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Cumulative economic impact of upcoming trade agreements on EU agriculture

2024 Update

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Interactive infographic

The reader is invited to consult the European Commission data portal of agro-economic modelling DataM at https://datam.jrc.ec.europa.eu for more details of the modelling results. The interactive infographic about this study can be found in the 'Agro-economic studies' section.

Direct link: https://datam.jrc.ec.europa.eu/datam/mashup/FTA_2024/

Contents

Abstract

This study investigates the potential effects of 10 upcoming free trade agreements (FTAs) under the current EU trade agenda. It quantifies the cumulative sectoral impacts in terms of bilateral trade, production, demand and price developments. Moreover, it provides insights into the evolution of supply, demand and farm-gate prices for the most relevant EU agricultural commodity markets. In contrast to a forecast exercise, this analysis compares two variants of a trade liberalisation scenario (conservative and ambitious) with a business-as-usual (baseline) situation in 2032, including an analysis of the effects of the UK trade agenda on EU agri-food trade.

The study confirms that the analysed FTAs have the potential to benefit the EU agri-food sector, especially the dairy, pigmeat, processed food and beverages sectors. It also highlights the vulnerability of the beef, sheep meat, poultry meat, sugar and rice sectors.

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Executive summary

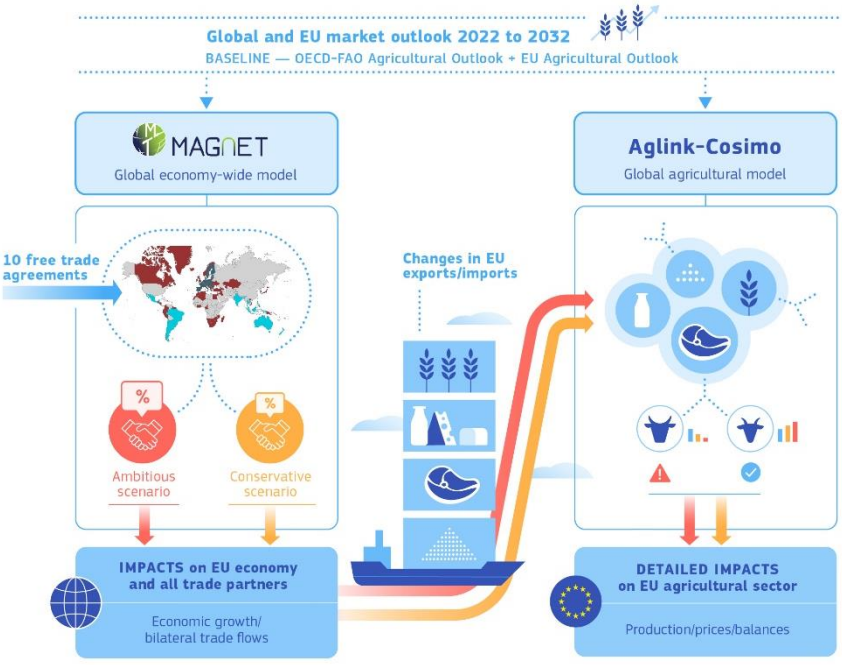
This study is the third analysis of the cumulative economic impact of upcoming EU free trade agreements (FTAs) and is published by the European Commission's Joint Research Centre (JRC). The previous studies were published in 2016 and 2021. It analyses the *ex ante* cumulative economic impacts on the EU's agri-food sector of 10 FTAs between the EU and trading partners that either have been recently concluded, but whose adoption or ratification is currently ongoing, or are under negotiation.

The updated list of agreements accounts for progress in the EU trade agenda since the 2021 study. The 10 upcoming agreements (with Australia, Chile, India, Indonesia, Malaysia, Mercosur (Argentina, Brazil, Paraguay and Uruguay), Mexico, New Zealand, the Philippines and Thailand) will create additional markets for EU agri-food products and diversify trade sources. This, in turn, will make the EU less dependent on a limited number of trade partners for key commodities, thus improving the resilience of EU food supply chains. Without the implementation of the bilateral trade agreements, in 2032 these 10 countries and regions are expected to account for 6.6 % (EUR 12.6 billion) of EU agri-food exports and 28.2 % (EUR 32.2 billion) of EU agri-food imports.

The results of this study are not directly comparable with those of the 2021 study, for several reasons. Not only has the time horizon changed (from 2030 to 2032), but several model improvements have been implemented and the set of FTAs under analysis has been updated. For example, the FTAs with Canada, Japan and Vietnam are now included in the baseline scenario, and their economic impacts are no longer included in the analysed scenarios, since these FTAs have been in force for years. Instead, the actual outcomes of the FTAs with Chile and New Zealand are included in the analysis, while the FTA with India is added as an agreement under negotiation.

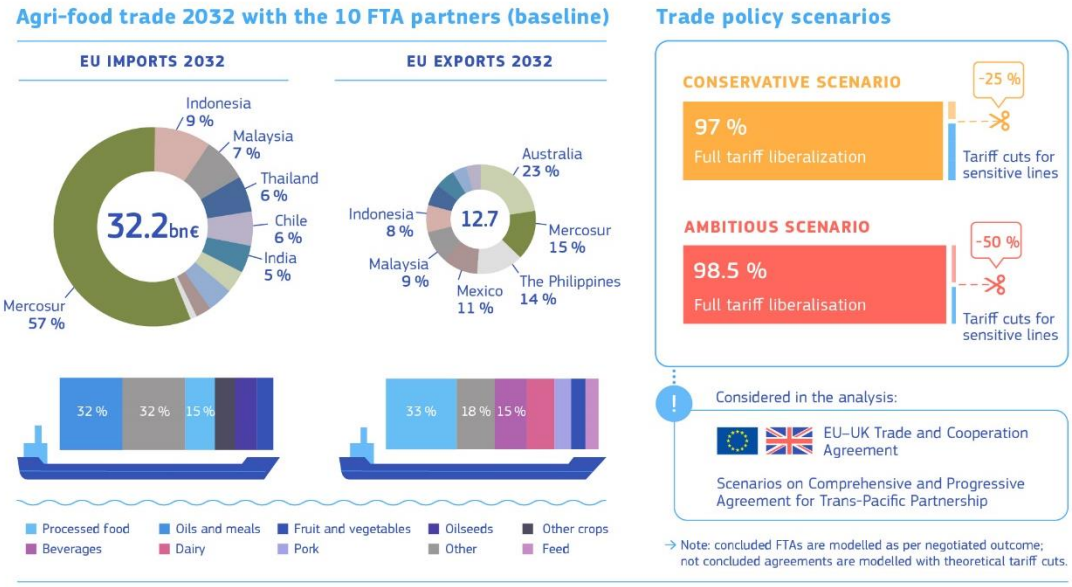
The economic assessment is based on a two-step modelling approach:

1. an analysis of the impacts of the 10 FTAs on EU bilateral agri-food trade flows using the Modular Applied GeNeral Equilibrium Tool (MAGNET) model, a global computable general equilibrium (CGE) model;
2. an analysis of the impacts of those changes in trade flow on EU production, consumption and prices at commodity level using the global partial equilibrium (PE) model Aglink-Cosimo.



Source: *Created by the authors.*

The study integrated the two models to take advantage of the strengths of each. The MAGNET model was first calibrated to the 2022–2032 EU medium-term agricultural outlook projections and was then used to simulate bilateral trade flows in various scenarios accounting for the EU FTA agenda. The changes in trade identified by the MAGNET simulations were entered into the Aglink-Cosimo model to obtain a detailed analysis of the impacts of these changes on the EU agri-food sector. The study considers two scenarios, assuming different liberalisation patterns in 2032, and compares them with a baseline trade projection in the same year without the implementation of the selected FTAs. In the case of the FTAs with Chile, Mercosur, Mexico and New Zealand, which have been concluded, both scenarios consider actual outcomes in terms of tariff preferences and bilateral tariff rate quotas (TRQs). In contrast, in the case of the FTAs with Australia, India, Indonesia, Malaysia, the Philippines and Thailand, the scenarios consider theoretical tariff reductions, as these FTAs are still under negotiation. These theoretical tariff reductions are modelled according to two different degrees of liberalisation, similar to the approach followed in the previous studies: the **conservative scenario** assumes a full tariff liberalisation of 97 % of Harmonised System (HS) six-digit tariff lines and a 25 % tariff cut for the tariff lines considered sensitive while the **ambitious scenario** assumes a full tariff liberalisation of 98.5 % of HS six-digit tariff lines and a 50 % tariff cut for sensitive products. The same assumptions are applied to all trade agreements with countries in the second group, and symmetrically to both the EU and the relevant trading partners. The selection of sensitive lines, subject to partial tariff cuts, was based on expert judgement and a statistical assessment of the tariff revenues collected on each tariff line in the past and it includes both agricultural and non-agricultural goods.



Source: *Created by the authors, based on MAGNET simulations.*

This study also provides, for the first time, three additional scenarios looking at the impact on the EU agri-food sector of the trade agreements recently concluded by the United Kingdom with Australia, New Zealand and member countries of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). The first of these scenarios calculates the impact of the UK trade agenda compared with the baseline scenario, without accounting for the counterbalancing effects of the EU trade agenda. The other two scenarios combine the conservative and ambitious scenarios with the effects of the UK trade agenda to compare the impact on EU–UK bilateral trade of further EU trade liberalisation and preference erosion.

The Deep and Comprehensive Free Trade Agreement (DCFTA) between the EU and Ukraine is included in the baseline projections for the year 2032 and takes into account the temporary trade liberalisations in place since June 2022.

Main trade results

The results, as calculated with the MAGNET model, show a small positive cumulative impact on the overall EU agri-food trade balance, as EU exports to the 10 FTA partners increase strongly (in the ambitious scenario exports increase by 38 %, compared with a 14.5 % increase in imports). In absolute terms, increases in exports and imports are essentially balanced and comparable, with a slightly positive impact on exports and moderate impacts on production and producer prices.

Source: Created by the authors, based on MAGNET simulations.

Compared with the baseline in 2032, the EU's agri-food exports to the 10 FTA partners are expected to increase by 27 % (i.e. by EUR 3.5 billion) in the conservative scenario and by 38 % (i.e. by EUR 4.8 billion) in the ambitious scenario. The increase is accounted for mainly by exports to Australia, India, Mercosur, the Philippines and Thailand. EU agri-food exports to other non-EU countries are expected to decrease slightly due to a trade diversion effect generated by the increased market access to the 10 FTA partners. Considering all partner countries, EU agri-food exports would nevertheless increase by EUR 3.1 billion (1.6 %) in the conservative scenario and by EUR 4.4 billion (2.3 %) in the ambitious scenario.

EU total agri-food imports in the conservative and the ambitious scenarios increase by 2.7 % (EUR 3.1 billion) and 3.6 % (EUR 4.1 billion), respectively, as a result of an increase in EU imports of all agri-food products from the 10 FTA partners, accompanied by a decrease in total imports from other non-EU countries. Imports from the 10 FTA partners increase by over EUR 3.5 billion (11 %) in the conservative scenario and by EUR 4.7 billion (14.5 %) in the ambitious scenario, which enables these countries to gain market share in the EU (increasing it by more than 3 percentage points). The highest increase in EU imports value is attributable to Mercosur countries.

The conservative and the ambitious scenarios present limited differences in terms of impacts. This is because most of the trade value increase in both scenarios is attributable to concluded FTAs (with Mercosur, Mexico, Chile and New Zealand), and, therefore, the trade increase is almost identical in both scenarios, as preferential access is based on the actual FTA outcome rather than a theoretical one. The additional market access gained by the other FTA partners represents a smaller share of total trade with those partner countries. Given that the theoretical tariff concessions are relatively larger in the ambitious scenario than in the conservative scenario, with significant differences at sectoral level, this leads to differences between the two scenarios that may be significant, as in the case of sheep meat (with higher concessions for Australia in the ambitious scenario) and rice (higher concessions for India and Thailand in the ambitious scenario).

The positive impact of the FTAs on EU agri-food trade balance looks smaller than in the 2021 study. This is essentially because of the inclusion of the FTAs with Japan, Canada and Vietnam in the baseline scenario, the

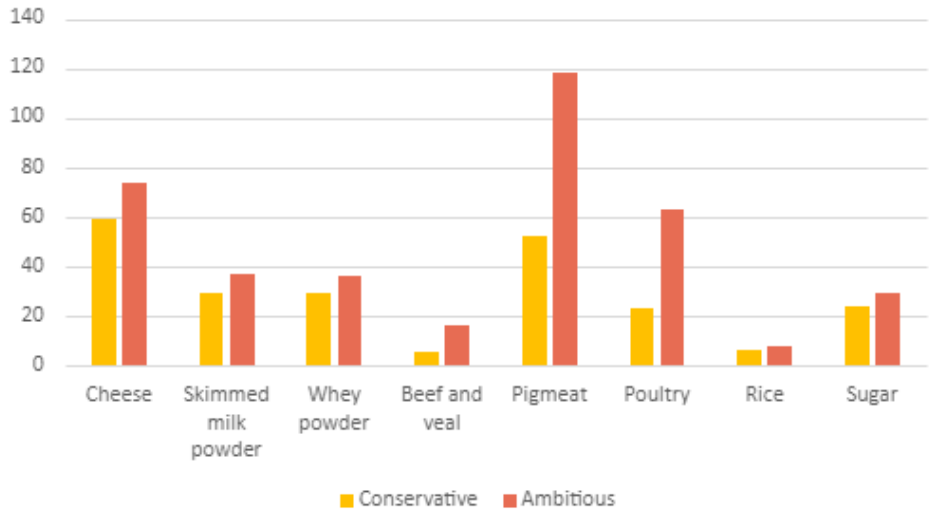
trade creation resulting from these FTAs does not appear as additional trade creation in the study. For reference, the previous study calculated that the FTA with Japan alone increased EU agri-food net trade by about EUR 2 billion. This difference between the two studies returns smaller increases in the export of some key EU products, such as pigmeat, dairy products, wine and beverages, and processed food.

Key sectoral results

Consistently with the 2016 and 2021 studies, the results show substantial trade opportunities for agri-food commodities such as dairy products, pigmeat, wine and beverages, and processed agri-food products. In the ambitious scenario, exports of processed products increase by 2.1 % (i.e. by EUR 1.3 billion) compared with the 2032 baseline, and wine and beverages (and tobacco) exports increase by 1.6 % (i.e. by EUR 654 million). EU dairy products and pigmeat show significant increases in exports, production and producer prices. For instance, exports of dairy products increase by 4.8 % in the ambitious scenario (i.e. by EUR 780 million). Because of increased exports, domestic milk production increases by 0.1 % and milk prices by 0.4 %, adding EUR 323 million to the production value of milk in 2032.

Pigmeat exports increase by 5.4 % (i.e. by EUR 566 million) in the ambitious scenario, corresponding to about 118 000 tonnes in carcass weight equivalent. In the conservative (ambitious) scenario, the expanded demand from abroad results in a 0.4 % (1.3 %) price increase. This, combined with a 0.2 % (0.4 %) production expansion, raises the value of expected EU pigmeat production by EUR 171 million (EUR 517 million) in 2032.

EU exports of selected agri-food products – 2032, change vs baseline, thousand tonnes



Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

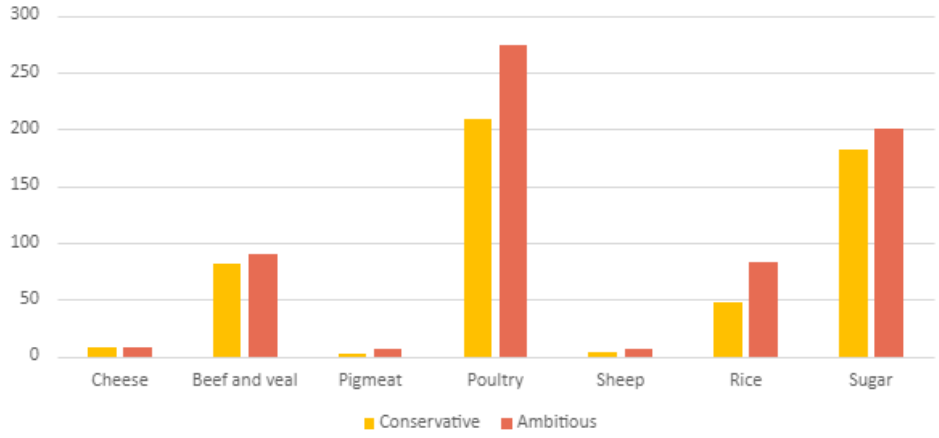
The implementation of the 10 FTAs would increase the value of EU beef imports in the conservative and the ambitious scenarios by 21 % (EUR 467 million) and 24 % (EUR 529 million), respectively. Most of the increase in imports derives from trade with Mercosur (EUR 432 million in both scenarios), with Australia and New Zealand also increasing their exports to the EU (by EUR 80 million in the conservative scenario and by EUR 146 million in the ambitious scenario). In volume terms, this increase amounts to an additional 81 000 tonnes (conservative scenario) or 91 000 tonnes (ambitious scenario) in carcass weight equivalent of beef imports compared with the baseline in 2032. The effects on beef imports are lower than in the 2021 study because of the inclusion of Canada in the baseline and the modelling of New Zealand TRQs. Due to an increase in imports, producer prices would fall by about 2.4 % in both scenarios and production would fall by around 0.9 %.

Overall poultry meat imports increase by EUR 360 million (21.3 %, 209 000 tonnes) in the conservative scenario and by EUR 478 million (28.3 %, 274 000 tonnes) in the ambitious scenario. The additional imports are expected to come from Mercosur (around EUR 260 million in both scenarios) and Thailand (EUR 105 million in the conservative scenario and EUR 240 million in the ambitious scenario). The increase in imports from Thailand results from a theoretical tariff cut scenario, with no quantity limitations. The effect on production is limited to

– 1.5 % in the ambitious scenario (– 1.3 % in the conservative scenario) compared with the baseline in 2032, with a limited impact on producer prices.

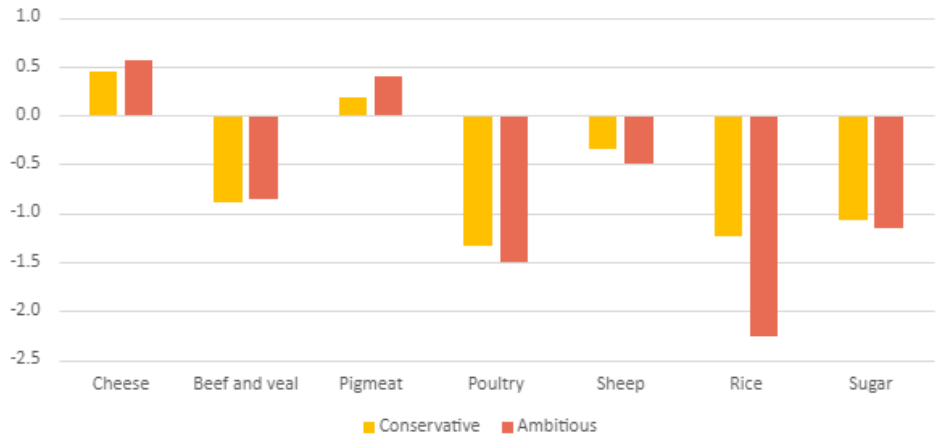
Sheep meat imports increase by 3.5 %, or 4 000 tonnes (5.3 %, 6 000 tonnes), in the conservative (ambitious) scenario. This translates into a price decline of – 1.9 % (– 2.7 %) and lower production (– 0.3 % and – 0.5 %). Australia would gain some market share, to the detriment of New Zealand, as New Zealand, which in the baseline scenario benefits from duty-free market access under a World Trade Organization (WTO) country-specific TRQ, is currently unable to fulfil its full export quota.

EU imports of selected agri-food products – 2032, change vs baseline, thousand tonnes



Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

EU production of selected agri-food products – 2032, percentage change vs baseline

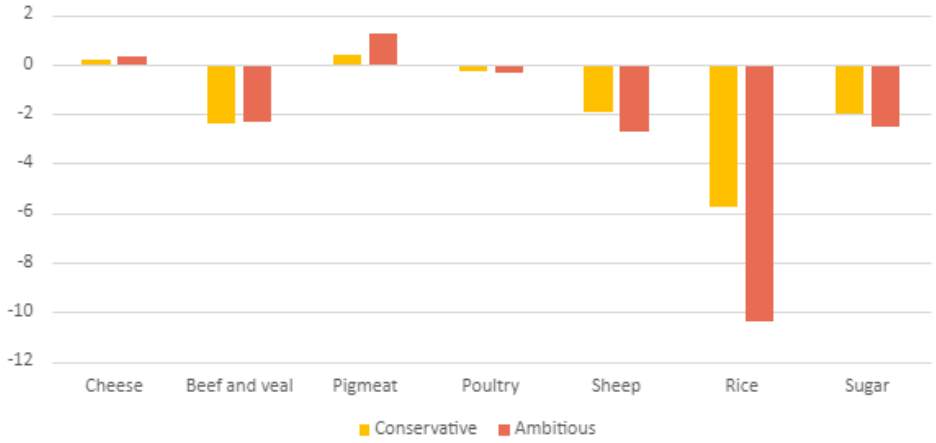


Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

Rice imports increase by 1.9 % (47 000 tonnes) and 3.5 % (82 000 tonnes) in the conservative scenario and the ambitious scenario, respectively. The additional imports come mostly from India and Thailand (both benefiting in the study from improved market access through a tariff cut with no import volume limit), with rice imports from India increasing by EUR 15 million in the conservative scenario and by EUR 29 million in the ambitious scenario and rice imports from Thailand increasing by EUR 36 million in the conservative scenario and by EUR 78 million in the ambitious scenario. In the ambitious (conservative) scenario, EU rice production drops by 2.3 % (1.2 %), although the study is likely to overestimate the impacts on production and prices, since the employed modelling tools cannot capture differences between the type of rice imported (mainly indica) and that produced domestically (mainly japonica).

Sugar trade flows in both scenarios are affected by the agreement with Mercosur, as Brazil is a major world player in this market. The value of exports of sugar from Mercosur to the EU increases by EUR 115 million in both of the scenarios considered. Consequently, compared with the baseline scenario, total sugar imports increase by 13 % (183 000 tonnes) in the conservative scenario and by 15 % (200 000 tonnes) in the ambitious scenario.

EU producer prices for selected agri-food products – 2032, percentage change vs baseline



Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

Key results of the effects of the UK CPTPP impacts on EU agri-food trade

The study assumes the continuation of the duty-free, quota-free (DFQF) trade relationship between the EU and the United Kingdom, in line with the EU–United Kingdom Trade and Cooperation Agreement. Compared with previous studies, this edition quantifies the impact of the UK trade agenda on the EU agri-food sector. The recent agreements between the United Kingdom and Australia and New Zealand, plus the United Kingdom's future accession to the CPTPP, could reduce EU exports to the United Kingdom by EUR 300 million and the EU agri-food trade balance by EUR 261 million. However, this is a very small impact, considering that the agri-food trade balance between the EU and the United Kingdom in the 2032 baseline amounts to EUR 28 billion. This impact is driven by lower exports of beef from the EU to the United Kingdom (lower by EUR 123 million, or 28 000 tonnes), beverages and tobacco (down by EUR 28 million), processed food (EUR 48 million lower), dairy products (EUR 4 million lower) and sheep meat (down by EUR 30 million, corresponding to a reduction in sheep meat exported of 5 700 tonnes).

The combined effect of the UK trade agenda and the adoption of the 10 FTAs considered in this study on the EU trade balance in the ambitious scenario will be a small, positive impact (amounting to an increase of EUR 40 million). In the conservative scenario, the effects on the balance will be small and negative (a decrease of EUR 213 million). This analysis shows that the impacts on EU trade of the United Kingdom's accession to the CPTPP will remain limited compared with EU agri-food trade in general and trade with the United Kingdom in particular. The creation of new markets for EU products compensates for the erosion of preferences from the EU–UK trade agreement resulting from the UK trade agenda, to a degree that depends on the extent of the trade liberalisation between the EU and its partners.

Conclusions

The analysis confirms that the EU trade agenda has the potential to be beneficial for the EU agri-food sector. It also confirms the vulnerability of specific commodities such as beef, sheep meat, poultry, sugar and rice, with EU imports of these commodities growing in the trade liberalisation scenarios considered. This study confirms the finding of previous editions that TRQs are a highly effective policy tool to keep a balance between the preferential market access granted to trade partners and the objective of limiting disruption of the market for the EU's sensitive products. This is essential to prevent possible adverse economic and social impacts to EU agricultural activity and rural areas.

Limitations of the analysis

While the MAGNET model provides comprehensive coverage of the agri-food sector, its underpinning database is unable to disaggregate data at the level of individual agri-food commodities, such as olive oil, wine and orange juice. The Aglink-Cosimo model provides more detailed results at the agri-food commodity level, although its product coverage is also not exhaustive, as it does not include trade in some important products, such as fruit, vegetables, wine, olive oil and processed products.

In addition, given the complexity of the analysis, the models are able to provide results only at the aggregate EU level and not disaggregated at member state level. Furthermore, the considered scenarios investigate the effects of tariff liberalisation but do not consider any possible reduction in non-tariff measures (NTMs).

Finally, the impacts of the European Green Deal and other trade-relevant polices (e.g. the 2023 regulation on deforestation-free products) or other dimensions of the EU trade policy, such as environmental and social sustainability, are beyond the scope of this study.

1. Introduction

1.1. Context

The EU is a driving force for global openness and integration. Trade in agricultural products accounts for a large part of the EU's overall trade, with a positive balance, and is of strategic importance. Trade agreements are the legal framework used to establish, among other things, preferential tariff treatment between individual countries or regions.

The European Commission carries out regular sustainability impact assessments (SIAs) assessment during the negotiations of a trade agreement which provides an in-depth analysis of the potential economic, social, environmental and, since 2012, human rights impacts of ongoing trade negotiations ([1]).

However, assessments of individual trade agreements cannot provide insights into the combined, cumulative impact of the various agreements that the EU is negotiating or has signed. Furthermore, Member States have repeatedly requested a more detailed analysis of the agricultural sector than is typically carried out in the Commission's SIAs. Therefore, in 2016, when several Member States stated the need for further analysis to assess the potential impact of different trade negotiations on EU agriculture, the European Commission mandated the Joint Research Centre (JRC) to carry out a study, which was published in the same year (Boulanger et al., 2016). In July 2019, following the political conclusion of the EU–Mercosur free trade agreement (FTA), an update of the 2016 cumulative trade impact study was announced to cover the economic aspects of agricultural tariff reduction. Early in 2021, the second edition of the cumulative FTA study was published (Ferrari et al., 2021) and confirmed that the FTAs analysed had the potential to benefit the EU agri-food sector when considered together. However, the study also highlighted the vulnerability of the beef, sheep meat, poultry meat, sugar and rice sectors.

Following the recent crises stemming from the COVID-19 pandemic and Russia's military aggression against Ukraine, the Commission acknowledged that the resilience of the EU food sector requires diversified import sources and market outlets through an ambitious and robust trade policy, both multilaterally and through trade agreements (European Commission, 2022b). In March 2023, the Agriculture and Fisheries Council agreed that the EU's agriculture sector remains extremely competitive on the global market and has proven resilient in the face of recent crises such as COVID-19 and the ongoing military aggression against Ukraine. The Agriculture and Fisheries Council also stressed the need for continued protection of sensitive sectors to maintain the EU's self-sufficiency and requested a third edition of the cumulative trade impact study ([2]).

As in the 2016 and the 2021 editions (see Box 2 for a comparison of the current study with the 2021 version), this study focuses on the economic impacts (trade, production, prices) on EU agriculture of 10 upcoming FTAs, recently concluded or under negotiation. Other important dimensions of the EU trade policy, such as the social and sustainability aspects, as well as the potential impacts on trade of the international dimension of the European Green Deal or the 2023 regulation on deforestation-free products, are not accounted for in the baseline scenario of this study.

As a novelty, this study includes additional scenarios on the impact of the UK trade agenda on EU agri-food trade, mainly the recently concluded FTAs between the United Kingdom and Australia, New Zealand and the other countries of the CPTPP. While the study still assumes DFQF trade between the EU and the United Kingdom, it also models the impacts of the current UK trade agenda on top of the baseline and the two main scenarios for the EU (conservative and ambitious) (Box 1).

In relation to the macroeconomic projections, the study assumes those included in the 2022–2032 EU agricultural outlook. The baseline scenario includes the temporary measures implemented in 2022 in support of Ukrainian exports to the EU (i.e. full trade liberalisation). The model assumes that, in 2032 (the reference year of this study), the bilateral trade relationships between the EU and Ukraine will comply with the Deep and Comprehensive Free Trade Agreement (DCFTA), which has been provisionally applied since 1 January 2016.

([1]) As at May 2022, several SIAs relevant to these studies had been completed: the final reports on Malaysia and the Philippines are available from the website of the European Commission Directorate-General for Trade, together with the analysis of the FTAs with Chile (May 2019), Indonesia (August 2019), Mexico (September 2019), Australia and New Zealand (March 2020) and Mercosur (December 2020). An SIA analysing the effects of the FTA negotiations between the EU and India and of the investment protection agreement and the geographical indications agreement is ongoing.

([2]) https://data.consilium.europa.eu/doc/document/ST-7465-2023-INIT/en/pdf.

Box 1. The relationship between the EU and the United Kingdom

As of 1 February 2020, the United Kingdom is no longer a member of the EU. The EU–UK Trade and Cooperation Agreement was signed on 30 December 2020 and applied provisionally as of 1 January 2021. It entered into force on 1 May 2021. The agreement ensures a level playing field and respect for fundamental rights, and it consists of an FTA with ambitious cooperation on economic, social, environmental and fisheries issues (among others). The trade and cooperation agreement goes beyond traditional FTAs, as it includes preferential arrangements in areas such as trade in goods and in services, intellectual property, public procurement, transport, thematic cooperation and participation in EU programmes.

This study is based on the EU–UK trade and cooperation agreement, and, therefore, DFQF trade between the EU and the United Kingdom is assumed in the baseline and other scenarios. However, a DFQF trade relationship is not as frictionless as that associated with EU membership, and such trade frictions are not captured in the modelling approach. This assumption reflects the set-up of the study, which does not model changes in NTMs after the conclusion of FTAs, as they are difficult to quantify. See Box 3 for a further qualitative discussion on NTMs.

In addition to the DFQF assumption, the study envisages that the EU and the United Kingdom will apply the apportioned WTO TRQs.

In modelling the trade relationship of the United Kingdom with the rest of the world, this study assumes that the trade agreements that the United Kingdom has already secured with non-EU countries have been implemented as set out in those agreements. It is also assumed that trade between the United Kingdom and the remaining countries with which it has not yet concluded an FTA will take place under most-favoured-nation terms, with the assumption that the tariff level applied to the United Kingdom will be equal to the EU common external tariff.

To shed additional light on the impact of UK trade policies on EU agri-food trade, the study considers an additional set of scenarios in which the current UK agenda is modelled on top of the baseline and the two main scenarios (conservative and ambitious). The UK trade agenda includes the modelling of the trade agreements in force with Australia and New Zealand and the recently concluded negotiations to join the CPTPP.

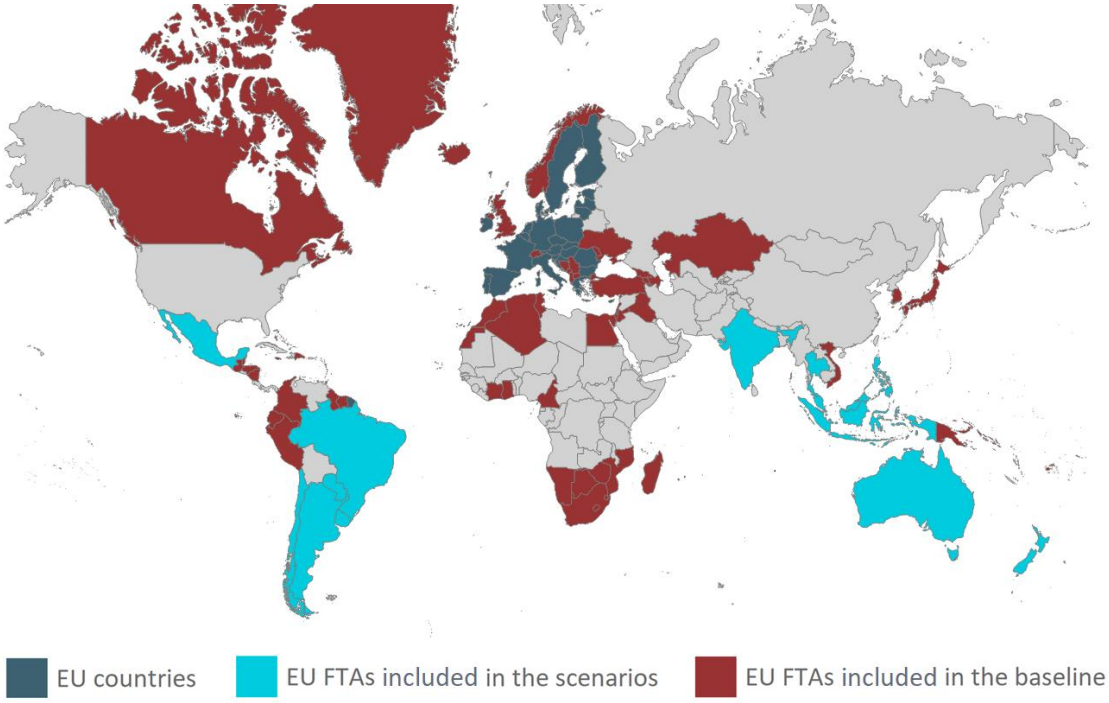
1.2. Trade agreements

The study considers the FTAs for which negotiations have been recently concluded by the EU but which have not been adopted or entered into force, that is, those with Mercosur and New Zealand and the updated agreements with Chile and Mexico ([3]), as well as trade agreements under negotiation (with Australia, India, Indonesia, Malaysia, the Philippines and Thailand). In total, 10 trade agreements, either concluded or under negotiations, are covered (Figure 1).

The trade deals between the EU and Canada, Japan and Vietnam, specifically analysed in the previous studies (Boulanger et al., 2016; Ferrari et al., 2021), have since then entered into force and are now integrated into the 2032 baseline, as have other agreements concluded less recently and which have been in force for a long time (e.g. those with South Korea and Ukraine) (Figure 1).

([3]) For an overview of the main concessions of the concluded FTA, please consult the website of the Directorate-General for Trade (https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions_en).

Figure 1. FTAs included in the study, at a glance



Source: Created by the authors.

1.3. Brief review of previous studies

Numerous studies have simulated bilateral trade agreements between the EU and specific countries or trading blocs using modelling tools similar to those used in this study. As circumstances and baselines change over time, such studies are not directly comparable with the present study, but they provide insight into the directions of trends and orders of magnitude.

EU institutions, international organisations and various national or private research services and institutions also produce research reports and papers related to FTAs. For instance, the European Commission has put together a JRC study focusing on the agri-food sector (Burrell et al., 2011) and a global impact assessment (Thelle and Sunesen, 2011) to provide a comprehensive analysis of an FTA between the EU and Mercosur. Similarly, the government of the Netherlands commissioned Wageningen Economic Research and Ecorys to assess the economic impacts of the EU–Mercosur Agreement on the Netherlands (Carrico et al., 2020). At the request of the New Zealand Ministry of Foreign Affairs and Trade, ImpactECON has carried out a detailed exercise modelling the potential economic impacts on New Zealand of the FTA between New Zealand and the EU (Walmsley et al., 2022). The Department for International Trade of the United Kingdom has carried out impact assessments of several existing and potential FTAs, such as those between the United Kingdom and Australia (DIT, 2022a) and between the United Kingdom and the Gulf Cooperation Council (DIT, 2022b).

Most of the above assessments have employed computable general equilibrium (CGE) models, which are state-of-the-art tools that can be used for the overall assessment of trade agreements at region, country or broad sector level (Nilsson, 2018). The advantages of employing a CGE model type for multisector, multiregional trade analysis are described by Narayanan et al. (2015). However, to analyse the specificities of the agri-food sector, for example through greater product disaggregation or in terms of physical quantities, a CGE analysis is often complemented by partial equilibrium (PE) models, as was done, for example, in the JRC report on the potential EU–Mercosur FTA (Burrell et al., 2011).

The use of the Modular Applied GeNeral Equilibrium Tool (MAGNET) (CGE) and Aglink-Cosimo (PE) models in the present study, as well as in previous studies (Boulanger et al., 2016; Ferrari et al., 2021), allows the complexity of the cumulative effects of FTAs to be addressed while providing the details needed for the agri-food sector analysis. Such model integration has also been acknowledged as effective in the academic literature; for example, 'the link between Aglink-Cosimo and MAGNET thus provides an example how borrowing from a sectoral

model implicitly transfers expert knowledge and detailed plausibility assessments into CGE baseline construction' (Delzeit et al., 2020, p. 173).

Boulanger et al. (2016) and Ferrari et al. (2021) show that the cumulative impacts of FTAs, in terms of trade, production and producer prices, are balanced for the EU agricultural sector. However, significant differences exist at sectoral level, with some FTAs having considerable potential to increase exports of some goods, such as dairy products (particularly cheese and skimmed milk powder), pigmeat, cereals (wheat) and high-value/processed agri-food products (such as beverages, notably wine and spirits). Some other sectors or commodities, in contrast, are likely to come under pressure. This is the case for beef, rice and, to a lesser extent, poultry meat and sugar.

Box 2. Key differences between this study and the one published in 2021 (Ferrari et al., 2021)

In 2021, the JRC published the second study analysing the cumulative economic impact of ongoing and upcoming FTAs between the EU and 12 trading partners (Australia, Canada, Chile, Indonesia, Japan, Malaysia, Mercosur, Mexico, New Zealand, the Philippines, Thailand and Vietnam) on the EU agricultural sector. The study analysed two theoretical trade scenarios, conservative and ambitious, depending on the extent of ambition of the negotiations. Overall, the results show balanced cumulative impacts, in terms of trade, production and producer prices, on the EU agricultural sector.

The present study, while building on that presented in 2021, differs from its predecessor in some crucial aspects, making a full comparison between the two difficult.

The main differences between the two studies are the following.

- The two studies consider two different sets of FTAs, reflecting the evolution of the EU trade agenda.
- The FTA with India is included in this study for the first time and modelled through theoretical scenarios.
- FTAs with Chile and New Zealand are added to the list of FTAs that have already been concluded (those with Mercosur and Mexico). Concluded FTAs are assessed not through theoretical scenarios, but by modelling the actual tariff cuts included in the agreements, as well as including TRQs for relevant products.
- The FTAs between the EU and Canada, Japan and Vietnam are now integrated into the baseline; hence the impacts of these three FTAs are no longer added to the two scenarios (Box 5).
- The current study models the impact of the UK trade agenda on the EU agri-food sector as additional scenarios combined with the baseline, ambitious and conservative scenarios.
- The global CGE model MAGNET database has been extended to include a more refined agricultural sector disaggregation than that usually used, the Global Trade Analysis Project (GTAP) one. The current study includes a disaggregation of vegetables and fruit and nuts.
- The global CGE model MAGNET is calibrated to the EU medium-term agricultural outlook published in December 2022 (European Commission, 2022a).
- The time horizon of the latest study has been extended to 2032.

2. Methodology

This section explains the factors affecting the choice of modelling tools for the cumulative impact analysis of the trade agreements and provides a succinct description of the models employed. In addition, it clarifies how the models were linked to capture complex global trade flows and EU agri-food sector specificities. Finally, the general and specific limitations of the approach are highlighted.

2.1. Economic models for agri-food trade analysis

Economic models are the main tools for the analysis of complex trade relations and have been applied on many occasions for the assessment of EU trade agreements with non-EU countries. The assessment of the impact of trade agreements on a specific sector, such as EU agriculture, requires a tailored approach, one that takes account of the multitude of agreements in place while at the same time focusing on the peculiarities of the agri-food sector.

Multiregional neoclassical CGE models have become the *de facto* tool of choice for conducting *ex ante* assessments of multilateral or bilateral trade agreements or explicitly comparing several agreements.

An important strength of CGE models is their ability to represent all sectors of the economy in all the countries and regions modelled. Therefore, they consider all the interactions among these sectors through domestic and international linkages. They provide highly relevant information about trade-offs between different (agri-food) sectors in the event of multiple bilateral trade liberalisation agreements. They enable a panoramic view across all those economies that are distinguished separately within the model and quantify which sectors might be affected and in what way. In fact, the European Commission's better regulation toolbox (Tool 61 'Simulation models') explicitly mentions CGE models as suitable tools for economy-wide simulation of the impacts of policy scenarios.

Because of the aggregated commodity structure of CGE models and the models' standardised treatment of behavioural functions across commodities and countries, sectoral particularities or policy constraints that are specific to one industry or product can be omitted (or treated in a more stylised way). This is where PE models provide complementary features, through a more disaggregated commodity structure within agriculture and the introduction of commodity-specific interrelationships.

The two models used in this study, the CGE model MAGNET ([4]) and the PE model Aglink-Cosimo ([5]), are among the tools used by the European Commission for impact assessments and are further described in the Modelling Inventory and Knowledge Management System (MIDAS) of the European Commission.

2.2. The computable general equilibrium model MAGNET

The present study employs a state-of-the-art multisector, multiregion dynamic CGE model called MAGNET (Woltjer and Kuiper, 2014). MAGNET has recently been widely employed to simulate the impacts of agricultural policies (M'barek et al., 2017), land issues (Sartori et al., 2019), the UN's sustainable development goals (Philippidis et al., 2020), diets (Philippidis et al., 2021; Boysen-Urban et al., 2022) and food waste (De Jong et al., 2023) on the global economy.

The model was developed by Wageningen Economic Research and is applied and further extended at Wageningen Economic Research and the Thünen Institute and by the European Commission's JRC. It is a core model of the integrated Modelling Platform for Agro-economic Commodity and Policy Analysis (iMAP) (M'barek et al., 2012, 2015; Fellmann and Genovese, 2023). A brief description of the tool and its use in coherent cross-cutting policy assessments was prepared by Kuiper et al. (2019). MAGNET is also a reference model in many European Commission Horizon 2020 and Horizon Europe projects (e.g. BATModel, Lamasus, BrightSpace).

The model has been employed for several trade studies. The most relevant in this context are the analysis of the impact of FTAs between the EU and 12 regions on the EU agri-food sector, as in Boulanger et al. (2016) and Ferrari et al. (2021). Other trade agreements analysed with MAGNET include the agreements between the EU and North Africa (Boulanger and M'barek, 2013), between the EU and neighbouring countries (Rau, 2014) and between the EU and the United States (Van Berkum et al., 2014; Sanjuán et al., 2017). MAGNET has also been used to analyse multilateral liberalisation between the EU and eastern European countries (Philippidis et al., 2018), the impact of hard Brexit on European fisheries (Bartelings and Kritskova, 2018), the potential

([4]) https://web.jrc.ec.europa.eu/policy-model-inventory/explore/models/model-magnet/.
([5]) https://web.jrc.ec.europa.eu/policy-model-inventory/explore/models/model-aglink-cosimo/.

implications of Brexit for the German agri-food sector (Banse and Freund, 2019), the impacts of the EU–Mercosur trade agreement on the Dutch economy (Carrico et al., 2020), the potential effects of an Africa Continental Free Trade Area (Simola et al., 2022) and the effects of future UK FTAs on Scotland's agri-food (Haverty et al., 2023).

MAGNET is based on the GTAP model, which analyses the behaviours of households, firms and the government and how those behaviours interact in markets and affect the global economy (Corong et al., 2017). The model incorporates the food supply chain from farm (as represented by the agricultural sectors) to fork (the consumer) and the food processing industries and food service sectors in between, and takes into consideration bilateral trade flows between countries and/or regions of the world.

To characterise the peculiarities of agricultural markets, the model accounts for the heterogeneity of land usage by agricultural activity; a regional endogenous land supply function; the sluggish mobility of capital and labour transfer between agricultural and non-agricultural sectors with associated wage and rent differentials; the inclusion of explicit substitution possibilities between different feed inputs in the livestock sectors; and additional behavioural and accounting equations to characterise EU agricultural policy mechanisms (e.g. single farm payments, coupled payments, rural development measures) (Boulanger and Philippidis, 2015).

Trade is modelled such that domestically produced goods can be sold either on the domestic market or to other regions in the world. Similarly, domestic intermediate, private household and government demand for goods can be satisfied by domestic production or by imports from other regions in the world (i.e. the 'Armington assumption'). The Armington assumption states that an increase in the domestic price of goods relative to the price of imported goods leads to an increase in demand for imports relative to domestic goods. Similarly, if imports from one source country become more expensive, there will be a tendency to substitute imports from another, cheaper, source country.

The modelling of TRQs in CGE models, given its complexity and the difficulty of data collection and aggregation, is often simplified. However, TRQs are crucial for trade negotiations because sensitive products are rarely completely liberalised and are often one of the most difficult issues on which to achieve agreement (Jafari et al., 2021). Following Ferrari et al. (2021), the modelling of bilateral TRQs relies on mixed complementarity programming. The model defines a TRQ by three parameters: the in-quota and out-of-quota tariffs and the size of the quota. For each TRQ, three regimes, depending on demand conditions, are accounted for. If import demand is lower than the quota level, the in-quota tariff applies. If the demand reaches the quota level, the applied tariff is still the in-quota one, but rents start to be generated. The rents can be allocated to either the importing or exporting country (in this study they are allocated to importers). If demand exceeds the quota, the out-of-quota tariff applies and the rent generated will be fixed and equal to the difference between the out-of-quota and in-quota rates (van der Mensbrugghe, 2019). When demand exceeds quota, out-of-quota trade appears. A scenario shock that expands the quota level, given the model construction, will transform the initial out-of-quota trade into in-quota trade (partly or fully), as exporters with the competitiveness to export at out-of-quota tariff will now fill the quota level. The quota will be filled until exports (whose marginal productivity is decreasing) are competitive enough to export at the in-quota tariff. Out-of-quota trade will occur if the marginal productivity of the exporters is still competitive enough to export at the out-of-quota tariff. The mechanism that rules the model might differ from real-life market mechanisms. When TRQs are not explicitly modelled, the treatment of tariffs under a TRQ regime follows the International Trade Centre (ITC) MacMap database HS6 methodology (Guimbard et al., 2012). The protection is equal to the in-quota tariff rate if the quota is not binding or to the out-of-quota tariff rate if the quota is binding. Fill rates are used to assess whether the quota is binding or not. When the fill rate is below 90 %, the applied tariff is the in-quota one. When the fill rate is higher than 98 %, the out-of-quota tariff is the applied tariff. When the fill rate is between 90 % and 98 % a simple average of the in-quota and out-of-quota tariff rate is calculated and applied.

In CGEs, by construction, quantities and values are equal at the base year, that is, basic prices in the model are normalised to 1 at the base year. In CGE models, prices are linearly homogeneous; in other words, if the price of a commodity in the model is changed by a certain percentage, the quantity produced and purchased will not change and, hence, the total value of that commodity that is purchased will also increase by the same percentage. This implies that CGEs are real models that do not account for financial inflation due to changes in the money supply. The focus of CGE models is on movements in relative prices: absolute prices are not quantified by the model. CGE model results can be expressed as changes in quantities or in values. The former would ignore the effects of changes in relative prices, while the latter would reflect changes in both quantities and prices.

2.3. Sector and spatial aggregations

This study employs a fully consistent and academically recognised global database, based on contributions from members of the GTAP network and constructed by the GTAP team at Purdue University, United States (Aguiar et al., 2019). The GTAP database, in its version 10, contains a complete record of all economic activity (i.e. production, trade, primary factor usage, final and input demands, taxes and trade tariffs and transport margins) for 65 activities and 141 regions for 2014. The MAGNET model also provides disaggregated information on some sectors included the original GTAP database. These sectors include a disaggregation between beef (cattle) and other sources of red meat (sheep, goat, horses) and between pigmeat (pig) and poultry meat (chicken and other animal products) and include other sectors such as animal feed, biofuels and fertilisers, among others. The model can analyse, although not in great detail, the impacts of many processed agricultural products that fall under the 'other food' category. This is a large and diverse category containing a variety of prepared foods, for example prepared and preserved fruit and vegetables, fruit juices, starches, bakery products, cocoa, chocolate and sugar confectionery. This aggregate incorporates only processed agriculture products; fishery products are now included in the fishery sector aggregate.

The following sectoral disaggregation has been performed (see Table 9 in Annex 1 for a detailed sectoral list).

- **Primary agriculture (15 commodities):** wheat; paddy rice; other grains; oilseeds; sugar beet and cane; vegetables; fruit and nuts; other crops; cattle; live animals (sheep, goat); live pigs; chicken and other animal products; raw milk; plant fibres; wool.
- **Food, feed and beverages (13 commodities):** beef and veal; sheep meat (sheep, goat, horses); pigmeat; poultry meat; dairy; sugar; oils and meals (vegetable oils, crude vegetable oils and oilcakes); rice; beverages and tobacco; and other food; feed.
- **Other sectors (16 commodities (not shown)):** fish and fishery processed products; forestry; crude oil; natural gas; coal; manufacture; wood; fertilisers; biodiesel; bio gasoline; petrol products; electricity; gas distribution; food services; other services; transportation services.

For the sake of consistency between the two models, the CGE results will be presented aggregating some of the sectors: plant fibres, wool and other crops (other crops), vegetable oils and fats, oilcake feed and crude vegetable oil (oils and meals).

The study uses a combination of countries and country regions. The **regional disaggregation** is shown in detail in Table 10 in Annex 1.

2.4. The partial equilibrium model Aglink-Cosimo

Aglink-Cosimo is a global recursive–dynamic PE model of agricultural commodity markets (OECD and FAO, 2022). The model is developed and managed jointly by the Organisation for Economic Co-operation and Development (OECD) and the Food and Agriculture Organization of the United Nations (FAO) secretariats. It is primarily known for its use in generating 10-year agricultural market projections that are updated on a yearly basis and published in the OECD–FAO medium-term agricultural outlook (most recently in July 2023; see OECD and FAO, 2023). Aglink-Cosimo is a core model of the integrated Modelling Platform for Agro-economic Commodity and Policy Analysis (iMAP) (M'barek et al., 2012; M'barek and Delincé, 2015). Aglink-Cosimo has been employed to simulate the impacts on global agricultural markets of the demand shock caused by COVID-19 (Elleby et al., 2020), to evaluate the budgetary consequences of risk management schemes (Pieralli et al., 2021), to explore the options and impacts of reducing the EU plant protein deficit (Jensen et al., 2021) and for various other analyses.

JRC, along with a defined group of users and contributors from national agencies and research institutes, receives annually from the OECD the latest version of the model (Pieralli et al., 2022). With in-house extensions and technical updates, the European Commission's version of the model is used for the purpose of producing the EU medium-term agricultural outlook, published annually in December (e.g. European Commission, 2022a), as well as for implementing in-house scenario analyses on diverse topics. Aglink-Cosimo is driven by trends, elasticities and the translation of economic logic, agricultural market expertise and expectations into equations and projections. It covers more than 90 agricultural commodities and 40 world market clearing prices. The current version simulates detailed supply and demand elements until 2032. It consists of over 35 000 behavioural equations, linear or linearised and 'calibratable' and identities, which solve as a problem of non-linear programming with discontinuous derivatives. Markets for agricultural commodities are competitive and typically clear on prices both at the global level, where net trade is zero, and at the domestic level, where supply

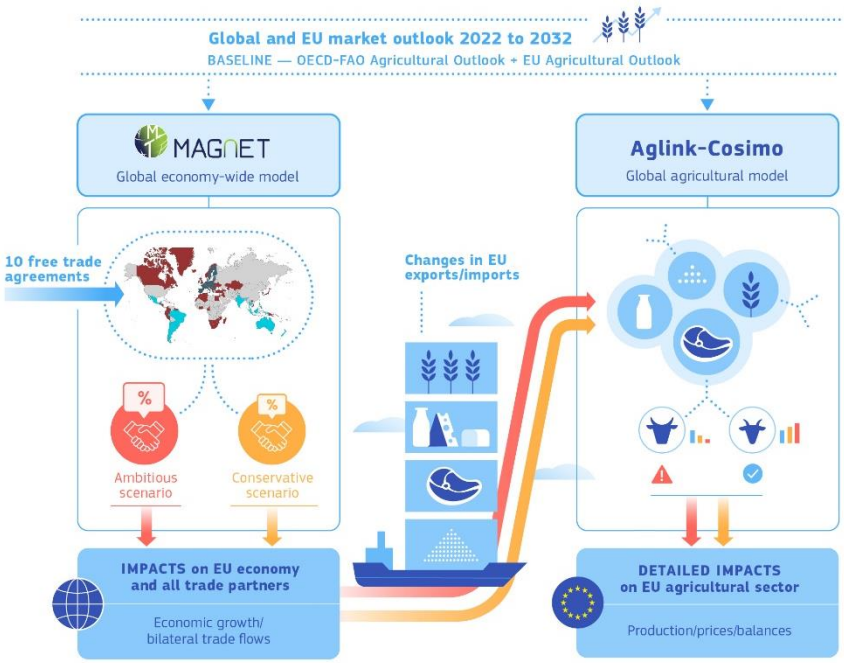
equals demand. The model accounts for detailed linkages between different agricultural commodities such as crops, livestock, meat, dairy products, biofuels and sugar. Commodities are modelled as homogeneous goods (i.e. perfect substitution is assumed). Imports and exports are determined separately, and price transmission is indirect through conversion of world prices into market-specific import and export prices. Domestic markets trade with the 'rest of the world' as a whole, not bilaterally. Oil prices and macroeconomic factors, such as gross domestic product (GDP) growth, inflation, exchange rates, energy prices and population enter the system exogenously and so remain unchanged in this study. Details on the European Commission's version of the model can be found in Araujo Enciso et al. (2015).

2.5. Model linkage

To explore the potential impact of multiple trade agreements on EU agricultural markets, the two models were combined to capture the complexity of analysing multiple trade agreements simultaneously and the details needed to explore the impacts on the EU agricultural sector.

The models are 'soft linked,' and simulations were run in a sequential chain to ensure meaningful exchange of results (Figure 2). First, the MAGNET baseline scenario was calibrated to the EU medium-term agricultural outlook published in December 2022 (European Commission, 2022a). This step ensured that EU production, consumption, land use, trade values and export/import prices in MAGNET were aligned and co-moving with their Aglink-Cosimo counterparts. The MAGNET model's capability to represent all bilateral trade flows was then employed to simulate all selected bilateral trade agreements and calculate a new set of bilateral trade flows by reducing tariffs and simulating TRQ concessions exogenously. MAGNET then calculated the cumulative changes in EU exports and imports, in terms of both volumes and values. The changes in volumes were then implemented as relative shocks on EU export and import volumes for commodities in Aglink-Cosimo, which, being a net trade model, is not be able to account for bilateral trade shocks directly. Finally, the results from the two models were jointly analysed.

Figure 2. Overview of model linkage



Source: Created by the authors.

The two models have different sectoral aggregations. Although Aglink-Cosimo provides more details on certain agricultural commodities, it does not include fruit and vegetables in the set of traded commodities and beverages and other important processed agricultural products. Hence, results on these sectors are based entirely on MAGNET. The mapping of MAGNET sectors into Aglink-Cosimo sectors is presented in Table 1.

Table 1. MAGNET and Aglink-Cosimo sectors' mapping

MAGNET	Aglink-Cosimo
Wheat	Soft wheat
	Durum wheat
Grains	Barley
	Maize
	Oats
	Rye
	Other cereals
Paddy rice	Rice
Processed rice	
Oilseeds	Soybean
	Rapeseed
Oils and meals	Rapeseed meal
	Soybean meal
	Sunflower meal
	Rapeseed oil
	Sunflower oil
	Palm oil
Sugar beet and sugar cane	Not modelled at trade level
Sugar	White sugar
	Raw sugar
Fruit and nuts	Not modelled
Vegetables	Not modelled
Other crops*	Not modelled
Live animals (cattle)	Cattle
Live animals (sheep, goats, etc.)	Sheep
Beef and veal	Beef and veal
Sheep (and other red) meat	Sheep and goat meat
Live pigs and other animal products**	Swine
Live animals (chickens)	Poultry
Pigmeat	Pigmeat
Poultry meat	Poultry meat
Raw milk	Not modelled at trade level
Dairy	Butter
	Cheese
	Skimmed milk powder
	Whole milk powder
	Whey powder
Other food	Not modelled
Beverages and tobacco	Not modelled

*Fibre crops; wool; spices; forage products; flowers, among others.

**Live swine; other live animals; eggs; reproductive materials of animals; natural honey; snails; edible products of animal origin not else classified.; hides, skins, and fur skins, raw; insect waxes and spermaceti.

Source: Created by the authors.

2.6. Limitations of the approach

2.6.1. Limitations of the modelling exercises

Economic models provide a conceptual framework to represent the economy in a structured but simplified manner. They cannot reproduce the complexity of reality and therefore have shortcomings and limitations that affect the results of studies.

The two models employed are tools for conducting policy simulations in which a baseline scenario is first modelled over a future period and then, after changing one or more underlying assumptions (e.g. policy settings, exogenous macroeconomic developments, weather trends), a new scenario incorporating these changes is run for the same period.

A comparison of the new scenario with the baseline scenario at a given point in the simulation period, usually in terms of percentage differences, establishes the direction and relative magnitude of the impacts on all the variables. In other words, these models allow comparisons of two hypothetical 'states' in the future. In this study, the year of interest is 2032, and the alternative states of the world correspond to different hypothetical rules for bilateral trade between the EU and non-EU countries.

Although these models can be used to project future values of variables, they are designed for comparative analysis and not for statistical forecasting: their projections represent one of the many potential pathways that a variable could take in the future. However, the simulated effect of a particular policy change in 2032, compared with the baseline, can be considered as reliable in terms of predictability. This reliability comes from potentially offsetting imperfections in the model and as a cancelling effect of unexpected exogenous shocks that would affect both scenarios. This results in a smaller margin of error in the difference between projections rather than the projection themselves.

2.6.2. Limitations of this analysis

One of the main limitations of this study relates to the coverage and the disaggregation of the agricultural products in the models used: the CGE model MAGNET has a comprehensive coverage of the economy, and thus of the agri-food sector and beyond. However, as explained in Section 2.3, product disaggregation in MAGNET is limited, as is its capacity to model detailed sectoral linkages and policy constraints.

The PE model Aglink-Cosimo, used to overcome these shortcomings of the CGE model, provides much more detailed results at the agricultural commodity level, although it cannot provide results for specific dynamics relating to certain product segments (e.g. speciality cheeses vs industrial cheeses, indica rice vs japonica rice). However, the product coverage of the Aglink-Cosimo model is lower than that of the CGE models: although it includes all major agricultural commodities, it does not model some important agricultural products such as fruit, vegetables, wine, olive oil and other processed agricultural products. Given the high value of processed products, the Aglink-Cosimo model does not represent the full EU agri-food export value.

As regards the geographical disaggregation of the study, results are provided only for the EU. This means that this exercise is not able to provide indications on the impact of trade agreements at Member State or regional level.

Another limitation of the study lies in the theoretical character of part of the scenarios: in the case of negotiations not yet concluded, trade concessions for sensitive products are implemented not as TRQs – as is usually the case in trade negotiations – but rather in terms of partial tariff liberalisation.

In addition, the design of the trade scenarios assumes that all agreements will enter into force at the same time and will be completely enforced by the end of the simulation period (2032), but this is not the case (some are close to adoption and implementation, while others are still in the negotiation phase). The results of the model exercises show the final equilibrium state after all FTAs are enforced and all shocks have been absorbed by the economic system. In reality, this might take longer than 10 years, as assumed in this modelling exercise.

MAGNET database includes commodities aggregated employing tariff lines at the six-digit level or higher. This level is less detailed than that used for designating tariff cuts within FTAs (i.e. the eight-digit level). This means that MAGNET works with 'aggregated tariffs' for aggregate commodities. This aggregated tariff is calculated by using a simple trade-weighted average of the tariffs for the eight-digit tariff lines belonging to each six-digit group. The 'aggregated tariff' is then subjected to the appropriate cut (depending on which tariff category the aggregated tariff belongs to).

Furthermore, as mentioned above, the trade scenarios considered investigate only the effects of tariff liberalisation, and do not factor into the analysis any possible reduction in NTMs, as there are currently no reliable estimates of NTMs for the agricultural sector at disaggregated level. The non-quantification of trade gains from a reduction in NTMs may hide major changes that could benefit EU exporters, in particular when trade partners impose cumbersome procedures that could be tackled and addressed within FTAs (Box 3). This underestimation can be true for EU imports too. On the other hand, regarding the EU imports, the EU does not compromise its standards of consumer protection in any FTA chapter, for example on authorising so-called growth promoters in the production of imported products or modifying its science-based genetically modified organism approval process. These barriers to EU imports stay in place even when tariffs are removed or reduced within any FTA.

The GTAP database, despite being the most commonly used source for this kind of analysis, relies on estimated EU input–output tables based on the year 2011 ([6]). This may bias some of the interpretation of the findings of the study.

Some limitations are due to the soft linkage between the two models. Despite the efforts to harmonise base year, macro-economic projections and model reactions to shocks, MAGNET and Aglink-Cosimo remain two independent models with different theoretical structures, and with assumptions that are not fully integrated into each other. For these reasons, when the two models are used to run the same analysis, the results are not always comparable. In general, this study employs MAGNET results for bilateral trade, value of trade and production and Aglink-Cosimo results for production volumes and change in producer prices.

Finally, the scope of this study is limited to the effect of the market access dimension of the trade agreements. The European Green Deal and the farm-to-fork strategy, which consider trade policy as a means of supporting the EU's ecological transition and a tool to obtain ambitious commitments on economic, social and environmental sustainability from non-EU countries, together with other policies with implications for trade (e.g. the 2023 deforestation regulation), are not included in the baseline or considered in any of the scenarios ([7]).

([6]) JRC has developed a method of guaranteeing that the EU data supplied to the GTAP database respect statistical standards (European System of Accounts) and Eurostat official statistics (Rueda-Cantuche et al., 2020).

([7]) Commitments to sustainability have been continuously strengthened in EU trade agreements, in particular with regard to enhancing climate change action (European Green Deal, p. 21) (https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576150542719&uri=COM%3A2019%3A640%3AFIN).

Box 3. Non-tariff measures

NTMs are policy measures other than ordinary customs tariffs that can affect trade. NTMs are classified according to their scope and/or design and include a wide range of instruments such as sanitary and phytosanitary measures, technical barriers to trade, pre-shipment inspection and other formalities, contingent trade-protective measures, intellectual property rights, rule of origin, etc. (UNCTAD, 2015). In contrast to transparent and measurable tariffs, there is no agreement on the aim, collection, quantification and modelling of NTMs. The agri-food sector is among the sectors that are subject to many different NTMs, and within this sector meat, dairy products, fruit and vegetables (and, to a lesser extent, cereals) are the commodities most often subject to NTMs.

With few global and consistent cross-country databases on NTMs, quantifying NTMs and reductions in NTMs is not trivial. Traditionally, CGE models address NTMs with a simple approach, for example incorporating NTMs as tariff equivalents via export or import taxes or as import-augmenting technological change, depending on the modeller's judgement of the extent to which rents and costs matter and how rents are distributed between importers and exporters. Neither of these mechanisms directly captures consumers' willingness to pay or exporter costs (Walmsley and Strutt, 2021).

Gravity models are commonly used to calculate NTMs, but the model design (functional forms, price gap / quantity gap approaches, etc.) has a significant impact on estimation results, and gravity equations have obvious drawbacks (Beghin et al., 2015). Furthermore, the difficulty of matching product-based NTMs and the economic sectors included in CGE models can result in an aggregation problem. Finally, the literature is not conclusive on the correct representation of NTMs within a CGE framework, and provides several options, including the representation of NTMs as an efficiency loss/gain, as rent for domestic/foreign producers, as additional trade cost, etc. (see Sanjuán et al. (2019) for a review of the literature on the approaches used to depict NTMs in simulation models).

Importantly, while NTMs tend to increase production and trade costs, they can also expand trade volumes by increasing demand for compliant imported products (Gourdon et al., 2020). Liberalising trade does not mean eliminating all NTMs. Many NTMs in the agri-food sector are introduced for public policy purposes; for example maximum residue levels and contamination and/or production standards are intended to ensure safety and quality along the entire food supply chain, to address market failures (e.g. asymmetry of information between producers and consumers, externalities) or to enhance consumer demand for goods by increasing quality attributes (e.g. production process requirements or standards). Therefore, quantifying the capacity for trade agreements to reduce NTMs remains difficult.

Finally, non-members of a trade agreement (third countries) can also benefit from any NTM harmonisation (reduction) if it decreases the cost associated with export to the markets of the two parties to the agreement, and converging regulatory frameworks can generate large trade gains (Sanjuán et al., 2023). Quantifying and modelling this spill-over effect is difficult, and often neglected.

For all the above reasons NTMs are not modelled explicitly and no attempt is made to quantify the effects of reducing or eliminating NTMs from FTAs. The trade-restrictive impact of NTMs is implicitly considered in the underlying trade database of MAGNET to the extent that it concerns the current (observed) pattern of international trade. Therefore, and overall, the modelling results underestimate potential effects of the current EU FTA agenda from an NTM perspective.

3. Trade policy scenarios

Of the 10 FTAs covered by this study, only those with Chile, Mercosur, Mexico and New Zealand have been concluded. In other words, the outcomes of the negotiations are known. As regards the other agreements under negotiation or envisaged, the outcomes are still unknown. This is particularly true for the identification and the treatment of sensitive products, for which reciprocal concessions are usually granted in the form of TRQs. Given the degree of uncertainty about trade talks under the EU trade agenda, it is not possible to model precise negotiation outcomes. Instead, it is preferable to consider theoretical scenarios that allow a range of possible cumulative impacts of EU trade policy. For this reason, the study considers, in the case of agreements not yet concluded, two trade scenarios defined by the degree of market liberalisation: a conservative scenario and an ambitious scenario.

3.1. Definition of the scenarios

In the case of the trade agreements with Chile, Mercosur, Mexico and New Zealand, the final outcomes of the negotiations for all products (both agri-food and non-agricultural) have been included in the conservative and the ambitious scenarios. This includes actual tariff cuts and the modelling of reciprocal bilateral TRQs granted under these agreements for relevant products. Bilateral TRQs are explicitly implemented for EU imports of beef, sheep meat, poultry meat, pigmeat, dairy products and rice from Mercosur, EU imports of beef and sheep meat from New Zealand, EU imports of sheep meat from Chile, EU imports of pigmeat from Mexico and EU exports of poultry meat, pigmeat and dairy products to Mexico.

In the case of the remaining six trade negotiations, the two scenarios are based on a full tariff liberalisation for a large majority of tariff lines (both agricultural and non-agricultural) and on a partial tariff cut for the remaining lines, which represent the sensitive products (both agricultural and non-agricultural). The conservative and the ambitious scenarios differ in terms of the assumptions as regards the percentage of tariff lines that will be fully liberalised under the agreements, and the size of the tariff cut for the sensitive products.

3.1.1. Conservative scenario

The conservative scenario is based on the actual outcome of negotiations with Chile, Mercosur, Mexico and New Zealand and, in the case of the other six FTAs, assumes:

- full tariff liberalisation for 97 % of HS six-digit lines;
- a partial tariff cut of 25 % for the remaining 3 % of lines (sensitive products), selected from both agriculture and non-agriculture goods.

These assumptions are applied identically to all trade agreements considered and symmetrically to both the EU and the relevant trading partners.

The scenario assumption on the share of liberalised tariff lines is made at the six-digit (HS6) level for methodological reasons (this is also the level of disaggregation used as a reference by most global trade models). However, the number of sensitive agricultural products is not identical when working at HS6 or at a more detailed level, since the share of agricultural lines in the total tariff lines depends on the level of detail of the chosen product nomenclature. Indicatively, a 97 % liberalisation at HS6 level is roughly equivalent to 95.4 % liberalisation at the eight-digit level for the EU.

3.1.2. Ambitious scenario

The ambitious scenario is defined following the same structure as the conservative scenario, but with the following key parameters:

- full tariff liberalisation for 98.5 % of HS six-digit lines;
- a partial tariff cut of 50 % for the remaining 1.5 % of lines (sensitive products), selected from both agriculture and non-agriculture goods.

These assumptions are applied identically for all trade agreements considered and symmetrically to both the EU and the relevant trading partners. Indicatively, a 98.5 % liberalisation at HS6 level roughly corresponds to 97.7 % liberalisation at eight-digit level for the EU.

3.2. Treatment of sensitive products

In the case of the six trade agreements whose negotiations are not yet concluded, the trade scenarios described in Section 3.1 allow several sensitive tariff lines to be exempted from full tariff liberalisation, and for a partial tariff cut to be applied instead. The number of sensitive tariff lines and the magnitude of the partial tariff cut differ between the conservative and the ambitious scenarios, but in each of the six trade agreements the two parameters are applied consistently within the same scenario, and apply symmetrically to both the EU and non-EU countries. However, the list of sensitive products exempted from the full tariff cut varies as a function of the agreement considered and can of course be different for the EU and for the relevant trading partners.

Sensitive products do not necessarily have to be agricultural or agri-food products, but can, in theory, be any product included in the HS6 nomenclature, including industrial goods. However, in the case of most of the trade agreements covered by the study, agricultural lines account for the majority of sensitive products.

The list of sensitive products for each agreement and trading partner has been established based on two criteria applied in the following priority order:

- expert judgement based on the evidence of ongoing negotiations with trading partners or on analyses carried out prior to the launch of the negotiations;
- objective statistical indicators, notably the tariff revenue associated with each tariff line (Box 4.

The list of sensitive products on the EU side is dominated by agricultural and agri-food products. The categories of EU sensitive products that occur most frequently are cattle meat, poultry meat, rice, wheat, other cereals, sugar and dairy products. In addition, in the case of some negotiations, some individual tariff lines within a broader product category are considered sensitive, for example garlic and sweet maize (within the vegetables category), ethanol (beverages and tobacco products), olive oil (vegetable oils), eggs (other animal products) and starches, canned mushrooms, some preserved fruit, processed tomatoes, fruit juices and some sugar confectionery (all in the 'other food' category).

However, not all of these products can be selected in all negotiations given the constraints in terms of the maximum number of sensitive products. Of course, this constraint is more stringent in the case of the ambitious scenario.

As far as EU trading partners are concerned, other than well-known sensitivities that emerge from trade negotiations or preliminary talks, knowledge of products potentially eligible for exemption from full tariff cut is more limited; therefore, the use of statistical indicators to compile a list of sensitive products is more extensive in the case of non-EU countries than for the EU.

Box 4. Selection of sensitive products

In trade agreements, the negotiating parties declare some products as sensitive and make them subject to specific treatment: partial tariff cuts, TRQs or exclusion. Sensitive products, even if few, can have a significant impact on the economic outcome of most trade deals and can also dramatically reduce the cuts in average agricultural tariffs (Jean et al., 2010). For this reason, the sensitive products for the FTAs covered in this study have been selected carefully. A large share of the sensitive products was compiled by trade experts, and reflects the typical negotiating positions (offensive or defensive) of the FTA partners. In the remaining cases (or if experts identified only broader sectors as potentially sensitive), the list of sensitive products was compiled using an automatic selection procedure.

The automatic selection procedure for sensitive products is based on the political economy model of Grossman and Helpman (1994), with the selection of sensitive products assumed to be optimal in terms of maximising a government objective function. Under specific assumptions, the government's optimisation problem can be approximated with a tariff revenue loss criterion. This simplified approach reduces the computational burden (Jean et al., 2005). Tariff lines are ordered based on the expected tariff revenue losses due to trade liberalisation, without factoring in the potential adjustments in traded quantities after the trade deals (i.e. calculating tariff revenue losses for current trade patterns). In contrast to the multilateral approach of Jean et al. (2005), in this study the tariff revenue loss criterion was computed only in a bilateral context. The algorithm calculated expected tariff revenue losses for all bilateral trade flows between all pairs of FTA partners, and for all FTAs considered.

Expected tariff revenue loss is calculated based on *ad valorem* equivalent tariffs for 2014, as reported in the ITC-MacMap database (Guimbard et al., 2012). Traded values and quantities were taken from the BACI-Comtrade dataset (Gaulier and Zignano, 2010; average of years 2016–2018). Tariffs, trade statistics and tariff cuts were all taken into consideration at the six-digit level of the HS classification. In our *ex ante* scenarios, sensitive tariff lines are subject to partial tariff cuts only (current levels cut by 25 % in the conservative scenario and by 50 % in the ambitious scenario). Tariff cuts are always applied on the applied rates. The number of sensitive tariff lines is smaller in the ambitious scenario (1.5 % of all lines) than in the conservative one (3 % of lines).

The tariff revenue loss criterion should be used only to complement the list of sensitive tariff lines created by market experts. This is because this criterion is not always suitable for selecting sensitive products, in particular for the following reasons:

Endogeneity. High tariff rates on highly protected tariff lines might lead to only small quantities of those lines being imported, and thus small expected tariff revenue losses. This would result in highly protected tariff lines with small import flows not being picked by the selection algorithm, despite the fact that such lines are clearly politically sensitive in trade negotiations.

Specific tariffs. The entry price system of the EU is modelled with some simplifications. The entry price system sets minimum entry prices for certain products, by placing an optional specific tariff on imports. The size of the specific tariff depends on the import price relative to predefined entry prices. Therefore, the EU entry price system might add a specific tariff component on top of the *ad valorem* tariffs. If a trade agreement were to keep the entry price system operational, tariff cuts would affect only the *ad valorem* component. The specific tariff component would be excluded from the tariff cuts. The database used for the tariff revenue calculations did not allow such exceptions to be considered, because the *ad valorem* equivalents of the database are already a combination of the *ad valorem* and the specific components. Therefore, cutting the combined tariff might overestimate the achieved tariff cuts in the FTA.

3.3. Implementation of scenarios

The scenarios were implemented in MAGNET following a 'time step' approach. The model ran over two time steps, the first from the base year (2014) to 2022 and the second from 2023 to 2032. All the tariff cuts (for all sectors, including agricultural products) and TRQs associated with negotiations that are already concluded and the tariff cuts associated with the remaining six FTAs are assumed to enter progressively into force from 2023 and show their full impact on the global economy by 2032. All tariff shocks were implemented as linear cuts in the applied tariff.

The trade-weighted tariffs faced by EU exporters and trade-weighted EU import tariffs for all partners are presented in Table 2, while Table 3 shows import and export tariffs for the 10 FTA partners. The figures in the table are calculated by multiplying the imports or exports tariff rate by the share of EU imports or exports

accounted for by that commodity in the base year (2014), and then summing over all countries. The difference between the scenarios shows the impact of the two simulated scenarios in reducing the tariff barriers to trade by 2032. EU import tariffs for the 10 FTA partners (Table 3) show that, in the case of wheat, other cereals, other crops, vegetables, oilseeds and beverages, EU trade liberalisation in favour of its FTA partners is almost complete. Most of the sensitive products are then selected from among sectors such as the rice, sugar, dairy products and different meat sectors, which have higher initial tariffs. On the export side the pattern is similar (Table 3), where tariffs where already low in the two scenarios, sectors become completely liberalised (wheat, cereals, oilseeds, sheep meat). Partner countries consider poultry meat, pigmeat, and fruit as sensitive commodities.

Table 2. Tariffs applied to EU exports and EU import tariffs, all partners (2032, %)

	Exports			Imports		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
Wheat	12.43	12.41	12.41	0.00	0.00	0.00
Other cereals	7.61	7.58	7.58	0.23	0.17	0.17
Fruit	4.05	3.71	3.69	3.64	2.91	2.88
Vegetables	5.15	5.07	5.04	3.87	3.70	3.64
Oilseeds	2.57	2.50	2.50	0.00	0.00	0.00
Other crops	3.06	2.78	2.74	0.18	0.13	0.12
Beef	4.63	4.56	4.50	29.35	23.34	22.84
Poultry meat	5.04	4.92	4.87	10.14	7.26	6.60
Sheep meat	6.60	5.78	5.78	1.99	0.95	0.82
Pigmeat	5.54	5.19	4.92	1.63	1.37	1.28
Oils and meals	6.23	4.54	4.54	2.46	1.67	1.31
Dairy products	6.99	6.53	6.43	5.91	4.03	3.85
Processed rice	2.02	1.87	1.87	8.95	7.53	6.14
Sugar	6.69	6.33	6.32	15.29	13.93	13.76
Other food	6.93	6.32	6.25	3.74	2.74	2.38
Beverages and tobacco	10.79	10.27	9.91	2.77	1.90	1.79

Source: Authors' calculations, based on MAGNET results.

Table 3. Tariffs applied to EU exports and EU import tariffs, 10 FTA partners (2032, %)

	Exports			Imports		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
Wheat	2.55	0.16	0.16	0	0	0
Other cereals	3.08	0.25	0.17	0.61	0.01	0
Fruit	10.37	1.12	0.73	4.56	0.72	0.54
Vegetables	4.51	2.21	1.63	3.02	1.31	0.76
Oilseeds	3.39	0.07	0.07	0	0	0
Other crops	7.82	1.58	0.78	0.24	0.02	0.01
Beef	9.83	4.52	0	43.42	33.86	33.06
Poultry meat	17.73	10.45	6.93	13.88	9.53	8.53
Sheep meat	5.79	0	0	3.21	1.42	1.18
Pigmeat	10.71	6.06	2.4	7.9	4.24	2.95
Oils and meals	7.83	0.18	0.18	2.71	1.64	1.15
Dairy products	7.94	2.3	1.09	43.25	20.38	18.19
Processed rice	5.06	0.49	0.57	12.61	9.61	6.66
Sugar	7.98	2.38	2.12	28.74	18.61	17.35
Other food	9.28	1.7	0.87	8.34	3.59	1.91
Beverages and tobacco	19.21	10.01	3.77	5.51	1.16	0.59

NB: Values in this table are significantly different from the 2021 study, due to the change in the FTAs included in the analysis.

Source: Authors' calculations, based on MAGNET results.

Following the implementation of tariff shocks in MAGNET, simulated bilateral flows with the EU were inspected and aggregated into total EU imports and exports expressed as values. Representing cumulative trade effects in 2032, those value changes in real terms were then exogenously introduced into Aglink-Cosimo as relative shocks on imports and exports by volume. The model was then run for each scenario to explore the potential impact on EU commodity balances and prices.

The trade changes calculated in MAGNET act as shocks when introduced into Aglink-Cosimo, since they cause trade imbalances that stimulate an endogenous price reaction that restores market equilibria by adjusting the other supply and demand components (mainly production).

The two models solve dynamically using different time steps (MAGNET, 10 years; Aglink-Cosimo, annually for 10 years). To reconcile the two approaches, the 2032 impacts of the various FTAs from MAGNET were distributed over the 10-year projection horizon of Aglink-Cosimo incremented annually by a factor of 0.1. That is, if, for example, MAGNET prescribed an increase in total EU imports of a given commodity of 10 % in 2032, the shock would be implemented progressively on the relevant time series of Aglink-Cosimo (1 % in 2022, 2 % in 2023, 3 % in 2024, and so on), culminating in the full expected change of 10 % by 2032. This approach implies a gradual implementation of the modelled FTAs, allowing for temporal market adjustments, and resulting in stable medium-term market balances.

4. Baseline 2032

4.1. Baseline assumptions and key values

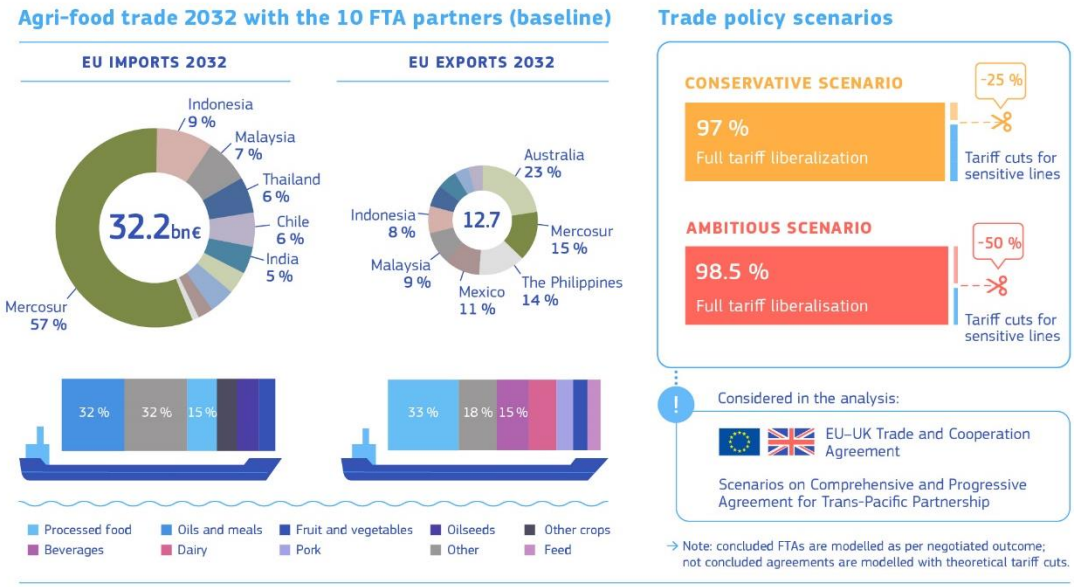
The MAGNET baseline scenario was calibrated to the 2022–2032 EU medium-term agricultural outlook, published by the Directorate-General for Agriculture and Rural Development in December 2022 (European Commission, 2022a). The macroeconomic developments (GDP, population, world crude oil price, land productivity) were exogenously imposed on the model following the forecasts adopted in the EU medium-term agricultural outlook (Table 11 in Annex 1). The model was calibrated to replicate EU and global production, consumption, land use and bilateral imports and exports for the agri-food sector and trading partners reflected in the EU medium-term agricultural outlook. To replicate the EU medium-term agricultural outlook trends for the different commodities in MAGNET, several parameters were adjusted ([8]). Given that the EU medium-term agricultural outlook provides only EU net trade positions, the bilateral tariffs, TRQs and trade flows of the main commodities were adjusted following COMEXT trade statistics for 2014 and 2022 and expert knowledge for 2032 (Figure 3).

The baseline also includes the development of existing EU TRQs for imports of beef (with Australia, Canada, Mercosur, New Zealand and the United States), of sheep meat (with Australia, Chile, Mercosur and New Zealand), and of poultry meat (Mercosur). In particular, the baseline was modified to include the implementation of the revised memorandum of understanding (MoU) with the United States on the TRQ for imports of high-quality beef, whereby 35 000 tonnes of the quota out of 45 000 tonnes (in product weight) are allocated to the United States after a 7-year phasing-in period. The MoU was revised with the agreement of the other substantial supplying countries (Argentina, Australia and Uruguay). The revised MoU entered into force in 2020. It is expected that by 2032 the United States will have increased its exports to the EU by fully benefiting from the increased market access granted by the revised MoU.

Other trade agreements already implemented (e.g. with Canada, Japan, South Korea, Switzerland and Vietnam) are part of the baseline. As explained in Box 1, this study assumes DFQF trade between the EU and the United Kingdom. The DCFTA between EU and Ukraine is also included in the baseline and accounts for the temporary trade liberalisations that have been in place since June 2022.

([8]) To calibrate agricultural production changes, an output-modifying sectoral productivity parameter was endogenised. To calibrate change in the consumption of agri-food commodities, a preference parameter was endogenised. To replicate the net balance position of the EU by calibrating imports and exports, a technical change parameter of the Armington function was modified: land use by commodities is exogenously imposed using land supply shifters.

Figure 3. Infographic on 2032 agri-food trade (baseline) and trade policy scenarios

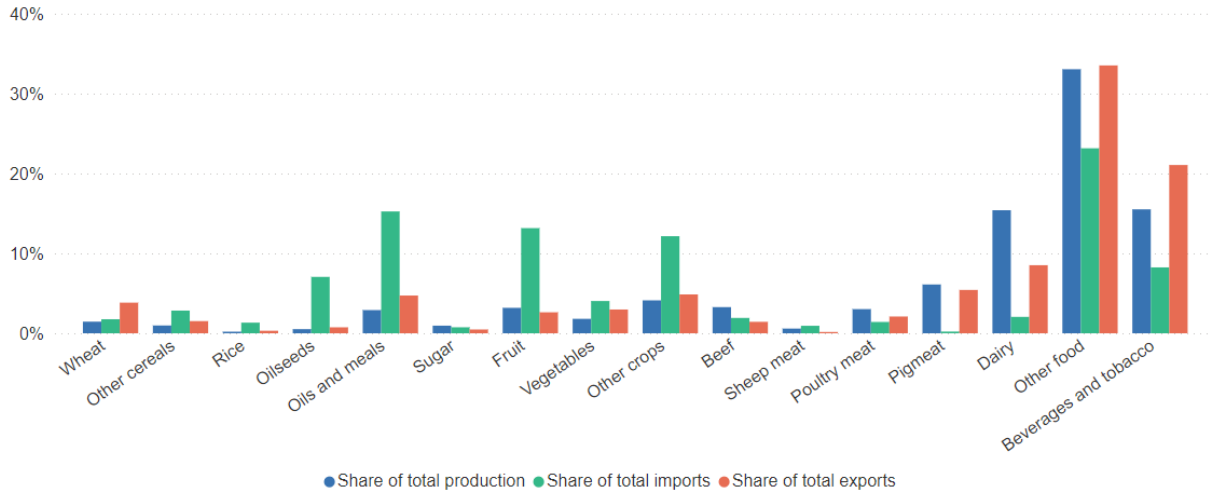


Source: Created by the authors.

Consistent with the 2022–2032 EU medium-term agricultural outlook, Figure 4 shows the production, imports and exports of commodities in 2032 as a proportion of the total agri-food value considered in the analysis, as explained in Section 2.3. Pigmeat, dairy products, beverages and tobacco and other food contribute more than two thirds of agri-food production in value terms. They also account for a large share of EU exports. Other sectors contributing to EU agri-food production are fruit (3.2 %), beef (3.3 %) and poultry meat (3.0 %). Beverages and tobacco, dairy products, other food and pigmeat are exported in significant quantities, whereas oilseeds, oils and meals and fruit (mostly tropical) account for high shares of imports.

Compared with 2022, production shares in 2032 remain stable, with slight decreases in meat production and increases in the production of beverages and tobacco (Table 17 in Annex 2).

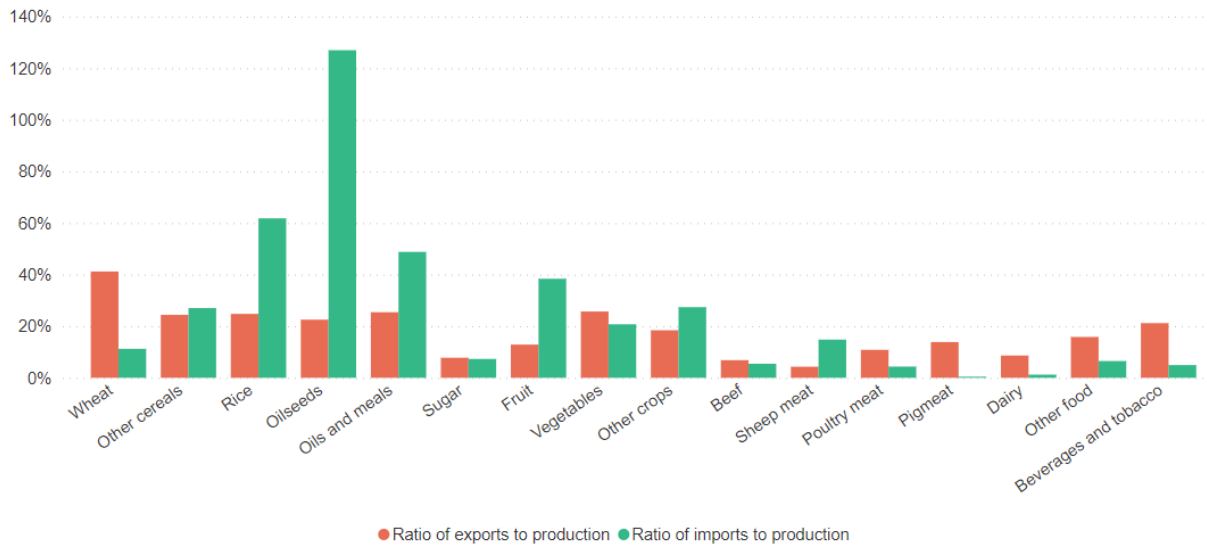
Figure 4. Agri-food commodities as a share of total agri-food production and trade at baseline (2032, %)



Source: Authors' calculations, based on MAGNET results. The shares are calculated based on value.

The ratios of imports and exports to production for the EU in 2032 are shown in Figure 5. Wheat, pigmeat, dairy products, other food and beverages present a significant positive balance, while a strong import dependency is observed for oilseeds, oils and meals, fruit and other crops.

Figure 5. Baseline ratios of imports and exports to production in the EU, by commodity (2032, %)



Source: Authors' calculations, based on MAGNET results. The shares are calculated based on value.

4.2. Main exports and trading partners

The 10 FTA partners represent a limited market share for EU agri-food exports and are projected to be the destination of 6.6 % of the exports in 2032, for an amount in value of EUR 12.6 billion (Table 4). Australia (22.5 %) is the main destination of EU agri-food exports among the 10 FTA partners, followed by Mercosur (14.9 %), the Philippines (13.9 %) and Mexico (10.5 %).

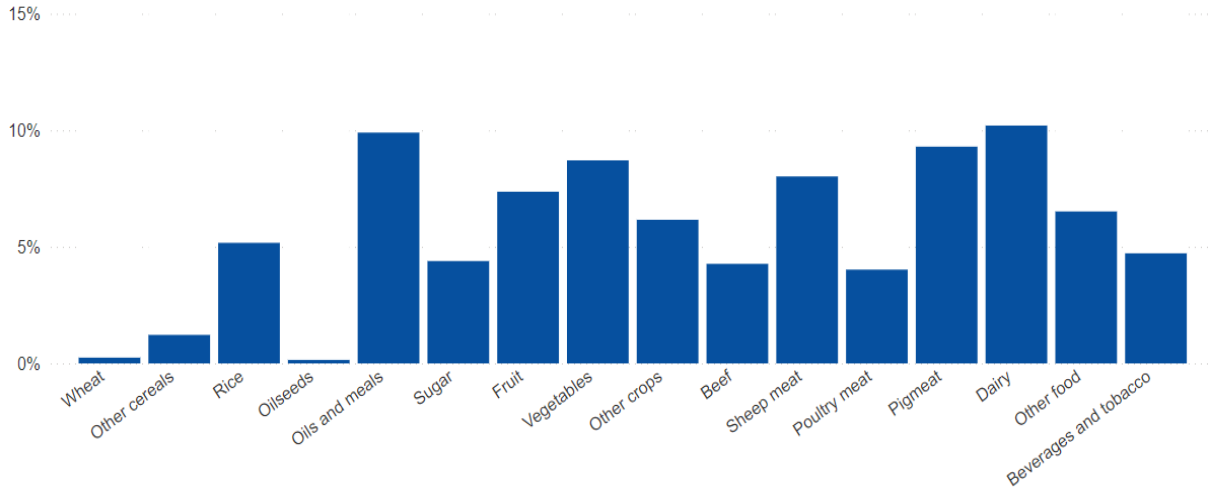
Around 10 % of EU dairy exports are shipped to the 10 FTA partners. For most other product categories this percentage is between 5 % and 9 % (Figure 6).

Table 4. EU exports to the 10 FTA partners at baseline (2032, billion EUR and %)

	Baseline scenario (million EUR)	Baseline scenario (%)
Australia	2 846	22.5
Chile	526	4.2
India	734	5.8
Indonesia	1 021	8.1
Malaysia	1 191	9.4
Mercosur	1 886	14.9
Mexico	1 330	10.5
New Zealand	560	4.4
Philippines	1 764	13.9
Thailand	792	6.3
Total	**12 651**	**100**

Source: Authors' calculations, based on MAGNET results.

Figure 6. Share of EU exports, by commodity, accounted for by the 10 FTA partners in total at baseline (2032, %)



Source: Authors' calculations, based on MAGNET results.

4.3. Main imports and trading partners

Examination of the total agri-food trade at baseline shows that the 10 FTA partners are projected to supply 28.2 % of EU agri-food imports in 2032, worth EUR 32 billion. Mercosur is the biggest contributor, accounting for 56.5 % of all EU agri-food imports from the 10 FTA partners, followed by Indonesia (9.2 %) and Malaysia (7.4 %) (Table 5). Imports from the United Kingdom, which is by far the largest single contributor of EU imports (accounting for 10.8 % of the total), are part of the other countries aggregate.

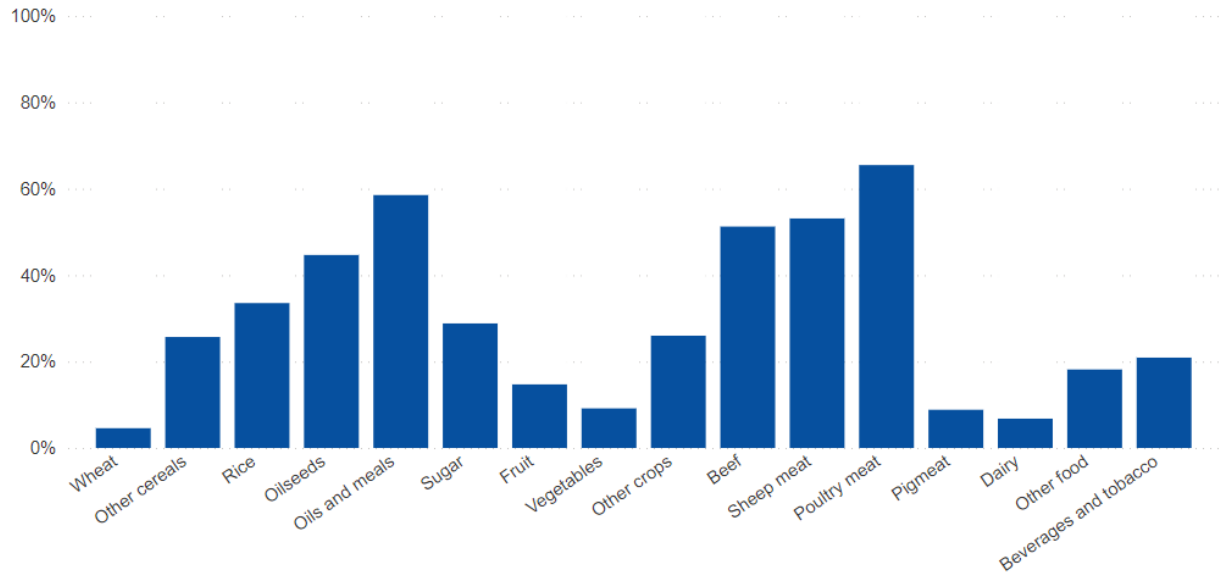
Table 5. EU agri-food imports from the 10 FTA partners at baseline (2032, billion EUR and %)

	Baseline scenario (million EUR)	Baseline scenario (%)
Australia	1 145	3.6
Chile	1 805	5.6
India	1 460	4.5
Indonesia	2 951	9.2
Malaysia	2 367	7.4
Mercosur	18 188	56.5
Mexico	829	2.6
New Zealand	1 320	4.1
Philippines	292	0.9
Thailand	1 845	5.7
Total	**32 202**	**100**

Source: Authors' calculations, based on MAGNET results.

Some sectors in the EU depend significantly on imports from the 10 FTA partners. For instance, these partners contribute between 45 % and 60 % of total EU imports of oilseeds and oils and meals. Similarly, the 10 FTA partners together account for 53 %, 66 % and 51 % of EU imports of sheep meat, poultry meat and beef, respectively (Figure 7). Notably, the quantities of oilseeds, oils and meals imported are significantly higher than the quantities produced in the EU.

Figure 7. Contribution of the 10 FTA partners to EU imports, by commodity, at baseline (2032, %)

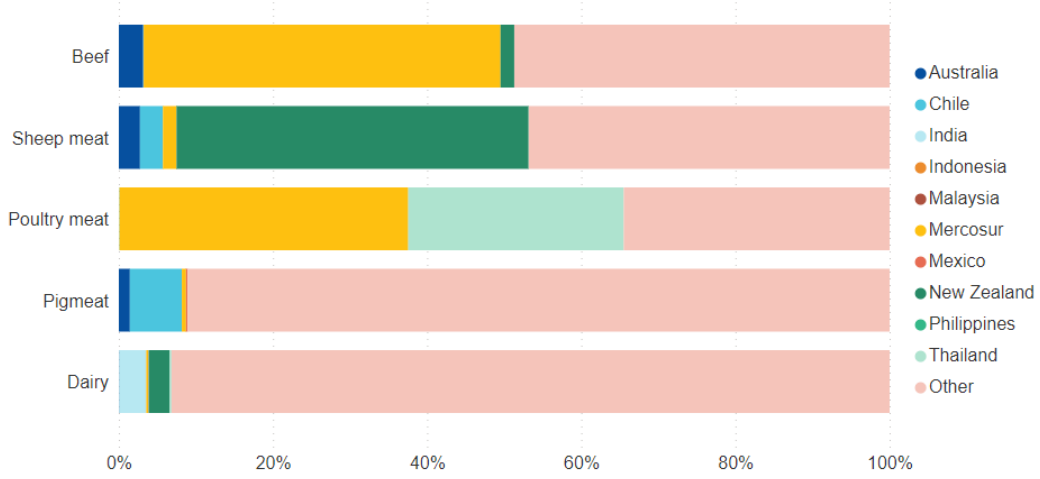


Source: Authors' calculations, based on MAGNET results.

Focusing on the meat and dairy sectors only (Figure 8), Australia, Chile Mercosur, New Zealand and Thailand account for the largest market shares of EU imports. Beef imports come largely from Mercosur (46 %) and, to

a lesser extent, from Australia (3 %). New Zealand (46 %) is the EU's main provider of sheep meat. Poultry meat comes mainly from Mercosur (37 %) and Thailand (28 %). Imports of pigmeat and dairy products from the FTA partners account for only a negligible proportion of total imports of these products.

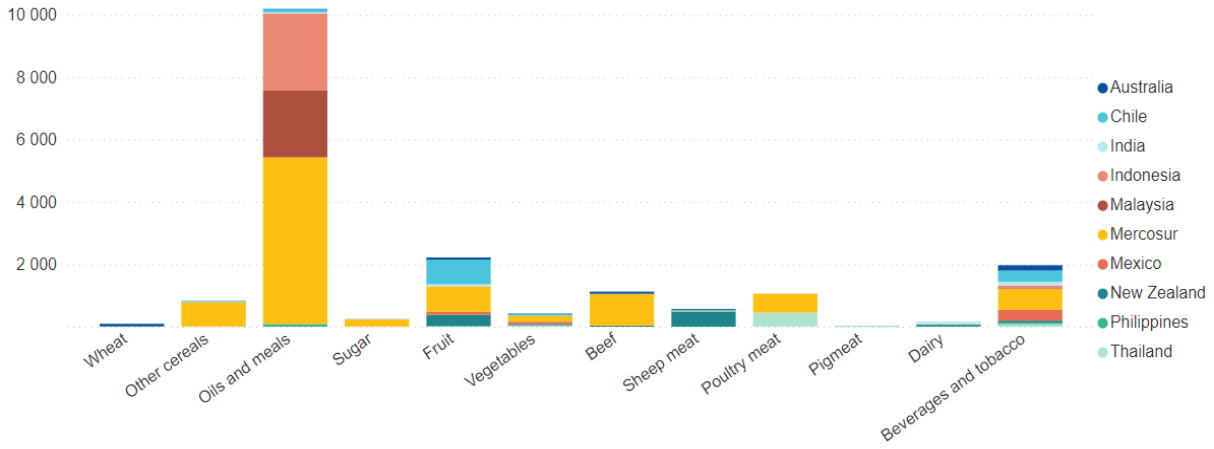
Figure 8. EU imports of animal products by the 10 FTA partners and others at baseline (2032, %)



Source: Authors' calculations, based on MAGNET results.

Figure 9 shows the importance of the Mercosur bloc of four countries relative to the other FTA partners in terms of EU imports. It supplies the EU market with many commodities such as oilseeds, oils and meals, beef, poultry meat and other food. In the case of beef and poultry meat, this predominance is strongly linked to preferential access granted under country-specific WTO TRQs under the Uruguay Round, successive EU enlargements and TRQs opened under other Article XXVIII negotiations. Other countries account for a significant share of other commodities in the EU market, such as Indonesia and Malaysia for palm oil (included in the oils and meals category) or New Zealand for sheep meat.

Figure 9. EU imports, by product and trading partner, at baseline (2032, million EUR)



Source: Authors' calculations, based on MAGNET results.

5. Modelling results

5.1. Overview

This section provides an overview of the changes in EU imports from and exports to the 10 FTA partners and overall (Figure 10), analysing the impact of the assessed conservative and ambitious scenarios. Unless otherwise stated, all the results refer to 2032 and the impacts are expressed as changes from the baseline scenario.

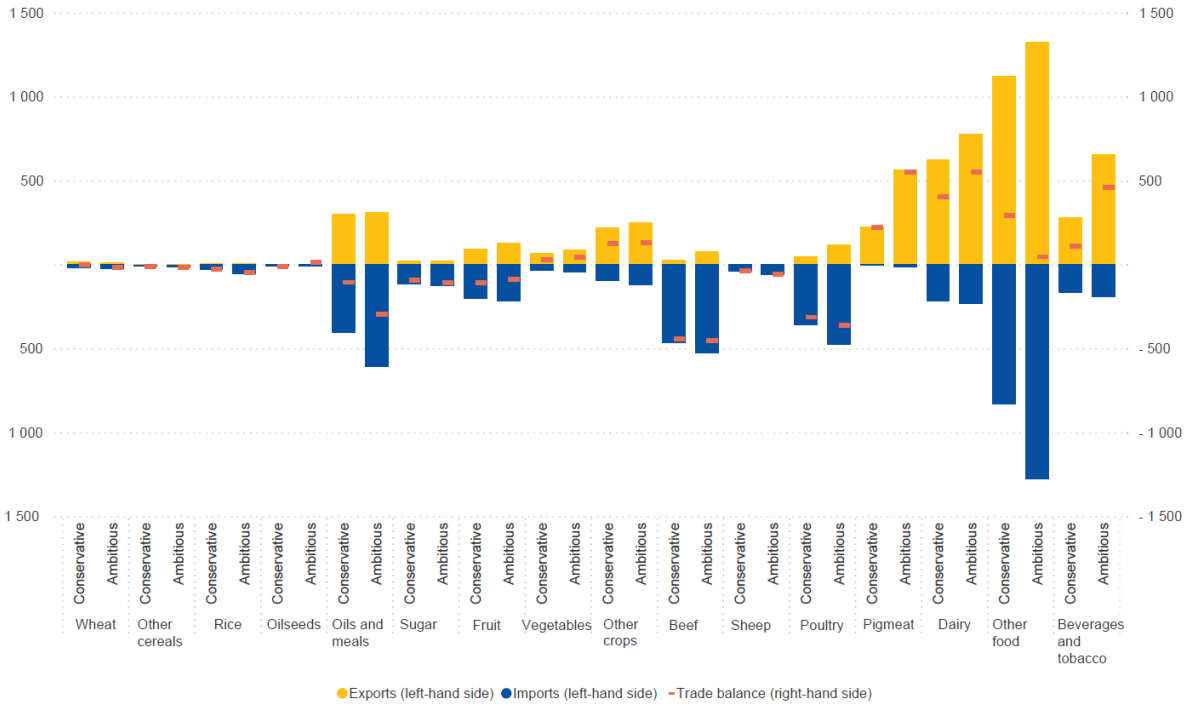
Figure 10. Infographic on the change in EU trade value

Source: Created by the authors.

Tariffs liberalisation gives the signing parties better access to each other's markets by decreasing the cost of trade via tariff reductions. Trade creation and diversion effects are the recognised effects of economic integration on trade flows. While trade creation could lead to the establishment of new trade between members of FTAs, trade diversion could result in existing trade flows with non-EU countries being replaced by trade with FTA countries. Overall, the results show that both EU imports and exports values increase in the two scenarios compared with the baseline. However, the largest increases in trade with the 10 FTA partners, and consequently the largest reductions in trade with other countries, are observed in the beef, poultry meat, pigmeat and dairy sectors, reflecting both additional imports from and exports to FTA partners (trade creation) and replacement of trade from non-EU countries with FTA partners (trade diversion).

Figure 11 shows the changes in EU trade compared with the baseline scenario in both scenarios and for each commodity. It highlights the changes in imports and exports values as well as in the trade balance. The sectors considered the most 'offensive' in trade negotiations (e.g. the dairy and pigmeat sectors) benefit from the FTAs by increasing their exports. Other sectors experience a significant increase in imports (e.g. beef, rice and poultry meat), albeit limited compared with EU production and consumption. Similarly, the oils and meals sector experiences increased imports, outweighing exports, leading to a trade balance deficit. The beverages and tobacco sector experiences significant trade gains, especially in the ambitious scenario, whereas the changes in trade in cereals, oilseeds, vegetables and sheep meat are quite small. The 'other food' sector experiences an increase in both imports and exports in both scenarios, keeping the trade balance of the sector positive.

Figure 11. Changes in EU trade value of agri-food products by commodities and scenario (2032, million EUR)



Source: Authors' calculations, based on MAGNET results.

The changes in the trade flows have a direct effect on different agricultural markets in the EU. Sectoral impacts reflect the competitiveness of the sector in 2032 and are further detailed later in this chapter. In this overview, the situation in 2032 (after the implementation of all considered agreements) is compared with the baseline.

As the MAGNET model covers not only agri-food products but also the wider economy, consistent modelling of the FTAs requires that tariff liberalisation for non-agri-food commodities is also included in the scenarios, although MAGNET does not model these sectors in the same detail as it does agri-food commodities.

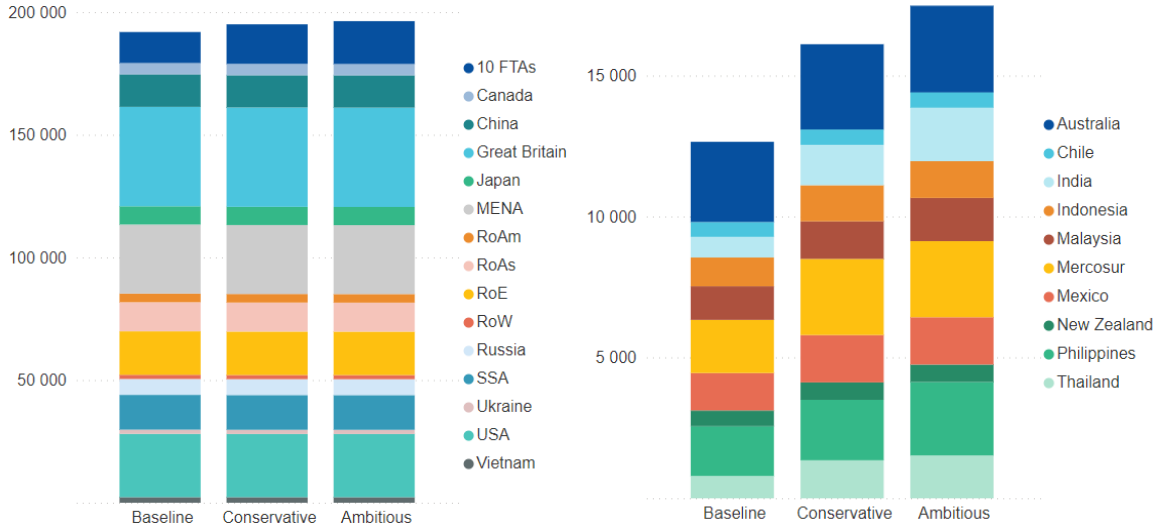
5.1.1. Changes in exports

The scenario results show an increase in EU exports to all 10 FTA partners, and a decrease in exports to the other regions. Pigmeat and dairy products show the highest value changes.

EU exports to the 10 FTA partners increase from EUR 12.6 billion to EUR 16.1 billion (+ 27 %) in the conservative scenario and to EUR 17.5 billion (+ 38 %) in the ambitious scenario (Figure 12a). Additional exports are predominantly directed to Australia, India, Mercosur, the Philippines and Thailand (Figure 12b). The share of EU agri-food exports accounted for by the FTA partners increases from 6.6 % at baseline to 8.3 % in the conservative scenario and to 8.9 % in the ambitious scenario. At the same time, EU exports to other countries, 93.4 % at baseline, decrease slightly, by 1.7 percentage points in the conservative scenario and by 2.3 percentage points in the ambitious scenario.

Overall, the value of EU agri-food exports increases by 1.6 % (EUR 3.1 billion) in the conservative scenario and by 2.3 % (EUR 4.4 billion) in the ambitious scenario.

Figure 12. EU agri-food exports, by trading partner and scenario (2032, million EUR)



(a) The 10 FTA partners taken together compared with other countries

(b) Comparison of the 10 FTA partners

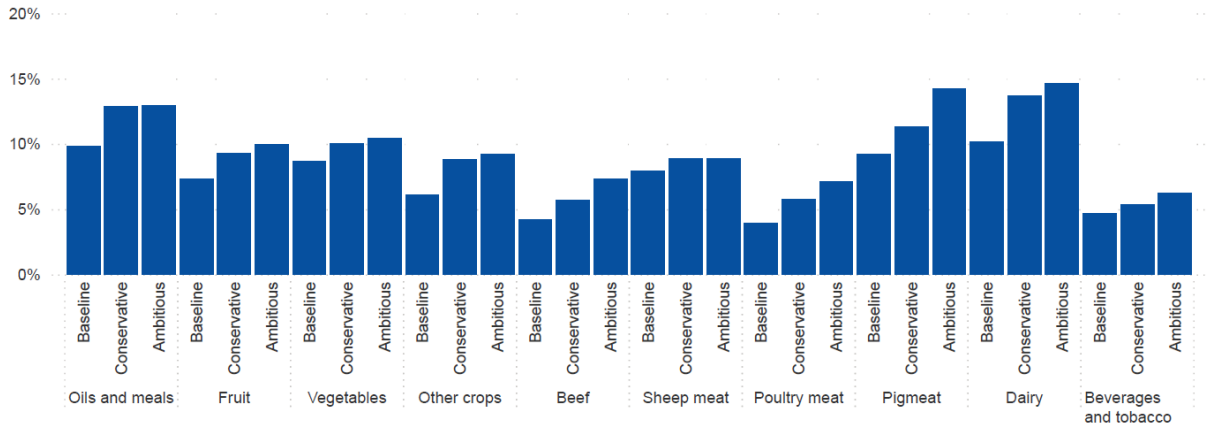
NB: For details refer to Table 16 in Annex 2.

Source: Authors' calculations, based on MAGNET results.

Although exports of all agri-food commodities increase, the 10 FTA partners account for a significant share of only some products (Figure 13). The commodities that account for the largest value changes in exports, and thus for important trade gains, are dairy products (including raw milk), pigmeat, other food, and beverages and tobacco. Dairy exports to FTA partners increase by 40 % (conservative scenario) and 51 % (ambitious scenario), corresponding to an increase in export value from EUR 1.7 billion at baseline to EUR 2.3 billion (conservative scenario) or EUR 2.5 billion (ambitious scenario). The difference between the two scenarios is much larger for pigmeat, with the value of exports to the FTA countries increasing by 25 %, to reach EUR 1.2 billion, in the conservative scenario and by 62 % (reaching EUR 1.6 billion) in the ambitious scenario. As a result the share of pigmeat exports that is accounted for by FTA countries increases from 9 % at baseline to 12 % in the conservative scenario and to 15 % in the ambitious scenario). Exports of beef and poultry meat to FTA partners also show large increases in percentage terms, but the absolute increases remain low (details provided in Table 14 and Table 15 in Annex 2).

Exports of dairy products, beef, poultry meat and pigmeat to other countries decrease only slightly. Details can be found in Table 15 in Annex 2.

Figure 13. Share of EU exports accounted for by the 10 FTA partners, by commodity and scenario (2032)



NB: For details refer to Table 15 in Annex 2.

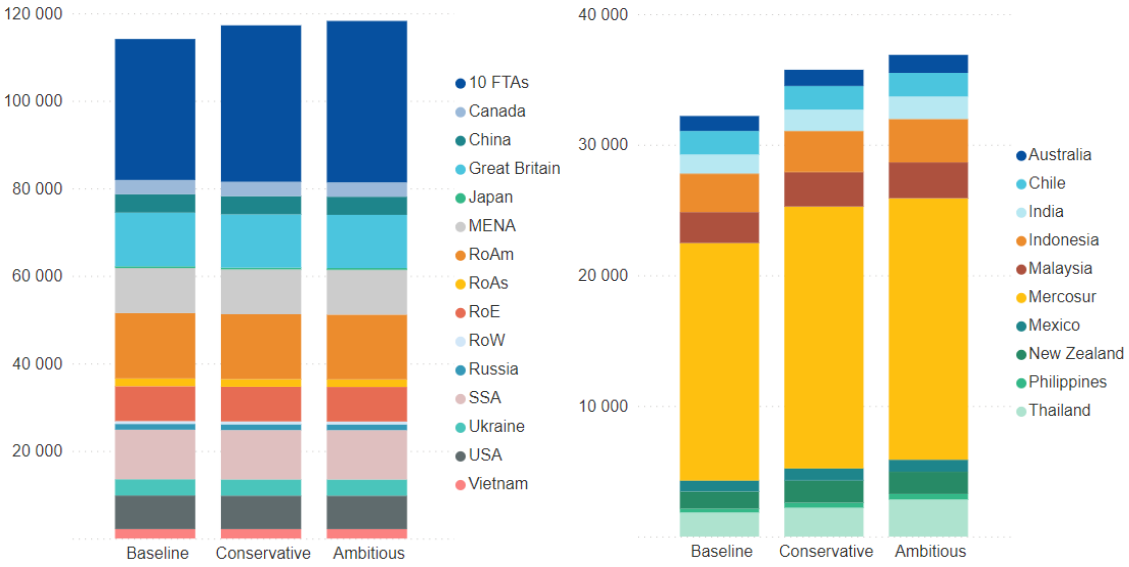
Source: Authors' calculations, based on MAGNET results.

5.1.2. Changes in imports

The scenario results show an increase in imports of all commodities from the 10 FTA partners, while imports from other countries decrease, although to a lower extent. Therefore, the market share of the 10 FTA partners in the EU increases significantly, particularly in the beef and poultry meat sectors.

Imports from the 10 FTA partners increase from EUR 32.2 billion at baseline to EUR 35.7 billion (+ 11 %) in the conservative scenario and to EUR 36.9 billion (+ 14.5 %) in the ambitious scenario (Figure 14). In the conservative scenario, the highest absolute increase is in imports from Mercosur (EUR 1.8 billion) (Figure 14b); however, in the ambitious scenario imports from Mercosur (despite policy changes being identical in both scenarios) grow slightly less than in the conservative scenario due to higher competition from other EU trading partners benefiting from better concessions (50 % tariff cut applied to the sensitive products compared with 25 % cut in the conservative scenario). EU imports from most of the other 10 FTA partners further increase in the ambitious scenario. Among the FTA partners, relative increases in imports are the highest for New Zealand (conservative scenario, 28.7 %; ambitious scenario, 28.6 %), the Philippines (conservative scenario, 32.8 %; ambitious scenario, 48 %) and Thailand (conservative scenario, 19.6 %; ambitious scenario, 53.7 %), albeit in all cases starting at a much lower level than Mercosur. The relative figures highlight an increase in the share of agri-food imports from the 10 FTA partners of around 3 percentage points in the ambitious scenario compared with the baseline (Figure 14), contributing to 31.2 % of all agri-food imports. By contrast, other trade partners face a decrease in their market share to the benefit of the 10 FTA partners. Overall, EU agri-food imports increase by between 2.7 % (conservative scenario) and 3.6 % (ambitious scenario).

Figure 14. EU agri-food imports, by trading partner and scenario (2032, million EUR)



(a) The 10 FTA partners taken together compared with other countries

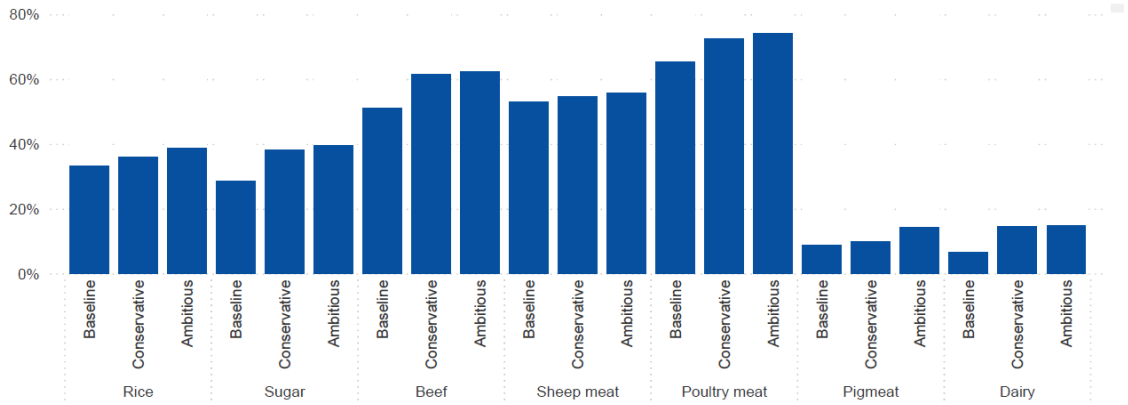
(b) Comparison of the 10 FTA partners

Source: Authors' calculation from MAGNET results. Details are provided in Table 12 in Annex 2.

Overall, the trade creation effect with respect to the 10 FTAs is the highest in relative terms for the sectors poultry meat (conservative scenario, 35.6 %; ambitious scenario, 47.4 %), beef (conservative scenario, 45.8 %; ambitious scenario, 51.7 %) and other food (conservative scenario, 19.8 %; ambitious scenario, 30.2 %). Sectors experiencing marginal changes are wheat (conservative scenario, 0.9 %; ambitious scenario, 0.9 %), other cereals (conservative scenario, 0.6 %; ambitious scenario, 0.7 %) and oilseeds (conservative scenario, 0.3 %, ambitious scenario, –0.01 %) (details provided in Table 12 and Table 13 in Annex 2).

Total EU agri-food imports increase by 2.7 % (EUR 3.1 billion) and 3.6 % (EUR 4.1 billion), respectively, in the conservative scenario and the ambitious scenario. Changes in EU imports from other countries are small. The greatest reductions in trade with non-FTA countries are seen in the sectors beef (conservative scenario, – 4.5 %; ambitious scenario, – 4.9 %), poultry meat (conservative scenario, – 3.0 %; ambitious scenario, – 4.2 %), rice (conservative scenario, – 2.1 %; ambitious scenario, – 4.8 %) and oils and meals (conservative scenario, – 1.2 %; ambitious scenario, – 1.9 %). The greatest increase in EU imports from other countries is in the wheat sector (conservative scenario, 1.0 %; ambitious scenario, 1.2 %). In the dairy and pigmeat sectors, while the conservative scenario leads to slight decreases in imports to the EU from other countries (– 0.1 % for pigmeat and dairy products), the ambitious scenario results in increased imports in both sectors (0.2 %). The share of imports accounted for by other countries decreases from 71.8 % to 69.5 % in the conservative scenario and to 68.8 % in the ambitious scenario. Figure 15 shows changes in the import shares of selected commodities accounted for by the 10 FTA partners as a group in the different scenarios.

Figure 15. Share of the 10 FTA partners in imports, by commodity and scenario (2032)



Source: Authors' calculation, based on MAGNET results.

The 10 FTA partners increase their share in EU imports, in particular for dairy products, albeit starting from a relatively low import share at baseline of 6.8 % (conservative scenario, 14.8 %; ambitious scenario, 15.0 %), as well as beef (baseline, 51.3 %; conservative scenario, 61.7 %; ambitious scenario, 62.7 %) and poultry meat (baseline, 65.5 %; conservative scenario, 72.6 %; ambitious scenario, 74.5 %). The observed increase in the share of sheep meat (baseline, 53.2 %; conservative scenario, 54.9 %; ambitious scenario, 56.0 %) is minor compared with that experienced in the other meat sectors.

5.1.3. Changes in trade balance

In the baseline scenario, EU exports of agri-food products are expected to continue to be higher than agri-food imports in value terms, which results in a positive trade balance (EUR 77.76 billion). The scenarios reveal that the 10 FTAs will lead to a slight improvement in the EU trade balance (conservative scenario, EUR 77.78 billion; ambitious scenario, EUR 78.07 billion), as the value of EU exports will increase slightly more than the value of EU imports (Table 6).

The trade balance considering only trade with the FTA partners is negative at baseline (– EUR 19.55 billion). It deteriorates slightly in the conservative scenario (– EUR 19.63 billion), but marginally improves in the ambitious scenario (– EUR 19.40 billion). Hence, only in the ambitious scenario does the value of EU exports to the FTA partner countries increase more than the value of EU imports from them. By contrast, the EU's trade balance with other countries is positive at baseline (EUR 97.3 billion) and shows a moderate increase in both scenarios (conservative scenario, EUR 97.4 billion; ambitious scenario, EUR 97.5 billion).

The ambitious scenario has a slightly larger effect on the trade balance than the conservative scenario. The EU market is more open in the ambitious scenario than in the conservative scenario. Although, in percentage point terms, the EU's total agri-food imports increase more than its exports in both scenarios, absolute changes in exports (conservative scenario, EUR 3.14 billion; ambitious scenario, EUR 4.44 billion) are slightly greater than absolute changes in imports (conservative scenario, EUR 3.12 billion; ambitious scenario, EUR 4.13 billion).

Table 6. Overview of EU trade balance for the agri-food categories considered (2032, million EUR)

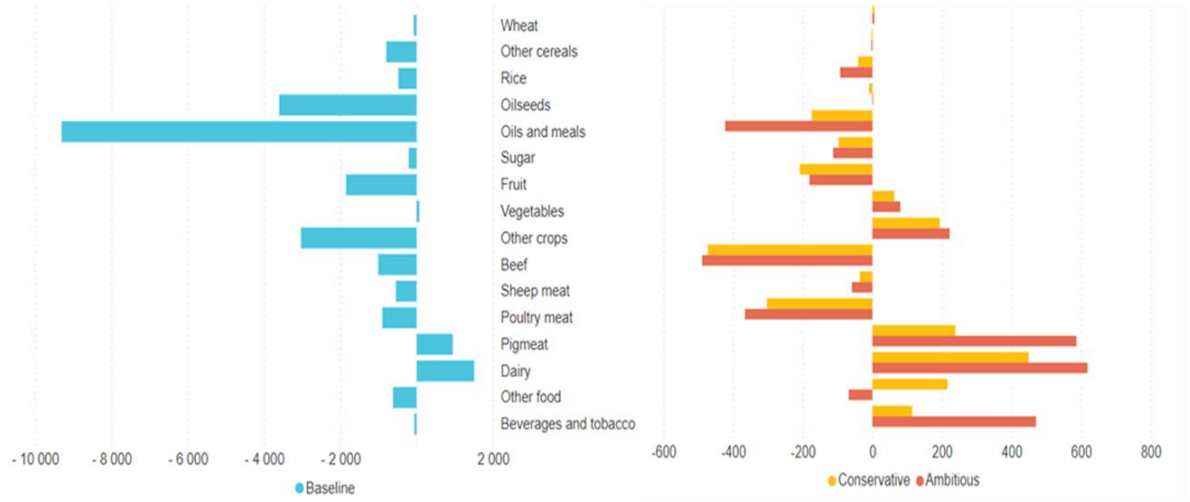
	10 FTA partners			Total		
	Exports	**Imports**	**Balance**	**Exports**	**Imports**	**Balance**
Baseline scenario	12 651	32 202	– 19 551	191 876	114 120	77 756
Conservative scenario	16 114	35 741	– 19 628	195 020	117 240	77 781
Ambitious scenario	17 480	36 880	– 19 400	196 314	118 247	78 067

Source: Authors' calculations, based on MAGNET results.

Figure 16 shows the impact of different commodities on the EU's trade balance with the 10 FTA partners (specific results are provided in the subsections below). In the conservative and ambitious scenarios, the trade balance with the 10 FTA partners increases compared with the baseline scenario for some commodities, such

as dairy products (conservative scenario, + EUR 449 million; ambitious scenario, + EUR 618 million), beverages and tobacco (conservative scenario, + EUR 114 million; ambitious scenario, + EUR 470 million) and pigmeat (conservative scenario, + EUR 239 million; ambitious scenario, + EUR 586 million). In the case of other food, the trade balance increases significantly (+ EUR 216 million) in the conservative scenario but falls (– EUR 68 million) in the ambitious scenario. In the case of most other commodities, the trade balance deteriorates in both scenarios. Such commodities include beef (conservative scenario, – EUR 473 million; ambitious scenario, – EUR 490 million), poultry meat (conservative scenario, – EUR 303 million; ambitious scenario: – EUR 367 million) and oils and meals (conservative scenario, – EUR 174 million; ambitious scenario, – EUR 423 million) (details available in Table 16 in Annex 2).

Figure 16. EU trade balance with the 10 FTA partners and change in trade balance in scenarios compared with the baseline (2032, million EUR)



(a) Trade balance, baseline (2032)

(b) Trade balance, absolute deviations from the baseline in the conservative and ambitious scenarios (2032)

Source: Authors' calculations, based on MAGNET results.

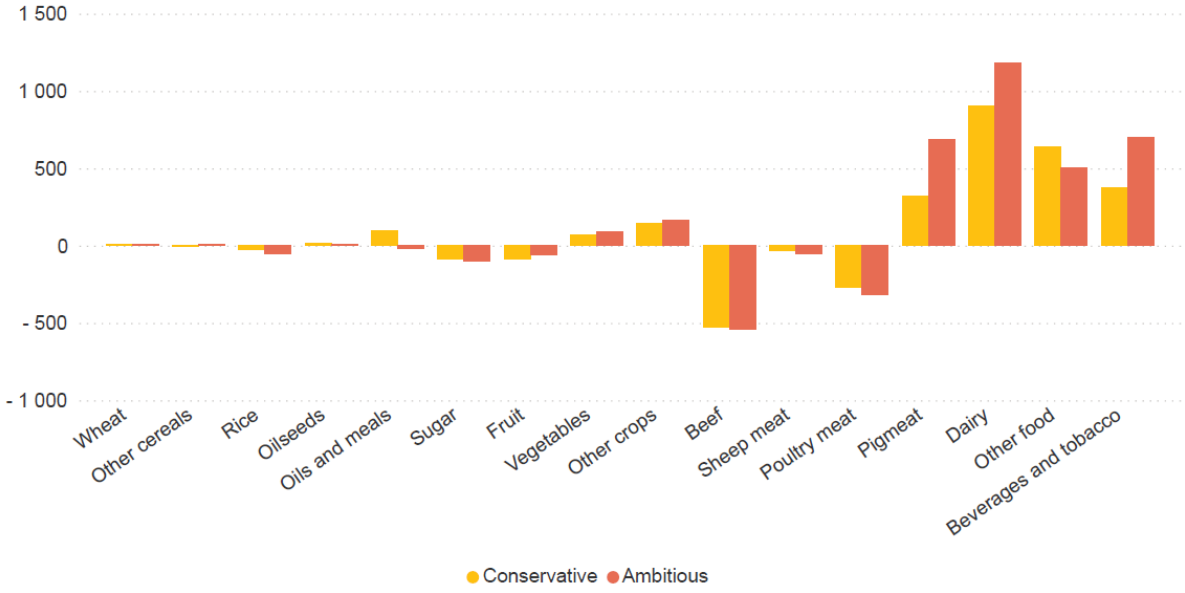
Despite the balanced impact for the EU aggregated agri-food sector, significant differences in the joint impact of the considered trade agreements exist among commodities, which are analysed by combining the results of MAGNET and Aglink-Cosimo in the subsections below.

5.1.4. Value of production

The impact on trade of the implementation of the 10 FTAs is expected to be an expansion of the value of production for many of the agri-food products analysed. The resulting increase in the overall value of EU agricultural production is EUR 1.4 billion in the conservative scenario and EUR 2.2 billion in the ambitious scenario (Figure 17). Most of the increase is attributed to increases in the production values of pigmeat, dairy products, other food, and beverages and tobacco, while the production values of beef, poultry meat and sugar face a significant reduction ([9]). In contrast, decreases in production values are expected for rice (by 1–2 %), sugar, sheep meat, poultry meat (all less than 1 %) and beef (around 1 %) (Figure 18).

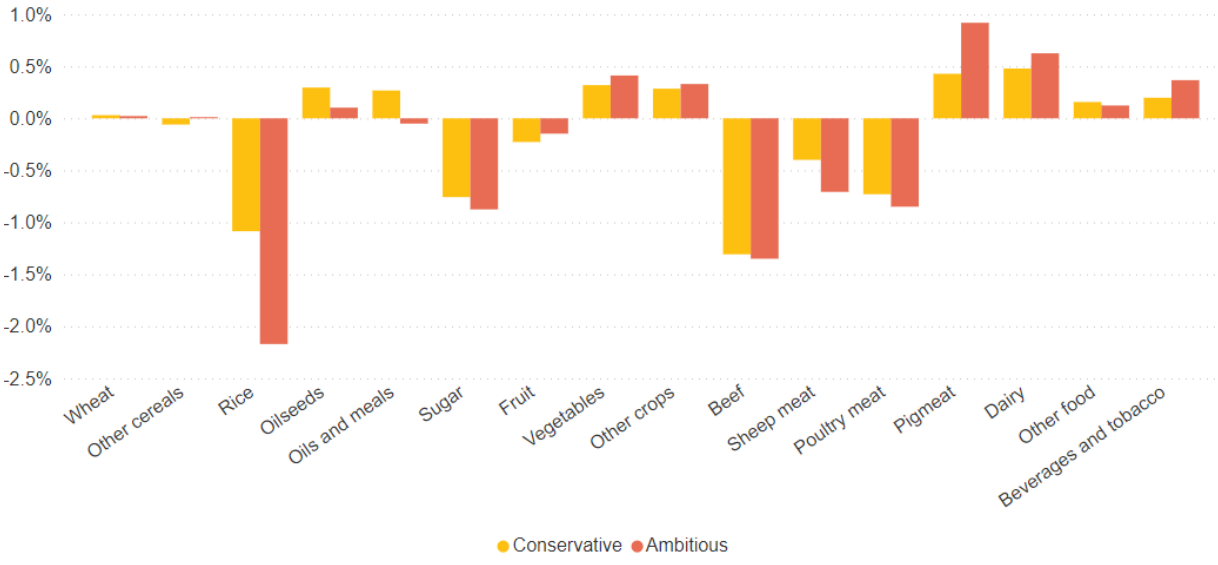
([9]) Production results in the following sections are based on real value produced by the Aglink-Cosimo model. Differences between the MAGNET and Aglink-Cosimo results presented later may occur due to differences in sectoral scopes and model characteristics.

Figure 17. Absolute change in the value of EU production, by commodity and scenario (2032, million EUR)



Source: *Authors' calculations, based on MAGNET results.*

Figure 18. Relative change in the value of EU production, by commodity and scenario (2032, %)



Source: *Authors' calculations, based on MAGNET results.*

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Box 5. The inclusion of FTAs with Canada, Japan and Vietnam in the baseline

Some of the FTAs considered in the 2016 and 2021 studies have since fully entered into force, and their effects can already be seen in trade statistics. On 21 September 2017, the EU–Canada Comprehensive Economic and Trade Agreement provisionally entered into force. The EU and Japan have concluded an economic partnership agreement, which entered into force on 1 February 2019. The European Union and Vietnam signed a trade agreement and an investment protection agreement on 30 June 2019. The European Parliament subsequently gave its consent to both agreements on 12 February 2020 and the FTA was concluded by the Council on 30 March 2020 and entered into force on 1 August 2020.

As the current study focuses on an *ex ante* assessment of the economic impacts of upcoming FTAs, these three FTAs are not included in the quantification of the scenarios, as their effects are included in the baseline. The modelling tools employed in this study are not suited to *ex post* assessment (evaluating policy impacts) but are appropriate for *ex ante* assessment (assessment of policies before their entry into force). Both models' baselines are calibrated to trade statistics that reflect the effects of the FTAs already in force. For this reason, it would be extremely difficult to extrapolate the effects of these FTAs and build an alternative counterfactual that excludes such FTAs from the baseline.

However, this is not intended to imply that the effects of these three FTAs are absent from MAGNET or Aglink-Cosimo baseline projections, as both models use trade statistics to build their baseline scenarios. Trade statistics show that the EU's agri-food trade balance with Japan increased by EUR 935 million in the first year of application of the FTA (2019) and on average by EUR 1.3 billion in each of the next 3 years (i.e. 2020, 2021 and 2022), reaching about EUR 6.5 billion, compared with an average annual trade balance before the signature of the FTA of EUR 5.2 billion.

The trade balance with Canada also improved, from a value of EUR 1 billion in 2014, to EUR 1.7 billion in 2017, and stands at EUR 1.5 billion in 2022.

The greatest contributions to the increase in the EU's trade balance with these three partners come from exports of beverages and tobacco to Canada, beef meat, processed food and dairy products to Canada and Japan, and pigmeat to Canada, Japan and Vietnam. In the case of some other commodities, the EU's trade balance with these countries has deteriorated, as the value of imports has increased more than the value of exports. This is the case for trade in processed food, fruit and rice with Vietnam and trade in wheat with Canada.

As the positive trade effects of these three FTAs are no longer included in the assessment of FTA impacts, this study finds that, in the case of some commodities, the EU trade value gains are lower and the sectoral benefits are less positive than in previous studies. For reference, in 2021, it was projected that, by 2030, the EU's trade balance with Japan would increase by EUR 2 billion, while its trade balance with Canada would increase by EUR 103 million and its trade balance with Vietnam would increase by EUR 356 million.

5.2. Sectoral results

5.2.1. Dairy products

The dairy aggregate includes a broad range of products (e.g. cheese, milk and cream, butter, whey and ice cream). Table 7 shows the shares of subcategories of the dairy products aggregate in EU exports and imports with the 10 FTA partners. Concentrated milk and cream and cheese and curd are the main components of the export aggregate, while butter (from New Zealand) accounts for more than 50 % of dairy imports.

Table 7. Composition of EU dairy product aggregate trade value with the 10 FTA partners (2020–2022 average, %)

	Exports	Imports
Milk and cream, not concentrated (HS 0401)	3.88	0.03
Milk and cream, concentrated (HS 0402)	32.70	9.57
Buttermilk, curdled milk and cream, yogurt (HS 0403)	5.93	4.23
Whey (HS 0404)	18.74	16.28
Butter (HS 0405)	6.39	50.88
Cheese and curd (HS 0406)	28.32	5.72
Ice cream (HS 2105)	3.07	10.18

Source: Eurostat Comext.

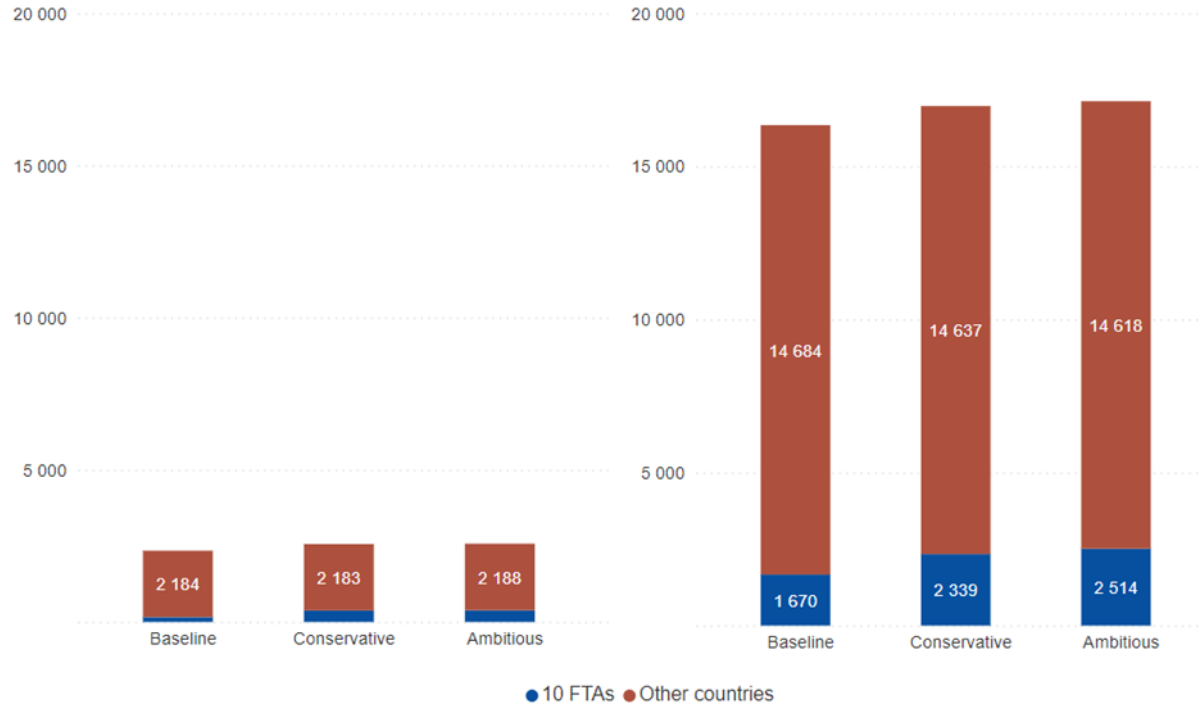
The EU dairy sector is very competitive, and EU imports of most dairy products are lower than EU exports. Despite the drastic reduction in import tariffs included in the 10 FTAs, imports of dairy products from these countries are expected to remain low in absolute terms. The only exception is imports of dairy products from New Zealand, which, thanks to the market access guaranteed by the newly signed FTA, may increase by around EUR 176 million ([10]).

On the exports side, the 10 FTAs are expected to have significant positive effects, increasing EU exports by 40 % (EUR 669 million) in the conservative scenario and by 51 % (EUR 844 million) in the ambitious scenario (Figure 19). Total EU dairy exports from all countries increase by 3.8 % (EUR 623 million) in the conservative scenario and by 4.8 % (EUR 780 million) in the ambitious scenario. The effect of liberalisation is an improvement in the EU's overall trade balance in dairy products of between EUR 404 million and EUR 549 million, mainly due to increased exports to Indonesia, Mexico and Thailand (Figure 20 and Table 18 in Annex 3), which shows the competitive advantage of the EU and the export potential of this sector.

Although the effect on dairy exports of the FTAs analysed remains significant and positive, it is of lower magnitude than in the 2021 study, since Japan accounted for a large share of the positive impacts found in 2021, and Japan's contribution is only partially compensated by the inclusion of India. However, the positive effects on dairy trade generated by the FTA with Japan are included in the current baseline. In the 2021 study, it was estimated that export of dairy products to Japan would be valued at EUR 650 million at the baseline (i.e. in 2030), up from EUR 302 million in 2014. The current study finds that dairy exports to Japan are expected to be valued at EUR 729 million in 2032.

([10]) In integrating the impacts of the FTAs on the dairy sector trade from MAGNET into Aglink-Cosimo, the impact of exogenous trade shocks on EU imports has been modified, based on expert judgement, to better reflect additional New Zealand dairy imports by type.

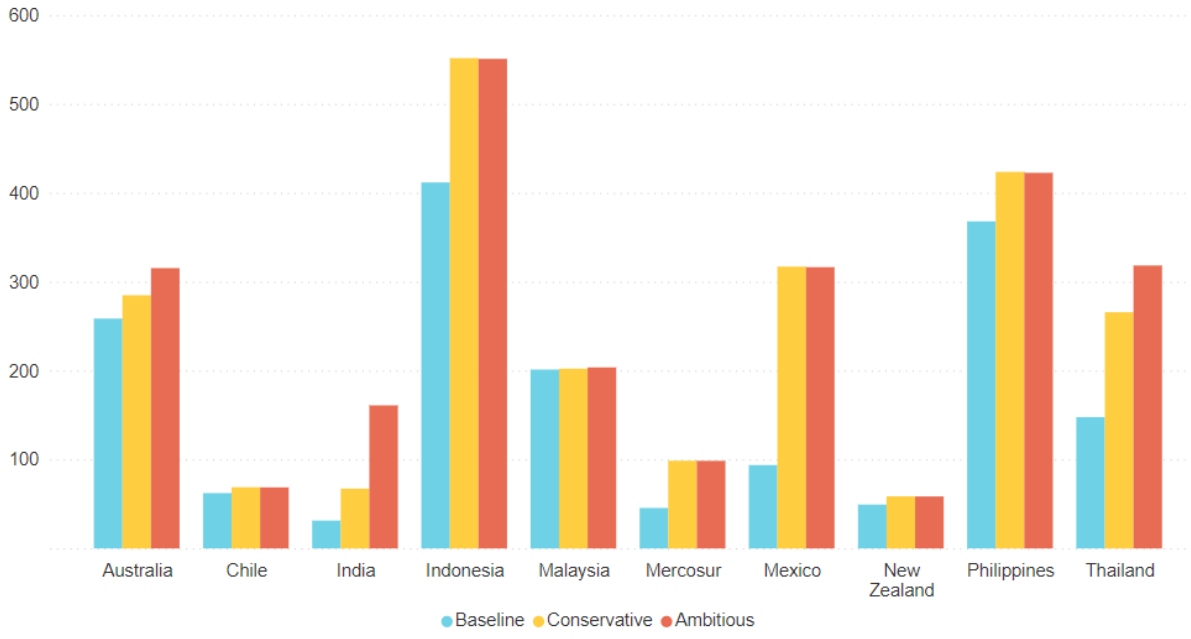
Figure 19. EU imports and exports of dairy products (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results.

Figure 20. EU exports of dairy products to the 10 FTA partners (2032, million EUR)



Source: Authors' calculations, based on MAGNET results.

Cheese and skimmed milk powder are expected to display major export growth. Due to product complementarities, international export demand will lead to higher domestic prices (increased by between 0.2 % and 1.3 %) and increased production (of up to 2 %) of these products. The combined effect of trade in the dairy sector is an increase in domestic milk production of about 0.1 % because of favourable milk prices (+ 0.4 %), altogether adding EUR 323 million to the value of milk production in 2032 (Figure 21).

Figure 21. Change in the EU trade balance in dairy products and in producer prices (2032)

Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

5.2.2. **Beef and veal**

The beef and veal sector is one the most sensitive sectors in trade negotiations, not only for the EU, but also for many of its FTA partners. The EU usually grants its FTA partners TRQs (as the case of, for example, Mercosur and New Zealand) rather than full trade liberalisation. The EU's trading partners may adopt a similar approach.

In the baseline scenario, more than half of EU beef and veal imports originate from the 10 FTA partners, with Mercosur alone accounting for 46 % of EU beef imports. The EU has a negative net trade in beef with these countries of around EUR 1 billion, almost entirely generated by the trade relationship with Mercosur. According to the MAGNET results, the implementation of the FTAs would increase EU beef imports from the 10 FTA partners by 45.8 % (EUR 515 million) in the conservative scenario and by 51.7 % (EUR 581 million) in the ambitious scenario and, total beef imports from all countries, by 21 % (EUR 467 million) and 24 % (EUR 529 million) respectively. Most of the increase in beef and veal imports derives from Mercosur (EUR 432 million in both scenarios). However, in both scenarios, Australia and New Zealand also benefit from increased market access (beef imports from Australia increase by EUR 33 million in the conservative scenario and by EUR 100 million in the ambitious scenario while beef imports from New Zealand increase by EUR 46 million in both scenarios) (Table 19 in Annex 3). In the case of Mercosur and New Zealand, the FTAs have been concluded and the TRQs granted are explicitly included in the scenarios, as a result of which the increase is of the same magnitude in both scenarios. In contrast, the concessions to Australia are modelled using a theoretical tariff cut, which explains the significant difference in the magnitude of the increase between the two scenarios.

The inclusion in the baseline of the revised MoU with the United States on high-quality beef also influenced the results, as Australia and Mercosur are expected to lose market access to the benefit of the United States. The

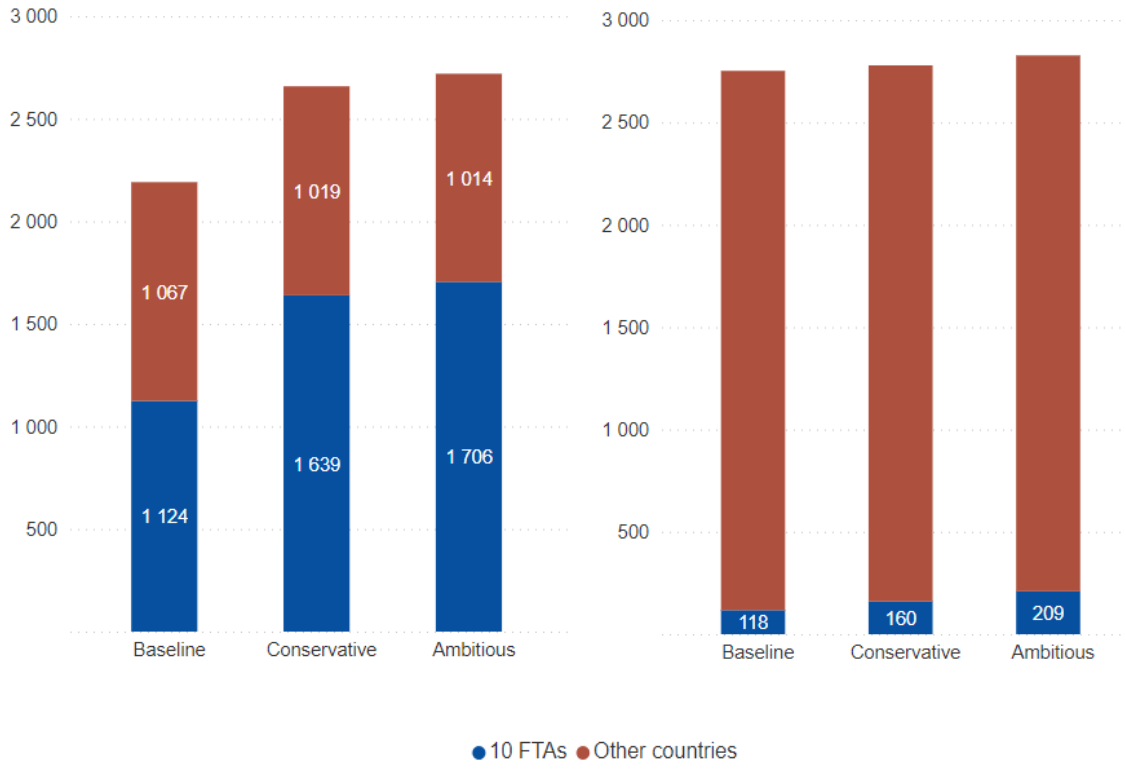
potential for trade creation under the TRQ granted to Mercosur is somewhat limited by the existence of out-of-quota trade.

EU exports of beef and veal to the 10 FTA partners increase by EUR 42 million in the conservative scenario and by EUR 92 million in the ambitious scenario, with some relevant increase towards the Philippines in the ambitious scenario (EUR 65 million). Total EU exports of beef to all countries increase by EUR 27 million in the conservative scenario and by EUR 75 million in the ambitious scenario.

The EU trade balance in beef deteriorates (Figure 22) due to an increase in imports from Mercosur and Australia (Figure 23) which are not compensated by a reduction in imports from other trade partners or by an increase in EU exports.

The imports results are comparable to those obtained in the 2021 study, but slightly lower due to the inclusion in the baseline of FTAs with Canada and Japan. On the other hand, the removal of Japan and Vietnam from the scenarios to the baseline shifts the positive impacts on the export side to the baseline. In fact, EU beef exports to Canada grow from almost zero in 2014 to EUR 128 million in 2032, while beef exports to Japan grow from EUR 3 million to EUR 196 million over the same period, generating a positive trade balance in the baseline of EUR 74 million with Canada and of EUR 159 million with Japan.

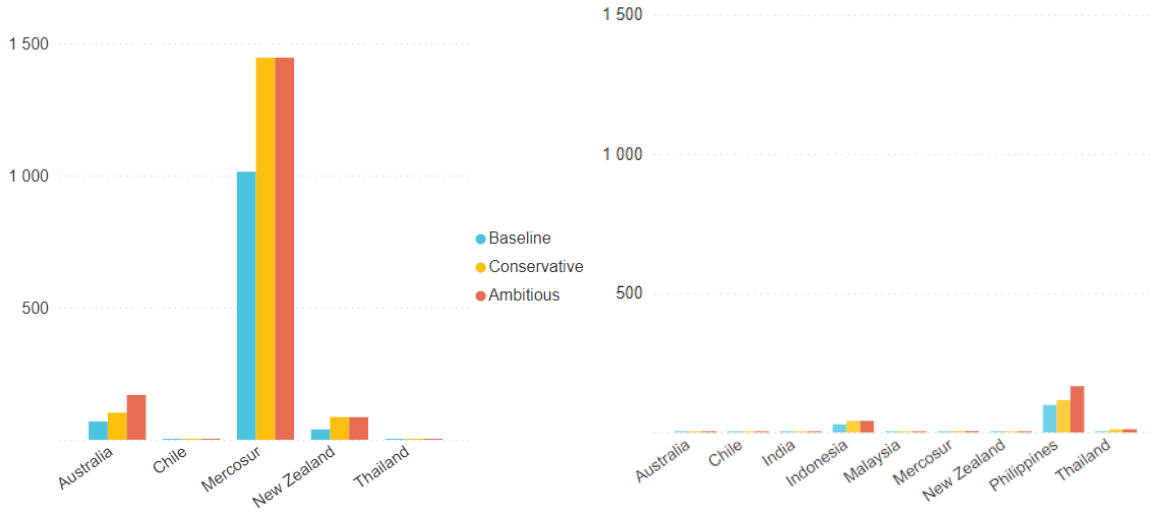
Figure 22. EU imports and exports of beef (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results.

Figure 23. EU imports of beef from and exports of beef to the 10 FTA partners (2032, million EUR)



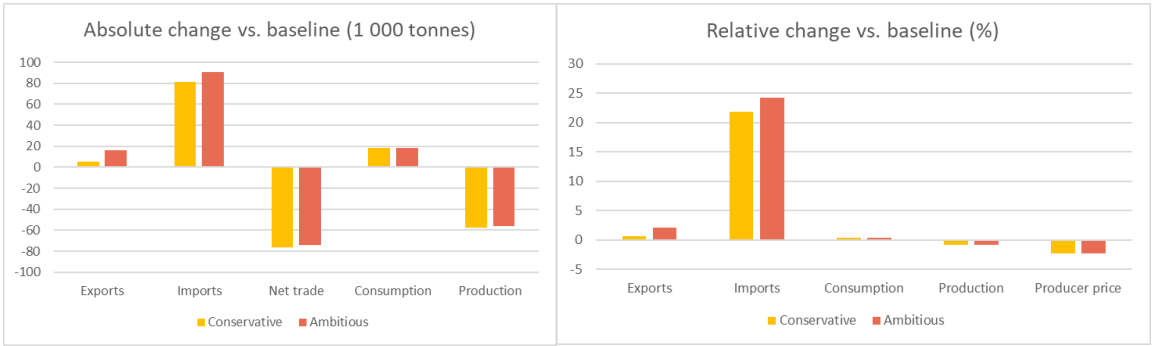
(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results.

In terms of quantities, EU beef imports are expected to increase by about 81 000 tonnes in the conservative scenario and by 91 000 tonnes in the ambitious scenario. The model projects that, in 2032, out-of-quota imports from Mercosur included in the baseline will replaced by in-quota trade under the TRQ of 99 000 tonnes granted by the EU to Mercosur. Thus, additional trade is created until the quota is filled. No further out-of-quota imports from Mercosur are assumed. Other FTA countries, such as Australia and New Zealand, are also expected to increase their exports to the EU, either through TRQs (New Zealand) or by benefiting from tariff reductions (Australia). This increase is partially compensated by a decrease in imports from other regions.

At the same time, EU beef exports would also increase in the conservative and ambitious scenarios, albeit by a smaller amount, under the new trade terms provided by the FTAs, by 5 000 tonnes and 16 000 tonnes, respectively. The final market impact is a deterioration in the EU's trade balance in beef (in tonnes) of 17–18 %, which remains nonetheless positive, amounting to beef net exports of more than 350 000 tonnes. Producer prices are projected to fall by around 2.4 % in both scenarios, with minor effects on consumption (+ 0.3 %) and production (– 0.9 %) (Figure 24).

Figure 24. Change in the EU's trade balance in beef (2032)



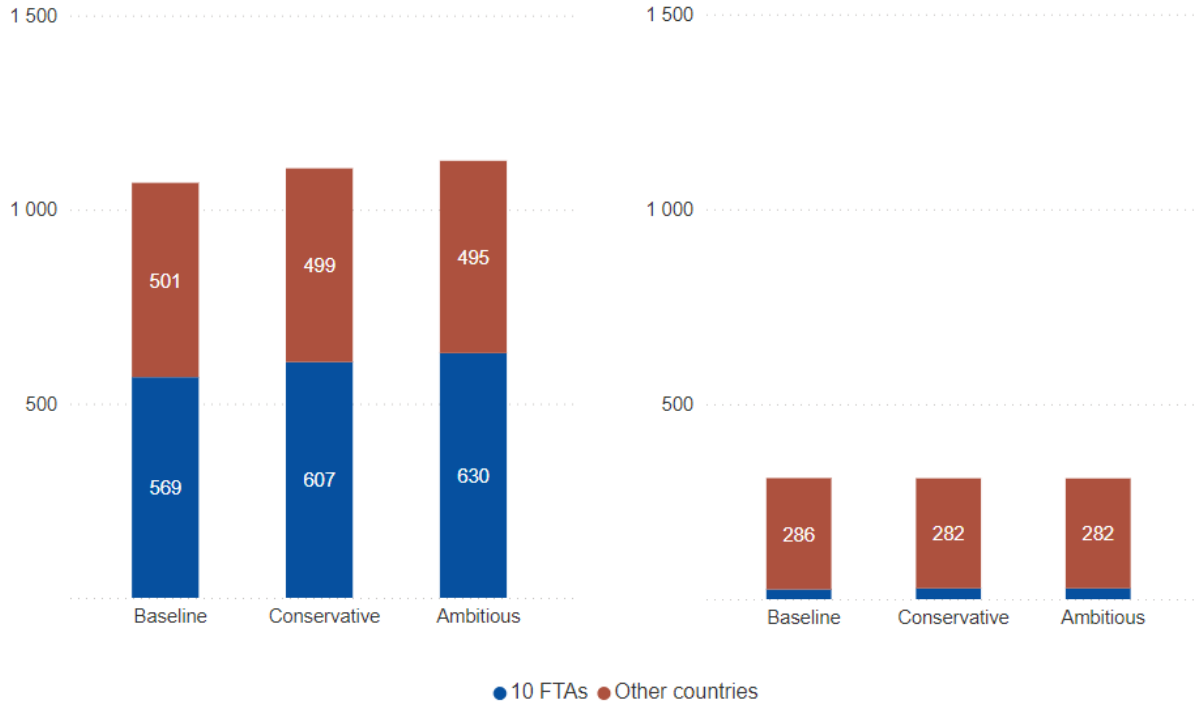
NB: Live animals excluded.

Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

5.2.3. Sheep meat

It is expected that, in 2032, 53 % of the EU's imports of sheep meat will come from the 10 FTA partners (Figure 25), with most of the imports coming from New Zealand (Figure 26). In both scenarios, Australia gains market share (imports grow from EUR 29 million in the baseline scenario to EUR 68 million in the conservative scenario and to EUR 94 million in the ambitious scenario). Imports from New Zealand, which at baseline benefit from duty-free market access (under a WTO country-specific TRQ of a volume of 126 000 tonnes, which is currently not entirely filled ([11]) and is not expected to be filled in 2032), suffer a slight reduction due to preference erosion ([12]) towards Australian sheep meat (Table 20 in Annex 3). In the ambitious scenario, imports from New Zealand are reduced by about EUR 5 million. Overall, sheep meat imports increase by 3.5 % (5.3 %) in the conservative (ambitious) scenario.

Figure 25. EU imports and exports of sheep meat (2032, million EUR)



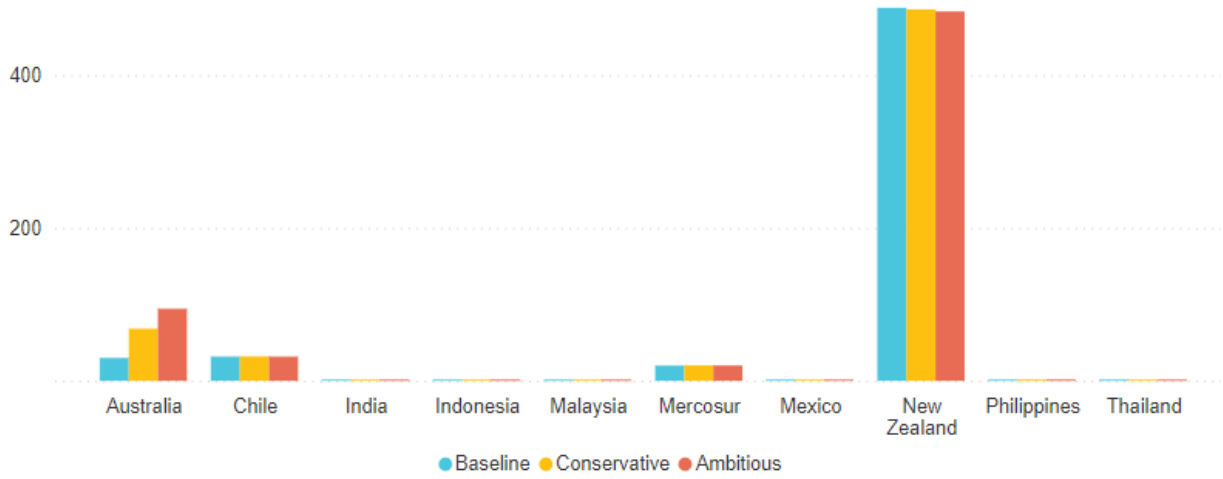
(a) Imports (b) Exports

Source: Authors' *calculations, based on MAGNET results.*

([11]) In 2022, New Zealand filled 44 % of its WTO TRQ for sheep meat by volume (https://ec.europa.eu/taxation_customs/dds2/taric/quota_tariff_details.jsp?Lang=en&StartDate=2022-01-01&Code=092013).

([12]) Preference erosion refers to the declines in the competitive advantage that some exporters enjoy in foreign markets as a result of preferential trade treatment. Preference erosion occurs when export partners eliminate preferences, lower their generalised tariffs without lowering preferential tariffs proportionately or, as in this case, expand the number of preference beneficiaries.

Figure 26. EU imports of sheep meat from the 10 FTA partners (2032, million EUR)



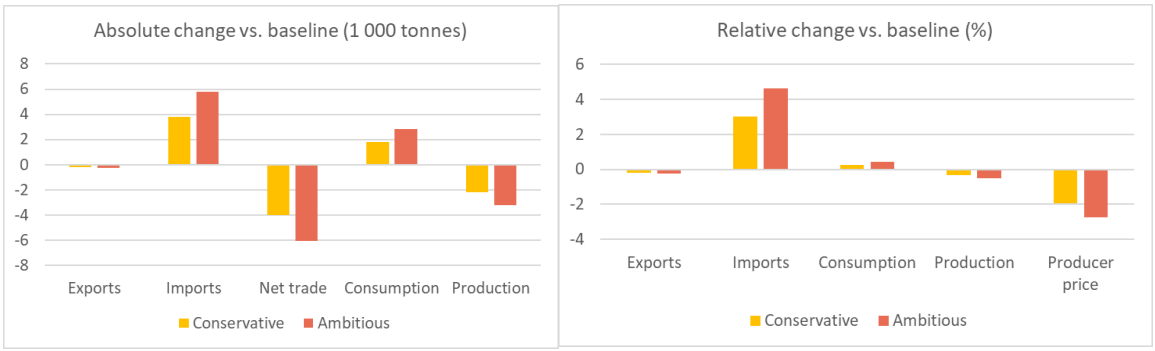
Source: Authors' calculations, based on MAGNET results.

EU exports of sheep meat to the 10 FTA partners are limited in the baseline scenario (EUR 25 million) and are only marginally affected by the agreements (growing by EUR 3 million, to EUR 28 million, in both scenarios).

The impact on the EU sheep meat market of the expected 4.6 % (3.0 %) increase in imports of sheep meat in the ambitious (conservative) scenario is projected to translate into a price decline of 2.7 % (1.9 %), higher consumption (0.4 % and 0.3 %, respectively), and contracted production (– 0.5 % and – 0.3 %, respectively) (Figure 27).

All these results are in line with the findings of previous study.

Figure 27. Change in the EU's trade balance in sheep meat (2032)



Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

5.2.4. Poultry meat

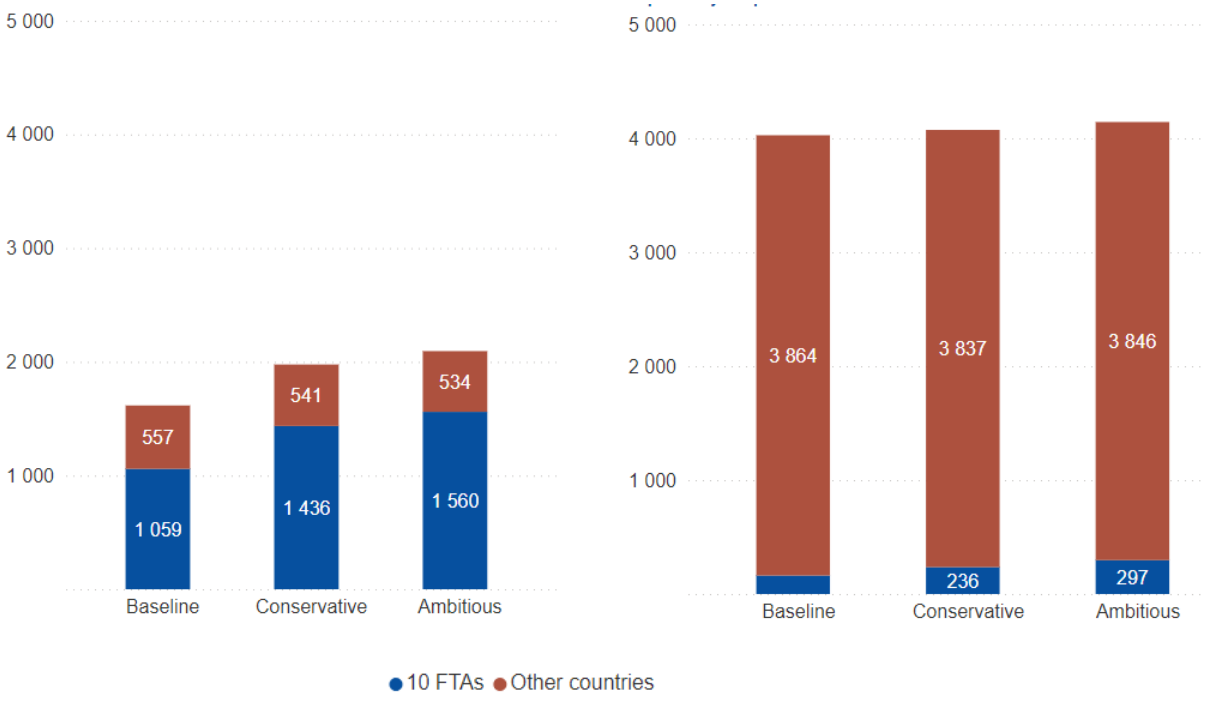
In the 2032 baseline, EU imports of poultry meat mainly originate from Mercosur and Thailand. Trade flows from these two countries account for more than 65 % of all EU poultry meat imports and almost all poultry meat imports from the 10 FTA partners. In contrast, more than 95 % of the EUR 4 027 million worth of poultry meat exported from the EU is shipped to regions other than the 10 FTA partners.

In both scenarios, the net effect on the EU's trade balance is negative (the deficit increases by EUR 313 million in the conservative scenario and by EUR 362 million in the ambitious scenario) due to increased imports from Mercosur and Thailand. The increase in imports from Thailand is particularly significant in the ambitious scenario (+ EUR 240 million) and comparable to the increase in imports from Mercosur (+ EUR 261 million) (Figure 29). This is due to hypothesis on the tariff cut and the absence of quantity limitations (TRQ) in the theoretical scenario adopted for Thailand. This emphasises the importance of including TRQs when assessing the future impacts of trade agreements (Figure 28). Overall, the value of poultry meat imports increases by

EUR 360 million (21.3 %) in the conservative scenario and by EUR 478 million (28.3 %) in the ambitious scenario.

On the export side, EU exports of poultry meat to all countries increase by EUR 47 million in the conservative scenario and by EUR 116 million in the ambitious scenario. Exports to India, Malaysia, the Philippines and Thailand are increased (Table 21 in Annex 3). In most of these countries, tariffs on EU poultry meat are significantly reduced due to the FTA, providing new market opportunities to EU poultry meat exporters.

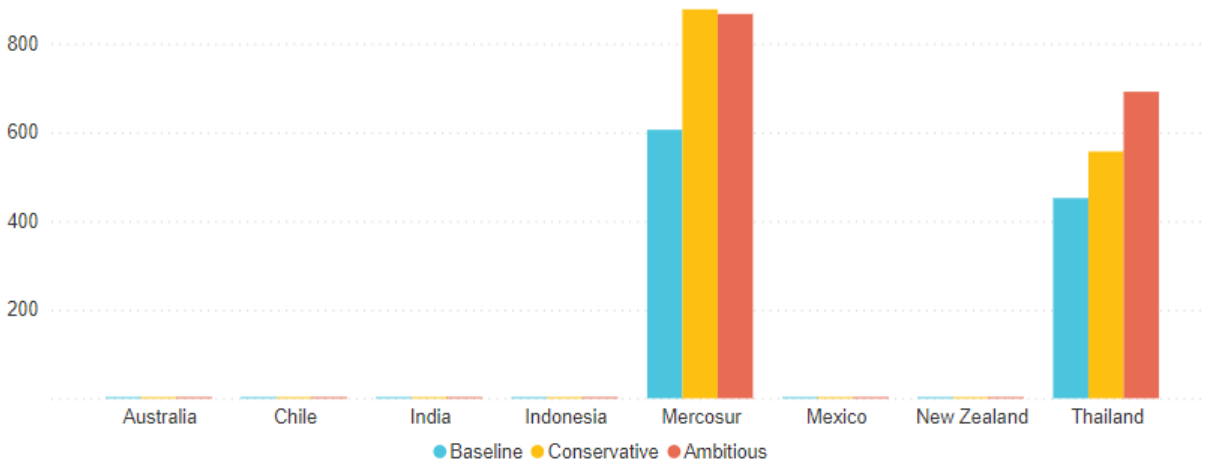
Figure 28. EU imports and exports of poultry meat (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results.

Figure 29. EU imports of poultry meat from the 10 FTA partners (2032, EUR million)



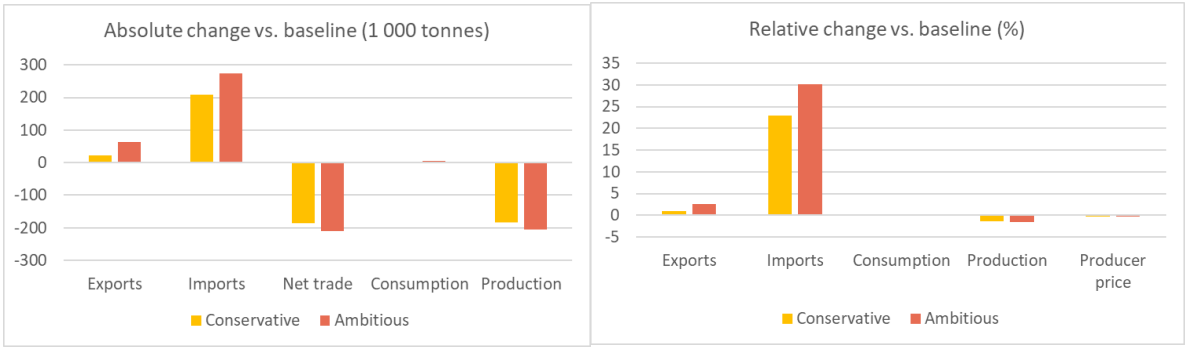
Source: Authors' calculations, based on MAGNET results.

The EU's trade balance in poultry meat in 2032 is driven by imports, which, compared with the baseline, are 23 % higher in the conservative scenario and 30 % higher in the ambitious scenario. The effect on production

is limited to a decline of 1.3 % (conservative scenario) or 1.5 % (ambitious scenario) compared with the baseline. In addition, consumption and prices are projected to remain mostly unaffected, and stay close to the baseline levels (Figure 30).

The results for imports results are comparable to the findings of previous study. On the export side, the positive effects are somewhat less positive due to the inclusion in the baseline of the Japan and Vietnam FTAs.

Figure 30. Change in the EU's trade balance in poultry meat (2032)



Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

5.2.5. Pigmeat

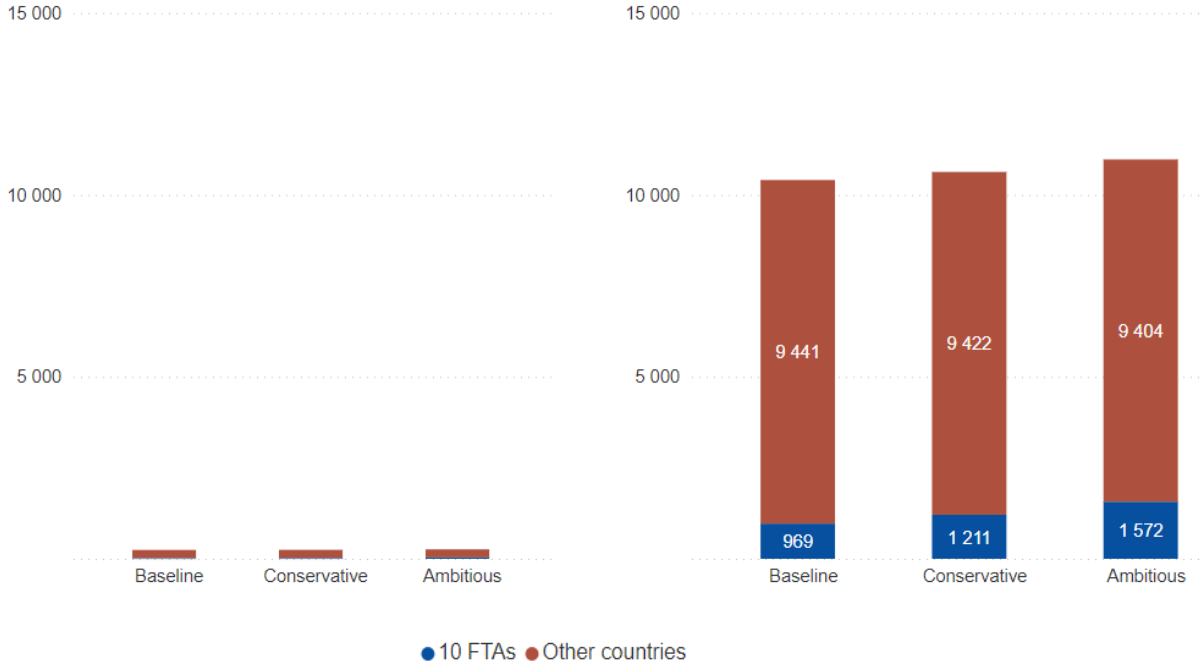
It is projected that, in 2032, the EU will show a positive trade balance in pigmeat, of EUR 10.2 billion. Of the EU pigmeat exports of EUR 10 410 million projected in the 2032 baseline, EUR 969 million (10 %) is expected to go to the 10 FTA partners. The largest share of EU pigmeat exports to the 10 FTA partners goes to the Philippines EUR 407 million (42 %), and pigmeat exports to Australia (EUR 340 million) and Malaysia (EUR 111 million) account for another 46 % (Figure 32). In the ambitious (conservative) scenario, EU pigmeat exports to the 10 FTA partners are expected to increase by EUR 602 million (EUR 242 million), equal to an increase of 62 % (25 %), with the Philippines alone accounting for an increase in pigmeat exports of EUR 461 million (EUR 150 million) (Figure 31).

Overall, pigmeat exports increase by 2.1 % (EUR 223 million) in the conservative scenario and by 5.4 % (EUR 566 million) in the ambitious scenario. The effect on the EU's trade balance in pigmeat with the 10 FTA partners is positive (EUR 586 million in the ambitious scenario). However, trade balance in pigmeat with all other countries deteriorates slightly, due to a decrease in exports, of between EUR 19 million and EUR 37 million (Table 22 in Annex 3).

The increase in pigmeat exports due to FTAs simulations is around EUR 400 million lower than in the 2021 study, which is explained by the effect of the removal of the Japan and Vietnam FTAs from the scenarios. To reiterate, the positive effect of these FTAs is included in the baseline, as pigmeat exports to Japan, which amounted to EUR 1 224 million in 2014, are expected to increase to EUR 1 637 million in 2032.

By contrast, most of the baseline imports (EUR 223 million out of EUR 245 million) come from countries other than those covered by the 10 FTAs. For this reason, the change in imports in both scenarios is limited.

Figure 31. EU imports and exports of pigmeat (2032, million EUR)

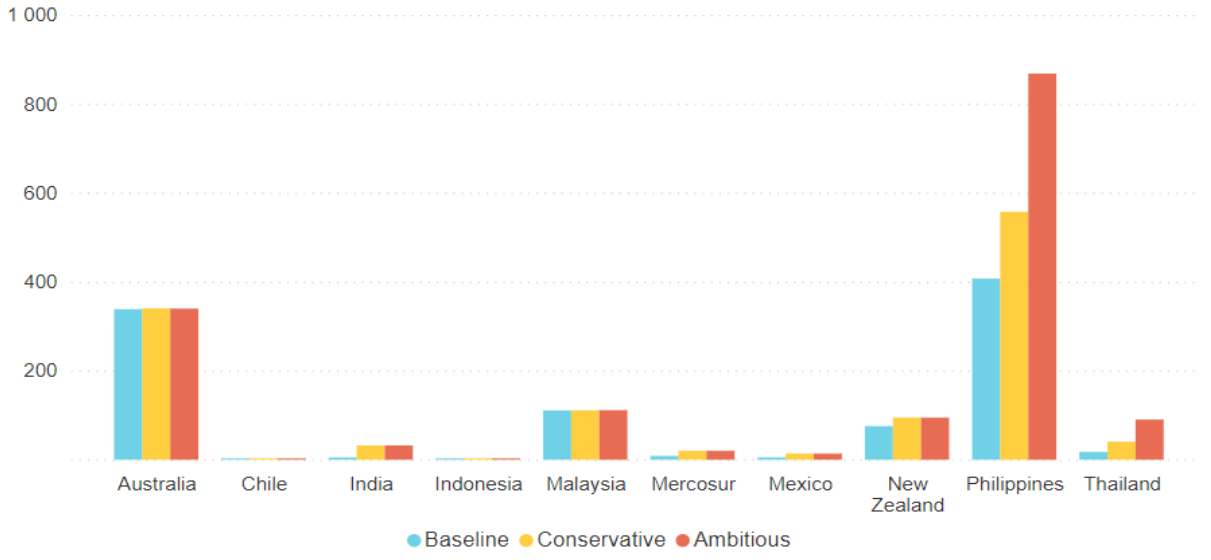


(a) Imports

(a) Exports

Source: Authors' calculations, based on MAGNET results.

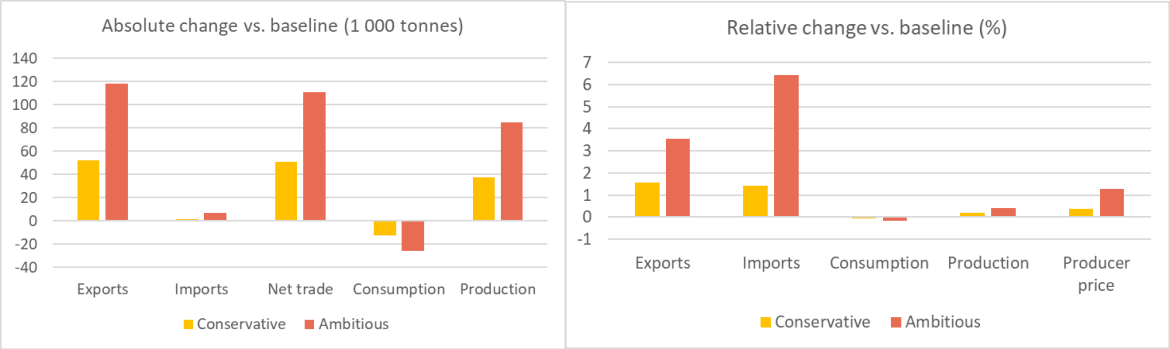
Figure 32. EU exports of pigmeat to the 10 FTA partners (2032, million EUR)



Source: Authors' calculations, based on MAGNET results.

The EU pigmeat trade balance in volume is characterised by additional overall exports (3.6 % in the ambitious scenario, 1.6 % in the conservative scenario). Domestic pigmeat consumption drops by 0.1 % in both cases (Figure 33). In the ambitious (conservative) scenario, the price of pigmeat increases by 1.3 % (0.4 %), which leads to a 0.4 % (0.2 %) expansion in production.

Figure 33. Change in the EU's trade balance in pigmeat (2032)



Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

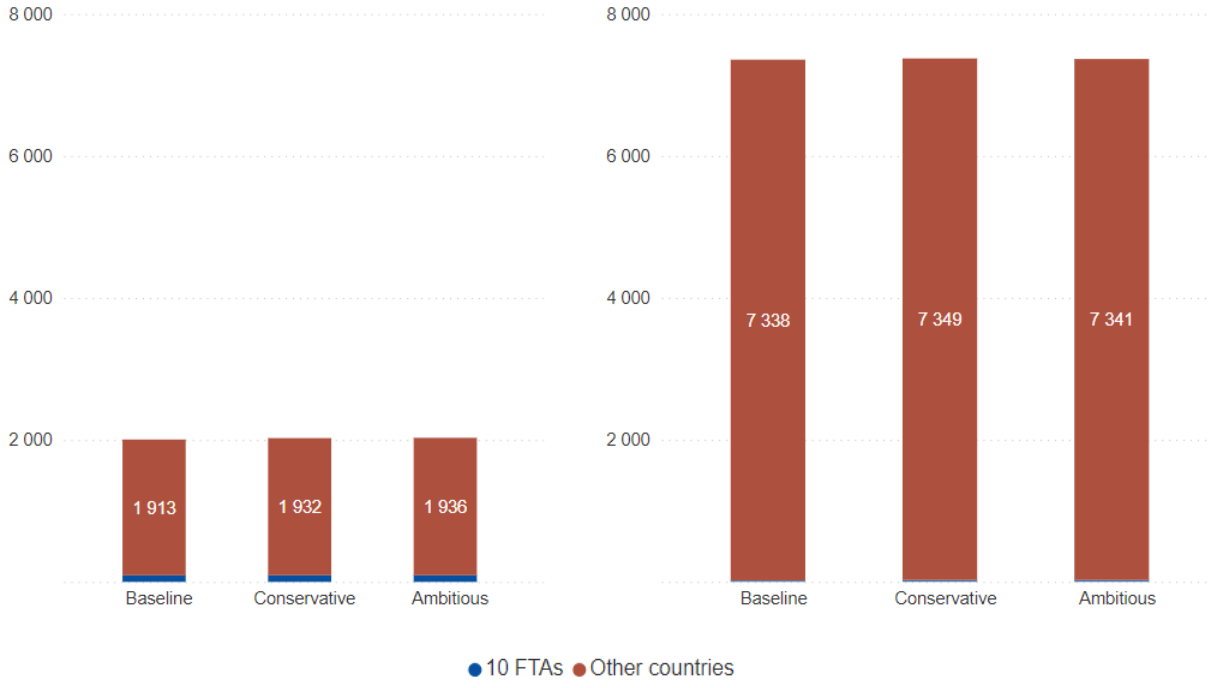
5.2.6. Wheat, other cereals and oilseeds

The impacts of the FTAs on trade in wheat, other cereals and oilseeds are very limited (Figure 34, Figure 35 and Figure 36) given the low initial tariffs and the fact that these crops account for only an extremely low share of EU exports to the 10 FTA partners (compared with exports of these commodities to non-FTA regions) (Table 23 in Annex 3).

Net trade balances in most grains (soft and durum wheat, barley, maize, soybean) are projected to contract due to higher import demand, but by less than 1 %. An exception is oilseeds in the ambitious scenario: lower EU imports are expected to improve the trade balance by 0.2 %.

Domestic prices of grains diverge marginally from baseline levels, by – 0.6 % to – 0.1 %. Whereas barley production decreases by 42 000 tonnes, maize production is projected to increase marginally, by 3 000 tonnes, in the ambitious scenario. Changes in the animal sector are expected to result in changes in demand for the components of animal feed, causing imports of protein meal to decrease marginally, with a negligible impact on domestic production and prices.

Figure 34. EU imports and exports of wheat (2032, million EUR)

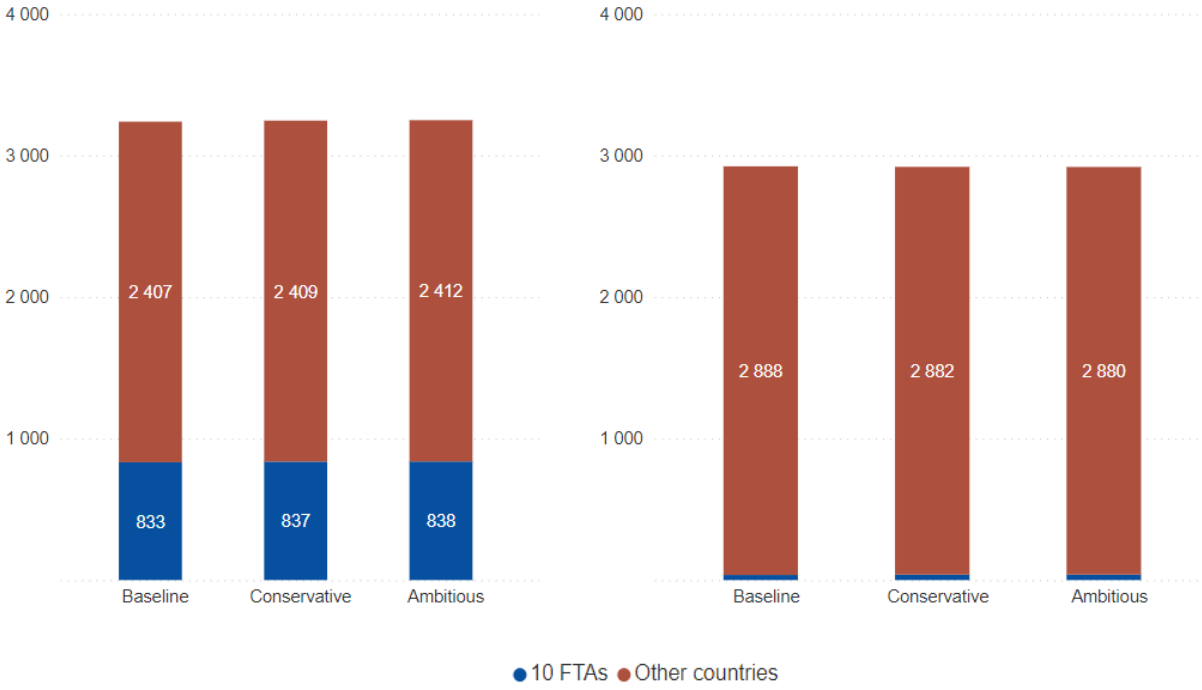


(a) Imports

(b) Exports

Source: Authors' calculations, based on MAGNET results.

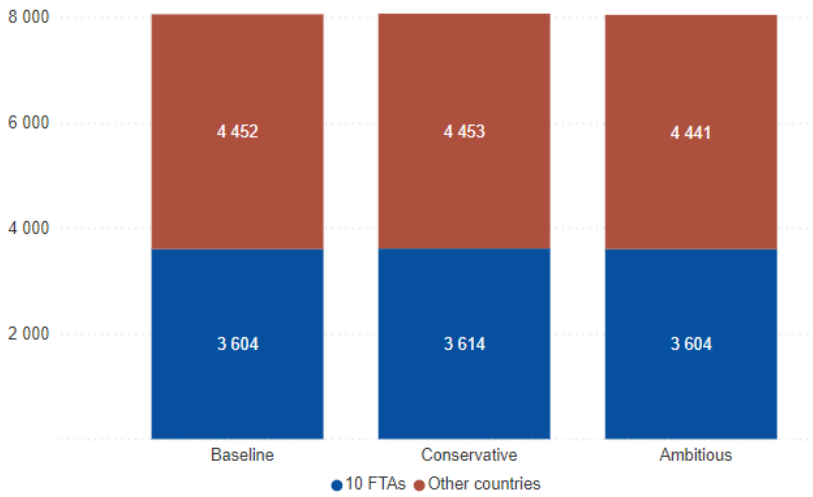
Figure 35. EU imports and exports of other cereals (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results.

Figure 36. EU imports of oilseeds (2032, million EUR)



Source: Authors' calculations, based on MAGNET results.

5.2.7. Rice

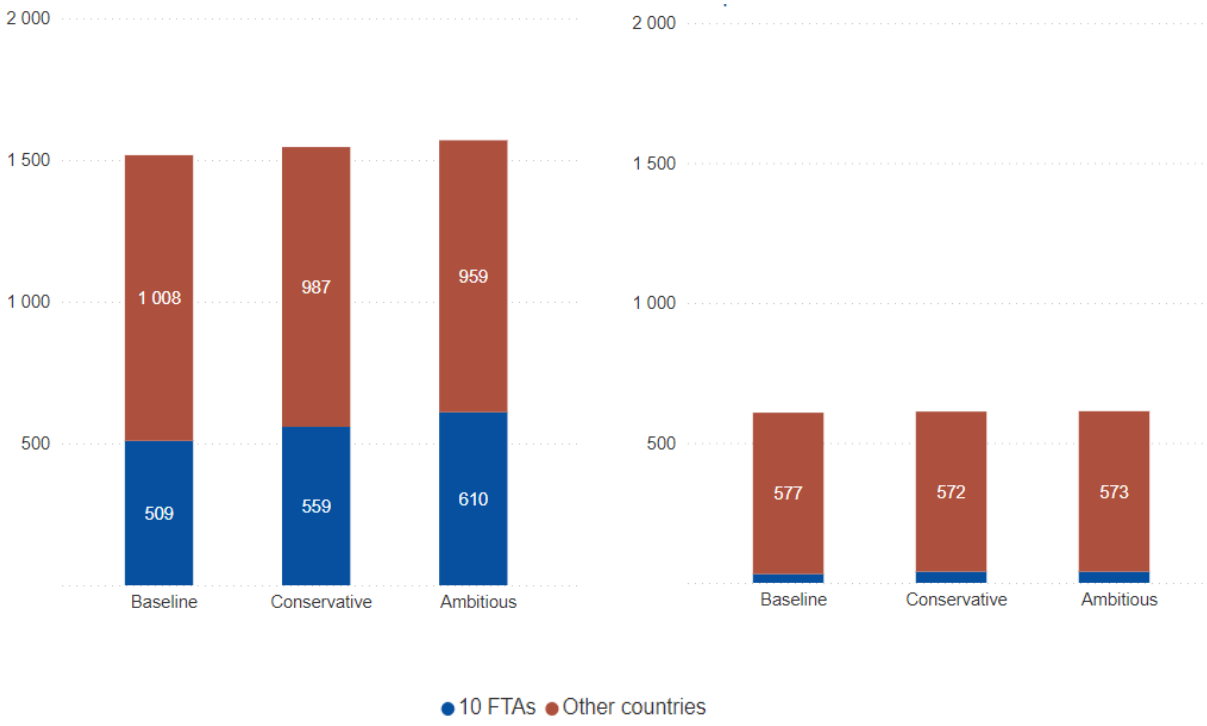
In the baseline scenario, in 2032 the EU imports a significant amount of rice from India (EUR 148 million, corresponding to 10 % of EU rice import), from Mercosur (EUR 152 million, corresponding to 10 % of EU rice imports) and Thailand (EUR 206 million, corresponding to 14 % of EU rice imports). After the implementation of the 10 FTAs, rice imports from the 10 FTA partners increase by 9.7 % in the conservative scenario and by 19.8 % in the ambitious scenario. The additional imports are mainly from India and Thailand, which in the simulated scenarios enjoy improved market access through tariff cuts for an unlimited volume. Rice imports from India

increase by EUR 15 million in the conservative scenario and by EUR 29 million in the ambitious scenario (Figure 37). The corresponding figures for Thailand are EUR 36 million and EUR 78 million, respectively. Of the FTA partners, Thailand accounts for the highest share of the EU rice market at baseline, and its share expands progressively, from 40 % at baseline to 43 % in the conservative scenario and to 47 % in the ambitious scenario (Figure 38). At the same time, imports from Mercosur, which in both scenarios are constrained by the agreed TRQ, fall slightly compared with the 2032 baseline, as Mercosur's trade preference is eroded by the increase in exports from India and Thailand (Table 24 in Annex 3).

The trade diversion effect is larger for rice than for other sectors, because imports account for a far higher share of the EU market. The additional imports from the 10 FTA partners amount to EUR 101 million in the ambitious scenario. However, total rice imports increase by only EUR 52 million, as other countries lose some market share, dropping from 67 % to 61 %. Overall rice imports increase by 1.9 % in the conservative scenario and by 3.5 % in the ambitious scenario.

The results for rice imports are in line with the findings 2021 study, which simulated an increase in imports of EUR 46 million in 2030.

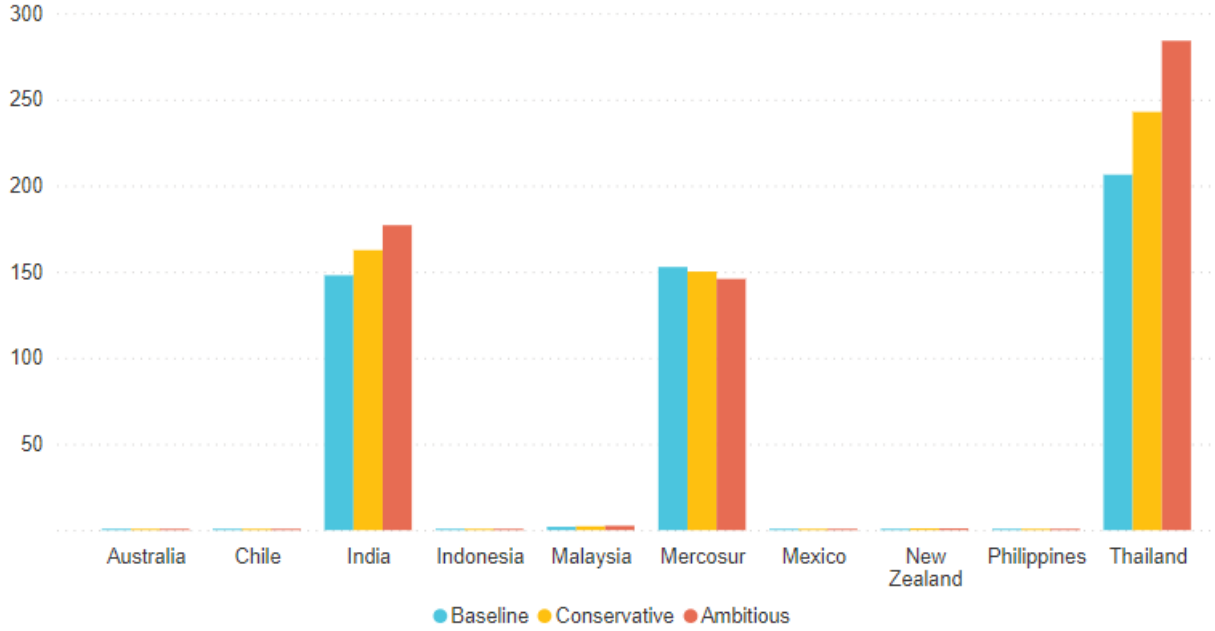
Figure 37. EU imports and exports of rice (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results.

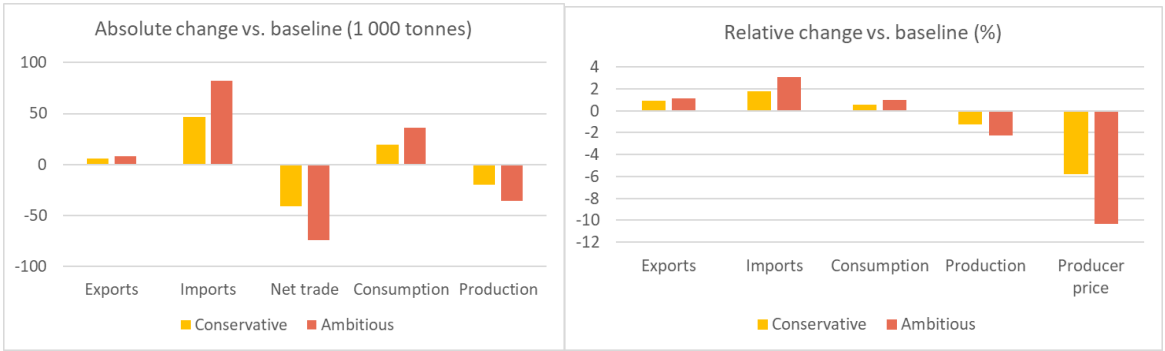
Figure 38. EU imports of rice from the 10 FTA partners (2032, million EUR)



Source: Authors' calculations, based on MAGNET results.

As imports account for a large share of EU rice consumption, small trade distortions may have a significant impact on the trade balance. The Aglink-Cosimo model, however, does not consider rice market segmentation (e.g. the model de facto assumes perfect substitution between indica rice from Thailand and India and japonica rice produced in the EU, while in reality they are imperfect substitutes); hence the impacts on production and price are overestimated. In the conservative scenario, EU rice production drops by 1.2 % and prices by 5.8 %. In the ambitious scenario, the corresponding figures are 2.3 % and 10.4 %. (Figure 39)

Figure 39. Change in the EU's trade balance in rice (2032)



Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

5.2.8. Sugar (raw and white)

The modelling results suggest that, in the baseline scenario (i.e. in 2032), the EU will be a net sugar exporter in value terms. On the other hand, in the baseline scenario, net trade in sugar with the 10 FTA partners is negative by EUR 207 million, largely due to a negative balance with Mercosur (EUR 223 million). On the contrary, imports from the rest of the 10 FTA partners are limited (Table 25 in Annex 3).

Imports of sugar from the 10 FTA partners increase in both scenarios. Mercosur, a major global producer of sugar, increases its exports to the EU in both the conservative and ambitious scenarios because of the concessions granted to Brazil and Paraguay under the EU–Mercosur agreement. EU imports of sugar from Mercosur increase by EUR 114 million, contributing considerably to the EU's negative trade balance with this trade bloc, which amounts to EUR 333 million in both scenarios. Imports of sugar from Australia, India and

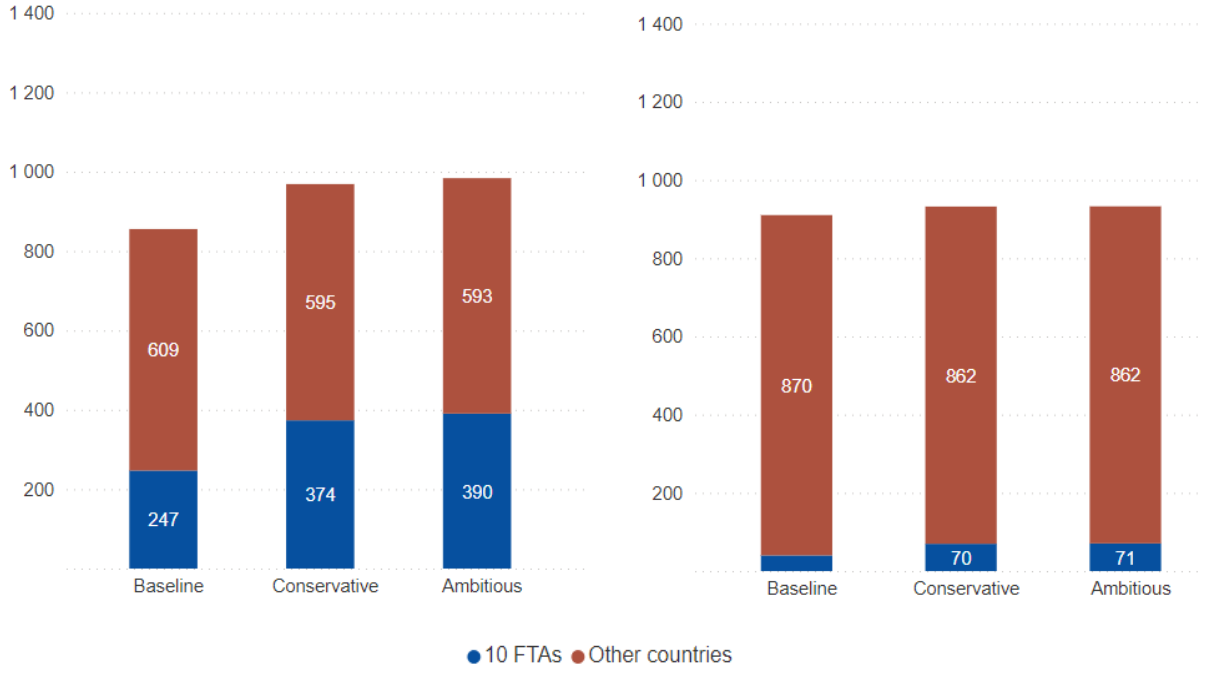
Thailand increase in the conservative scenario and more than double in the ambitious scenario. However, imports from these countries remain small in value and account for only a minor share of EU total imports of sugar.

The increase in sugar imports from the 10 FTA partners is not offset by the decrease in imports from other countries, which fall by only about EUR 13–15 million. In both scenarios, the sugar imports from all countries are 13–15 % higher than the baseline (Figure 40).

The vast majority (96 %) of EU sugar exports go to countries other than the 10 FTA partners. Thus, in both scenarios, the increase in exports is minor (Table 25 in Annex 3), with only exports to India increasing by a non-negligible amount (Figure 41).

Due to a reduction of the trade deficit of between EUR 91 million and 106 million, the EU sugar net trade turns negative in both scenarios from an initial positive position of EUR 55 million.

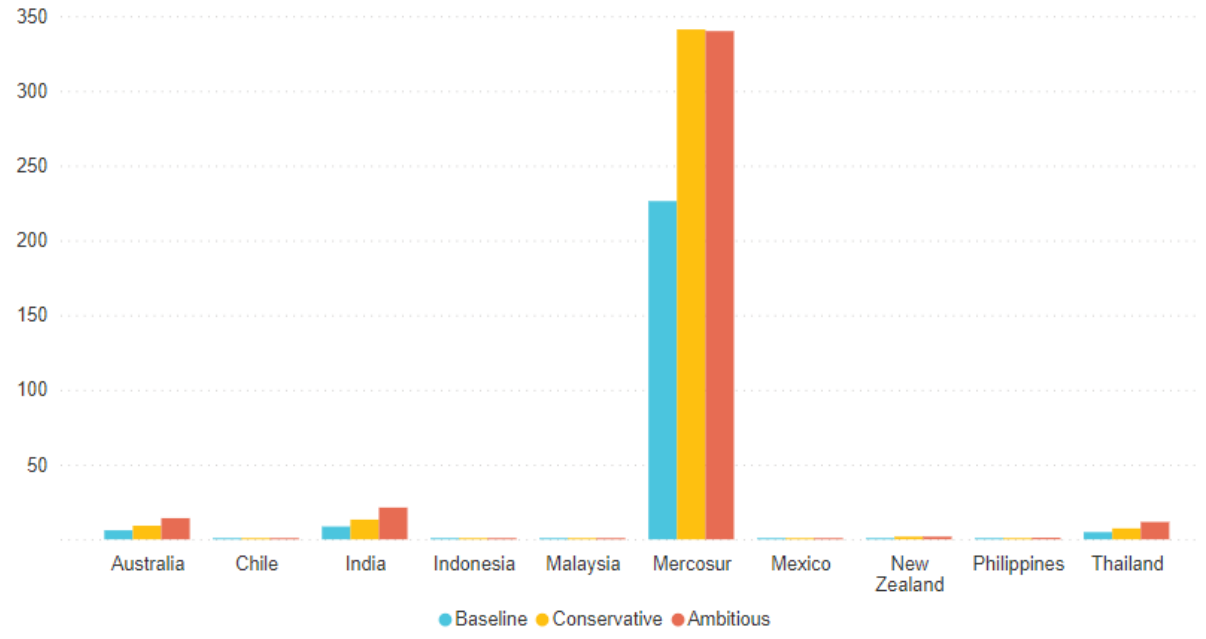
Figure 40. EU imports and exports of sugar (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results.

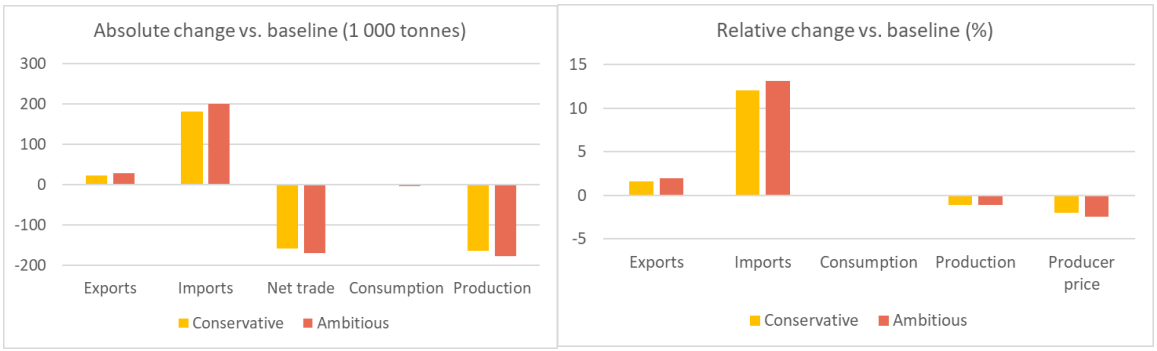
Figure 41. EU imports of sugar from the 10 FTA partners (2032, million EUR)



Source: Authors' calculations, based on MAGNET results.

In volume terms, total EU sugar imports increase by 182 000 tonnes compared with the baseline (+ 12 %) in the conservative scenario and by almost 200 000 tonnes compared with the baseline (+ 13 %) in the ambitious scenario. The impact on domestic sugar production is limited to a reduction of 1.1 % in both scenarios, while the impact on prices is slightly differentiated (– 2.0 % in the conservative scenario and – 2.5 % in the ambitious scenario) (Figure 42). The results for the sugar sector are in line with the findings of the 2021 study.

Figure 42. Change in the EU's trade balance sugar market (2032)



Source: Authors' calculations, based on Aglink-Cosimo simulation results (European Commission 2022 model version).

5.2.9. Fruit

Aglink-Cosimo does not model trade in fruit and, for this reason, all results related to the fruit sector come from the MAGNET model. The MAGNET model can now differentiate between the fruit and vegetable sectors, which was not the case when the previous studies were carried out. However, the MAGNET model does not account for the entry price system in force within the EU and, therefore, cannot provide a completely realistic picture of these complex markets.

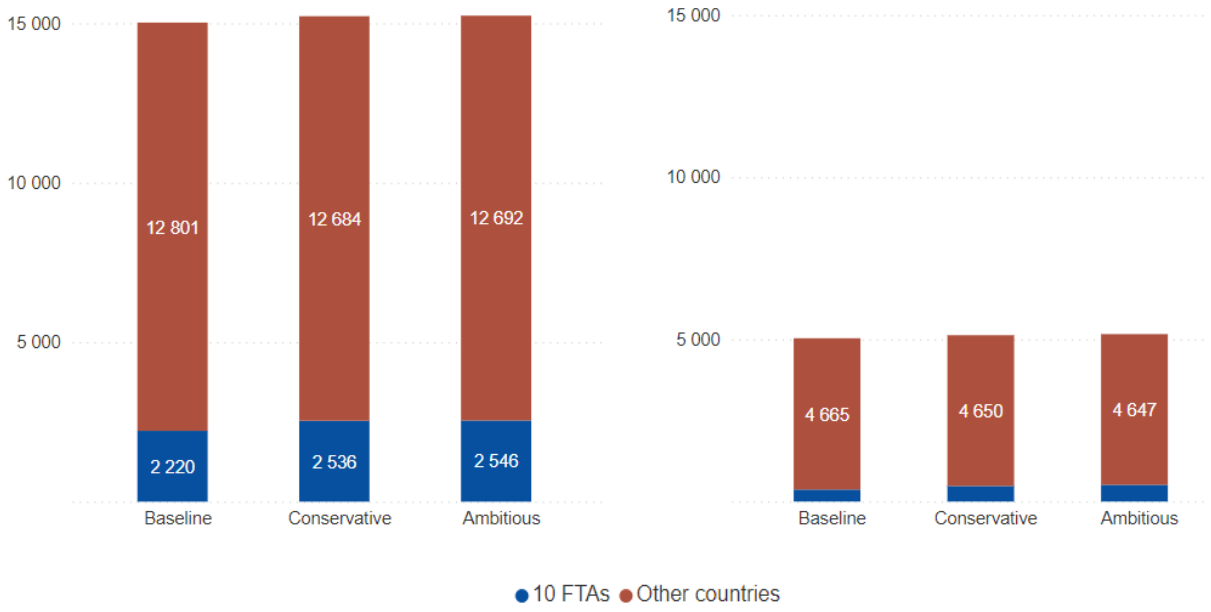
The EU's trade balance in fruit with the 10 FTA partners deteriorates by around EUR 200 million, with Mercosur and New Zealand being the partners gaining the most benefit from trade with the EU (Table 26 in Annex 3).

The reason for this small impact on the EU fruit sector is twofold. On the imports side, EU import tariff rates imposed on the 10 FTA partners are relatively low at baseline. Hence, further trade liberalisation does not trigger any significant impact apart from an increase in imports from Mercosur and New Zealand. On the exports side, more than 80 % of EU exports go to the rest of Europe, the Middle East and North Africa, while the share exported to the 10 FTA partners amounts to only 7 %. An increase in EU exports to Mercosur and India partially compensates for increased imports. Hence, trade liberalisation does not have any relevant impact on the EU fruit export pattern (Figure 43).

The EU's overall net trade in fruit deteriorates by EUR 107 million in the conservative scenario and by EUR 90 million in the ambitious scenario. The trade balance decreases less under the ambitious scenario because the increase in imports is partially offset by an increase in exports to India (EUR 70 million), and this increase is lower in the conservative scenario, whereas the additional imports come from countries with which the EU has already signed FTAs (Mercosur and New Zealand) and there is no difference between the two scenarios (Table 26 in Annex 3).

EU fruit production is barely affected by the 10 FTAs in either scenario, declining only slightly (by 0.23 % in the conservative scenario and by 0.15 % in the baseline scenario).

Figure 43. EU imports and exports of fruit (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results.

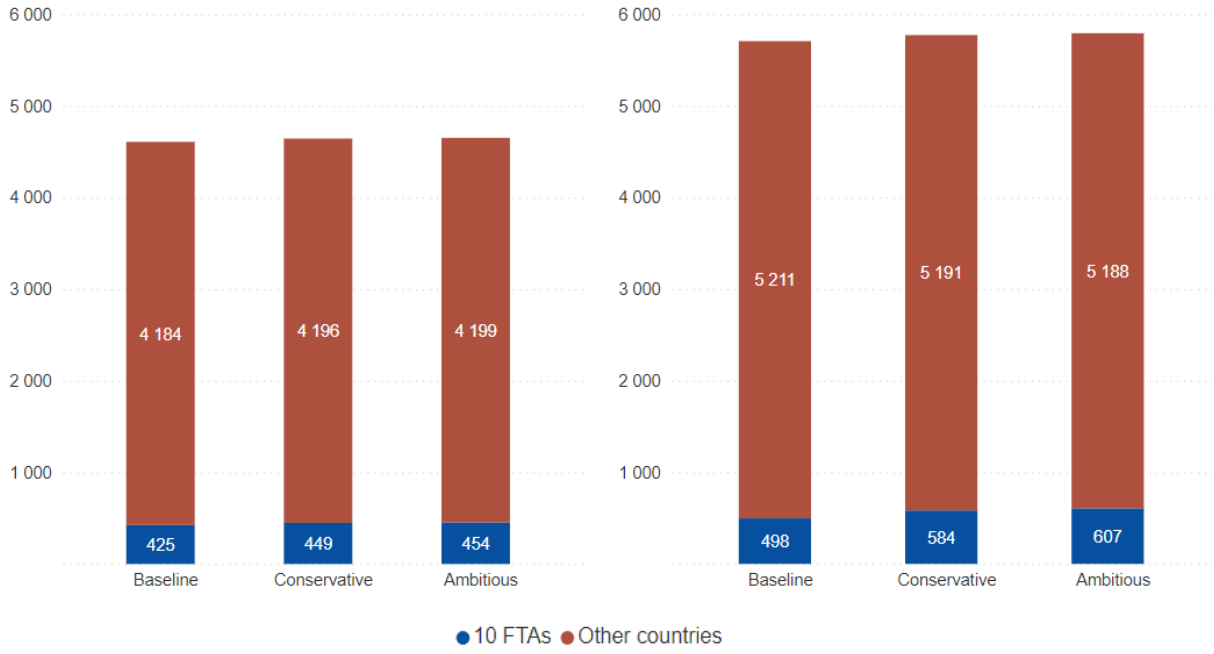
5.2.10. Vegetables

The Aglink-Cosimo model does not include trade in vegetables. For this reason, all results related to the vegetables sector come from the MAGNET model.

The EU's trade balance in vegetables with the 10 FTA partners improves by EUR 63 million in the conservative scenario and by EUR 80 million (Figure 44) in the ambitious scenario thanks to increased exports to India, Indonesia and the Philippines (Table 27 in Annex 3). The EU's overall net trade in vegetables increases by EUR 30 million in the conservative scenario and by EUR 42 million in the ambitious scenario.

EU vegetables production is barely affected by the 10 FTAs in either of the scenarios, increasing only slightly (by 0.3 % in the conservative scenario and by 0.4 % in the ambitious scenario).

Figure 44. EU imports and exports of vegetables (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results.

5.2.11. Vegetable oils and meals

It is estimated that, in 2032, 59 % of all EU imports of vegetable oils and meals will come from the 10 FTA partners, while exports of vegetable oils and meals to the FTA partners will account for only 10 % of EU exports of these commodities. Consequently, the EU's net trade in vegetable oils and meals with the 10 FTA partners shows a deficit of more than EUR 9 billion at baseline, which is further increased by EUR 174 million in the conservative scenario and by EUR 423 million in the ambitious scenario. The vegetable oils and meals aggregate combines two different markets: vegetable oils for human consumption and as an input for the production of biodiesel, and oilcakes for animal feed, trade in which is already largely liberalised. In the vegetable oils market, Indonesia and Malaysia are the main exporters, whereas oilcakes mostly come from Argentina and Brazil.

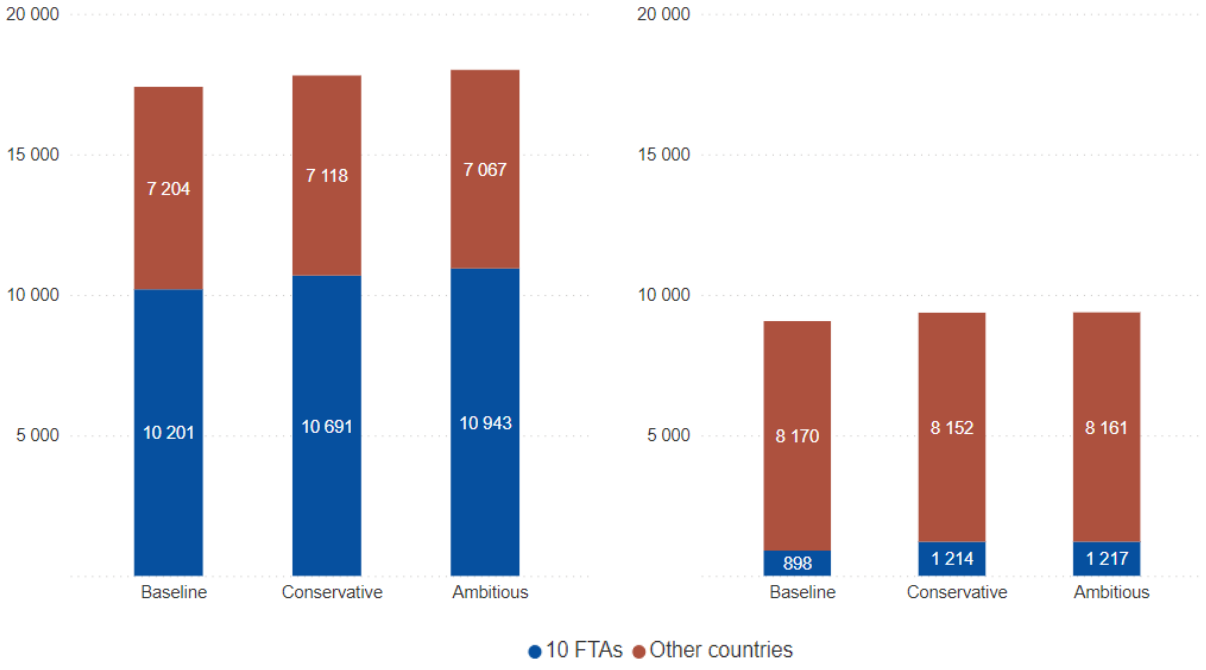
It is expected that exports of vegetable oils and meals from Indonesia, Malaysia and the Philippines to the EU will increase substantially, but the size of the impact will depend on the degree of additional market access afforded to these Asian countries by the EU. It is projected that exports of vegetable oils and meals from Indonesia to the EU will expand by EUR 133 million in the conservative scenario and by EUR 295 million in the ambitious scenario, while exports from Malaysia to the EU are projected to increase by EUR 204 million or EUR 304 million, respectively (Table 28 in Annex 3).

EU exports of vegetable oils and meals to the 10 FTA partners, particularly to India, Mercosur and Thailand, are also expected to increase, by around 3 %.

The projected effect of the market access granted under the 10 FTAs is a reduction in imports from and exports to other non-EU countries (Figure 45). The market shares of the main exporters of vegetable oils and meals, despite the increase in exports from Indonesia, Malaysia and the Philippines, are not affected by the trade liberalisation, and remain constant in all scenarios (Figure 46).

EU production of vegetable oils and meals is barely affected by the 10 FTAs, increasing only slightly (by around 0.3 %) in both scenarios.

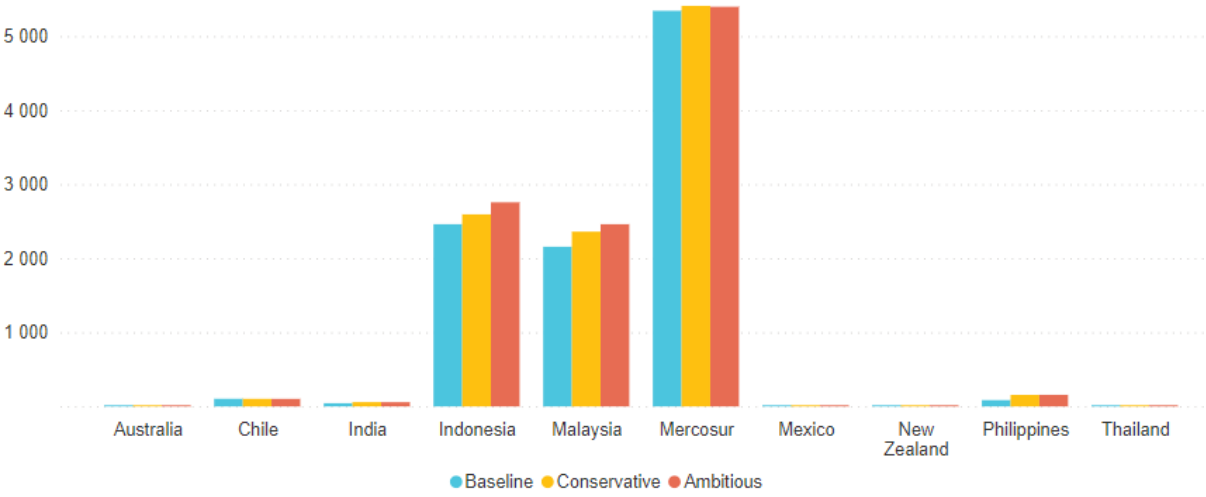
Figure 45. EU imports and exports of vegetable oils and meals (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results.

Figure 46. EU imports of vegetable oils and meals from the 10 FTA partners (2032, million EUR)



Source: Authors' calculations, based on MAGNET results

5.2.12. Beverages and tobacco

The Aglink-Cosimo model does not cover the beverages and tobacco sector explicitly. For this reason, all results related to this sector are produced the MAGNET model, and details of producer prices and consumption, which in the case of other sectors are provided by the Aglink-Cosimo model, are unavailable.

Table 8. Composition of EU beverage and tobacco aggregate trade value with the 10 FTA partners (2020–2022 average, %)

	Exports	Imports
Water (HS 2201, HS 2202)	15.99	0.76
Beer (HS 2203)	10.13	6.24
Wine (HS 2204)	38.03	38.97
Spirits (HS 2205, HS 2206, HS 2207, HS 2208)	27.86	9.13
Tobacco (HS 24)	7.99	44.90

Source: Eurostat Comext.

The 'beverages and tobacco' aggregate is a large category, containing a variety of beverages, including water, beer, wine and spirits, as well as tobacco products. Wine and other spirits account for more than 60 % of EU exports of products in this sector, whereas wine and tobacco account for the majority of imports (Table 8).

The strength and export orientation of the EU beverages sector are reflected in the results. EU trade in this sector is mostly with countries other than the 10 FTA partners, which account for only one fifth of EU imports and less than 5 % of the EU exports (Figure 47). As a result, the EU's net trade in beverages and tobacco with the 10 FTA partners is slightly negative (– EUR 59 million) despite an overall positive trade balance in this sector of around EUR 31 billion.

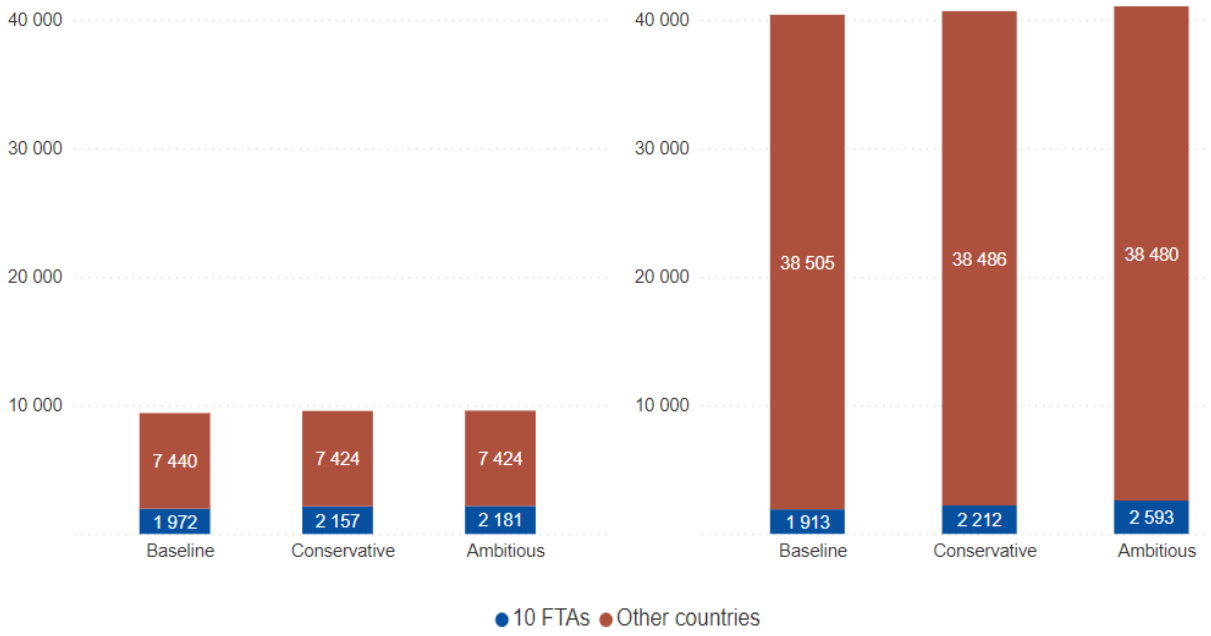
The EU's overall trade balance in beverages and tobacco improves by EUR 111 million (0.4 %) in the conservative scenario and by EUR 461 million (1.5 %) in the ambitious scenario. Its trade balance with the 10 FTA partners improves even more, by EUR 114 million in the conservative scenario and by EUR 470 million in the ambitious scenario (Table 29 in Annex 3), turning a negative trade balance into a positive one in both scenarios. The countries accounting for the greatest increases in EU exports are India, Malaysia and Mercosur, particularly in the ambitious scenario. Overall, EU exports to the 10 FTA partners could increase by EUR 298 million in the conservative scenario and by EUR 679 million in the ambitious scenario. Exports from the EU to the rest of the world are projected to decline slightly, by about EUR 18 million in the conservative scenario and by around EUR 25 million in the ambitious scenario, leading to an increase in overall exports of 0.7 % (conservative scenario) or 1.6 % (ambitious scenario) after implementation of the agreements.

At baseline, the 10 FTA partners account for a low proportions of EU exports of beverages and tobacco. The greatest growth in EU exports is projected towards India, Mercosur and Malaysia. On the import side, the highest increase observed is in imports from Mercosur (Table 29 in Annex 3).

In comparison with the 2021 study, the figures for EU imports are very similar, but the projected increase in EU exports is reduced by around by EUR 200 million in the ambitious scenario. This is because exports to Japan (EUR 210 million) and Vietnam (EUR 175 million) are included in the baseline, and this is only partially compensated by the inclusion of India (exports to which increase by EUR 236 million in the ambitious scenario). These numbers show that, in this sector too, the positive benefits of the FTAs are already integrated into the baseline, as exports of beverages and tobacco to Japan are projected to grow from EUR 1 310 million in 2014 to EUR 2 000 million in 2032 and exports to Vietnam are expected to increase from EUR 75 million in 2014 to EUR 307 million in 2032.

Although small in percentage terms, EU production of beverages and tobacco increases in both scenarios. The production growth in the ambitious scenario is around 0.4 %.

Figure 47. EU imports and exports of beverages and tobacco (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results

5.2.13. Other food

The 'other food' aggregate is a large category, including as it does, among other products, a variety of food preparations, prepared and preserved fruit and vegetables, fruit juices, starches, bakery products, cocoa, chocolate and sugar confectionery. Since the Aglink-Cosimo model does not cover these sectors, all results come from the MAGNET model, and the details provided by the Aglink-Cosimo model for other sectors are lacking. Most of the other food aggregate is traded with countries other than those that are party to the 10 FTAs (more than 81 % of imports and more than 93 % of exports).

The EU's negative trade balance with the 10 FTA partners at baseline is reduced by EUR 215 million in the conservative scenario but worsens compared with baseline, by EUR 68 million, in the ambitious scenario. In the conservative scenario, the improvement in the EU's trade balance with Australia, India and Thailand outweighs the increase in imports from Mercosur. However, in the ambitious scenario, a significant increase in imports from Thailand, the result of a large tariff cut, causes a deterioration in the EU's trade balance with Thailand and has a negative impact on the overall balance. Mercosur, which among the FTA countries is the main exporter of other food to the EU, will benefit the most from a trade agreement. The EU's trade balance with Mercosur deteriorates in both scenarios by around EUR 160 million (Figure 48).

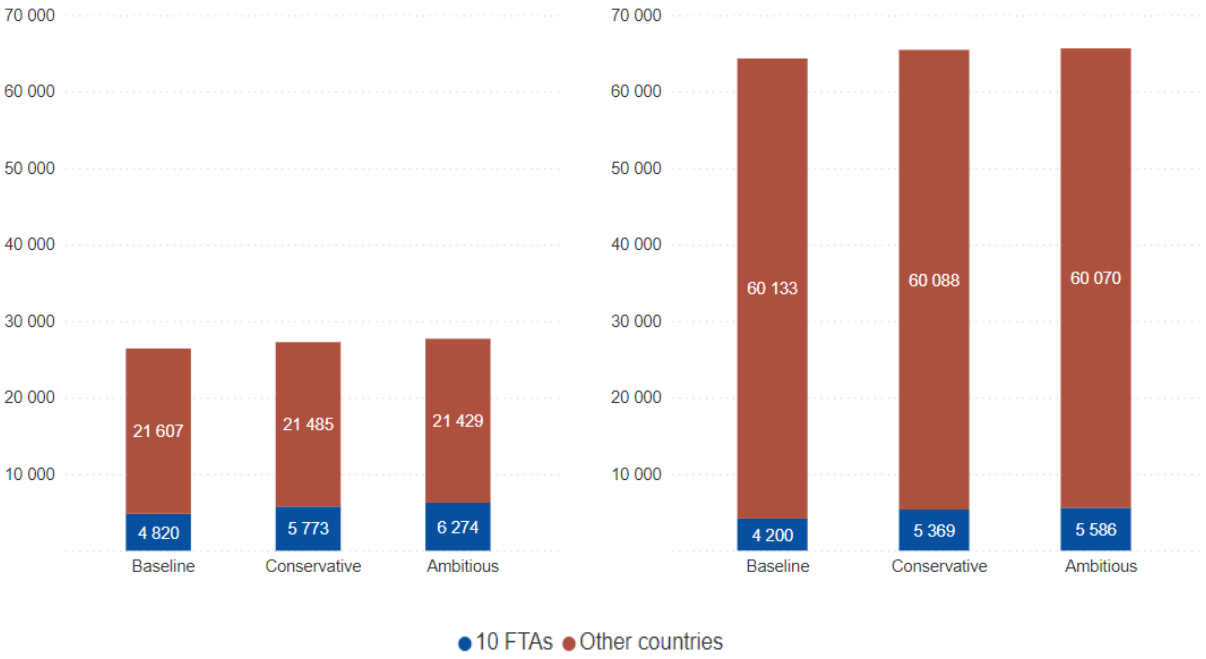
Australia is the main importer of other food products from the EU, and the value of EU exports to Australia is projected to increase by EUR 108 million in the conservative scenario and by EUR 129 million in the ambitious scenario. It is also projected that the EU will increase its exports of other food to Mercosur by around EUR 340 million (in both scenarios), to Thailand by EUR 254 million (conservative scenario) or EUR 277 million (ambitious scenario) and to India by EUR 214 million (conservative scenario) or EUR 308 million (ambitious scenario) (Table 30 in Annex 3).

In comparison with the 2021 study, the projected increase in EU exports of other food in the ambitious scenario falls from EUR 1 676 million to EUR 1 300 million. Part of the decrease is due to the inclusion of Canada, Japan and Vietnam in the baseline (in 2021, it was projected in the ambitious scenario that exports of other food to Japan would increase by EUR 567 million and those to Canada would increase by EUR 148 million), partially compensated by increased exports to India. Looking at the baseline figures, EU exports of 'other food' to Japan

are expected to increase from EUR 1 261 million in 2014 to EUR 1 815 million in 2032 and those to Canada are projected to rise from EUR 767 million in 2014 to EUR 1 164 million in 2032.

For all these reasons, production and the overall trade position of the EU are not greatly affected in either scenario. Impacts on production are positive but almost negligible.

Figure 48. EU imports and exports of other food (2032, million EUR)



(a) Imports (b) Exports

Source: Authors' calculations, based on MAGNET results

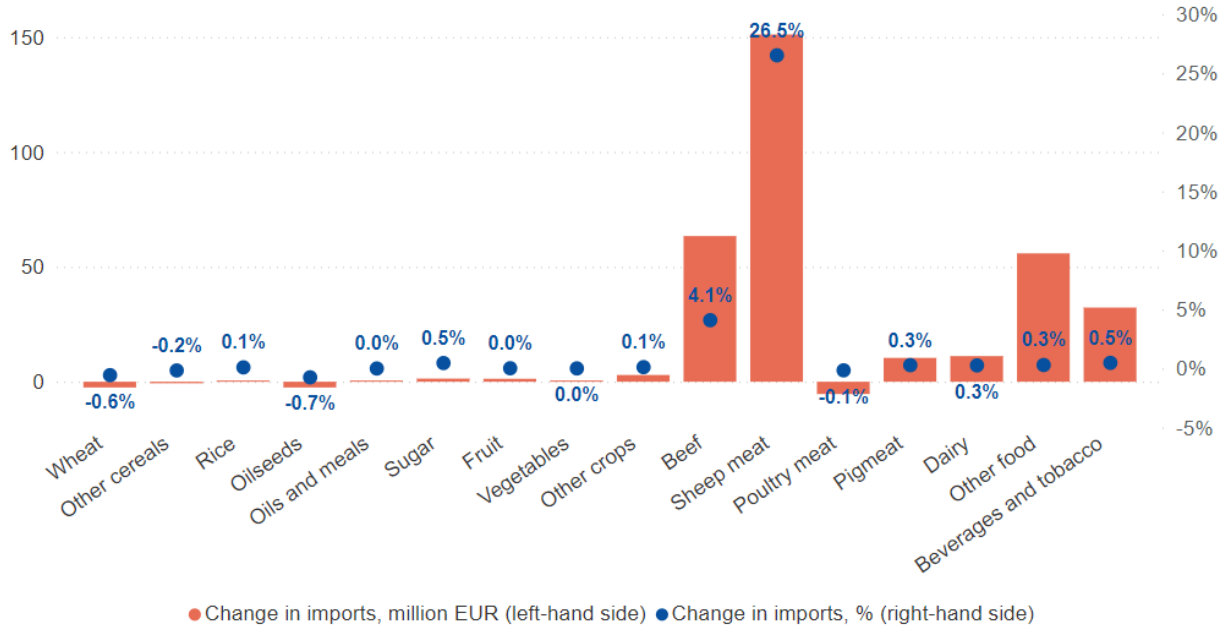
5.3. Impact of UK trade agreements

In contrast to previous studies, this study quantifies the impact of the UK trade agenda on the EU agri-food sector. Three additional scenarios analyse the impact on the EU agri-food sector of the recently concluded FTAs between the United Kingdom and Australia and New Zealand and the future access of the United Kingdom to the CPTPP trade bloc:

- in the first, the UK trade agenda is considered in isolation (defined as 'baseline and UK FTAs' and abbreviated to 'UK_2032');
- the second considers the conservative EU trade approach on top of the UK trade agenda ('conservative scenario and UK FTAs', abbreviated to 'Conservative_UK');
- the final scenario considers the ambitious EU trade approach on top of the UK trade agenda ('ambitious scenario and UK FTAs', abbreviated to "Ambitious_UK').

In the first scenario, which takes only a UK trade policy perspective, UK total agri-food imports increase by EUR 344 million, mainly driven by additional sheep and beef imports (Table 31 in Annex 3). In both value and percentage terms, the United Kingdom's sheep meat imports increase by a maximum of EUR 150 million, corresponding to an increase of 26.5 % compared with the baseline, while beef imports increase by EUR 67 million (+ 4.4 %) (Figure 50).

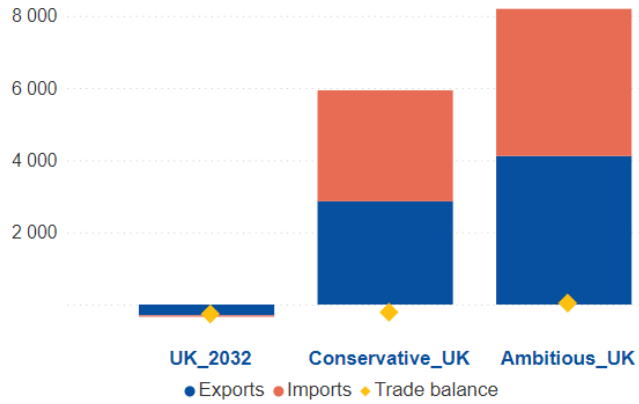
Figure 49. Change in the United Kingdom's imports compared with the baseline in UK_2032 (2032, million EUR and %)



Source: Authors' calculations, based on MAGNET results

The United Kingdom's FTAs with Australia and New Zealand and its future accession to the CPTPP are projected to reduce EU exports to the United Kingdom by EUR 300 million in 2032 (Table 32 in Annex 3) compared with the baseline, as a result of preference erosion in markets where the EU is a major supplier, which translates into a reduction in the overall EU's agri-food trade balance of EUR 261 million (Figure 49). As the agri-food trade balance between the EU and the United Kingdom in the 2032 baseline amounts to EUR 28 billion (EUR 40 billion of exports and EUR 12 billion of imports), the impact of the UK trade agenda is relatively small. In the ambitious scenario, the negative effects of the UK trade agenda are more than offset by the adoption of the 10 FTAs and the consequent trade creation, resulting in a net positive impact on the EU trade balance of EUR 40 million. In the conservative scenario, the change in net trade with the FTA countries is not sufficient to compensate for the losses in net exports to the United Kingdom, resulting in a negative change in the overall EU's agri-food trade balance (– EUR 213 million).

Figure 50. Change in the EU's trade balance in agri-food (2032, million EUR)



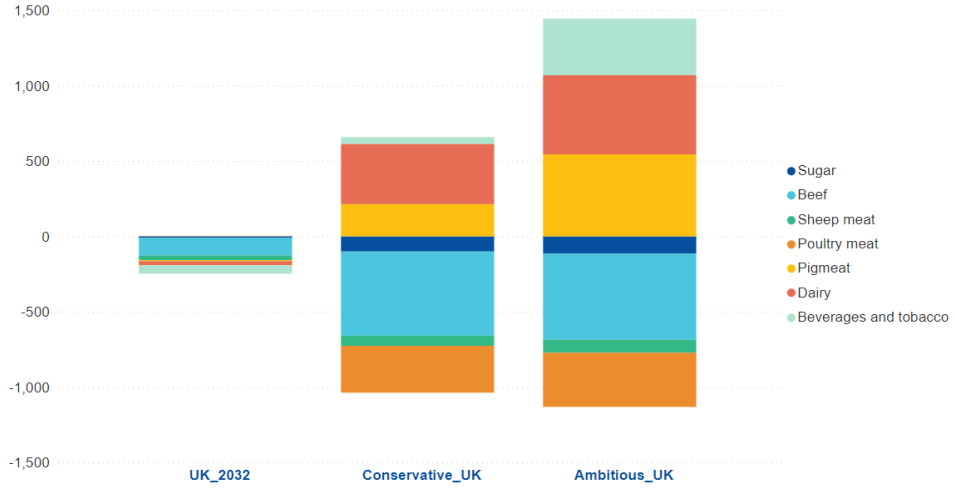
NB: 'UK_2032' shows the effect of the UK FTAs on top of the baseline scenario, while 'Conservative_UK' and 'Ambitious_UK' show the effect of the UK FTAs on top of the conservative scenario and the ambitious scenario, respectively.

Source: Authors' calculations, based on MAGNET results

At the sector level, the United Kingdom's trade agenda results in a further deterioration of the EU's beef trade balance, the overall decline in the ambitious scenario combined with the UK FTAs amounting to EUR 571 million (Figure 51), including a reduction of EUR 123 million in the EU's exports to the United Kingdom (– 8 %, corresponding a reduction in the quantity of beef exported of 28 000 tonnes) due to preference erosion. The United Kingdom's trade agenda also leads to a reduction in exports of sheep meat from the EU to the United Kingdom of EUR 30 million, corresponding to 5 700 tonnes (Figure 52). In terms of production volumes, the major impacts of the United Kingdom's accession to the CPTPP are seen in the sheep and beef sectors. In the scenario considering the UK FTAs, production of sheep meat and beef is reduced by 2 900 tonnes and 21 000 tonnes, respectively. The reduction of sheep meat production amounts to 5 100 tonnes in the conservative with UK FTAs and 6 100 in the ambitious with UK FTAs. The beef production is reduced by 78 800 tonnes in the conservative with UK FTAs and 76 800 in the ambitious with UK FTAs.

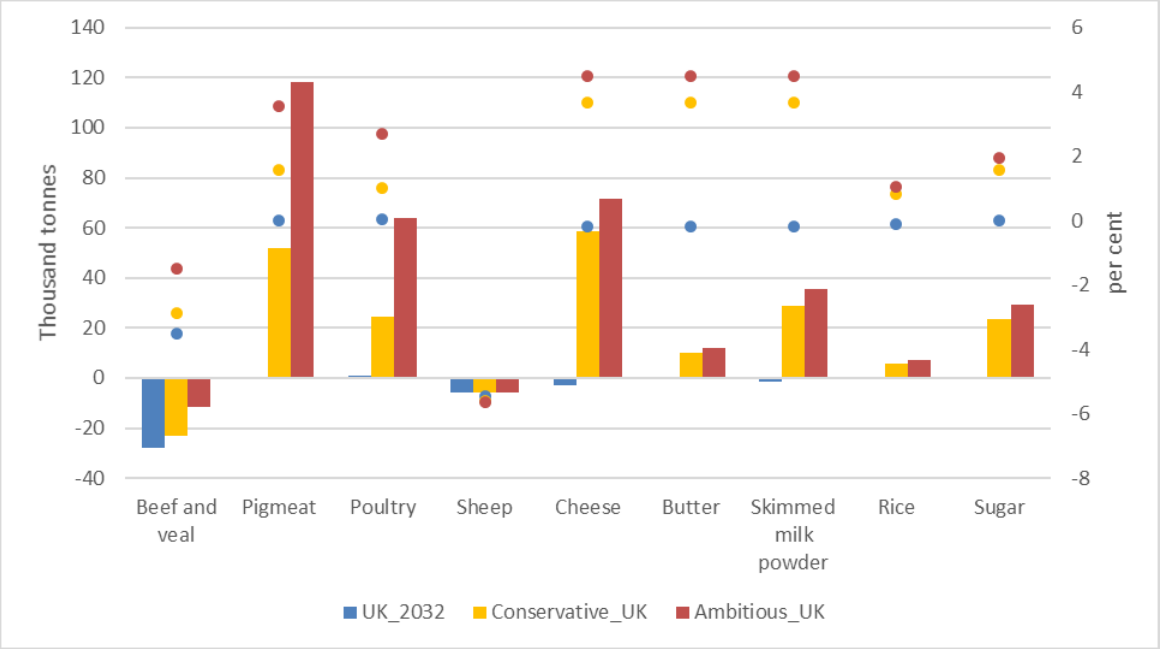
Turning to producer prices, the effects of the United Kingdom's accession to the CPTPP are again greatest in the sheep and beef sectors. In the baseline scenario, prices fall by 2.7 % and 0.9 %, respectively. In the conservative and ambitious scenarios, producer prices are reduced even further: sheep prices fall by 4.5 % and 5.3 %, respectively, and beef prices by 3.2 % and 3.1 %, respectively.

Figure 51. Change in the EU's agri-food trade balance with in selected sectors (2032, million EUR)



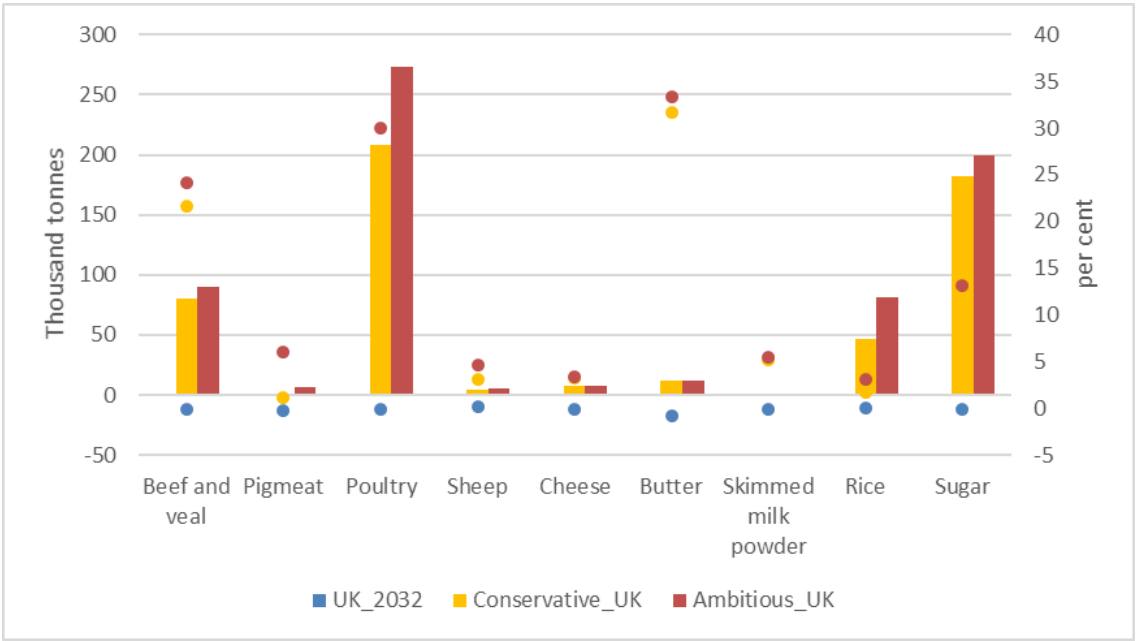
Source: Authors' calculations, based on MAGNET results

Figure 52. EU exports of selected agri-food products – 2032, change vs baseline, thousand tonnes (left vertical axis) and per cent (right vertical axis)



Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

Figure 53. EU imports of selected agri-food products – 2032, change vs baseline, thousand tonnes (left vertical axis) and per cent (right vertical axis)



Source: Authors' estimates, based on Aglink-Cosimo simulations (European Commission 2022 model version).

6. Conclusions

This study presents the cumulative impacts on the EU agricultural markets of a series of FTAs concluded or under negotiation between the EU and nine countries and one region. The assessment is performed employing the MAGNET and Aglink-Cosimo models.

Two counterfactual scenarios (conservative and ambitious) are compared with a baseline scenario in 2032, calibrated on the 2022–2032 EU medium-term agricultural outlook. They model the effects of market concessions agreed in four recently concluded FTAs (with Chile, Mercosur, Mexico and New Zealand) and the theoretical market concessions that it is envisaged will be agreed in six other FTAs still under negotiation (with Australia, India, Indonesia, Malaysia, the Philippines and Thailand).

This study builds on studies previously carried out by the JRC, in 2016 and 2021 (Boulanger et al., 2016; Ferrari et al., 2021). Notably, the study simulates all previously concluded agreements and explicitly includes TRQ concessions. It also provides policymakers and negotiators with valuable quantitative analysis that will enable them to take a well-balanced approach to future trade liberalisation. However, the model-based approach presented does not reflect all aspects of agricultural trade (for example, it excludes the effects of environmental, sanitary or social regulations).

The results are consistent with the findings of 2021 study (Ferrari et al., 2021), which showed that there are substantial opportunities for the EU to increase trade in certain agri-food commodities, such as dairy products, pigmeat and processed agricultural products, including wine and beverages. The study also emphasises the sensitivity of some products, such as beef, poultry meat, sheep meat, sugar and rice. Although EU agri-food imports from the 10 FTA partners exceed EU exports in baseline, the agri-food trade balance is balanced, with the values of imports and exports expected to grow by almost the same amount.

The study clearly illustrates that there is potential for increased trade in EU agricultural products in world markets. The potential gains in trade in dairy products, pigmeat and high-value/processed products such as wine and beverages are particularly significant. The additional export demand brought about by trade agreements could translate into an important source of economic growth, jobs creation and value added for the European agri-food sector. Compared with the 2021 study, this study projects some reduction in export opportunities, mainly because the effects of the EU's FTAs with Canada, Japan (which are particularly significant) and Vietnam, being now in force, are included in the baseline and are no longer considered in the calculation of the economic impacts of future FTAs.

The study also suggests that additional imports of some agricultural commodities might impact EU production and prices. This is notably the case for beef, poultry meat, sheep meat, rice and sugar. This justifies the EU's stance of considering these products as sensitive in trade negotiations. The use of TRQs in these sectors, which is common in trade agreements, could reduce the negative impact of FTAs on these EU markets.

The study assumed the continuation of a duty- and quota-free trade relationship between the EU and the United Kingdom and quantifies the impact of the UK trade agenda on the EU agri-food sector. While the trade impacts are not expected to be significant, there are some significant consequences for certain sectors. These additional scenarios show a reduction in EU exports to the United Kingdom of beef, beverages and tobacco, processed food, dairy products and sheep meat, which can be eventually offset by the creation of new markets driven by the 10 FTAs.

In any event, the final trade agreements will have to strike a balance between the protection of sensitive products and increased market access for non-EU agricultural products, to prevent possible adverse economic and social impacts on EU agricultural activity and rural areas.

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List of abbreviations and definitions

CGE	computable general equilibrium
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
DCFTA	Deep and Comprehensive Free Trade Agreement
DFQF	duty-free, quota-free
FAO	Food and Agriculture Organization of the United Nations
FTA	free trade agreement
GDP	gross domestic product
GTAP	Global Trade Analysis Project
HS	Harmonised System (tariff nomenclature)
iMAP	integrated Modelling Platform for Agro-economic Commodity and Policy Analysis
ITC	International Trade Centre
JRC	Joint Research Centre
MAGNET	Modular Applied GeNeral Equilibrium Tool
MIDAS	Modelling Inventory Database and Access Services
MoU	memorandum of understanding
NTM	non-tariff measure
OECD	Organisation for Economic Co-operation and Development
PE	partial equilibrium
SIA	sustainability impact assessment
TRQ	tariff rate quota
WTO	World Trade Organization

List of country and region codes

AU	Australia
CA	Canada
CL	Chile
CN	China
ID	Indonesia
IN	India
JP	Japan
MENA	Middle East and North Africa
Mercosur	Southern Common Market
MX	Mexico
MY	Malaysia
NZ	New Zealand
PH	Philippines
RoAm	Rest of America
RoAs	Rest of Asia
RoE	Rest of Europe
RoW	Rest of the World
SSA	sub-Saharan Africa
TH	Thailand
VN	Vietnam

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Annexes

Annex 1. Database aggregation and macroeconomic assumptions

Table 9. Detailed sectoral list

Commodity label	Description
Paddy rice	Rice, husked and unhusked
Wheat	Wheat and meslin
Other cereals	Maize, barley, rye, oats, other cereals
Vegetables	Vegetables, potatoes, cassava, truffles
Fruit	Fruit and edible nuts
Oilseeds	Oil seeds and oleaginous fruit; soybeans, copra
Cane and beet:	Sugar cane and sugar beet
Fibre crops	Fibre crops
Wool	Wool, silk and other raw animal materials used in textiles
Other crops	Live plants, cut flowers and flower buds, flower, fruit and vegetable seeds, beverage and spice crops, unmanufactured tobacco, cereal straw and husks, swedes, mangolds, fodder roots, hay, lucerne, clover, sainfoin, forage kale, lupines, vetches and similar forage products, whether or not in the form of pellets, plants and parts of plants used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal or similar purposes, sugar beet seed and seeds of forage plants, other raw vegetable materials
Cattle	Cattle
Sheep	Sheep, goats, horses, asses, mules and hinnies
Poultry, live animals	Poultry
Other animal products	Swine and other live animals; eggs, in shell (fresh or cooked), natural honey, snails (fresh or preserved) except sea snails; frogs' legs, edible products of animal origin, hides, skins and fur skins, raw, insect waxes and spermaceti
Raw milk	Raw milk
Beef and veal	Fresh or chilled meat and edible offal of cattle
Sheep meat	Fresh or chilled meat and edible offal of sheep, goats, horses, asses, mules and hinnies. Fats or grease from any animal or bird
Poultry meat	Preserves and preparations of meat, meat offal or blood, flours, meals and pellets of meat or inedible meat offal; greaves
Pigmeat	Pigmeat and offal
Oils and meals	Crude and refined oils of soya bean, maize, olive, sesame, groundnut, olive, sunflower seed, safflower, cottonseed, rape, colza and canola, mustard, coconut palm, palm kernel, castor, tung jojoba, babassu and linseed, inter-esterified, re-esterified or elaidinised, margarine and similar preparations, animal or vegetable waxes, fats and oils and their fractions, cotton linters, oilcake and other solid residues resulting from the extraction of vegetable fats or oils; flours and meals of oilseeds or oleaginous fruit, except those of mustard; degras and other residues resulting from the treatment of fatty substances or animal or vegetable waxes
Dairy	Milk: dairy products
Rice	Rice, semi- or wholly milled
Sugar	Sugar
Other food	Prepared and preserved vegetables, pulses and potatoes; prepared and preserved fruit and nuts; wheat and meslin flour; other cereal flours; groats, meal and pellets of wheat and other cereals; other cereal grain products (including corn flakes); other vegetable flours and meals; mixes and doughs for the preparation of bakers' wares; starches and starch products; sugars and sugar syrups n.e.c.; preparations used in animal feeding; lucerne (alfalfa) meal and pellets; bakery products; cocoa, chocolate and sugar confectionery; macaroni, noodles, couscous and similar farinaceous products; food products n.e.c.
Beverages and tobacco	Beverages and tobacco products

NB: n.e.c., not otherwise categorised.

Source: Adapted from Aguiar et al. (2019) (https://www.gtap.agecon.purdue.edu/databases/contribute/detailedsector.asp).

Table 10. Detailed countries/regions list

Number	GTAP code	Name	Description
1	EU	EU	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden
2	AUS	Australia	Australia
3	CAN	Canada	Canada
4	IND	India	India
5	IDN	Indonesia	Indonesia
6	JPN	Japan	Japan
7	MERC	Mercosur ([1])	Argentina, Brazil, Paraguay, Uruguay
8	MEX	Mexico	Mexico
9	NZL	New Zealand	New Zealand
10	PHL	Philippines	Philippines
11	THA	Thailand	Thailand
12	CHL	Chile	Chile
13	MYS	Malaysia	Malaysia
12	VNM	Vietnam	Vietnam
13	UK	United Kingdom	United Kingdom
14	UKR	Ukraine	Ukraine
15	USA	United States of America	United States
16	CHN	China	China
17	RUS	Russia	Russia
18	RoE	Rest of Europe	Norway, Switzerland, rest of the European Free Trade Association, Albania, Belarus, rest of eastern Europe, rest of Europe
19	RoAm	Rest of Americas	Rest of North America, Bolivia, Colombia, Ecuador, Peru, Venezuela, rest of South America, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, rest of Central America, Dominican Republic, Jamaica, Puerto Rico, Trinidad and Tobago, rest of the Caribbean
20	RoAs	Rest of Asia	Hong Kong, South Korea, Mongolia, Taiwan, rest of East Asia, Brunei, Cambodia, Laos, Singapore, Rest of South-East Asia, Bangladesh, Nepal, Pakistan, Sri Lanka, rest of South Asia
21	MENA	Middle East and North Africa	Bahrain, Iran, Israel, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Turkey, United Arab Emirates, rest of western Asia, Egypt, Morocco, Tunisia, rest of North Africa
22	SSA	Sub-Saharan Africa	Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Ghana, Guinea, Nigeria, Senegal, Togo, rest of western Africa, rest of Central Africa, rest of South-Central Africa, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Mozambique, Rwanda, Tanzania, Uganda, Zambia, Zimbabwe, rest of eastern Africa, Botswana, Namibia, South Africa, rest of the South African Customs Union
23	RoW	Rest of the world	Rest of Oceania, Kazakhstan, Kyrgyzstan, Tajikistan, rest of the former Soviet Union, Armenia, Azerbaijan, Georgia, rest of the world

([1]) The Bolivarian Republic of Venezuela is suspended in all rights and obligations inherent to its status as a state party to Mercosur, in accordance with the provisions of the second paragraph of Article 5 of the Ushuaia Protocol.

Source: Adapted from Aguiar et al. (2019) (https://www.gtap.agecon.purdue.edu/databases/regions.aspx?version=10.211).

Table 11. Macroeconomic baseline assumptions (2014–2032)

	Population growth, % (EU)	Real GDP growth, % (EU)	Oil price (USD per barrel Brent)
2014	0.13	1.61	100
2015	0.21	2.34	53
2016	0.23	2.01	44
2017	0.16	2.81	55
2018	0.18	2.05	71
2019	0.21	1.80	64
2020	0.09	– 5.94	42
2021	– 0.08	5.32	71
2022	1.09	3.10	106
2023	0.36	0.90	97
2024	– 0.50	1.90	88
2025	– 0.38	1.73	87
2026	– 0.38	1.60	89
2027	– 0.25	1.55	90
2028	– 0.11	1.51	91
2029	– 0.12	1.50	92
2030	– 0.13	1.49	93
2031	– 0.14	1.48	94
2032	– 0.15	1.49	96

Sources: Directorate-General for Agriculture and Rural Development estimates based on European Commission macroeconomic forecasts.

Annex 2. Overview: tables and figures

Table 12. Value of EU agri-food imports and share of EU agri-food imports, by trading partner and scenario (2032, million EUR and %)

	Baseline scenario		Conservative scenario		Ambitious scenario	
	Million EUR	**%**	**Million EUR**	**%**	**Million EUR**	**%**
AU	1 145	1.0	1 244	1.1	1 381	1.2
CL	1 805	1.6	1 802	1.5	1 801	1.5
ID	2 951	2.6	3 152	2.7	3 322	2.8
IN	1 460	1.3	1 640	1.4	1 725	1.5
Mercosur	18 188	15.9	20 052	17.1	20 018	16.9
MX	829	0.7	921	0.8	920	0.8
MYS	2 367	2.1	2 638	2.3	2 750	2.3
NZ	1 320	1.2	1 698	1.5	1 697	1.4
PH	292	0.3	388	0.3	433	0.4
TH	1 845	1.6	2 207	1.9	2 836	2.4
FTA partners	**32 202**	**28.2**	**35 741**	**30.5**	**36 880**	**31.2**
US	7 664	6.7	7 638	6.5	7 629	6.5
UK	12 280	10.8	12 186	10.4	12 164	10.3
CA	3 281	2.9	3 278	2.8	3 273	2.8
JP	403	0.4	400	0.3	399	0.3
CN	4 180	3.7	4 162	3.6	4 154	3.5
UA	3 719	3.3	3 710	3.2	3 700	3.1
RU	1 326	1.2	1 323	1.1	1 321	1.1
VN	2 162	1.9	2 159	1.8	2 157	1.8
RoE	7 962	7.0	7 916	6.8	7 897	6.7
RoAm	14 944	13.1	14 835	12.7	14 806	12.5
RoAs	1 768	1.6	1 748	1.5	1 725	1.5
MENA	10 268	9.0	10 226	8.7	10 221	8.6
SSA	11 312	9.9	11 272	9.6	11 275	9.5
ROW	650	0.6	647	0.6	645	0.6
Total	**114 120**	**100**	**117 240**	**100**	**118 247**	**100**

Source: Authors' calculations, based on MAGNET results.

Table 13. EU import values, by commodity, origin and scenario (2032, million EUR), and percentage change compared with the baseline

	Total	10 FTA partners				Other countries				Total			
	Baseline scenario	Conservative scenario		Ambitious scenario		Conservative scenario		Ambitious scenario		Conservative scenario		Ambitious scenario	
	Million EUR	%	Million EUR	%	Million EUR	%	Million EUR	%	Million EUR	%	Million EUR	%	Million EUR
Wheat	2 006	0.9	94	0.9	94	1.0	1 932	1.2	1 936	1.0	2 026	1.2	2 030
Other cereals	3 240	0.6	837	0.7	838	0.1	2 409	0.2	2 412	0.2	3 247	0.3	3 250
Rice	1 517	9.7	559	19.8	610	– 2.1	987	– 4.8	959	1.9	1 546	3.5	1 570
Oilseeds	8 056	0.3	3 614	0.0	3 604	0.0	4 453	– 0.3	4 441	0.1	8 068	– 0.1	8 045
Oils and meals	17 405	4.8	10 691	7.3	10 943	– 1.2	7 118	– 1.9	7 067	2.3	17 809	3.5	18 011
Sugar	856	51.2	374	58.0	390	– 2.2	595	– 2.5	593	13.2	970	15.0	984
Fruit	15 021	14.3	2 536	14.7	2 546	– 0.9	12 684	– 0.9	12 692	1.3	15 221	1.4	15 238
Vegetables	4 609	5.5	449	6.9	454	0.3	4 196	0.4	4 199	0.8	4 645	1.0	4 653
Other crops	13 871	2.3	3 689	2.5	3 698	0.1	10 277	0.3	10 292	0.7	13 966	0.9	13 990
Beef	2 191	45.8	1 639	51.7	1 706	– 4.5	1019	– 4.9	1 014	21.3	21.3	2 658	24.1
Sheep meat	1 069	6.8	607	10.9	630	– 0.3	499	– 1.0	495	3.5	1 106	5.3	1 126
Pigmeat	245	15.8	25	74.0	38	– 0.1	223	0.2	223	1.4	247.8	6.7	261
Poultry meat	1 616	35.6	1 436	47.4	1 560	– 3.0	541	– 4.2	534	22.3	1 977	29.6	2 095
Dairy products	2 344	137.4	380	141.3	386	– 0.1	2 183	0.2	2 188	9.3	2 563	9.8	2 574
Other food	26 427	19.8	5 773	30.2	6 274	– 0.6	21 485	– 0.8	21 429	3.2	27 258	4.8	27 703
Beverages and tobacco	9 412	23.7	2 157	10.6	2 181	– 0.2	7 424	– 0.2	7 424	1.8	9 580	2.1	9 605

NB: Values are import values in 2032. The columns headed '%' show the change in import values compared with the baseline in 2032.

Source: Authors' calculations, based on MAGNET results.

Table 14. EU agri-food exports by trading partners and scenarios (2032, million EUR and %)

	Baseline scenario		Conservative scenario		Ambitious scenario	
	Million EUR	**%**	**Million EUR**	**%**	**Million EUR**	**%**
AU	2 846	1.5	3 026	1.6	3 077	1.6
CL	526	0.3	543	0.3	543	0.3
ID	1 021	0.5	1 280	0.7	1 307	0.7
IN	734	0.4	1 434	0.7	1 895	1.0
Mercosur	1 886	1.0	2 702	1.4	2 701	1.4
MX	1 330	0.7	1 681	0.9	1 679	0.9
MY	1 191	0.6	1 334	0.7	1 533	0.8
NZ	560	0.3	621	0.3	620	0.3
PH	1 764	0.9	2 142	1.1	2 605	1.3
TH	792	0.4	1 350	0.7	1 521	0.8
FTA partners	**12 651**	**6.6**	**16 114**	**8.3**	**17 480**	**8.9**
US	25 797	13.4	25 753	13.2	25 742	13.1
UK	40 515	21.1	40 486	20.8	40 483	20.6
CA	4 666	2.4	4 655	2.4	4 651	2.4
JP	7 452	3.9	7 434	3.8	7 428	3.8
CN	13 185	6.9	13 133	6.7	13 121	6.7
UA	1 728	0.9	1 725	0.9	1 724	0.9
RU	6 480	3.4	6 475	3.3	6 474	3.3
VN	2 284	1.2	2 274	1.2	2 273	1.2
RoE	17 742	9.3	17 722	9.1	17 715	9.0
RoAm	3 516	1.8	3 504	1.8	3 502	1.8
RoAs	11 843	6.2	11 801	6.1	11 793	6.0
MENA	28 147	14.7	28 098	14.4	28 087	14.3
SSA	14 172	7.4	14 154	7.3	14 148	7.2
ROW	1 698	0.9	1 694	0.9	1 693	0.9
Total	**191 876**	**100**	**195 020**	**100**	**196 314**	**100**

NB: Values represent export values in 2032.

Source: Authors' calculations, based on MAGNET results.

Table 15. EU export values, by commodity, origin and scenario (2032, million EUR) and percentage change compared with the baseline

	Total	10 FTA partners				Other countries				Total			
	Baseline scenario	Conservative scenario		Ambitious scenario		Conservative scenario		Ambitious scenario		Conservative scenario		Ambitious scenario	
	Million EUR	%	Million EUR	%	Million EUR	%	Million EUR	%	Million EUR	%	Million EUR	%	Million EUR
Wheat	7 358	34.3	26	33.8	25	0.1	7 349	0.0	7 341	0.2	7 374	0.1	7 367
Other cereals	2 924	6.9	39	7.7	39	– 0.2	2 882	– 0.3	2 880	– 0.1	2 920	– 0.2	2 919
Rice	608	27	40	27	40	– 0.8	572	– 0.5	573	0.7	612	0.9	613
Oilseeds	1 430	28.5	3	28.8	3	0.1	1 429	0.0	1 428	0.1	1 432	0.0	1 431
Oils and meals	9 068	35.1	1 214	35.5	1 217	– 0.2	8 152	– 0.1	8 161	3.3	9 366	3.4	9 378
Sugar	910	73.9	70	76.3	70.7	– 0.9	862	1.0	862	2.4	932	2.5	932.7
Fruit	5 036	29.1	479	39.1	517	– 0.3	4 650	– 0.4	4 647	1.9	5 130	2.5	5 164
Vegetables	5 709	17.3	584	22.0	607	– 0.4	5 191	– 0.4	5 188	1.2	5 775	1.5	5 79
Other crops	9 333	48	851	54.3	888	– 0.6	8 703	– 0.7	8 695	2.4	9 553	2.7	9 583
Beef	2 752	35.5	160	77.9	209	– 0.6	2 619	– 0.6	2 618	1.0	2 779	2.7	2 828
Sheep meat	311	11.2	28	11.2	28	– 1.2	282	– 1.3	282	– 0.2	310	– 0.3	310
Pigmeat	10 410	25.0	1 211	62.2	1 572	– 0.2	9 422	– 0.4	9 404	2.1	10 633	5.4	10 976
Poultry meat	4 027	45.5	236	83.1	297	– 0.7	3 837	– 0.5	3 846	1.2	4 074	2.9	4 143
Dairy products	16 353	40.1	2 339	50.6	2 514	– 0.3	14 637	– 0.4	14 618	3.8	16 976	4.8	17 132
Other food	64 338	27.8	5 369	33.0	5 586	– 0.1	60 088	– 0.1	60 070	1.8	65 458	2.1	65 656
Beverages and tobacco	40 418	15.6	2 212	35.5	2 593	0.0	38 486	– 0.1	38 480	0.7	40 698	1.6	41 072

NB: Values represent export values in 2032; the columns headed '%' show the change in export values compared with the baseline in 2032.

Source: Authors' calculations, based on MAGNET results.

Table 16. EU trade balance with 10 FTA partners, by commodity and scenario (2032, million EUR)

Balance	Absolute values				
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Conservative scenario – baseline**	**Ambitious scenario – baseline**
Wheat	– 74	– 69	– 69	6	6
Other cereals	– 796	– 799	– 799	– 2	– 3
Rice	– 478	– 518	– 570	– 41	– 93
Oilseeds	– 3 602	– 3 611	– 3 601	– 9	1
Oils and meals	– 9 303	– 9 477	– 9 726	– 174	– 423
Sugar	– 207	– 304	– 320	– 97	– 113
Fruit	– 1 848	– 2 057	– 2 029	– 209	– 181
Vegetables	72	135	153	63	80
Other crops	– 3 032	– 2 838	– 2 810	194	222
Beef	– 1 007	– 1 480	– 1 496	– 473	– 490
Poultry meat	– 896	– 1 200	– 1263	– 303	– 367
Sheep meat	– 544	– 580	– 603	– 36	– 59
Pigmeat	947	1 186	1 534	239	586
Dairy products	1 510	1 959	2 128	449	618
Other food	– 620	– 404	– 688	216	– 68
Beverages and tobacco	– 59	56	411	114	470
Total*	**– 19 551**	**– 19 628**	**– 19 400**	**– 76**	**152**

*Total represents the overall agri-food sector and includes live animals and animal feed.

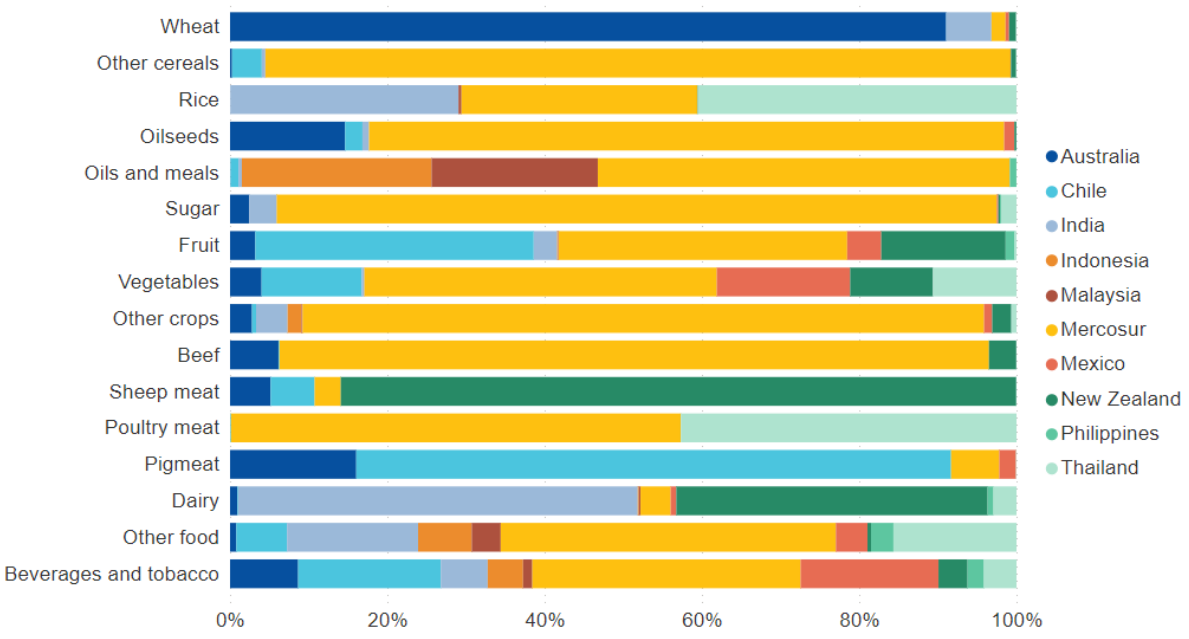
Source: Authors' calculations, based on MAGNET results.

Table 17. Composition of EU production, imports and exports by commodity, baseline (2032, %)

	Share in total production	Share in total imports	Share in total exports
Wheat	1.45	1.76	3.83
Other cereals	0.98	2.84	1.52
Rice	0.30	1.33	0.35
Oilseeds	0.52	7.06	0.75
Oils and meals	2.90	15.25	4.73
Sugar	1.19	0.76	0.58
Fruit	3.18	13.16	2.62
Vegetables	1.81	4.04	2.98
Other crops	3.78	12.14	4.73
Beef	4.47	1.93	1.78
Poultry meat	4.82	1.48	2.28
Sheep meat	0.82	1.25	0.68
Pigmeat	8.43	2.26	7.22
Dairy products	15.41	2.05	8.52
Other food	33.05	23.16	33.53
Beverages and tobacco	15.51	8.25	21.06

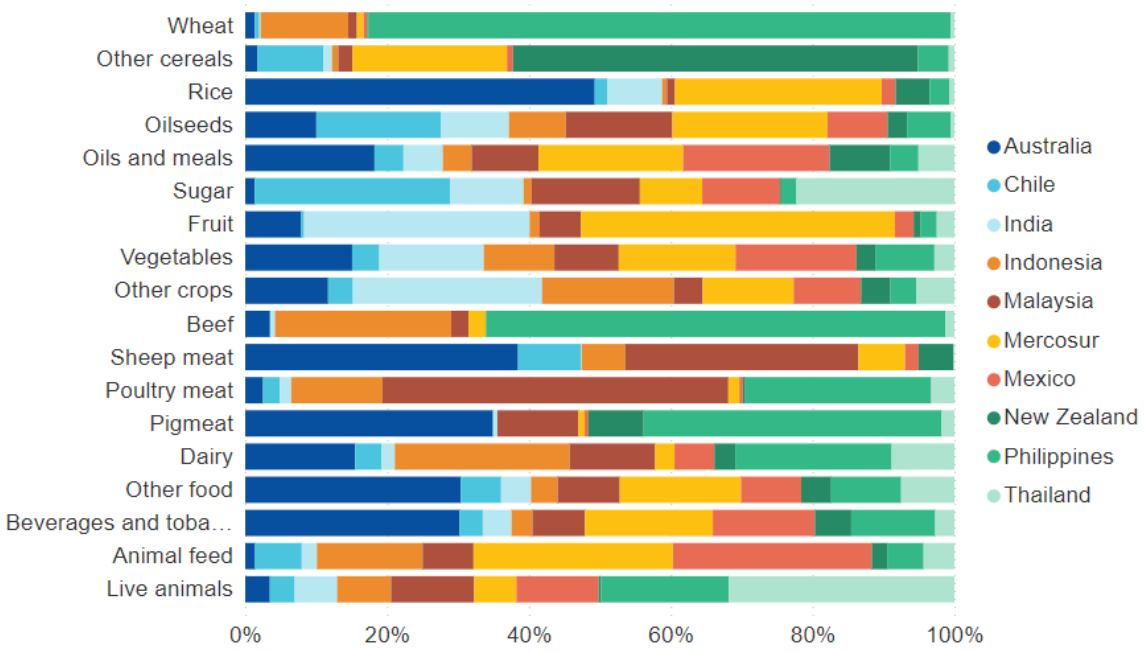
Source: Authors' calculations, based on MAGNET results.

Figure 54. EU import shares, by FTA partner and commodity, baseline (2032, %)



Source: Authors' calculations, based on MAGNET results.

Figure 55. EU export shares, by FTA partner and commodity, baseline (2032, %)



Source: Authors' calculations, based on MAGNET results.

Annex 3. Focus on sectors: tables and figures

Table 18. Dairy EU imports, exports, and balance, by FTA partners and scenarios (2032, EUR million)

	Imports			Exports			Balance		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
AU	1.5	2.3	3.7	258.6	284.8	315.4	257.1	282.5	311.7
CL	0.2	1.3	1.3	62.2	68.8	68.7	62.0	67.5	67.4
ID	0.2	5.8	5.8	411.8	551.7	550.8	411.6	545.9	545.0
IN	81.3	82.7	82.9	31.3	67.3	160.9	– 50	– 15.4	78
Mercosur	6.1	22.3	22.3	45.5	98.7	98.5	39.4	76.4	76.2
MX	1.2	7.1	7.1	93.8	317.1	316.5	92.6	310.0	309.4
MY	0.3	0.6	4.2	201.3	202.2	203.7	201.0	201.6	199.5
NZ	63.4	239.4	240.3	49.3	58.6	58.5	– 14.1	– 180.8	– 181.8
PH	1.2	4.0	4.0	368.0	423.7	422.6	366.8	419.7	418.6
TH	4.7	14.5	14.7	147.8	265.8	318.3	143.1	251.3	303.6
10 FTA partners	160.1	380.0	386.3	1 669.6	2 338.7	2 513.9	1 509.5	1 958.7	2 127.6
Other countries	2 183.8	2 182.7	2 187.6	14 683.7	14 637.2	14 618.4	12 499.9	12 454.5	12 430.8
Total	2 343.9	2 562.7	2 573.9	16 353.3	16 975.9	17 132.3	14 009.4	14 413.2	14 558.4

Source: Authors' calculations, based on MAGNET results.

Table 19. Beef EU imports, exports, and balance by FTA partners and scenarios (2032, EUR million)

	Imports			Exports			Balance		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
AU	69.3	102.6	169.6	4.1	4.1	4.1	– 65.2	– 98.5	– 165.5
CL	1.4	1.3	1.3	0.1	0.1	0.1	– 1.3	– 1.2	– 1.2
ID	0.0	0.0	0.0	29.2	41.3	41.3	29.2	41.3	41.3
IN	0.0	0.0	0.0	0.8	3.4	3.4	0.8	3.4	3.4
Mercosur	1 014.4	1 446.2	1 446.2	2.9	4.6	4.6	– 1 011.5	– 1 441.6	– 1 441.6
MX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MY	0.0	0.0	0.0	2.9	2.8	2.9	2.9	2.8	2.9
NZ	39.1	86.1	85.5	0.1	0.1	0.1	– 39.0	– 86.0	– 85.4
PH	0.0	0.0	0.0	76.3	91.9	141.7	76.3	91.9	141.7
TH	0.3	3.1	3.0	1.5	11.3	11.4	1.2	8.2	8.4
10 FTA partners	1 124.5	1 639.3	1 705.6	117.9	159.6	209.6	– 1 006.6	– 1 479.7	– 1 496.0
Other countries	1 066.8	1 019.2	1 014.1	2 634.5	2 619.5	2 618.1	1 567.7	1 600.3	1 604.0
Total	2 191.3	2 658.5	2 719.7	2 752.4	2 779.1	2 827.7	561.1	120.6	108.0

Source: Authors' calculations based on MAGNET results.

Table 20. Sheep meat EU imports, exports, and balance by FTA partners and scenarios (2032, EUR million)

	Imports			Exports			Balance		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
AU	29.3	67.6	93.8	9.6	9.5	9.5	– 19.7	– 58.1	– 84.3
CL	31.7	31.9	31.7	2.2	2.2	2.2	– 29.5	– 29.7	– 29.5
ID	0.1	0.7	0.7	1.5	2.2	2.2	1.4	1.5	1.5
IN	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.2	0.2
Mercosur	18.9	18.9	18.8	1.6	3.2	3.2	– 17.3	–15.7	– 15.6
MX	0.0	0.0	0.0	0.5	1.0	1.0	0.5	1.0	1.0
MY	0.0	0.0	0.0	8.2	8.1	8.1	8.2	8.1	8.1
NZ	488.3	486.3	483.5	1.2	1.2	1.2	– 487.1	– 485.1	– 482.3
PH	0.2	1.9	1.9	0.0	0.0	0.0	–0.2	–1.9	– 1.9
TH	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0
10 FTA partners	568.5	607.4	630.5	24.8	27.7	27.7	– 543.7	– 579.7	– 602.8
Other countries	500.5	498.9	495.4	285.6	282.2	282	– 214.9	– 216.7	– 213.4
Total	1 069.0	1 106.3	1 125.9	310.4	309.9	309.7	– 758.6	– 796.4	– 816.2

Source: Authors' calculations, based on MAGNET results.

Table 21. Poultry meat EU imports, exports and balance, by FTA partner and scenario (2032, million EUR)

	Imports			Exports			Balance		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious Scenario**
AU	0.0	0.0	0.0	4.1	4.0	4.0	4.1	4.0	4.0
CL	1.3	1.4	1.4	3.8	3.8	3.8	2.5	2.4	2.4
ID	0.0	0.0	0.0	20.9	22.6	29.5	20.9	22.6	29.5
IN	0.0	0.0	0.0	2.6	16.4	16.5	2.6	16.4	16.5
Mercosur	605.6	877.2	866.9	2.5	5.6	5.6	– 603.1	– 871.6	– 861.3
MX	0.0	0.0	0.0	0.8	3.8	3.7	0.8	3.8	3.7
MY	0.0	0.0	0.0	79.2	99.4	126.2	79.2	99.4	126.2
NZ	0.1	0.3	0.3	0.6	0.6	0.7	0.5	0.3	0.4
PH	0.0	0.0	0.0	42.6	60.2	87	42.6	60.2	87.0
TH	451.8	557	691.7	5.3	20	20.3	– 446.5	– 537.0	– 671.4
10 FTA partners	1 058.8	1 435.9	1 560.3	162.4	1 211.2	297.3	– 896.4	– 224.7	– 1 263.0
Other countries	557.5	540.7	534.2	3 864.3	3 837.2	3 845.6	3 306.8	3 296.5	3 311.4
Total	1 616.3	1 976.6	2 094.5	4 026.7	5 048.4	4 142.9	2 410.4	3 071.8	2 048.4

Source: Authors' calculations, based on MAGNET results.

Table 22. Pigmeat EU imports, exports, and balance by FTA partners and scenarios (2032, EUR million)

	Imports			Exports			Balance		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
AU	3.5	5.3	17.9	338.4	340.3	339.8	334.9	335.0	321.9
CL	16.5	16.4	16.4	1.1	1.1	1.1	– 15.4	– 15.3	– 15.3
ID	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.2
IN	0.0	0.0	0.0	5.0	32.0	32.1	5.0	32.0	32.1
Mercosur	1.3	2.9	2.9	8.4	20.1	20.1	7.1	17.2	17.2
MX	0.5	0.6	0.6	5.1	13.9	13.8	4.6	13.3	13.2
MY	0.0	0.0	0.0	111	111.0	111.4	111.0	111.0	111.4
NZ	0.0	0.0	0.0	75.5	94.8	94.6	75.5	94.8	94.6
PH	0.0	0.0	0.0	407.3	557.5	868.3	407.3	557.5	868.3
TH	0.0	0.0	0.0	17.4	40.4	90.3	17.4	40.4	90.3
10 FTA partners	21.8	25.2	37.8	969.3	1211.2	1571.7	947.5	1186.0	1533.9
Other countries	222.7	222.6	223.1	9 440.8	9 422.1	9 404.2	9 218.1	9 199.5	9 181.1
Total	244.5	247.8	260.9	10 410.1	10 633.3	10 975.9	10 165.6	10 385.5	10 715.0

Source: Authors' calculations, based on MAGNET results.

Table 23. EU imports and exports of arable crops and trade balance, by FTA partner and scenario (2032, million EUR)

	Imports			Exports			Balance		
	Baseline scenario	Conservative scenario	Ambitious scenario	Baseline scenario	Conservative scenario	Ambitious scenario	Baseline scenario	Conservative scenario	Ambitious scenario
AU	614.2	615.5	613.8	1.1	1.1	1.1	– 613.1	– 614.4	– 612.7
CL	111.0	112.0	111.8	3.9	4.0	4.0	– 107.1	– 108.0	– 107.8
ID	1.1	1.1	1.1	2.8	3.5	3.5	1.7	2.4	2.4
IN	39	39.4	39.2	0.7	2.2	2.2	– 38.3	– 37.2	– 37
Mercosur	3 700.5	3 713.6	3 706.0	8.6	10.7	10.7	– 3691.9	– 3702.9	– 3695.3
MX	47.7	47.7	47.6	0.6	0.8	0.8	– 47.1	– 46.9	– 46.8
MY	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3
NZ	15.5	15.5	15.5	20.7	20.7	20.7	5.2	5.2	5.2
PH	0.2	0.2	0.2	17.3	22.4	22.6	17.1	22.2	22.4
TH	0.7	0.7	0.7	0.4	0.6	0.6	– 0.3	– 0.1	– 0.1
10 FTA partners	4 529.9	4 545.7	4 535.9	57.4	67.3	67.5	– 4 472.5	– 4 478.4	– 4 468.4
Other countries	8 771.7	8 794.7	8 788.3	11 654.3	11 659.4	11 649.6	2 882.6	2 864.7	2 861.3
Total	13 301.6	13 340.4	13 324.2	11 711.7	11 726.7	11 717.1	– 1 589.9	– 1 613.7	– 1 607.1

Source: Authors' calculations, based on MAGNET results.

Table 24. EU imports and exports of rice and trade balance, by FTA partner and scenario (2032, million EUR)

	Imports			Exports			Balance		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
AU	0.2	0.2	0.3	15.5	15.4	15.4	15.3	15.2	15.1
CL	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
ID	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2
IN	147.8	162.4	176.6	2.4	3.1	3.2	– 145.4	– 159.3	– 173.4
Mercosur	152.7	150.1	145.8	9.2	15.2	15.2	– 143.5	– 134.9	– 130.6
MX	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	0.6
MY	1.9	2.2	2.6	0.4	1.8	0.7	– 1.5	– 0.4	– 1.9
NZ	0.4	1.0	1.0	1.5	1.5	1.5	1.1	0.5	0.5
PH	0.0	0.0	0.0	0.9	1.3	2.1	0.9	1.3	2.1
TH	206.3	242.7	283.9	0.2	0.3	0.4	– 206.1	– 242.4	– 283.5
10 FTA partners	509.3	558.6	610.2	31.5	40.0	39.9	– 477.8	– 518.6	– 570.3
Other countries	1 007.8	987	959.2	576.5	572	573.4	– 431.3	– 415.0	– 385.8
Total	1 517.1	1 545.6	1 569.4	608.0	612.0	613.3	– 909.1	– 933.6	– 956.1

Source: Authors' calculations, based on MAGNET results.

Table 25. EU imports and exports of sugar and trade balance, by FTA partner and scenario (2032, million EUR)

	Imports			Exports			Balance		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
AU	6.0	9.0	14.1	0.5	0.5	0.5	– 5.5	– 8.5	– 13.6
CL	0.0	0.0	0.0	11	11.5	11.5	11.0	11.5	11.5
ID	0.0	0.0	0.0	0.5	0.6	0.6	0.5	0.6	0.6
IN	8.6	13.2	21.3	4.2	23.9	23.9	– 4.4	10.7	2.6
Mercosur	226.2	341.1	340.0	3.5	7.0	7.0	– 222.7	– 334.1	– 333.0
MX	0.4	0.4	0.4	4.4	5.4	5.4	4.0	5.0	5.0
MY	0.1	0.1	0.1	6.1	6.0	6.0	6.0	5.9	5.9
NZ	0.5	1.8	1.8	0.1	0.1	0.1	– 0.4	– 1.7	– 1.7
PH	0.3	0.6	1.1	0.9	1.0	1.0	0.6	0.4	– 0.1
TH	4.8	7.3	11.6	8.9	13.6	14.6	4.1	6.3	3.0
10 FTA partners	246.9	373.5	390.4	40.1	69.6	70.6	– 206.8	– 303.9	– 319.8
Other countries	608.5	595.3	593.3	870.3	862.5	862	261.8	267.2	268.7
Total	855.4	968.8	983.7	910.4	932.1	932.6	55.0	– 36.7	– 51.1

Source: Authors' calculations, based on from MAGNET results.

Table 26. EU imports and exports of fruit and trade balance, by FTA partner and scenario (2032, million EUR)

	Imports			Exports			Balance		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
AU	71.4	72.4	76.1	29.3	29.7	29.7	– 42.1	– 42.7	– 46.4
CL	785.7	779.4	779.8	1.5	1.5	1.5	– 784.2	– 777.9	– 778.3
ID	2.9	2.9	2.9	5.3	6.3	6.3	2.4	3.4	3.4
IN	66.4	67.7	71.8	118.1	150	187.2	51.7	82.3	115.4
Mercosur	813.8	1 017.9	1 018.6	164.5	226.1	225.9	– 649.3	– 791.8	– 792.7
MX	96.2	98.3	98.4	9.8	9.7	9.7	– 86.4	– 88.6	– 88.7
MY	1.6	1.9	1.9	21.6	26.3	26.5	20.0	24.4	24.6
NZ	351.1	465.2	465.7	3.5	3.5	3.5	– 347.6	– 461.7	– 462.2
PH	25.6	25.5	25.6	8.6	11.4	11.4	– 17.0	– 14.1	– 14.2
TH	5.0	5.3	5.3	9.2	14.8	14.9	4.2	9.5	9.6
10 FTA partners	2 219.7	2 536.5	2 546.1	371.4	479.3	516.6	– 1 848.3	– 2 057.2	– 2 029.5
Other countries	12 801.1	12 684.4	12 691.9	4 664.8	4 650.2	4 646.9	– 8 136.3	– 8 034.2	– 8 045
Total	15 020.8	15 220.9	15 238.0	5 036.2	5 129.5	5 163.5	– 9 984.6	– 10 091.4	– 10 074.5

Source: Authors' calculations, based on MAGNET results.

Table 27. EU imports and exports of vegetables and trade balance, by FTA partner and scenario (2032, million EUR)

	Imports			Exports			Balance		
	Baseline scenario	Conservative scenario	Ambitious scenario	Baseline scenario	Conservative scenario	Ambitious scenario	Baseline scenario	Conservative scenario	Ambitious scenario
AU	17.0	18.2	20.9	75.0	74.8	74.8	58.0	56.6	53.9
CL	54.2	54.4	54.4	19.1	19.0	19.0	– 35.1	– 35.4	– 35.4
ID	0.0	0.0	0.0	49.5	70.5	70.4	49.5	70.5	70.4
IN	1.3	1.5	1.5	73.2	92.7	111.8	71.9	91.2	110.3
Mercosur	190.5	195.8	195.9	81.9	86.5	86.4	– 108.6	– 109.3	– 109.5
MX	72.1	72.4	72.4	84.8	84.1	84	12.7	11.7	11.6
MY	0.1	0.1	0.1	45.2	46.4	46.4	45.1	46.3	46.3
NZ	44.8	56.2	56.2	13.2	13.2	13.2	– 31.6	– 43.0	– 43.0
PH	0.0	0.0	0.0	41.4	80.1	84.5	41.4	80.1	84.5
TH	45.1	50.0	52.8	14.0	16.4	16.5	– 31.1	– 33.6	– 36.3
10 FTA partners	425.1	448.6	454.2	497.3	583.7	607.0	72.2	135.1	152.8
Other countries	4 183.6	4 196.2	4 198.7	5 211.3	5 191.2	5 188.1	1 027.7	995	989.4
Total	4 608.7	4 644.8	4 652.9	5 708.6	5 774.9	5 795.1	1 099.9	1 130.1	1 142.2

Source: Authors' calculations, based on MAGNET results.

Table 28. EU imports and exports of oils and meals and trade balance, by FTA partner and scenario (2032, million EUR)

	Imports			Exports			Balance		
	Baseline scenario	Conservative scenario	Ambitious scenario	Baseline scenario	Conservative scenario	Ambitious scenario	Baseline scenario	Conservative scenario	Ambitious scenario
AU	6.5	7.9	9.5	163.8	165.2	165.6	157.3	157.3	156.1
CL	103.1	102.5	102	36.7	38.3	38.4	– 66.4	– 64.2	– 63.6
ID	2 460.9	2 593.9	2 756.1	36.5	45.3	45.6	– 2 424.4	– 2 548.6	– 2 710.5
IN	43.5	58.1	57.5	49.8	164.1	165.2	6.3	106	107.7
Mercosur	5 343.1	5 409.4	5 397.5	183.2	284.3	284.7	– 5 159.9	– 5 125.1	– 5 112.8
MX	1.0	1.0	1.0	185.6	186.3	186	184.6	185.3	185
MY	2 156.3	2 360.1	2 460.8	84.7	89.6	90.3	– 2 071.6	– 2 270.5	– 2 370.5
NZ	1.0	1.6	1.6	76.4	75.5	74.9	75.4	73.9	73.3
PH	84.9	155.7	156.3	36.1	46.9	46.7	– 48.8	– 108.8	– 109.6
TH	0.7	0.8	0.8	45.5	118.6	119.7	44.8	117.8	118.9
10 FTA partners	102 01.0	10 691.0	10 943.1	898.3	1 214.1	1 217.1	– 9 302.7	– 9 476.9	– 4 926.0
Other countries	7 203.9	7 117.6	7 067.4	8 169.5	8 151.9	8 160.8	965.6	1 034.3	1 093.4
Total	17 404.9	17 808.6	18 010.5	9 067.8	9 366.0	9 377.9	– 8 337.1	– 8 442.6	– 3 832.6

Source: Authors' calculations, based on MAGNET results.

Table 29. EU imports and exports of beverages and tobacco and trade balance, by FTA partner and scenario (2032, million EUR)

	Imports			Exports			Balance		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
AU	170.8	174.9	187.8	578.6	616.8	616.4	407.8	441.9	428.6
CL	357.8	357.5	357.5	62.5	62.4	62.3	– 295.3	– 295.1	– 295.2
ID	88.5	98.8	100.8	56.3	64.5	71.1	– 32.2	– 34.3	– 29.7
IN	117.7	133.4	133.2	77.5	109.7	313.7	– 40.2	– 23.7	180.5
Mercosur	672.8	804.4	804.4	344.8	484.2	484.2	– 328.0	– 320.2	– 320.2
MX	345.8	345.3	345.3	275.4	277	276.9	– 70.4	– 68.3	– 68.4
MY	23.4	27.5	28.8	142	192.8	319.4	118.6	165.3	290.6
NZ	72.9	78.1	78.2	98.1	103.9	103.8	25.2	25.8	25.6
PH	41.2	47.3	50.7	226.7	237.8	266.5	185.5	190.5	215.8
TH	81.5	89.2	94.7	51.6	63	78.1	– 29.9	– 26.2	– 16.6
10 FTA partners	1 972.4	2 156.4	2 181.4	1 913.5	2 212.1	2 592.4	– 58.9	55.7	411.0
Other countries	7 439.5	7 423.8	7 423.6	38 504.8	38 486.2	38 479.6	31 065.3	31 062.4	31 056.0
Total	9 411.9	9 580.2	9 605.0	40 418.3	40 698.3	41 072.0	31 006.4	31 118.1	31 467.0

Source: Authors' calculations, based on MAGNET results.

Table 30. EU imports and exports of other foods and trade balance, by FTA partner and scenario (2032, million EUR)

	Imports			Exports			Balance		
	Baseline scenario	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**	**Baseline scenario**	**Conservative scenario**	**Ambitious scenario**
AU	38.7	49.4	54.0	1277.3	1385.7	1406.0	1238.6	336.3	1352
CL	310.5	309.7	308.9	238.3	247.7	247.5	– 72.2	– 62	– 61.4
ID	328.8	376.6	383.1	158	193.9	207.6	– 170.8	– 182.7	– 175.5
IN	803.3	899.1	958.1	177.1	391.3	485.8	– 626.2	– 507.8	– 472.3
Mercosur	2 054.3	2 560.3	2 553.7	717.8	1 060.1	1 059.7	– 1 336.5	– 1 500.2	– 1 494.0
MX	193.5	264.4	263.8	356.8	437	436.7	163.3	172.6	172.9
MY	177.4	236.8	242.7	367.8	416.2	447.4	190.4	179.4	204.7
NZ	21.9	31.5	31.5	178.1	201.6	201.5	156.2	170.1	170
PH	137.1	150.7	190.7	413.9	466.6	501.4	276.8	315.9	310.7
TH	754.2	894.7	1 287.4	315.2	569.4	592.8	– 439.0	– 325.3	– 694.6
10 FTA partners	4 819.7	5 773.2	6 273.9	4 200.3	5369.5	5586.4	– 619.4	– 403.7	– 687.5
Other countries	21 607.0	21 484.8	21 428.7	60 133.4	60 088.2	60 069.8	38 526.4	38 603.4	38 641.1
Total	26 426.7	27 258.0	27 702.6	64 333.7	64 457.7	65 656.2	37 907.0	37 199.7	37 953.6

Source: Authors' calculations, based on MAGNET results.

Annex 4. Detailed results of UK trade agenda scenarios

Table 31. Value of total UK imports, by commodity and scenario (million EUR and percentage change compared with the baseline, 2032)

	Baseline scenario	UK_2032		Conservative_UK		Ambitious_UK	
	Million EUR	%	Million EUR	%	Million EUR	%	Million EUR
Wheat	426	– 0.1	– 0.5	– 0.5	– 2.1	– 0.6	– 2.5
Other cereals	420	0.1	0.4	– 0.1	– 0.4	– 0.2	– 0.7
Rice	509	0.1	0.3	0.1	0.4	0.1	0.5
Oilseeds	338	0.1	0.3	– 0.4	– 1.3	– 0.7	– 2.5
Oils and meals	1461	0.2	2.9	0.1	1.0	0.0	0.2
Sugar	289	0.6	1.7	0.5	1.4	0.5	1.4
Fruit	4 231	0.0	1.8	0.0	1.2	0.0	1.3
Vegetables	1 495	– 0.1	– 0.7	0.0	0.0	0.0	0.3
Other crops	2 348	0.3	7.1	0.2	4.9	0.1	2.9
Beef	1 547	4.4	67.7	4.2	64.2	4.1	63.4
Sheep meat	570	26.5	150.9	26.6	151.4	26.5	151.2
Pigmeat	3 564	0.3	10.4	0.4	12.9	0.3	10.4
Poultry meat	3 622	0.2	8.8	0.0	0.6	– 0.2	– 5.4
Dairy	4 125	0.4	14.7	0.3	12.9	0.3	11.2
Other food	18 296	0.3	49.3	0.3	59.1	0.3	55.9
Beverages and tobacco	6 771	0.5	32.5	0.5	33.0	0.5	32.3

Source: Authors' calculations, based on MAGNET results.

Table 32. Value of EU exports to the United Kingdom, by commodity and scenario (million EUR and percentage change compared with the baseline, 2032)

	Baseline scenario	UK_2032		Conservative_UK		Ambitious_UK	
	Million EUR	%	Million EUR	%	Million EUR	%	Million EUR
Wheat	203	– 0.1	– 0.1	– 1.2	– 2.4	– 1.4	– 2.8
Other cereals	104	0.1	0.1	– 0.3	– 0.3	– 0.4	– 0.4
Rice	248	– 0.3	– 0.8	– 0.9	– 2.1	– 0.7	– 1.7
Oilseeds	243	0.1	0.2	– 0.3	– 0.7	– 0.6	– 1.5
Oils and meals	1143	– 0.2	– 2.2	– 0.5	– 5.2	– 0.5	– 5.7
Sugar	159	– 6.2	– 9.8	– 6.8	– 10.8	– 6.9	– 10.9
Fruit	1459	– 0.7	– 9.5	– 0.9	– 13.4	– 1.0	– 14.5
Vegetables	1 243.3	– 0.1	– 0.8	– 0.1	– 1.6	– 0.1	– 1.7
Other crops	2 090	0.3	5.9	0.1	1.5	0.0	– 0.6
Beef	1 480	– 8.3	– 122.9	– 8.6	– 127.8	– 8.7	– 128.8
Sheep meat	80	– 38.0	– 30.4	– 38.7	– 31.0	– 38.8	– 31.0
Pigmeat	3 157	– 0.4	– 14.0	– 0.4	– 12.3	– 0.5	– 15.6
Poultry meat	2 526	0.0	0.6	– 0.4	– 9.4	0.0	0.7
Dairy	4 087	– 1.1	– 44.3	– 1.1	– 46.0	– 1.2	– 47.9
Other food	15 876	– 0.3	– 48.0	– 0.3	– 42.0	– 0.3	– 45.3
Beverages and tobacco	5 648	– 0.5	– 27.9	– 0.5	– 28.2	– 0.5	– 29.1

Source: Authors' calculations, based on MAGNET results.

Annex 5. Web infographic with interactive data visualisations

This study is associated with an interactive infographic published on the European Commission's data portal of agro-economic modelling (DataM website). The link and the related QR code can be found below.

Figure 56. QR code – FTA 2024 interactive infographic

https://datam.jrc.ec.europa.eu/datam/mashup/FTA_2024/

Source: JRC 2024

This is the link to the home page of the DataM portal:

Figure 57. QR code – DataM home page URL

https://datam.jrc.ec.europa.eu

Source: JRC 2024.

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