjor. Report 2025:03.
- Hayakawa, K. and Dinh, C. N. (2025). Foreign Firms in Vietnam and the US–China Trade War. IDE Discussion Paper No. 951, IDE–JETRO.
- International Trade Centre (ITC). (n.d.). Market Access Map. Geneva: ITC. Retrieved June 2026, from <https://www.macmap.org/>
- Kehoe, T. J. and Ruhl, K. J. (2013). How important is the new goods margin in international trade? *Journal of Political Economy*, 121(2), 358–392.
- Le, L. and Baker, P. (2023). Vietnam: The end of trading under the European Union’s Generalised Scheme of Preferences for Vietnam. *Trade Economics*. <https://tradeeconomics.com/viet-nam-the-end-of-trading-under-the-european-unions-generalised-scheme-of-preferences-for-viet-nam/>
- Martin, J., Mejean, I. and Parenti, M. (2026). Relationship Stickiness, International Trade, and Economic Uncertainty. *Review of Economics and Statistics*, 108(1), 179–193.
- Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica*, 71(6), 1695–1725.
- Nilsson, L. and Svensson, R. (2025). Recent EU FTAs and diversification of supply. CEN Working Paper 3/2025.
- National Board of Trade (2018). The use of the EU’s FTAs. Stockholm.
- National Board of Trade (2019). The trade effects of EU regional trade agreements – evidence and strategic choices, November 2019, ISBN 978-91-88201-57-7.
- National Board of Trade (2023a). The role of trade in the green transition. Stockholm.
- National Board of Trade (2023b). Do Provisions in Free Trade Agreements Diversify Trade? A first look at the extensive margin of trade.

- OECD (2023). Non-tariff measures affecting environmental goods trade. OECD Trade Policy Paper.
- OECD (2025a), Economic Security in a Changing World, New Approaches to Economic Challenges, OECD Publishing, Paris.
- OECD (2025b), OECD Supply Chain Resilience Review: Navigating Risks, OECD Publishing, Paris.
- Persson, M. and Wilhelmsson, F. (2016). EU trade preferences and export diversification. *The World Economy*, 39(1), 16–53.
- Rajah, R. and Albayrak, A. (2025). China versus America on global trade. Lowy Institute, Indo-Pacific Development Centre, 30.
- Rotunno, L., & Ruta, M. (2024). Trade spillovers of domestic subsidies. *International Monetary Fund*.
- Santos Silva, J. M. C. and Tenreyro, S. (2006). The log of gravity. *Review of Economics and Statistics*, 88(4), 641–658.
- Truong, H. Q. (2024). Vietnam’s participation in global value chains: achievements, challenges and policy implications. In Truong, N. and Tuong, V. (eds.), *The Dragon’s Underbelly: Dynamics and Dilemmas in Vietnam’s Economy and Politics* (pp. 108–138). ISEAS Publisher.
- UK Department for International Trade. (2018). Impact assessment for the EU-Singapore Free Trade Agreement. London: Department for International Trade. Available at: <https://www.gov.uk/government/publications/impact-assessment-for-eu-singapore-fta>.

Appendix A.

Data and harmonisation of product codes

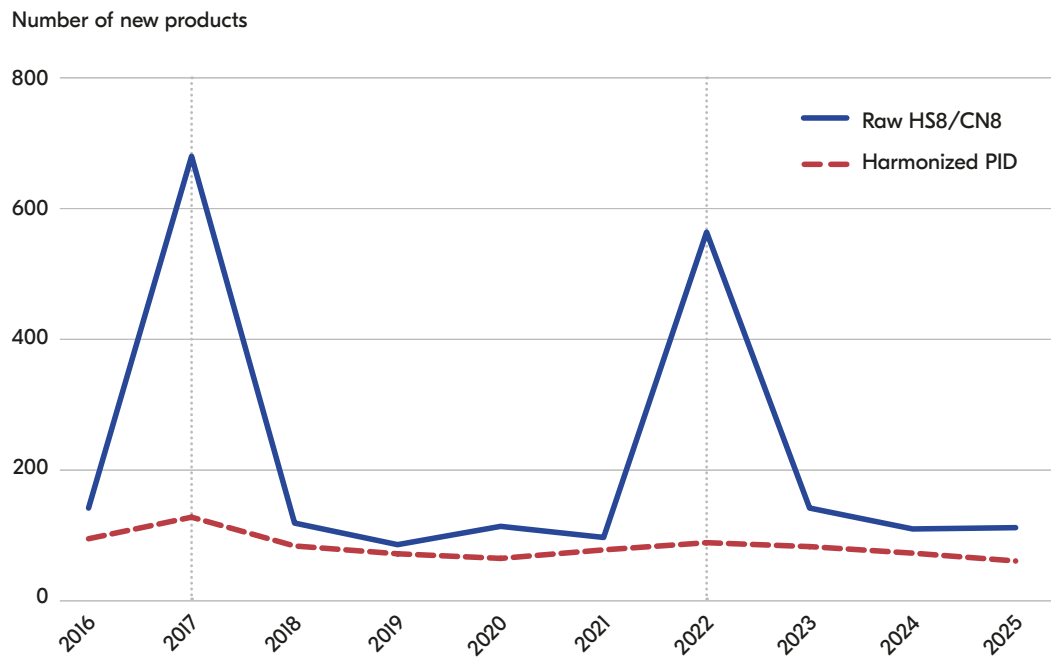
A.1 Harmonisation of CN product codes

The Combined Nomenclature (CN) is revised annually, with codes split, merged or renumbered for administrative reasons. Without correction, such revisions would appear as product entry or exit in the data. The harmonisation procedure links codes across revisions using the official concordance tables. When a code is split, the post-split codes are mapped back to the pre-split code and treated as a single harmonised product identifier (PID). When codes are merged, the pre-merger codes are mapped forward to the surviving code, while simple renumberings are linked directly.

The harmonisation is carried out at the CN8 level, which is considerably more detailed than the HS6 level commonly used in the literature. Figure A1 validates the procedure by comparing the annual number of new products in the raw CN8 data with the harmonised PID series for EU27 exports to Canada, Japan, Singapore and Vietnam. In non-revision years, the two series evolve closely. By contrast, in the CN revision years the raw CN8 count jumps to 680 new codes in 2017 and 564 in 2022, while the harmonised PID series remains at 128 and 89, respectively. Without harmonisation, the raw data would therefore overstate new-product entry by roughly 430 per cent in 2017 and 530 per cent in 2022, purely as a mechanical consequence of nomenclature revisions.

Figure A1 is presented at the product level because its purpose is to validate the harmonisation procedure itself. The econometric analysis in the main text is instead conducted at the reporter-partner-year level, which is the appropriate unit for estimating the diversification effects of individual FTAs.

Figure A1. New export products before and after CN8 harmonisation



Annual number of newly exported products in EU27 exports to Canada, Japan, Singapore and Vietnam. A product is classified as new if it is exported in year t but was not exported during the preceding three years. Each CN8/PID product is counted only once per year, irrespective of the destination partner. Vertical dashed lines indicate CN revision years (2017 and 2022).

Appendix B. Method in technical form

The baseline specification estimates the effect of FTAs on the number of traded products using a gravity framework with high-dimensional fixed effects. The dependent variable, y_{ipt} , is the number of active CN8 products traded between reporter country i and partner country p in year t . Because the outcome is a non-negative count with many zeros, the model is estimated using Poisson pseudo-maximum likelihood (PPML). In the main aggregate specifications (Figure 2 and the tables), standard errors are clustered at the reporter–partner pair level. PPML is robust to heteroskedasticity, accommodates zero trade flows naturally, and has become the standard estimator for gravity models (Santos Silva and Tenreyro, 2006).

The conditional mean is specified as:

$$E(y_{ipt}|\cdot) = \exp(\beta D_{pt}^{FTA} + \gamma D_{pt}^{FTA} \times SE_i + \mu_{ip} + \delta_{it})$$

where D_{pt}^{FTA} equals one from the first full calendar year after entry into force of an agreement with partner p , μ_{ip} are reporter–partner fixed effects, and δ_{it} are reporter-by-year fixed effects. Percentage effects are calculated as $100 \times (e^{\hat{\beta}} - 1)$. Partner-by-year fixed effects are not included because they would absorb the FTA indicator completely. Reporter–partner fixed effects absorb all time-invariant bilateral characteristics, while reporter-by-year fixed effects capture common shocks affecting each reporter in a given year, including macroeconomic conditions and the COVID-19 pandemic. Identification therefore comes from within reporter–partner changes around FTA implementation relative to the reporter’s other trading partners.

To examine heterogeneity, the model is estimated separately by HS section, and a Sweden interaction term is included to test whether Sweden differs from the EU26 average. Supplier concentration is analysed as a robustness check on the product-count results, using a difference-in-differences specification by pre-FTA HHI quartile. For the HS-section and BEC estimates (Figure 3 and Appendix Figure C1), standard errors are clustered at the partner level because the FTA indicator varies by partner and unobserved shocks are likely correlated across reporter–partner pairs for the same partner; with roughly 25–26 partners in the control group the cluster count is modest but within the range commonly used in applied gravity work. As a robustness check they are also computed with clustering at the reporter–partner pair level, which does not change the main conclusions. Estimating the change in concentration separately by pre-agreement concentration quartile gives small and uncertain effects for the EU27 throughout. Some movement appears for Sweden among products that were already relatively diversified, but the overall conclusion holds: there is little sign that the agreements broadened the supplier base for products already traded. Member States differ considerably in their extensive-margin growth (Appendix E), which is a further reason not to read EU averages as national outcomes.

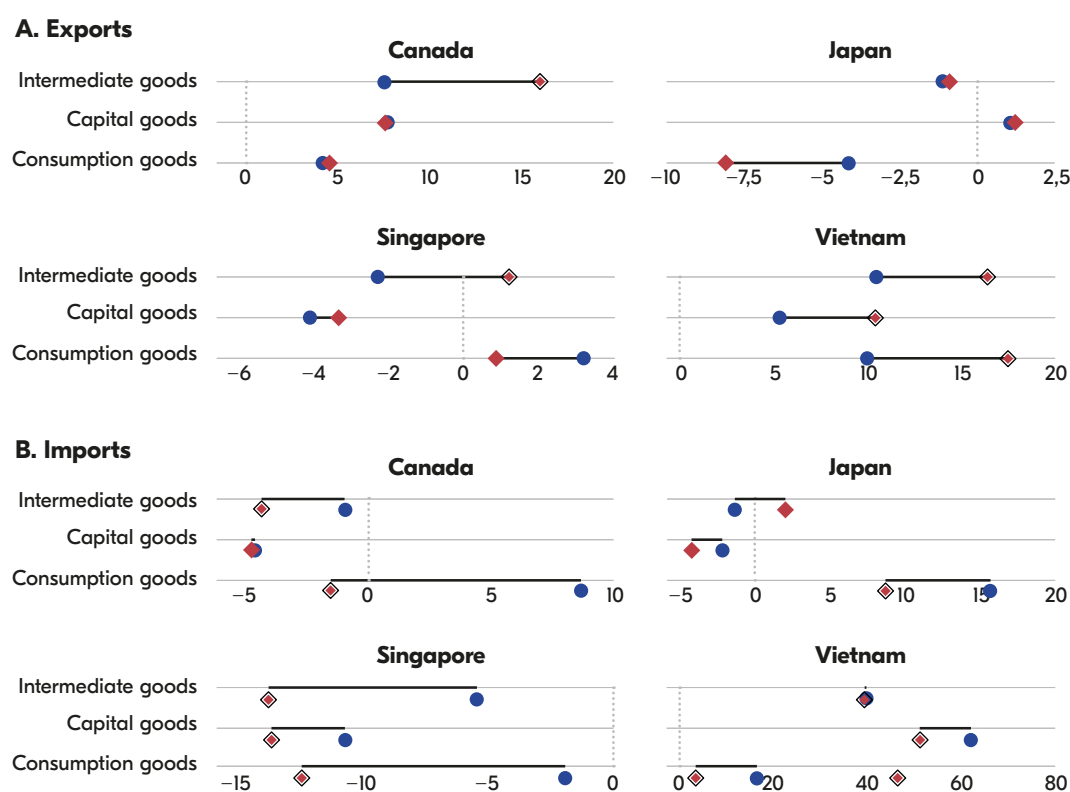
Appendix C. Sector-level results

C.1 BEC main groups

The sectoral results in the main text group products by HS section, which reflects the physical nature of the goods rather than their economic use. As a robustness check, Figure C1 repeats the estimation with products grouped by end use according to the United Nations Classification by Broad Economic Categories, Rev.5 (BEC Rev.5). This classification divides products into intermediate, capital and consumption goods and is defined directly in terms of the Harmonized System.

The main picture is unchanged. The largest positive effects remain concentrated in Canada and Vietnam, while the near-zero totals for Japan and Singapore reflect offsetting movements across product groups rather than an absence of effects. The breakdown also sharpens the Vietnam result: on the import side, the increase is strongest for capital and intermediate goods, whereas the effect for consumption goods is considerably smaller. The agreements therefore appear to broaden trade particularly in components and machinery used in production networks.

Figure C1. Export and import effects on the number of traded products, by BEC main group



Note: Navy circles show the EU26 effect, red diamonds Sweden's total effect (the EU26 effect plus Sweden's estimated deviation). A hollow diamond marks cases where Sweden differs significantly from the EU26 after controlling the false discovery rate across the 3 groups $\times$ 4 agreements (Benjamini–Hochberg $q < 0.10$). Effects are percentage changes, calculated as $100 \times (\exp(\beta) - 1)$, estimated with PPML on 2012–2025 data with pair and reporter-year fixed effects and standard errors clustered by partner. Products are assigned to end-use groups through the HS6 correspondence of BEC Rev.5. Source: Eurostat Comext, UN BEC Rev.5, own calculations.

Estimated percentage effects of each agreement on the number of exported products (panel A) and imported products (panel B), shown separately for the EU26 and Sweden and for the three main end-use groups of BEC Rev.5: intermediate goods, capital goods and consumption goods.

Appendix D.

Vietnam: preferences and value chains

D.1 Preference utilisation

Preference utilisation is analysed using Eurostat's Adjusted extra-EU imports by tariff regime data. The data report import values by EU Member State, partner country, CN8 product, statistical procedure, tariff eligibility and import regime. Eligibility identifies the tariff treatments for which an import flow qualified, whereas import regime identifies the treatment actually applied when the goods entered the EU. Table D1 summarises the codes used in the analysis.

Table D1. Eurostat tariff-eligibility and import-regime codes

Variable	Code	Meaning
eligibility	E3	Eligible only for another preferential arrangement, including a FTA
	E5	Eligible for both GSP and another preferential arrangement
	EZ	Eligibility unknown or unspecified
import_regime	U30	Other preferential treatment applied, zero preferential tariff
	U31	Other preferential treatment applied, positive preferential tariff

Note: Eligibility identifies the tariff treatments for which an import flow qualified, whereas import regime identifies the treatment actually applied. Codes E3 and E5 are interpreted as FTA eligibility after the relevant agreement entered into force. During Vietnam's transition from GSP to EVFTA, E5 identifies import flows eligible under both arrangements. Source: Eurostat, Adjusted extra-EU imports by tariff regime (DS-059339).

FTA-eligible import value is defined as import value recorded under eligibility codes E3 or E5. Preferential import value is defined as import value entering under regime codes U30 or U31. The value-weighted preference-utilisation rate (PUR) is calculated as:

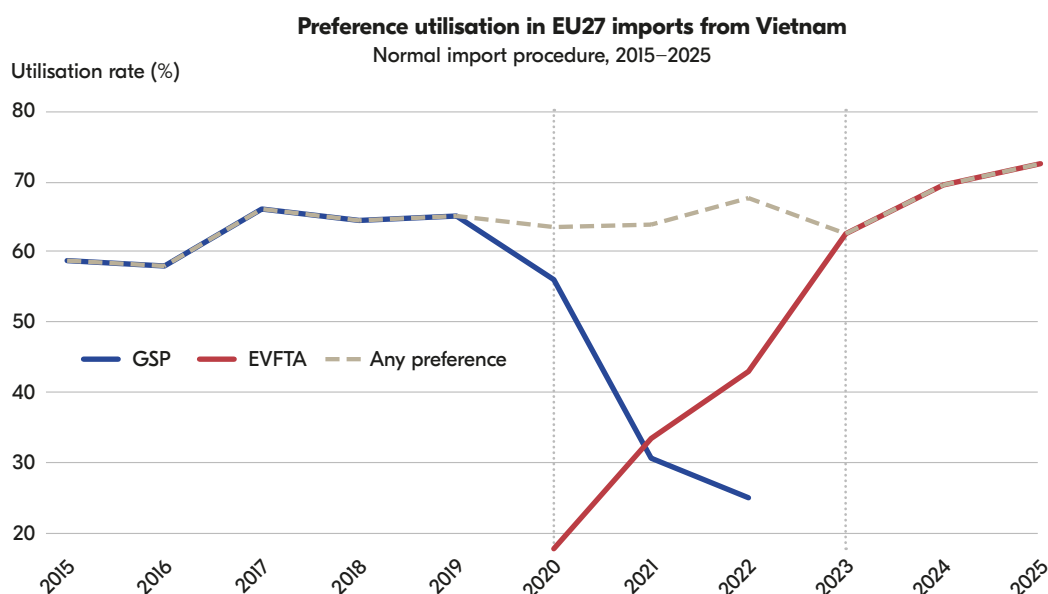
$$\text{PUR (\%)} = \frac{U_{30} + U_{31}}{E_3 + E_5} \times 100$$

where the sums are restricted to imports under the normal import procedure.⁷

Because the same reporter-partner-product combination may be recorded under more than one import regime, part of a product's imports may enter under an FTA preference while the remainder enters under MFN treatment. The calculations are restricted to the normal import procedure. CN8 codes are mapped to harmonised product identifiers (PIDs) before products are compared over time. Because the tariff-regime data do not identify individual importing firms, the analysis measures preference utilisation across recorded trade flows rather than across firms.

7. GSP claims (regime codes U20 and U21) are deliberately excluded from the numerator. A consignment can be declared under only one regime, so GSP use and FTA preference use are mutually exclusive, and counting GSP claims as FTA utilisation would conflate two different regimes. For the agreements covered here the issue is immaterial in any case: Canada, Japan and Singapore have never been GSP beneficiaries, and Vietnam's GSP access was phased out around EVFTA's entry into force.

Figure D1. Use of tariff preferences in EU27 imports from Vietnam, 2015–2025



EVFTA entered into force in August 2020; Vietnam left GSP in January 2023.

Note: Share of eligible import value entering under a preferential regime. EVFTA entered into force in August 2020; Vietnam ceased to benefit from the EU's unilateral preference scheme in January 2023.
Source: Eurostat customs data.

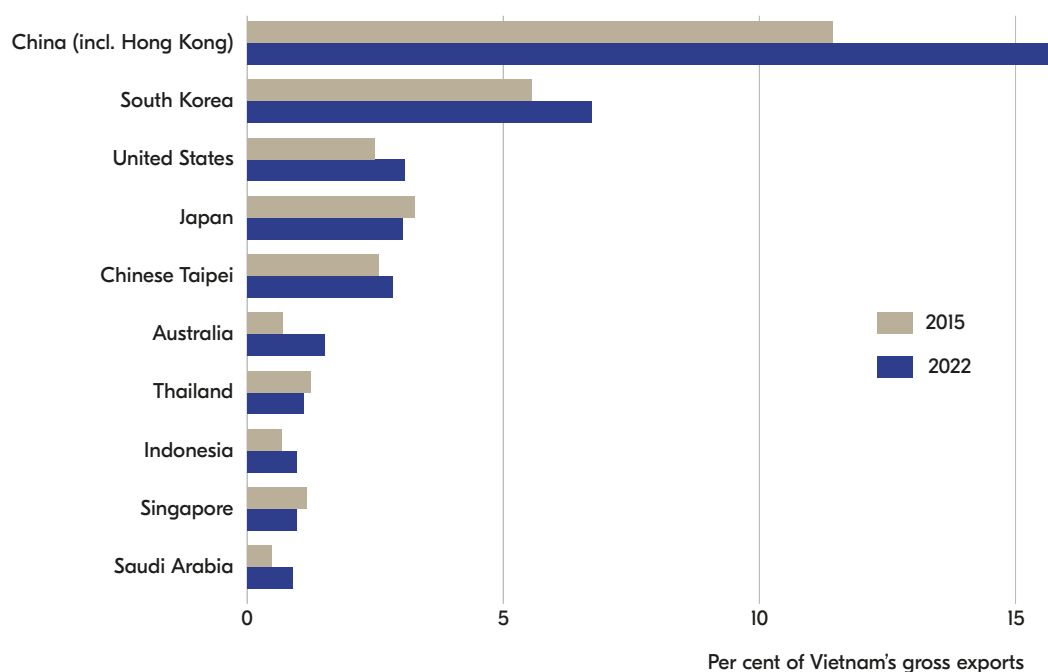
Comparing value-weighted preference utilisation during the final GSP years, 2017–2019, with utilisation under EVFTA in 2023–2025 shows considerable sectoral heterogeneity rather than a uniform increase following EVFTA. Utilisation increased substantially in fats and oils, precious metals, chemicals and textiles, while declining in minerals, stone and glass products, miscellaneous manufactures and several metal-related sectors. The analysis using harmonised product identifiers confirms similar variation across individual products: products with larger increases in utilisation generally recorded stronger import growth, although the relationship is not statistically significant when products are weighted by their pre-EVFTA import value. Preferential imports were also observed for only a minority of the eligible products entering EU27 imports after the agreement. These findings suggest that tariff preferences contributed to some product-level trade growth but cannot alone explain the broader increase in imported product variety.

D.2 Evidence from TiVA

Previous studies point to Vietnam’s growing role as a downstream production and assembly hub in regional value chains, with a rising share of foreign value added in its exports (Truong, 2024; Rajah and Albayrak, 2025). Our own TiVA analysis confirms this broader pattern and shows in particular the increasing importance of inputs from China and other East Asian economies; see the section “Why Vietnam stands out” in the main text and Figure 4.

The index in Figure 4 shows how the contributions of different origins have grown, but not how large they are in relation to one another. Figure D2 therefore reports foreign value added in Vietnam’s exports in per cent of gross exports for 2015 and 2022, using the same bulk-data source and denominator as the comparison across agreement partners in Figure D3. China, including Hong Kong, accounted for the largest share and recorded the largest increase, from 11.4 per cent of gross exports in 2015 to 15.8 per cent in 2022 – more than twice the share of any other origin. South Korea made the next-largest contribution, while value added originating in the United States, Japan and the remaining leading origins was smaller. The origin pattern confirms that Vietnam’s integration in East Asian production networks is driven primarily by Chinese inputs, followed by other regional economies.

Figure D2. Foreign value added in Vietnam’s exports: main origin countries, 2015 and 2022 (per cent of gross exports)

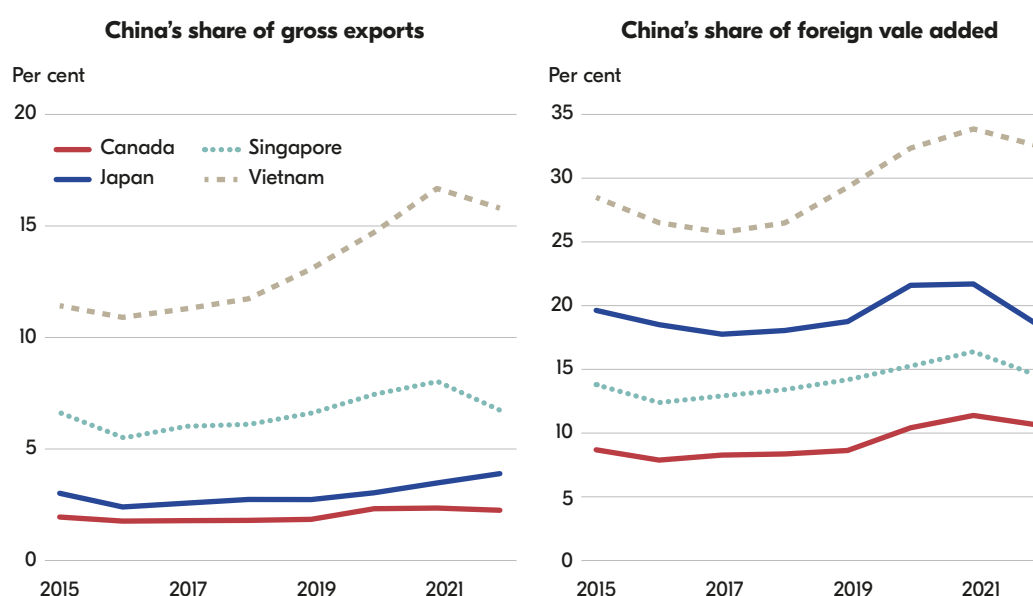


Note: The figure shows the ten largest foreign origin countries in 2022. China includes Hong Kong. EXGRVA refers to Vietnam’s exports to the world; a destination-specific breakdown for the EU is not available in the published TiVA data. Shares use the sum of value added from all domestic and foreign origins as the gross-export denominator, exactly as in Figure D3. Source: OECD TiVA 2025 (EXGRVA), current prices. Vietnamese domestic value added (DVA) is excluded from the bars but retained in the denominator.

D.3 Chinese value added in the exports of all four agreement partners

Vietnam is not the only agreement partner whose exports embody Chinese inputs. Figure D3 extends the comparison to Canada, Japan and Singapore using the same TiVA source and definitions as Figure D2, so Vietnam's 2022 value is identical in both figures. Vietnam stands out: the Chinese share of its gross exports rose from 11.4 to 15.8 per cent between 2015 and 2022, and China's share of the foreign value added in its exports rose from 28.5 to 32.6 per cent. Chinese content also grew in the other partners, but from lower levels and more slowly: in Singapore from 6.6 to 6.7 per cent of gross exports, in Japan from 3.0 to 3.9 per cent and in Canada from 2.0 to 2.3 per cent. Even so, China accounts for a sizeable part of the foreign content of Japanese (18.6 per cent in 2022, slightly down from 19.6 per cent in 2015) and Canadian (10.7 per cent, up from 8.7 per cent) exports.

Figure D3. Chinese value added in the exports of the four agreement partners, 2015–2022.



Note: China includes Hong Kong. Agreements in force: CETA 2017 (provisional), EU–Japan EPA and EUSFTA 2019, EVFTA 2020. Exports to the world; shares use the same denominator as Figure D2. Source: OECD TiVA 2025 (EXGRVA), current prices. Descriptive, not a causal estimate.

A natural follow-up question is whether the Chinese content of Vietnamese exports is consistent with the rules of origin in EVFTA. That question cannot be answered with TiVA, which is available at industry level only, whereas origin is determined product by product. Two observations are nevertheless relevant. First, the product-specific rules of origin in EVFTA are often formulated as a threshold for non-originating material (for example, a maximum share of the ex-works price) or as a change in tariff heading, so even a substantial Chinese content can satisfy them. There is no single, uniform value requirement: value-based rules are set product by product, most commonly as a maximum share of non-originating materials – often 50 per cent of the ex-works price, but with higher or lower limits for some products – while other products qualify through a tariff shift alone, with no value test at all. Second, preference utilisation under EVFTA remains limited (Section D.1). One hypothesis, which we cannot test with the available data, is that the binding constraint is not the origin threshold itself but the cost of documenting origin relative to the tariff margin at stake: where MFN tariffs are low, the paperwork required to prove originating status may simply not be worth the duty saving.

Appendix E. Variation across Member States

EU-wide averages may conceal differences among Member States. This appendix therefore reports country-specific effects for each agreement, with exports and imports side by side. The estimates cover 2012–2025 and use the main PPML specification and control group, interacting the agreement indicator with Member State dummies. Effects are reported as $100[\exp(\beta) - 1]$ per cent.

E.1 Results by agreement

Canada (CETA). Export effects are positive in most Member States. Sweden's estimate is around 11 per cent, while Germany's is around 2 per cent; import effects are more mixed.

Japan (EPA). Export effects lie close to zero for many Member States, while import effects vary more.

Singapore (EUSFTA). Results are mixed, with negative export estimates in Germany and Belgium and declining imports in Sweden and the Netherlands.

Vietnam (EVFTA). This is the clearest common pattern: imports increase in almost all Member States and export effects are predominantly positive. Sweden and the Netherlands record increases on both sides, while Germany and France lie lower in the import distribution, at around 13 per cent.

E.2 How to read the figures

Extreme estimates are concentrated among smaller Member States and are less precise. Many confidence intervals overlap zero and the pooled EU estimate; no cross-country equality tests or correction for multiple comparisons are reported. The figures therefore show heterogeneity, not a ranking of national outcomes. They concern product counts rather than trade values or welfare and do not explain the differences, which may reflect initial product range, industrial structure or re-exports. Vietnam's short post-entry period warrants particular caution.

Figure EI. Canada (CETA): estimated effects on the number of products traded, by EU Member State

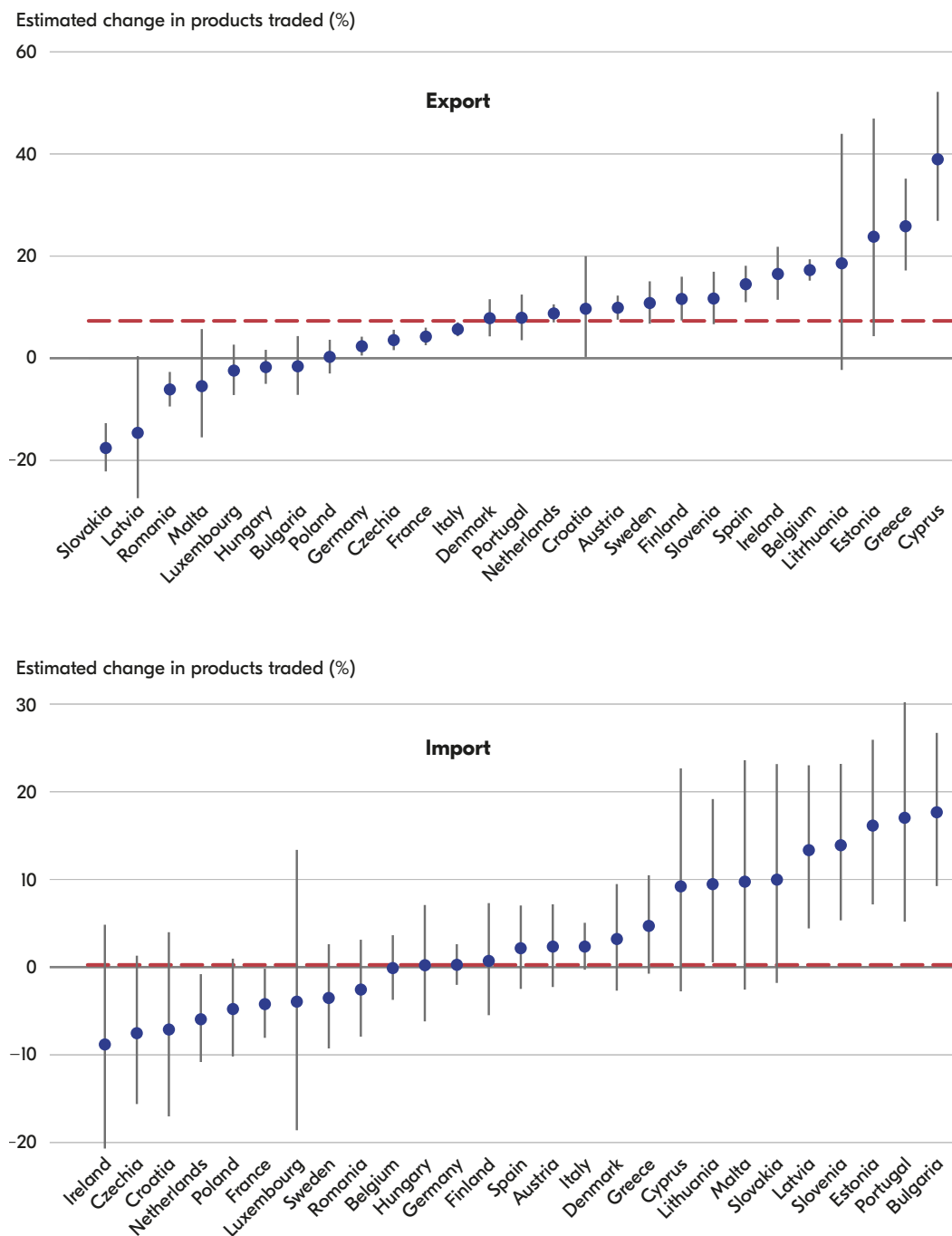


Figure E2. Japan (EPA): estimated effects on the number of products traded, by EU Member State

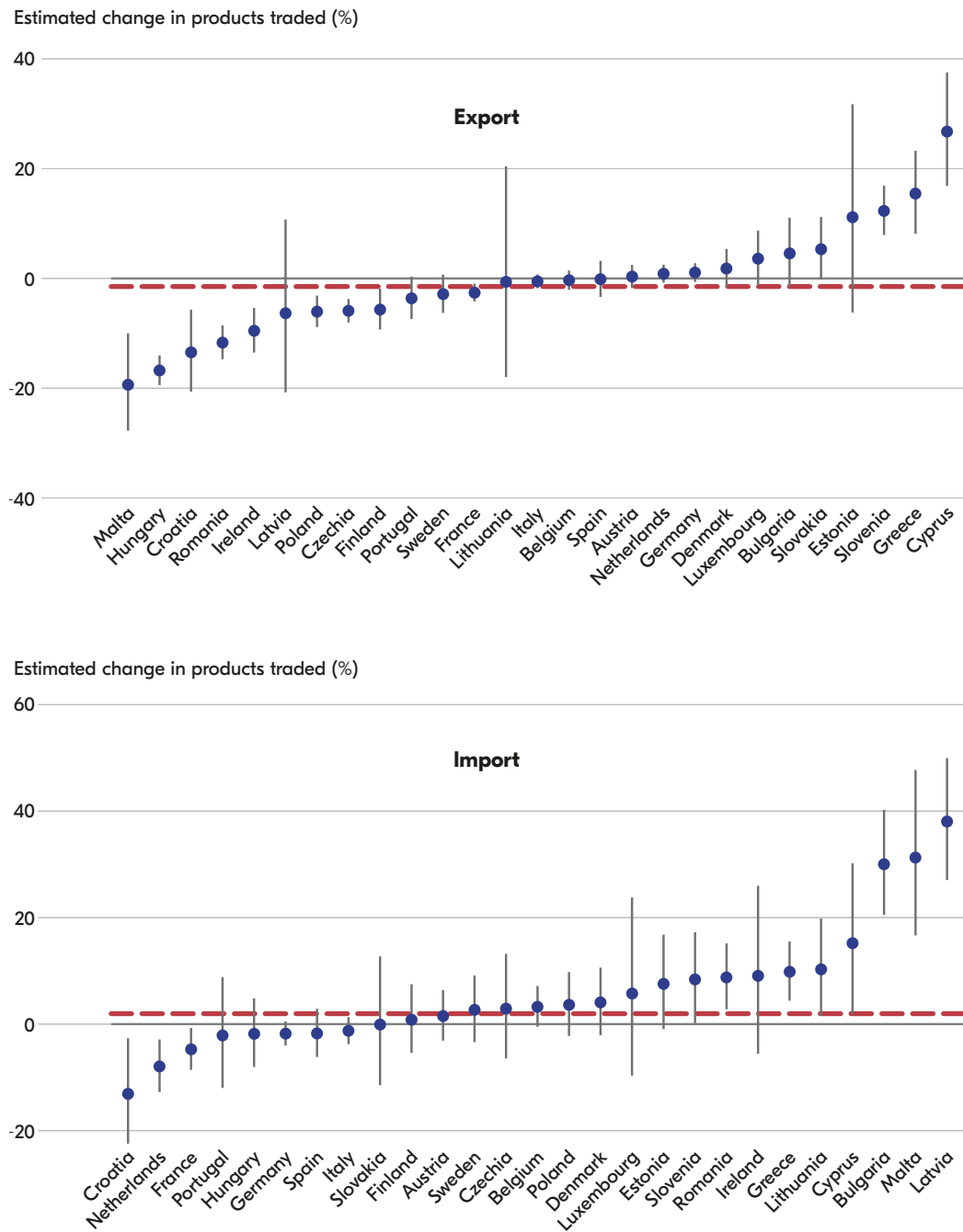


Figure E3. Singapore (EUSFTA): estimated effects on the number of products traded, by EU Member State

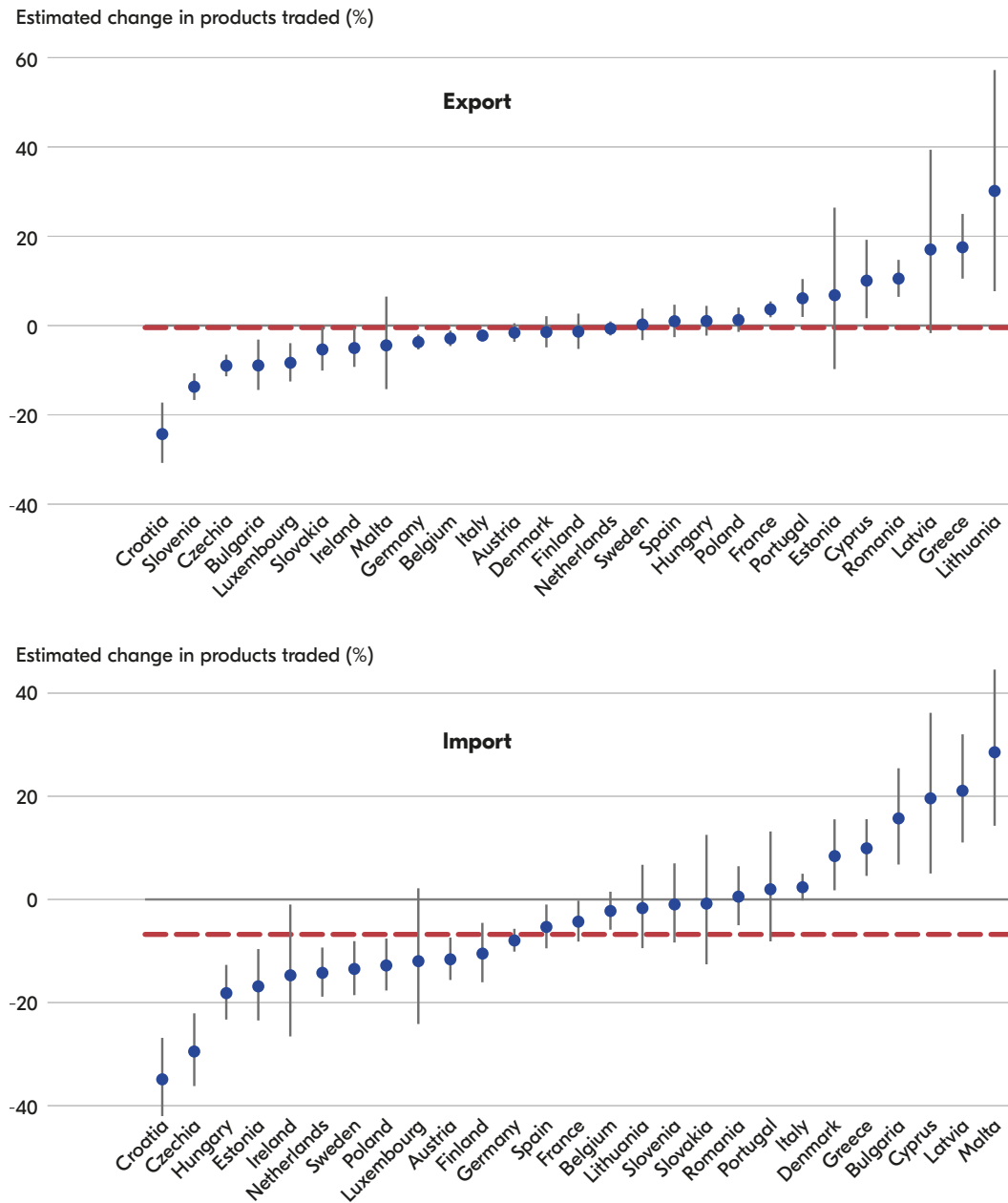
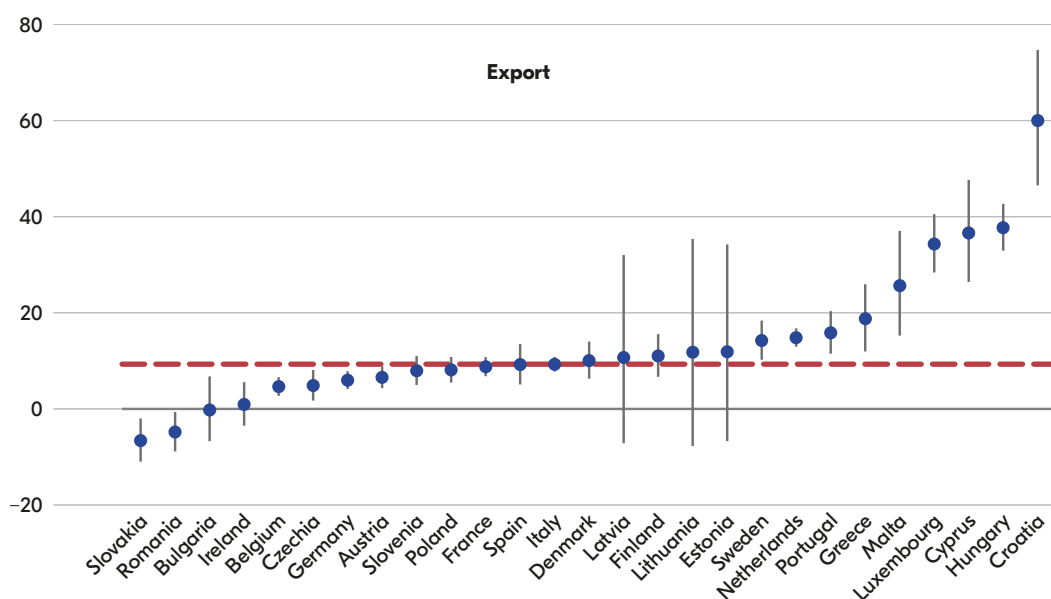
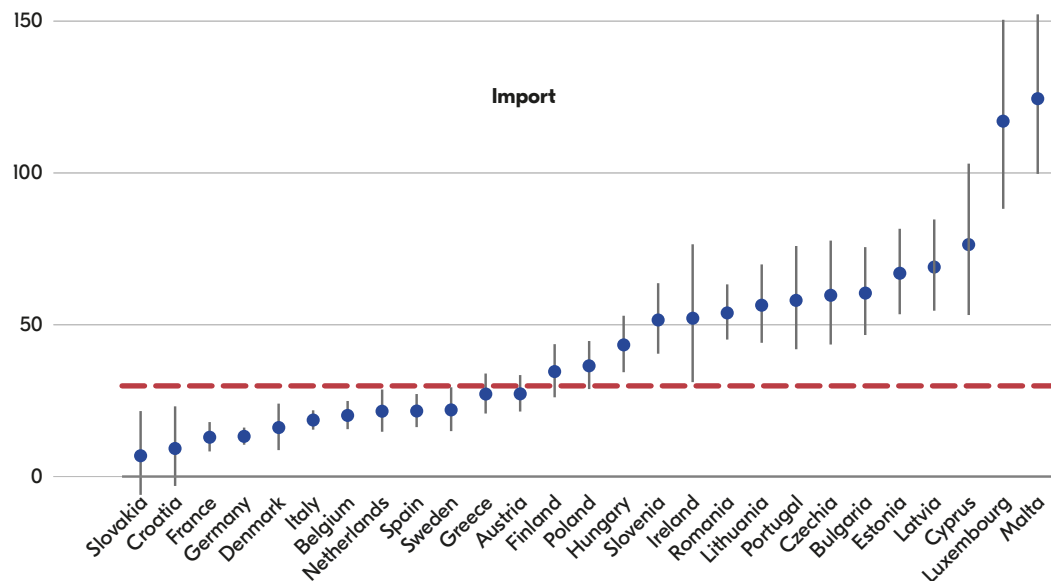


Figure E4. Vietnam (EVFTA): estimated effects on the number of products traded, by EU Member State

Estimated change in products traded (%)



Estimated change in products traded (%)



Note (Figures E1–E4): Country-specific PPML estimates using the same specification as the main analysis, 2012–2025. Dots show total estimated effects, transformed as $100[\exp(\beta) - 1]$; horizontal lines show 95 per cent confidence intervals. The red dashed line is the pooled EU estimate from the corresponding baseline model. Countries are ordered by their point estimate within each panel; export and import panels have separate scales. Member States with fewer than 200 observations in a flow are omitted from the figure.

Appendix F.

Countries included in the comparison group

Table FI. List of countries included in the analysis

ISO	Country	Group	Rank
CA	Canada	FTA partner	–
JP	Japan	FTA partner	–
SG	Singapore	FTA partner	–
VN	Vietnam	FTA partner	–
CN	China	Control	1
US	United States	Control	2
CH	Switzerland	Control	3
TR	Türkiye	Control	4
NO	Norway	Control	5
IN	India	Control	6
BR	Brazil	Control	7
SA	Saudi Arabia	Control	8
MX	Mexico	Control	9
DZ	Algeria	Control	10
AE	United Arab Emirates	Control	11
TW	Taiwan	Control	12
HK	Hong Kong	Control	13
ZA	South Africa	Control	14
AU	Australia	Control	15
NG	Nigeria	Control	16
MA	Morocco	Control	17
IL	Israel	Control	18
MY	Malaysia	Control	19
TH	Thailand	Control	20
KZ	Kazakhstan	Control	21
EG	Egypt	Control	22
ID	Indonesia	Control	23
TN	Tunisia	Control	24
LY	Libya	Control	25
PH	Philippines	Additional regional control	–

Note: Control countries were selected as the EU27's 25 largest eligible non-EU trading partners based on average trade value during 2012–2016. The Philippines was added as an unranked regional comparator because of its economic and geographical relevance to Vietnam. Indonesia and Thailand were also designated as regional comparators but were already included among the top 25.

Appendix G. Herfindahl–Hirschman Index (HHI) of supplier concentration

For each time-consistent product g , reporter i and year t , concentration across non-EU supplier countries is measured as the sum of squared partner shares:

$$HHI_{git} = \sum_{j=1}^{N_{git}} s_{git}^2$$

This first equation is the product-level concentration index. For a given product, reporter and year, it takes each supplier country's share of the reporter's imports of that product, squares the shares and adds them up. Squaring means that large suppliers contribute disproportionately: a supplier with 80 per cent of imports raises the index far more than eight suppliers with 10 per cent each. N_{git} is the number of partner countries from which reporter i imports product g in year t .

$$s_{git} = \frac{\text{imports of } g \text{ from } j}{\text{total imports of } g}$$

This second equation defines the shares that enter the index. Each share is the value of product g that reporter i imports from partner j in year t , divided by reporter i 's total extra-EU imports of product g in year t . The shares therefore sum to one across all non-EU suppliers, and the index is not affected by the overall size of imports of the product.

$$HHI_{it} = \sum_g o_{git} HHI_{git}$$

This third equation aggregates the product-level indices to a single number per reporter and year. Each product's HHI is weighted by that product's share of the reporter's total extra-EU imports (o_{git}), so that economically important products count more than marginal ones. The same logic is applied to exports, with partner shares measured as exports to each destination and weights based on export values.

G.1 Properties of the index

Bounded. HHI lies between 0 and 1. A value close to 0 means many small suppliers; a value of 1 means a single supplier.

Effective number of suppliers. $1/HHI$ gives the intuitive “numbers equivalent”: the number of equally sized suppliers that would produce the same index value.

Example 1: three extra-EU suppliers with equal shares ($1/3$ each) give $HHI = 3 \times (1/3)^2 = 0.33$, i.e. 3 effective suppliers.

Example 2: shares of 80 / 15 / 5 per cent give $HHI = 0.80^2 + 0.15^2 + 0.05^2 = 0.665$, i.e. only about 1.5 effective suppliers – one dominant source.

Large suppliers matter most. Squaring the shares means that big suppliers pull the index up more than many small ones. This is the right emphasis when the policy concern is dependence on a dominant source.

G.2 Note on use in the report

The main text reports a single value-weighted mean of product-level HHIs across all extra-EU imports for each year. It therefore describes the average concentration of sourcing across products, not concentration within a specific product group. The HHI is used descriptively in Figure 5; it is not estimated against a control group.

The same index logic, or its complement (one minus the HHI), is used elsewhere to measure geographic risk diversification in supply chains. Growth Analysis (2025) applies the complement of the HHI across supplier countries at the firm–input level to study Swedish manufacturing firms’ resilience to global supply disruptions; higher diversification is associated with lower vulnerability. The present report uses the HHI itself rather than its complement, so higher values indicate more concentrated – and in this sense more dependent – sourcing.

Appendix H.

The estimated effects in product-count levels

Table H1 puts the percentage effects in Figure 2 into product-count levels. It reports the average number of distinct CN8 products traded per reporter–partner–year before and after each agreement. For the EU26 and Sweden, the final column applies the model estimate to the pre-agreement mean to show its approximate magnitude in numbers of products. Germany is included as a descriptive benchmark because it traded substantially more products with all four partners before the agreements; no Germany-specific model estimate is reported here.

Table H1. Average number of distinct CN8 products traded before and after the agreements

Panel A. Imports						
Partner	Reporter	Pre-FTA mean	Post-FTA mean	Change (% , raw)	Est. effect (%)	Products (approx. no.)
Canada	Germany	3 462	3 248	−6,2	–	–
	EU26	1 320	1 564	18,5	0,5	7
	Sweden	2 363	2 736	15,8	−3,5	−83
Japan	Germany	4 725	4 382	−7,2	–	–
	EU26	1 834	2 218	21,0	1,9	35
	Sweden	2 728	3 418	25,3	2,7	73
Singapore	Germany	2 320	1 955	−15,7	–	–
	EU26	720	860	19,4	−6,3	−45
	Sweden	1 324	1 509	14,0	−13,5	−179
Vietnam	Germany	2 284	2 490	9,0	–	–
	EU26	732	1 243	69,7	30,4	223
	Sweden	1 325	2 198	65,9	22,0	291

Panel B. Exports						
Partner	Reporter	Pre-FTA mean	Post-FTA mean	Change (% , raw)	Est. effect (%)	Products (approx. no.)
Canada	Germany	5 030	4 591	−8,7	–	–
	EU26	1 549	1 846	19,2	7,1	110
	Sweden	2 428	3 153	29,9	10,8	263
Japan	Germany	5 390	4 847	−10,1	–	–
	EU26	1 585	1 725	8,8	−1,4	−22
	Sweden	2 757	3 103	12,6	−2,9	−79
Singapore	Germany	5 018	4 284	−14,6	–	–
	EU26	1 319	1 458	10,6	−0,5	−7
	Sweden	2 071	2 440	17,8	0,2	4
Vietnam	Germany	3 794	3 668	−3,3	–	–
	EU26	806	1 034	28,3	9,1	73
	Sweden	959	1 433	49,3	14,2	137

Note: Pre-agreement period 2012–2016; post-agreement period runs from the first full calendar year after entry into force (2018 for Canada, 2019 for Japan, 2020 for Singapore, 2021 for Vietnam) through 2025. Product counts are averages per reporter–partner–year; EU26 is the unweighted average across the 26 Member States excluding Sweden, with Germany shown separately. “Raw change” is the descriptive difference between the two means, not an estimated effect. “Estimated effect” is the PPML estimate from Figure 2; “Approximate number of products” applies it to the pre-agreement mean and is an order of magnitude only. Germany-specific estimates are unavailable (blank). Source: Eurostat Comext; own calculations.

Sammanfattning

Summary in Swedish

EU:s frihandelsavtal med Kanada, Japan, Singapore och Vietnam har breddat varuhandeln, men effekterna varierar kraftigt mellan avtal och branscher. Analysen bygger på detaljerad produktnivåstatistik för 2012–2025 och fokuserar på den extensiva marginalen: antalet olika produkter som handlas och antalet leverantörländer. Den studerar inte den intensiva marginalen, det vill säga förändringar i handelsvärde inom befintliga produktrelationer. Tidigare forskning visar att handelsavtal ofta har sina största effekter där.

De aggregerade effekterna på produktbredden är små: positiva och negativa bransch-effekter tar ut varandra, så totalen blir nära noll. Detta är väntat när man mäter antalet produkter snarare än handelsvärde.

Vietnam ger den klart starkaste effekten. Efter avtalet importerar EU omkring 30 procent fler olika produkter från Vietnam, med 60–70 procent inom kemikalier, instrument och maskiner. Sveriges motsvarande ökning är omkring 22 procent. Tullpreferenserna är dock inte huvudförklaringen: endast en minoritet av de nya varorna utnyttjade faktiskt preferenserna. I stället speglar mönstret Vietnams växande roll i regionala produktionsnätverk. Kompletterande data bekräftar att ökningen av utländskt förädlingsvärde i Vietnams export koncentrerades till Kina och Sydkorea. BEC-uppdelningen visar att breddningen gäller främst insatsvaror och kapitalvaror – just de led i värdekedjan där importberoenden är mest känsliga ur ett ekonomisk-säkerhetsperspektiv. Ökad produktbredd i importen från Vietnam innebär alltså inte minskat beroende av Kina; breddningen sker i de mest känsliga produktkategorierna samtidigt som det kinesiska innehållet i exporten ökar, så att beroendet snarare har lagts till ovanpå än ersatts.

Kanada uppvisar breda positiva exporteffekter, särskilt inom animaliska produkter och trä, medan importeffekterna är mer modesta. Japan och Singapore visar svagare och mer blandade resultat. Sverige följer i huvudsak EU-mönstret, men svenska export-effekter till Kanada och Vietnam är ofta något starkare än EU-genomsnittet, medan importeffekterna ibland är svagare.

Trots ökad produktbredd har leverantörskoncentrationen varit i stort sett oförändrad för både EU och Sverige, mätt med Herfindahl–Hirschman-index (HHI). Frihandelsavtal kan bredda produktutbudet där alternativa leverantörer kan ta sig in, men de löser inte koncentrerade beroenden på egen hand. De svagaste effekterna finner vi för konsumtionsvaror och i produktgrupper där leverantörsbasen är smal enligt HHI-måttet. Där behöver handelspolitiken kompletteras med andra instrument inom ekonomisk säkerhet och industripolitik.

The National Board of Trade Sweden is the government agency for international trade, the EU internal market and trade policy. Our mission is to facilitate free and open trade with transparent rules as well as free movement in the EU internal market.

Our goal is a well-functioning internal market, an external EU trade policy based on free trade and an open and strong multilateral trading system.

We provide the Swedish Government with analyses, reports and policy recommendations. We also participate in international meetings and negotiations.

The National Board of Trade, via SOLVIT, helps businesses and citizens encountering obstacles to free movement. We also host several networks with business organisations and authorities which aim to facilitate trade.

As an expert agency in trade policy issues, we also provide assistance to developing countries through trade-related development cooperation. One example is Open Trade Gate Sweden, a one-stop information centre assisting exporters from developing countries in their trade with Sweden and the EU.

Our analyses and reports aim to increase the knowledge on the importance of trade for the international economy and for global sustainable development. Publications issued by the National Board of Trade only reflect the views of the Board.

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