

Jackson, Lee Ann; Maggi, Federica; Piermartini, Roberta; Rubínová, Stela

Working Paper

The value of the Committee on Agriculture: Mapping Q&As to trade flows

WTO Staff Working Paper, No. ERSD-2020-15

Provided in Cooperation with:

World Trade Organization (WTO), Economic Research and Statistics Division, Geneva

Suggested Citation: Jackson, Lee Ann; Maggi, Federica; Piermartini, Roberta; Rubínová, Stela (2020) : The value of the Committee on Agriculture: Mapping Q&As to trade flows, WTO Staff Working Paper, No. ERSD-2020-15, World Trade Organization (WTO), Geneva, <https://doi.org/10.30875/46ba7a21-en>

This Version is available at:

<https://hdl.handle.net/10419/228654>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

World Trade Organization

Economic Research and Statistics Division

THE VALUE OF THE COMMITTEE ON AGRICULTURE: MAPPING Q&As TO TRADE FLOWS

Lee Ann Jackson
OECD

Federica Maggi
World Trade Organization

Roberta Piermartini
World Trade Organization

Stela Rubínová*
World Trade Organization

Manuscript date: 14 December 2020

Disclaimer: This is a working paper, and hence it represents research in progress. This paper represents the opinions of individual staff members or visiting scholars and is the product of professional research. It is not meant to represent the position or opinions of the WTO or its Members, nor the official position of any staff members. Any errors are the fault of the author.

* This is a working paper, and hence it represents research in progress. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They are not intended to represent the positions or opinions of the OECD or the WTO or its Members and are without prejudice to Members' rights and obligations under the WTO. Lee Ann Jackson contributed to this research when she was employed at the WTO Secretariat. The authors would like to thank Carlotta Nani, Razi Iqbal and Sameedh Sharma for their research assistance in previous versions of this paper as well as comments by Diwakar Dixit, Marianna Karttunen, Edwini Kessie, Peter Ungphakorn, Robert Wolfe, and the participants to the PRONTO Conference, University of Vienna (2018).

The value of the Committee on Agriculture: Mapping Q&As to trade flows

Lee Ann Jackson (OECD),

Federica Maggi (WTO),

Roberta Piermartini (WTO) and

Stela Rubínová (WTO)¹

14 December 2020

Abstract

What is the value of the WTO Committee on Agriculture? How much trade do countries talk about at the WTO? Do low-income countries participate less than they should in the work of the Committee? How important are issues not covered by notifications? What are the most important issues on which to focus negotiations?

In this paper, we attempt to answer these questions building and analysing a new database. WTO regular bodies and the Secretariat collect information on measures notified and concerns raised by members on these measures in text format. We transform the qualitative database maintained through the AG-IMS into a quantitative one. We first introduce a new methodology to associate each question to a product and to its HS 4-digit code. Then, we attempt to match each of the 5'526 questions asked between 1996 and 2016 to the bilateral flows of the corresponding questioner and respondent at the HS 4-digit level. Our working dataset relies on the 3'295 questions that we are able to match.

Using this new database, we show that (i) questions covered at least \$778 billion of agricultural trade over the period 1996-2016 (or 3% of total trade in agriculture); (ii) on average, when a Member receives a question the questioners account for 48 per cent of its trade in the main product concerned; (iii) for each Member/product the share of trade discussed in the Committee is correlated with its share of global trade in agriculture; (iv) questions related to subsidies and to non-notified measures cover an increasing amount of trade.

Keywords: Agricultural trade policies, Trade policy monitoring, WTO Transparency, WTO Reforms, value of WTO, WTO as discussion forum

JEL codes: F13, F53, Q17, Q18

¹ This is a working paper, and hence it represents research in progress. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They are not intended to represent the positions or opinions of the OECD or the WTO or its Members and are without prejudice to Members' rights and obligations under the WTO. Lee Ann Jackson contributed to this research when she was employed at the WTO Secretariat. The authors would like to thank Carlotta Nani, Razi Iqbal and Sameedh Sharma for their research assistance in previous versions of this paper as well as comments by Diwakar Dixit, Marianna Karttunen, Edwini Kessie, Peter Ungphakorn, Robert Wolfe and the participants to the PRONTO Conference, University of Vienna (2018).

1. Introduction

The crisis of the Appellate Body and the inability of countries to complete a new round of negotiations in the last two decades have led some to argue that the World Trade Organization (WTO) is now in a state of paralysis and unless it is able to overcome its challenges very soon, it would be irrelevant. But the WTO relies on more than just the dispute settlement mechanism (DSM) to keep international trade within the agreed rules and negotiations to promote cooperation among countries, to keep markets open and trade rules predictable. A key third pillar of the WTO is its transparency and monitoring mechanism – a peer review system by fellow-members.

Transparency of trade policy is a key requirement under the WTO. Under WTO agreements, WTO Members are required to notify changes in laws or in regulations in their trade policies and the WTO conducts regular reviews on Members' trade policies under the trade policy review mechanism (TPRM). Furthermore, Members can request more information and clarifications in the relevant WTO Committees. The WTO thus enhances transparency by providing a forum for Members to discuss concerns on each other's trade policy measures.

Transparency of trade policy is key to ensuring a predictable and open trade regime and maximising the gains from trade. Getting information could be costly. When there are information frictions, markets do not work well and gains from trade are not maximised. By acting as a centralized repository for this information the WTO provides a public good and reduces trade costs for all.

To evaluate the efficiency of the transparency mechanism at the WTO, a small growing literature has looked at whether countries use the system and whether it helps them to solve their concerns. Typically, existing papers focus on the work of the Committees on Technical Barriers to Trade (TBT) and Sanitary and Phyto-sanitary Measures (SPS) which produce accessible on-line databases. They point at the growing use of these mechanisms over time (Karttunen, 2020) as well as their role as an alternative method of dispute resolution (Casseghari et al., 2020). This may be especially important for developing countries for whom raising formal disputes at the WTO is often too costly (Bown, 2009; Bown, 2011). A recent paper on trade policy reviews (TPRs) by Karlas and Parížek (2019) shows that TPRs see active participation by members accounting, on average, for more than 95% of the reviewed members' trade volume. Another research from Kuenzel (2019) shows that interactions between Members at TPR meetings lead to subsequent higher bilateral trade flows, when countries involved are not too large.

This paper focuses on the review process in the Committee on Agriculture (CoA) for two reasons: First, the CoA covers an area of negotiations under the Doha Development Agenda. Therefore, mapping this committee is of particular interest at this time. In fact, discussions in the CoA are more often than in the TBT and SPS Committees of a political nature. Discussions on TBT and SPS issues tend to be more technical as they relate to regulations on product requirements and rules on food safety and animal

and plant health standards. We are the first to map this type of information. Second, the information available for CoA meetings is easier to access than that of other political Committees. Many WTO Committees produce information regarding notifications submitted by WTO Members, but the content of notifications is highly heterogeneous among Committees. Like notifications, the structure and content of the review process differs depending on the Committee. Wolfe (2020) mapped the activities in the SPS and TBT Committees and gave helpful ideas to improve WTO working practices. Using a pyramid representing the WTO legal hierarchy (from notifications to the disputes), he showed that only a small fraction of "specific trade concerns" (STCs) raised in these Committees had led to a dispute. Committees collect the information from the review process in different formats and only a few of them have structured databases. Some Committees only publish the minutes of their meetings, but do not organize this information in a database. The advantage of using information that has been collected through the monitoring and the review process of the CoA is that the WTO Secretariat manages a database for the CoA that collects the full text of questions raised by Members and the answers provided during and following the Committee meetings (Q&A).

The major hurdle we had to overcome was to match the information available for a quantitative analysis of Q&As with information on the products covered by Q&As. To do this, we use text-based search analysis to associate each question raised in the CoA to a product and its equivalent HS-4 code. Then, using this HS code, we match trade flows data to each concern raised by a Member on a measure introduced by another Member.

We use this newly created database to go beyond an analysis of WTO Committees work based on the count of Q&As. This paper contributes to the existing literature on the transparency function of the WTO by analysing the value of trade covered by the questions, the value of raising questions at the WTO for the countries involved as well as trends in terms of measures that are perceived more distortive by the trading partners.

Using information contained in Q&A in the Committee on Agriculture and mapping questions to trade flows by inserting HS codes, we are able to show that:

- Questions covered at least \$778 billion of agricultural trade over the period 1996-2016. This represents 3% of total trade in the agricultural sector on average per year.
- On average, when a Member receives a question the questioners account for 48 per cent of its trade in the main product concerned.²
- For the most active questioners, their questions accounted for 2% to 9% of their total trade in agriculture.

² The average has been computed considering the most relevant product among all products covered by the same question.

- Most economically important questions are raised on measures adopted by EU countries and the United States and on three product groups: seeds, animal fats and oil; cereals; and beverages.
- For each Member/product, the share of trade discussed in the Committee is correlated with its share of global trade in agriculture.
- Questions related to subsidies and to non-notified measures cover an increasing amount of trade.

Our analysis is a first step towards an effort to estimate the economic value of the regular work of the WTO as well as to get a sense of what are the issues matter the most in terms of the amount of trade they cover. The numbers we have produced suggest that issues discussed in the Committee cover a relatively small share of global trade. Yet, they may represent economically important issues for the Members that raise the question and they tend to involve Members with significant economic interest in that particular issue. From a systemic perspective, the analysis of issues, products and measures raised by countries can provide an indication as to what could be priority areas for further negotiations.

The structure of the paper is as follows. In the next section we briefly describe how the Committee on Agriculture works, focusing on the Q&As and providing a general overview of the information available. Section 3 provides analysis of the Q&A activity based on the simple count of questions. Section 4 describes how each question has been matched to the HS-4 code and describes shortly the main characteristics of questions not matched with any product. Section 5 covers the CoA activities in numbers, highlighting respectively questioners and respondents, and product categories with a key role. In Section 6, we disentangle patterns over time and by type and status of measure. In Section 7 we conclude.

2. The Committee on Agriculture and its Q&As

WTO Members have taken steps to reform the agriculture sector, in particular by addressing subsidies and trade concerns that distort agricultural trade. The WTO Agreement on Agriculture (introduced in 1995) played a crucial role in making the agriculture market more competitive. The CoA oversees the implementation of this Agreement on Agriculture (AoA). The CoA includes all WTO Members and usually meets three or four times a year. A large portion of the CoA agenda is devoted to the review of Members' implementation of commitments made in the Uruguay Round. In this part of the agenda, Members can raise questions relevant to the disciplines contained in the AoA including that related to notifications and measures adopted by other Members. These questions serve various purposes. Some focus on understanding in more technical detail specific notified measures, others are geared at monitoring other Members' compliance with their commitments.

All the questions are available through the Agriculture Information Management System (AG-IMS), an online platform that enables Members to ask their own questions or to co-sponsor a question

raised by another Member. This platform allows Members to submit questions directly and simultaneously creates a publicly searchable database of the questions asked. In their submissions, Members can ask more than one question concerning different products. Moreover, if an answer is not provided or is not considered satisfactory by the questioning Member(s), questions can be re-submitted. The system does not currently structure the information to facilitate tracking the evolution of particular questions over time across topics or questioners.³

The AG-IMS includes information for each question raised on: (i) the country/the countries raising the question and the respondent; (ii) the CoA meeting in which the question has been discussed; (iii) whether the question relates to a submitted notification or other issues; and (iv) the type of measure addressed in the question. Table 1 describes all the information available for each question submitted by the WTO Members.

Table 1: Specific information related to each Q&A

Variable	Description
<i>ID</i>	WTO identification number for each question
<i>Questioner</i>	Member(s) raising the question
<i>CoA meeting number and meeting start date</i>	Number (and starting date) of the Committee on Agriculture meeting in which the question has been discussed
<i>Status of the measure</i>	Individual notification; any other matter related to agricultural policies (Art. 18.6) or overdue notifications
<i>Type of measure</i>	Market Access (MA); Domestic Support (DS); Export Subsidies (ES); and Export Restrictions (ER)
<i>Respondent</i>	Member to whom the question was addressed
<i>Question full text</i>	Full text question raised by the WTO members; it can be related to several agricultural products.

2.1 Type of Measure

The AoA classifies the different rules and commitments according to three broad types of measures, sometimes called the *three pillars*. These are: market access, domestic support and export competition. The questions raised, as consequence, can be categorized in the same classes. Additionally, there is a fourth category which predominantly relates to export restrictions.⁴

³ Recently, the Secretariat has added a new feature to the AG-IMS. Members will be able to choose from a drop-down list of previously raised specific implementations matters (matters not related to notifications). Alternatively, Members will be able to indicate the question ID number of the previously raised question and the system will automatically identify the relevant specific implementations matters. This new feature should facilitate the tracking of discussions in the Committee.

⁴ In addition to these categories, the CoA also discusses matters related to the follow-up to the Marrakesh Net Food-Importing Developing Countries (NFIDC) Decision. Since only 12 questions focusing on these notifications have been raised in the CoA review process these questions are not considered as a separate type of measure in our analysis.

The majority of market access questions deal with tariff bindings on all agricultural products (specified in WTO schedules), with "tariffication", the conversion of non-tariffs measures (restrictions on quantities) into equivalent tariffs, as well as with taxes, special safeguards, customs valuations or quotas administration.

Domestic support commitments are one of the most innovative aspects of AoA. They encompass support from governments to their agricultural sectors and are divided into two categories: trade distorting (Amber Box) and support that does not distort trade (or does so minimally), the so-called Green Box. Since payments in the Amber Box may encourage over-production, they have to be reduced. Green Box support, instead, is allowed without any limit. Domestic support questions cover a range of topics on how the government supports its agricultural sector or specific producers, including domestic food aid programmes and food security stockholding.

Export subsidies is the third pillar. Export subsidies increased considerably during the years before the Uruguay Round (1986-1994), becoming one of the key issues addressed during the agricultural negotiations. Eventually, at the Nairobi Ministerial Conference in 2015, Members agreed to eliminate export subsidies. Questions raised in this category cover tax credit on exports, government export credit guarantees and insurance programmes as well as international food aid.

The fourth category includes other rules. Most questions in this area are related to policies that restrict exports in order to prevent critical shortages of food or other essential products. They usually refer to export taxes, export bans or de facto restrictions caused by administrative measures.

2.2 Status of the Measure

Through notifications, WTO Members inform the Committee on how they are complying with the rules and their legally binding commitments. Members have to submit different types of notifications under the *pillars* listed above.⁵ Some of them have to be submitted periodically (often every year), while others are required only when a certain measure is introduced. All notifications are submitted to the WTO through a Central Registry of Notifications and the WTO Secretariat reminds Members that are not up-to-date with their notifications annually.

Questions related to notified measures are backward-looking; they focus on policies in place that either advanced or hampered the implementation of scheduled commitments. Other questions cover current concerns related to policies that are about to enter in force or the prospects for advancement of commitments. By highlighting issues that are currently of concern to Members but that are not included

⁵ There is a total of 12 distinct notification requirements covering the following five areas: (i) Market access (MA1-MA5); (ii) Domestic support (DS1-DS2); (iii) Export subsidies (ES1-ES3); (iv) Export restrictions (ER1) and (v) Follow up to the Marrakesh NFIDC Decision (NF1). For more information on Notifications: <https://agims.wto.org/>

in notifications, these questions allow the identification of trade frictions before they evolve into disputes. For this reason, they are a good tool for understanding which WTO Members are intervening in agricultural markets, which types of measures are more problematic, and which products may be more affected by trade distorting measures. Table 2 shows examples of questions for each type of measure and its status.

Table 2: Examples of questions by type of measure and its status

	Notified Measures	Non-Notified Measures
Domestic Support	Follow up questions on individual notifications often aim at clarifying <i>how</i> Members calculate their production eligible for market price support. Questions were also used to clarify <i>why</i> a Member has changed the way they do that calculation, either relative to their negotiated agriculture commitments or previous notifications. Other notification-related questions pertain to adjustments to a Fixed External Reference Price or product basis for the notified support.	The United States questioned India about their primary objectives in creating a Minimum Support Price (MSP) programme for pulses and oilseeds. In its response, India stated the need to incentivize production not only because of the gap between domestic supply and domestic demand, but also increased imports. In a follow-up question, the US asked India to explain how the programme does not confer benefit to producers and how India plans to notify the programme. Moreover, it asked India to confirm that the purpose of the programme is also to minimize imports of pulses and oilseeds and whether MSP programmes for other commodities have the same purpose. (Question num. 82005)
Market Access	The European Union asked Japan to supply more information and explanation for its special safeguard on food preparations of flour. In particular, the EU considered the trigger volume negligible and inquired how such a low volume could be a threat to the Japanese market. (Question num. 83016)	The United States asked Canada to clarify whether there is a discrimination between domestic and international sellers in access to distribution channels of alcoholic products in the provinces of Ontario and Quebec. In particular, whether domestic products in Ontario are allowed to be sold in grocery stores while imported products are not; and whether small scale producers in Quebec are able to sell directly to grocery stores while importers have to go through the liquor board which charges additional mark-ups. (Question num. 83041)
Export subsidies	The European Union asked Switzerland about its substantial increase in export subsidies granted to processed products between 2014 and 2015. The question asked for an explanation of how this increase was in line with the Bali Ministerial Declaration on Export Competition adopted in December 2013. (Question num. 83028)	India asked the United States to lay out the changes that its recently enacted Global Food Security Act would bring about to the destination, quantity and type of commodities that the United States exports as food aid and subsidised exports. The Global Food Security Act authorises strategic action for providing "foreign assistance to developing countries to reduce global poverty and hunger, achieve food and nutrition security, (...)". (Question num. 81067)

Export restrictions	Following a notification on export restrictions by Ukraine, the United States asked Ukraine to explain why the export quota for wheat is only one-third of the export quota allotted for corn, considering that Ukraine's excess wheat stocks appears to be higher than corn stocks. (Question num. 61082)	Based on media reports the European Union asked Russia for confirmation that it has stopped issuing phytosanitary certificates for grain exports to most destination countries and imposed an export duty on wheat. The EU also asked whether the measures would be notified and whether they were applied on MFN basis. (Question num. 76029)
----------------------------	--	--

3. What do we know about CoA activity and topics covered in the Q&A from AG-IMS?

The following analysis covers questions raised between 1996 and 2016. During these years, WTO Members asked a total of 5,526⁶ questions. We first describe the evolution of the number of questions over the period, then we focus on their composition in terms of notified and non-notified measures, the type of measure and the Members involved.

As can be observed in Figure 1, the number of questions posed per year followed a decreasing trend between the years 1996 and 2008. After that period the annual number of questions increased. This pattern results largely from the changing level of engagement of WTO Members in the work of the CoA. Members' engagement in the work of the regular CoA is affected, among other things, by the intensity of the work being undertaken in the WTO agriculture negotiations. Leading up to 2008, WTO Members were heavily invested in negotiating the Doha Round. The decrease in the number of annual questions before 2008 reflects both the time constraints faced by WTO delegates due to a demanding schedule of negotiating meetings and a strategic choice by Members to prioritize efforts to advance reforms in agriculture through the WTO's negotiating function rather than through the CoA's monitoring function.

After this contraction, the number of questions began increasing. This change in trend reflects Members' re-engagement with the work of the CoA after the collapse of the Doha Round negotiation talks in 2008. The adoption of the AG-IMS also contributed to increases in annual questions since the system made it easier for Members to ask questions and some Members began submitting more and shorter questions, rather than collecting several questions into a broader question.

WTO Members raise questions on diverse issues. Questions can refer to any matter related to the implementation of commitments under the reform programme set out in the AoA (Article 18.6) or any subsequent commitments related to agriculture. Figure 1 illustrates the number of questions asked for

⁶ The number of asked questions is higher than that registered in other Committees. This is due to the fact that the Committee works as a forum, where Members can discuss, request clarifications and, at the same time, hear information provided by other Members with the answers.

each year, differentiating whether they relate to a notified measure or to a non-notified one. Looking at the whole period, most of the questions concern notified measures (85%). The remaining 15% mostly focus on prospective or recently introduced policies and their consistency with WTO Agreements. The *Non-Notified* category also contains inquiries about the implementation of a Member’s accession commitments (such as the Transitional Review Mechanism for China) or, the annual examination focused on Members’ progress towards implementing the Nairobi Ministerial Decision to eliminate export subsidies (since 2016). These particular issues, however, represented only a small fraction (1%) of all questions between 1996 and 2016.

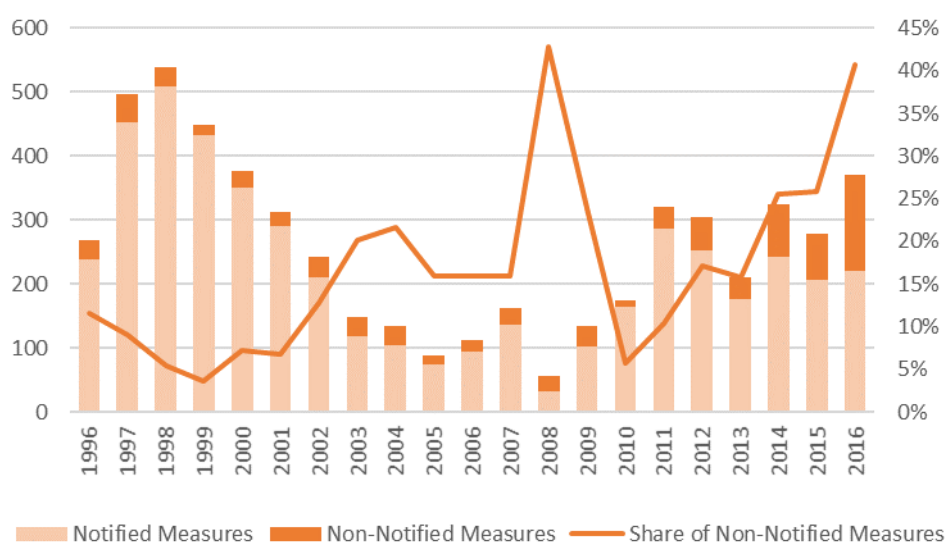


Figure 1: Questions by year and by measure status.⁷

The share of questions related to non-notified measures has increased over time, highlighting how Q&As provide complementary information to that of notifications. In 1996, only 12% of questions asked by WTO Members concerned agricultural policies that were not included in a notification. In 2016, in contrast, the share rose to 41%. One reason for the relative decline in questions on notifications could be that notifications have improved and become more complete, reducing the need for requesting additional information. Another reason could be an increasing importance of policies that are not subject to notifications or that Members increasingly use the Committee to monitor other Members’ policies in a more timely manner – just after, or even before, the policies are enacted.

⁷ The Committee oversees the implementation of the Agreement on Agriculture and provides WTO Members the opportunity to consult on any matter relating to the implementation of the provisions of the Agreement. In the Committee on Agriculture, Members are able to pose questions on notified measures, including those that provide information on the specific implementation of scheduled commitments, as well as on non-notified measures including measures that have been observed but which have not been notified.

In the database, questions are classified in four types of measures according to how they relate to the rules in the AoA as described above: market access, domestic support, export subsidies and export restrictions. Individual questions can include multiple categories. Over the period 1996-2016, 56.7% of questions were related to domestic support, 30.5% to market access, 11.1% to export subsidies and the remaining 1.1% concerned export restrictions.

Figure 2 shows that there has been a change in the focus of the questions. In the first period, many Members requested information on market access policies, whereas in the last 10 years questions on domestic support have dominated the scene. One possible explanation for the reduction in the number of questions concerning market access could be the proliferation of Regional Trade Agreements (RTAs). Insofar as RTAs solve problems related to tariffs and quotas but government support measures need to be addressed multilaterally the increasing RTA participation could lead to the observed trend. Another reason for the initial importance of market access questions could be the introduction of Tariff-Rate Quotas (TRQs) in the AoA. TRQs were new instruments aimed at making trade protection more transparent by converting quotas into tariffs that provide a similar level of protection. The novelty of the instrument meant that there were many issues related to the specific implementation by governments, which created lots of questions in the first few years of the Committee. Market access questions during the first years of the Committee also focused on Special Agricultural Safeguards (SSG); however, over the recent period the SSG users have been confined to a very select group of few Members.

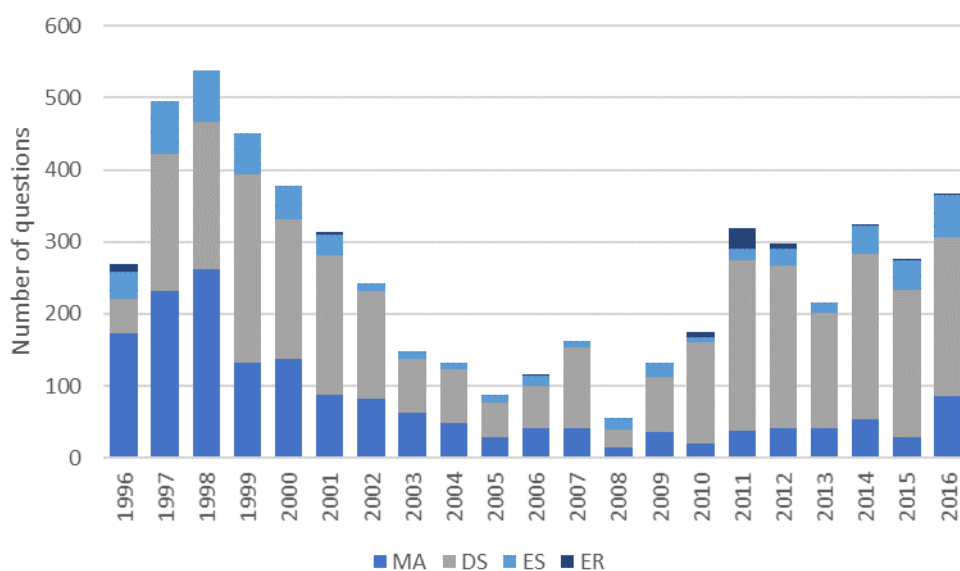


Figure 2: Questions by year and by type of measure

In 2010, right after the food crisis, there was an increase in the share of questions concerning export restrictions. The years of the food crisis were characterized by high prices; as a consequence,

countries adopted export restrictions to insulate their domestic markets. The increasing number of export restrictions, on one side, and higher food prices, on the other, encouraged WTO Members to ask questions and require their partners to deeply investigate these aspects.

The increase in the share of export subsidies questions after 2013 is linked to outcomes from the WTO agricultural negotiations – specifically the evolution of discussions that led to the eventual elimination of agricultural export subsidies. In 2013, WTO Ministers agreed in the Bali Ministerial Declaration on Export Competition⁸ to exercise "utmost restraint" regarding recourse to all forms of export subsidies and all export measures with equivalent effect. In the 2015 Nairobi Decision on Export Competition, Members agreed to phase out all forms of agricultural export subsidies. Some of the questions related to export subsidies posed after the Bali Ministerial directed attention to situations where Members were increasing export subsidies on particular products despite the commitment to exercise restraint. In addition, since, as noted above, the Committee on Agriculture was tasked with implementing the Ministerial outcome that called for annual monitoring in the field of export competition, the monitoring exercise provided a forum for Members to focus attention on export competition measures, including export subsidies.

During the entire period, 50 Members were involved in asking questions and 98 Members received at least one question. The United States, Australia, Canada and New Zealand are the most active countries in asking questions, while the EU⁹, India, the United States, Canada, and Japan received the highest number of questions. The set of Members that play a key role in asking questions has remained consistent over the time-period, with a few exceptions. New Zealand raised many questions before 2000 and then submitted fewer questions. In terms of respondents, instead, the United States, India and China were the countries that received the highest amount of questions after 2006, while the EU, the United States and Japan before 2006.

Figure 3 summarizes WTO Members' participation in asking questions, differentiating questions by the type of measure and the questioner's income.¹⁰ Among high income economies, we separate out the United States and the EU because of their importance in the Q&A database. In Figure 3, questions raised by several Members (co-sponsored) are counted multiple times, as many as the number of Members that supported or co-sponsored them. As the same question is counted twice if it is raised by two countries, we count 8,165 country-questions in total. See Appendix B for more information on the main questioner and the co-sponsored countries.

⁸ WT/MIN(13)/40

⁹ EU refers to countries who are part of the European Union; the definition of EU changes over years according to the changing membership of countries.

¹⁰ High-income countries are the ones who qualified for that status in the year 2011 according to the World Bank income classification. The list of those countries is given in the appendix A.

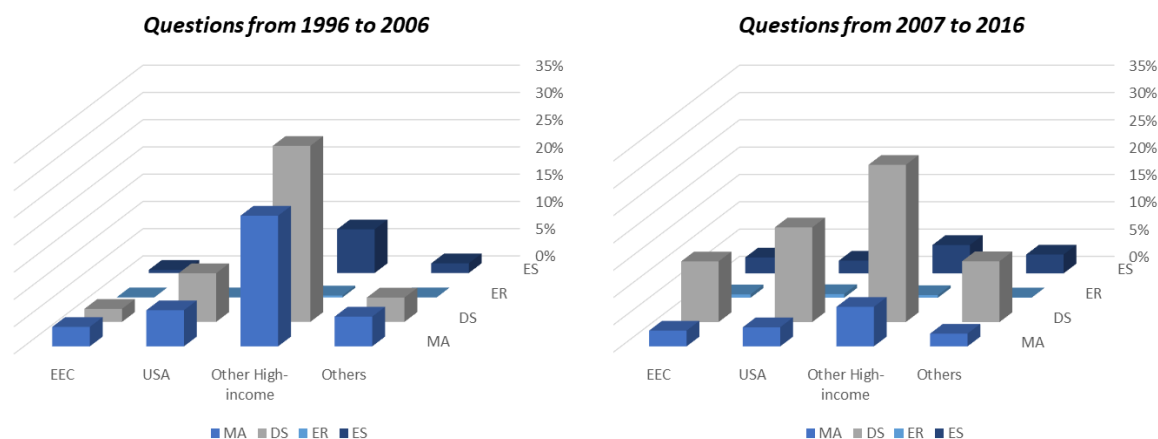


Figure 3. Questions by type of measure and country group of the questioner

Figure 3 shows that in the first decade of the WTO, most questions were raised by Members who fall in the "Other high-income" category, predominantly Australia, Canada and New Zealand. Their high activity relative to others was especially pronounced in export subsidies and domestic support questions but also in market access questions. Figure 3 further shows that this group was responsible for most of the decline in market access questions in the second decade. On the other hand, the increase in domestic support questions in the second decade was driven by an increased interest in this topic by all other country groups. Overall, the second decade was characterized by a more even distribution of questions among Members.

4. Matching questions with product codes

A key piece of information that is missing in the Q&As database is the Harmonized System (HS) code of the product(s) to which the question refers. This information is essential to match the information about the measure discussed in the Q&A and the relevant trade flow. Given the large number of questions recorded in the AG-IMS database, we used text analysis tools to match questions with their relevant HS code. Using text-as-data analysis, the content of each question is matched with each of the 4-digit agricultural HS code descriptions. The procedure for matching questions with HS code is described in detail in Appendix C. Since a question can be about multiple products, it often refers to more than one HS code.

Once associated to a question, the 210 HS codes (4 digit) were also grouped in 19 broad categories¹¹ to facilitate the exposition (Appendix D). Broadly, agri-food products are classified among

¹¹ Broad economic categories correspond to the economic branches adopted in the CoA.

primary agricultural products (such as cereals, fruits, meat, etc.) and processed food for human ingestion. Also, tobacco and beverages (including alcoholic beverages) have been considered.

Of the 5,526 questions, we were able to match only 3,295 cases to a specific HS code. The remaining questions did not explicitly mention a product in their text, so our automatized text-based-search analysis methodology could not associate a product category to the question. This is usually the case when a question focuses on a general specific agricultural policy (and not on a specific product) or when a question is a follow-up to another question.

Unmatched questions present the following characteristics: first, most of the questions concern notified measures. Second, most of these questions concern domestic support. Since domestic support questions have become more frequent, the share of unmatched questions is higher in the second decade (44%) than in the first decade (37.5%) of our sample. Third, while in the first decade more than two thirds of these questions were raised by high income economies other than the EU and the United States, over the last decade they tend to be raised approximately evenly by the EU, the United States and other high-income economies (see Appendix E).

From now on, questions not matched with any product category have been dropped and have not been considered in the analysis. This implies that we are likely to underestimate the overall amount of trade covered in the CoA. Although, we believe that the patterns we identify in terms of country and type of measures are likely not to suffer from significant bias (because these characteristics appear to be not too dissimilar across matched and unmatched questions), we stress that with this paper we want to provide a tool of analysis and an indication of what more can be done were the information on HS code more readily available rather than final answers.- .

5. The value of the CoA for WTO Members in numbers: count of questions vs trade covered

One way to assess the value of the Committee for the Members is to look at the number of questions they raise. But questions may have different economic values. We propose an alternative way to assess the value of the CoA: we assign to each question an economic value equal to the value of trade it relates to. Clearly this is just an approximation, as two questions that relate to the same value of trade may have a different economic value depending on the type of restriction they address. We leave this aspect to future research.

The advantage of matching questions with trade flows is that we can get a sense not only about how many questions are raised, but also about the value of trade covered by the questions discussed in the CoA. Note that we measure trade as the sum of bilateral exports and imports between the questioner and the respondent in the product covered by the question. We can therefore ask questions such as: How much trade is discussed at the WTO? How much trade of a country and how much trade of a product is

covered? The answers to these questions provide some hints regarding the economic value of what is being discussed at the WTO. Interestingly, patterns and trends studied on the basis of trade covered may be very different from those that are based on the simple count of the number of questions, as commonly done.

We conducted our analysis at various levels of aggregation. At the most disaggregated level, we work with a question Q raised by country c , on product p and related to a measure m , a Q_{cpm} . These are the bits of questions that each corresponds to one bilateral product-specific trade flow. Therefore, if a question by one Member was co-sponsored by, for instance, three other Members, this question translates into four Q_{cpm} , each representing a different value of trade flows. Likewise, a question may cover several products. If a question was asked/co-sponsored by four Members and it mentioned two products it would translate into eight distinct Q_{cpm} . There are 32'892 of these country-product-questions in our database. Counting Q_{cpm} instead of questions also accounts for the shift towards submitting single topic questions as opposed to fewer long questions that may include several topics, and hence facilitates comparison over time. There are 35'108 questions in our database when we account also for the type of measure.

5.1 How much trade is discussed in the CoA?

Questions¹² asked in the CoA concern agricultural trade flows¹³ for a nominal value of \$778 billion over the whole period. Over the period 1996-2016 on average this is \$37 billion of agricultural trade per year. This is a small fraction of total trade in agriculture and corresponds to 3%.

There are different ways to interpret this finding, ranging from arguing that this is evidence that trade in agriculture occurs generally smoothly, to arguing that countries do not use the CoA for monitoring and review process. They either proceed through other channels or directly refer to dispute settlement. Another point could be that some traders do not have the means to motivate their government to ask questions or that some governments lack the capacity to fully engage in the discussions. More research is needed to answer these questions, but we can offer at least one more insight which suggests that non-participation may not be the main reason. When a Member receives a question, the questioners account for 48% of its trade in the main product concerned, on average.¹⁴ In other words, when a

¹² For the analysis in this section, in order not to overestimate trade flows, questions with the same Questioner, Respondent, HS code and year have been dropped. That is, we do not consider the "type of measure" and "status" dimension of our database.

¹³ Trade data are from WTO data portal. Missing values have been replaced with data from UN Comtrade.

¹⁴ The share has been computed considering the most important product among all products covered by the question. Formally it is defined by: $shr_{rt} = \max_k \{ \sum_q [(IM + EX)_{qrkt}] / (IM + EX)_{rkt} \}$, where q is the questioner, r the respondent, k product and t the year..

question is raised it gets support from a relevant share of Members that have economic interest in the issue.

Figure 4 shows the economic value of Q&A by year and compares it to the trend in the number of questions. While the count of questions suggests a steep decline in activity between 1998 and 2005, the economic value of questions was rather stable. This discrepancy between the two measures appears to be limited to that period and in the second decade they tend to comove.

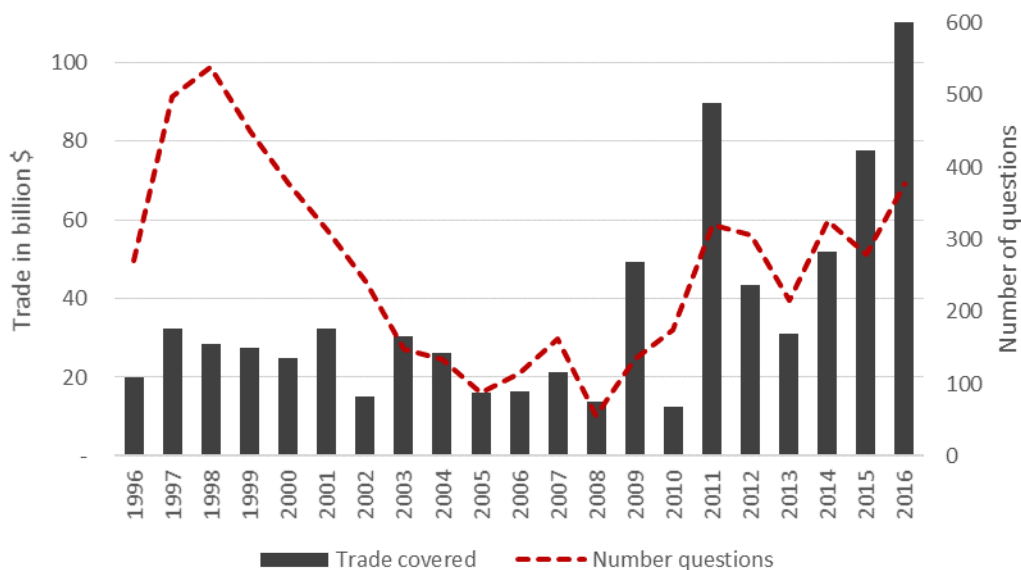


Figure 4: Trade covered by all questions, by year

5.2 The economic value of WTO CoA by questioner

Figure 5 shows WTO Members ordered according to the share of questions they ask in the CoA (on the left) and the share of trade their questions cover (on the right).¹⁵

¹⁵ The share of the trade covered by each country is given by the sum of bilateral import and export covered by questions asked by that country over the trade (bilateral import and export) covered by all questions.

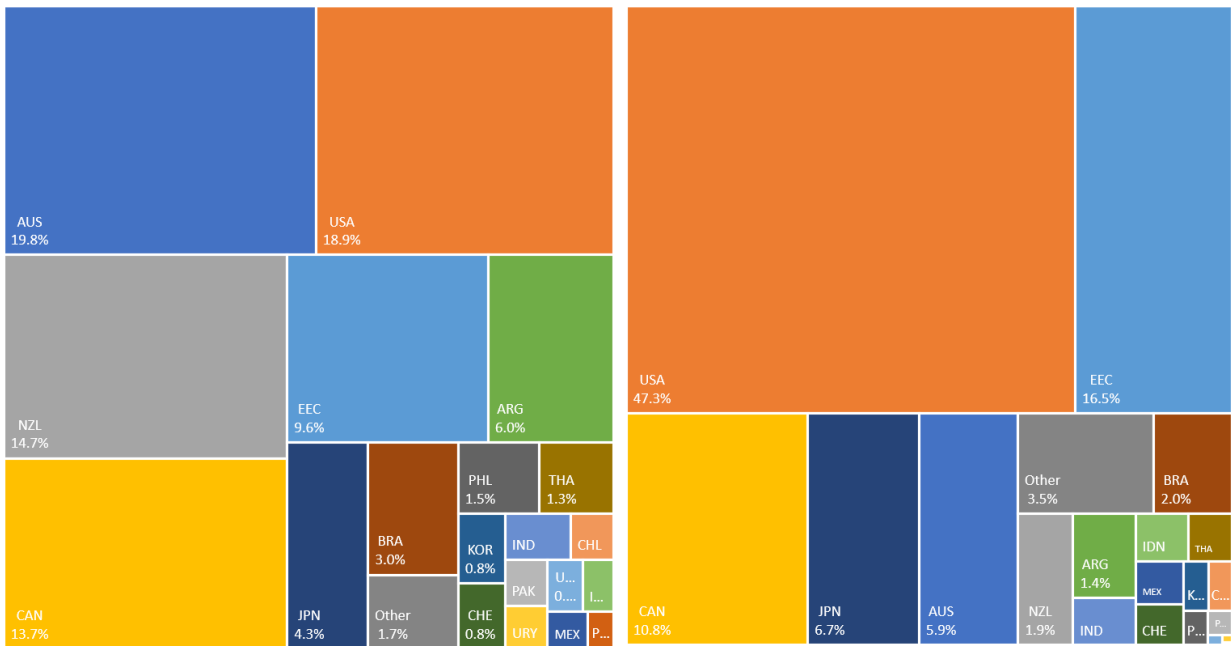


Figure 5: Share of the number of questions (left panel) and of the trade covered by questions (right panel), by main questioner

Australia is the country that asked the highest number of questions (6,525 out of 32'892 in our database), which represents 19.8% of the total number of questions raised. It is closely followed by the United States that asked more than six thousand questions (6,229). The other countries playing a central role as questioners are New Zealand, Canada and the European Union. Australia and New Zealand, despite being relatively small players in trade volume, are disproportionally active in asking questions.

Looking at the CoA activity through the trade lens, questions raised by the United States cover more than \$360 billion of agricultural trade flows and represent 47% of trade discussed in the CoA. The EU's share (16.5%) is also larger than when measured by the number of questions; the EU's questions matter for \$129 billion. Canada jumps to a third position with trade value of more than \$80 billion representing almost 11% of trade covered in the Committee's Q&A.

To investigate if the participation of a country in the CoA is proportional to its role in the international market, Figure 6 compares countries' share of trade covered in the CoA to their share of global trade in agricultural goods. On the left, we show these relationships at the country level, while on the right we aggregate them to world regions.

By drawing a 45-degree line we can distinguish countries or regions whose share of global trade in agriculture is higher than the share of trade covered by their questions in the Committee on Agriculture, pointing at a potential under-representation of these countries/regions in the Committee. These are the countries or regions above the 45-degree line.

By this metric, the United States is the most active user of the CoA relative to its position in global agricultural trade: it accounts for 47% of the trade discussed in the CoA, while its share in global

trade in agriculture is only 14%. The EU, the other key player in asking questions, covers 16.5% of trade in the CoA and the 15% of international trade in agriculture. Canada, Japan and Australia appear to be relatively more active users of the Committee than China or Brazil, compared to their share in the total trade in agriculture.¹⁶ In Appendix F (Figure 17), the graph zooms in on the countries with a lower share of trade (since in Figure 6 they are not clearly visible).

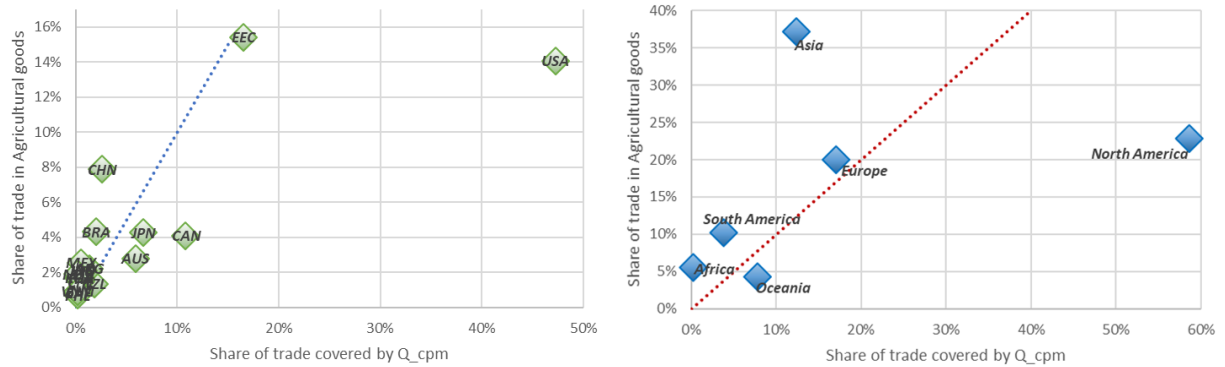


Figure 6: Share of trade covered by questions and of global agriculture trade, by top questioner and region

Grouping countries by world regions, Figure 6 shows that, in the case of Europe, its share of trade covered in the CoA is proportional to its trade share in global agricultural trade: Europe agricultural trade accounts for 20% of the international market, and its questions cover 17% of the total trade covered by Q&As. In most of the cases, instead, the two shares are not proportional. North American countries are active users of the Committee: their trade covers 59% of the trade covered by the questions in the CoA, while their share in global agricultural trade is lower (23%). In contrast, Asia, South America and Africa are less active in asking questions in the CoA compared to the role they have in international trade.

To further gauge the value of the Committee for each Member we now ask: how important is the Committee for a country relative to its own trade? Considering only countries that are more active in asking questions, Figure 7 shows the percentage of their trade in agriculture that is covered by their questions in the CoA.¹⁷

¹⁶ Their administrative capacity could be one explanation. See G/AG/GEN/85 para 42.

¹⁷ The average share of trade covered by questions over the agriculture trade of a country is given by the average (over the years in which the Member asked at least one question) of the bilateral import and export covered by questions asked by that country over the agricultural trade (import and export) covered by that country.

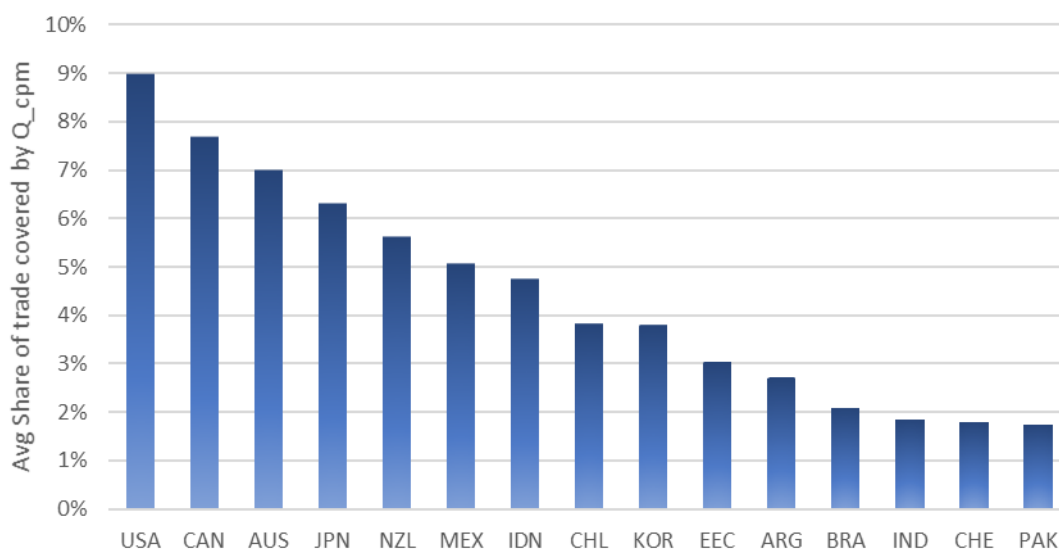


Figure 7: Share of trade covered by questions in total agriculture trade of each country, by top questioners

The United States and Canada, on average, ask questions to countries and on products that cover around 9% of their trade. This suggests that the CoA is an important forum for these countries. For economies such as Brazil, India, or Switzerland, the average amount of trade covered by their questions is around 2%. For most Members, the value is less than 1% of their trade. The heterogeneity showed among countries does not appear to be linked to their income level.

5.3 The economic value of WTO CoA by respondent

Let us now turn to the analysis of Q&As in the CoA by respondent. This analysis responds to the question: how much trade is covered by the questions that a country receives?

Figure 8 ranks countries on the basis of the number of questions received and the trade covered by these questions. Compared to Figure 5, Figure 8 clearly shows that trade covered by questions is less concentrated when we look at patterns by respondent.

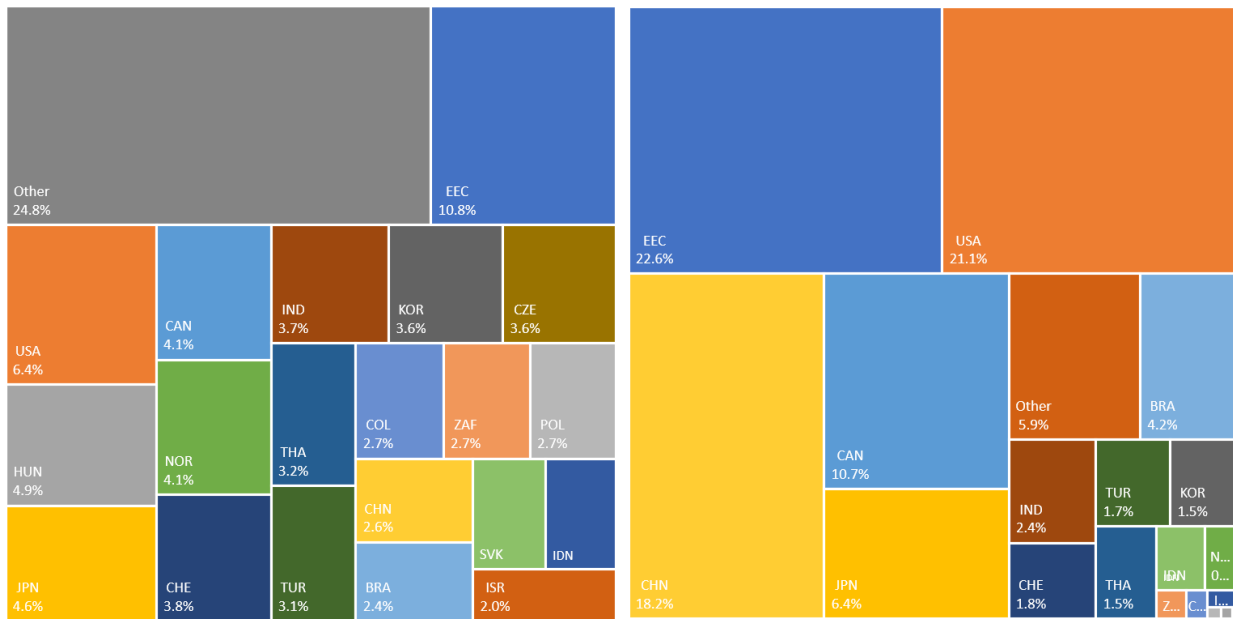


Figure 8: Share of the number of questions (left panel) and of the trade covered by questions (right panel), by main respondent

The analysis based on the count of questions received (left panel) shows that the largest share of questions was addressed to the EU (11%) and 6% of questions to the United States, covering together more than 330 billion dollars of trade in agriculture (almost half of the trade flows covered by questions discussed in the Committee).

Figure 9 relates countries' proportion of trade covered by questions received in the CoA to their shares in total trade in agriculture. The graph on the left-hand side shows this relationship at the country level while the graph on the right-hand side shows it at the level of world regions. One would think the share of trade in agriculture and of trade covered by questions to be approximately the same if questions were mainly motivated by economic considerations. Instead, one would expect a higher share of trade covered by questions if the country introduces "controversial" measures.

For both the United States and the EU, their shares of trade covered by received questions (21% and 23% respectively) are larger than their shares in global agricultural trade (14% and 15%). This is the case also for Canada and China. In contrast, Brazil's and India's shares of trade covered in the Committee are proportional to their shares in the international market (4% and 2%, respectively). In Appendix G (Figure 18), the left-hand side graph zooms in on the Members with a lower share of trade (since in Figure 9 they are not clearly visible).

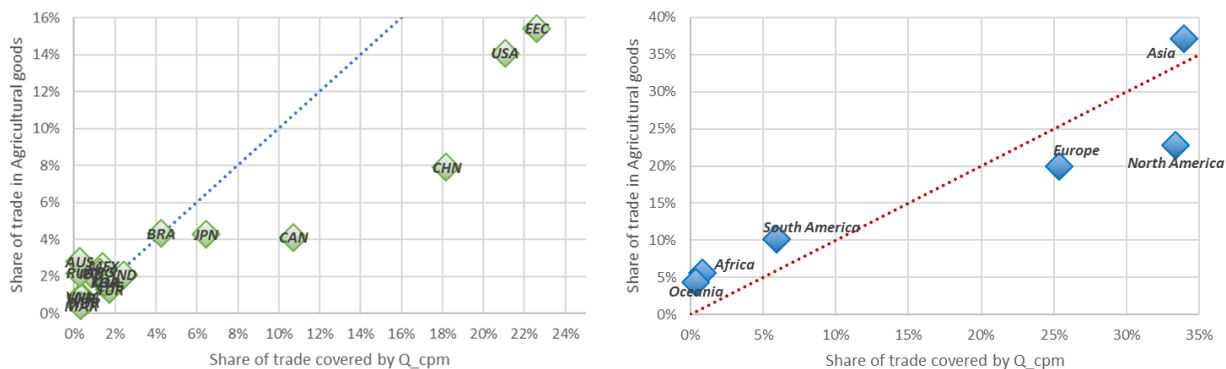


Figure 9: Share of trade covered by questions and of global agricultural trade, by main respondent and region

Looking at countries grouped by regions (right-hand side of Figure 9), we find that for Asia, South America, Africa and Oceania the share of trade covered by the questions received is approximately in line with their share of trade in agriculture. The share of trade covered by the questions asked to European and North American countries is well above these regions' share of trade in agriculture. Furthermore, it is interesting to underline that, in the case of Asia, the share of trade covered by received questions (34%) is much larger than that covered by asked ones (12%).

Beyond a country's share of global trade, other factors may explain the number of questions received and the amount of trade covered by these questions. We have already pointed at the potential degree of distortion that a certain measure is perceived to introduce in the market as well a country participation in RTAs and the extent of engagement in negotiations. The number of notifications a country is required to submit is clearly another obvious one. On average, countries with more obligations to notify tend to receive more questions. However, there is a lot of heterogeneity among Members. For instance, while Australia is among the economies with the highest number of obligations, it receives only few questions. On the other hand, India is among economies with a lower number of obligations but receives a relatively large number of questions. Other factors may include the clarity of notifications as well as the degree of overall level of openness of the market. We leave this analysis for further research.

5.4. Q&As by Product

Figure 10 shows the share in terms of the number of questions raised and of trade covered¹⁸ for each of the 19 product categories of our study.

¹⁸ The share of trade for each category has been computed as the bilateral imports and exports covered by questions concerning a certain product over the total trade (bilateral imports and exports) covered by the questions raised.

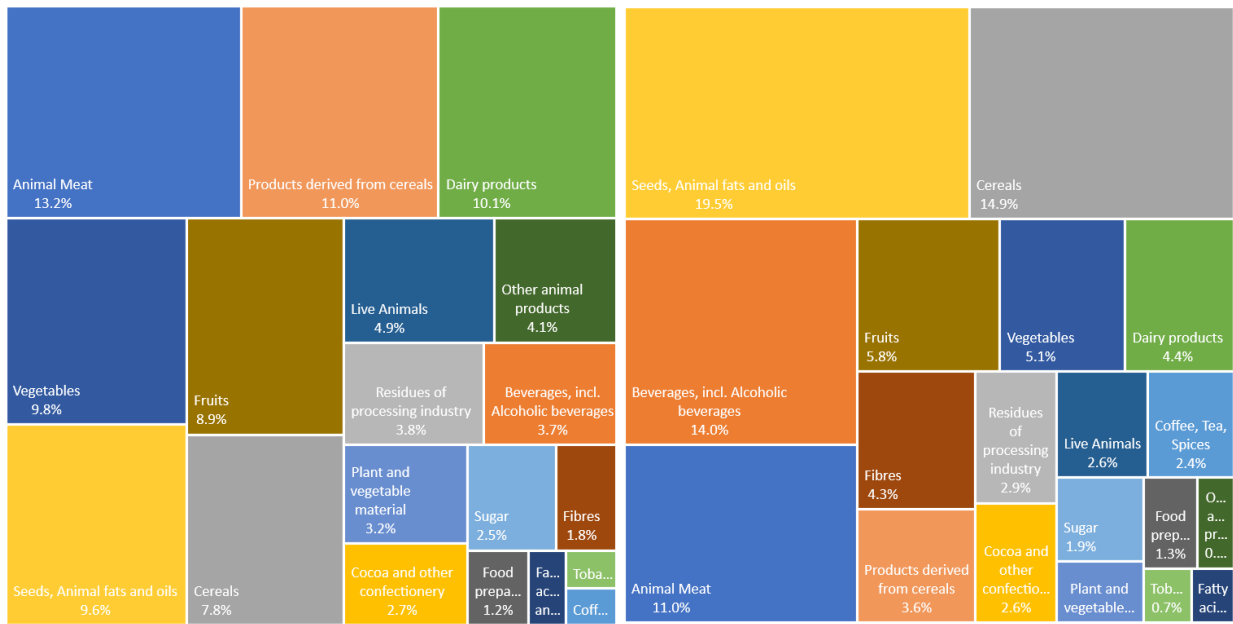


Figure 10: Share of the number of questions (left panel) and trade covered (right panel), by product

The three largest categories in terms of the number of questions are meat, products derived from cereals and dairy products. Even if there are some similarities in the composition of the puzzle, some products categories received a lot of questions even if the value of the traded goods is not so relevant.

Beverages, for example, accounted for 14% of trade covered by the questions raised in the Committee, but they represent only 3.7% of the number of questions. In other words, there are few questions raised on beverages, but they relate to a large amount of trade.¹⁹

On the contrary, there is a relatively large number of questions related to products derived from cereals (11%), despite these questions relating to a small share of the economic value of all questions (3.6%). A large number of questions on a small amount of trade may hint to the fact that the sector tends to be highly protected. Nevertheless, this product group has registered a significant increase in terms of the trade covered by questions in absolute terms and as a share of the trade covered in the CoA.

Broadly, comparing trends between the first decade (1996-2006) and the second one (1997-2016), we find that there was a general decrease in terms of number of questions asked for each category, but an increase in terms of trade covered by them (except for tobacco and beverages).

Figure 11 shows the share of trade covered by each product category both in the global agriculture market and in the CoA activity. Seeds and animal fats covers a large share of CoA activity, compared

¹⁹In the beverages, the important players in the agriculture international market (Australia, the United States, New Zealand, Canada and the EU) are also the most active questioners in this product group, covering more than 75% of asked questions. Furthermore, the role of this product category has changed in the CoA activities: during the second decade (2007-2016), trade covered by questions on beverages significantly decreased as a share of international trade covered by the category.

to their relevance in the international market, as well as cereals, beverages or meat. Fatty acids, on the other hand, get very little coverage in the CoA when compared to their share of total agricultural trade. These findings are suggestive of the pervasiveness of controversial measures in each sector.

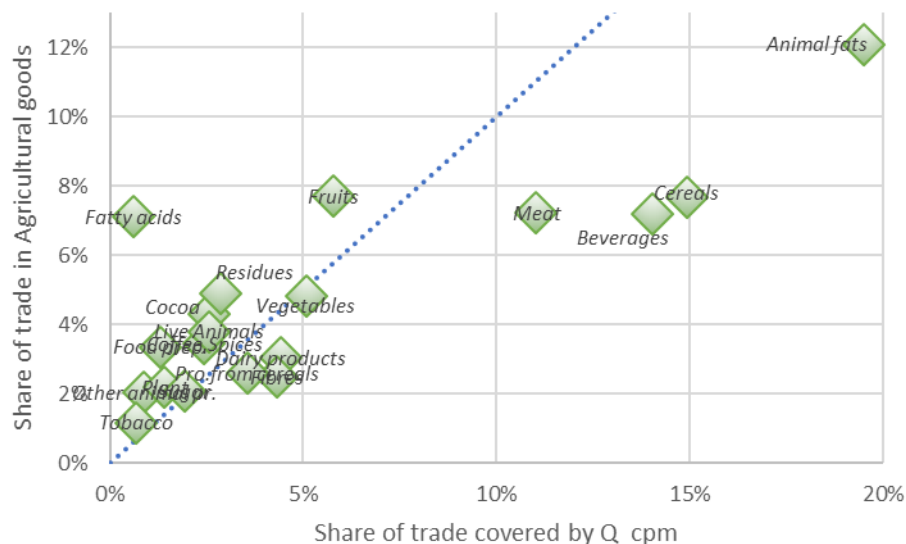


Figure 11: Share of trade covered by questions and share of trade in agriculture, by product category

6. What are Q&As about: what are the issues of concern?

6.1 From market access to domestic support: the CoA helps identify priorities for negotiations

In the period from 1996 to 2006, 41% of the questions asked²⁰ in the CoA concerned market access, while 47% domestic support. In the period 2007-2016, the share of domestic support questions increased up to 69%: problems concerning tariffs and quotas have been mitigated by the proliferation of regional trade agreements, while support from government continues to generate unsolved issues (Mavroidis, Petros C. and André Sapir, 2015).

During the considered years, the share of questions asked on export restrictions is very low (1% of asked questions); for this reason, we decide not to consider them in the analysis. Nevertheless, it is important to underline that, during the years after the food and economic crisis, this type of questions got a higher relevance compared to the previous years: from 2009, WTO Members asked 77% of the

²⁰ In this Section we consider the number of asked questions as identified in the AG-IMS (and not the Q_cpm bits) to have a general overview of the evolution of the phenomenon, taking into account also questions not matched with a HS code. For what concerns trade, instead, in order not to overestimate the flows, questions with same Questioner, Respondent, HS code, type of measure and year have been dropped. That is, we do not consider the "status" dimension of our database.

questions concerning export restrictions (for a total of 47 questions). Export restrictions have received renewed interest in 2020 because of measures put in place in response to the Covid pandemic.

How important are these areas of discussions in total trade? As shown in Figure 12, consistent with having a higher number of questions, domestic support questions also covered a larger amount of trade in 1996-2006. Bilateral trade covered by questions on market access is equal to \$100 billion, while questions on domestic support, during the same period, dealt with \$160 billion.

The difference becomes much more pronounced in the period 2007-2016 when domestic support questions' value of covered trade reaches \$367 billion. Because of the strong reduction in the number of questions asked, the market access questions involved only \$89 billion of agricultural bilateral flows.

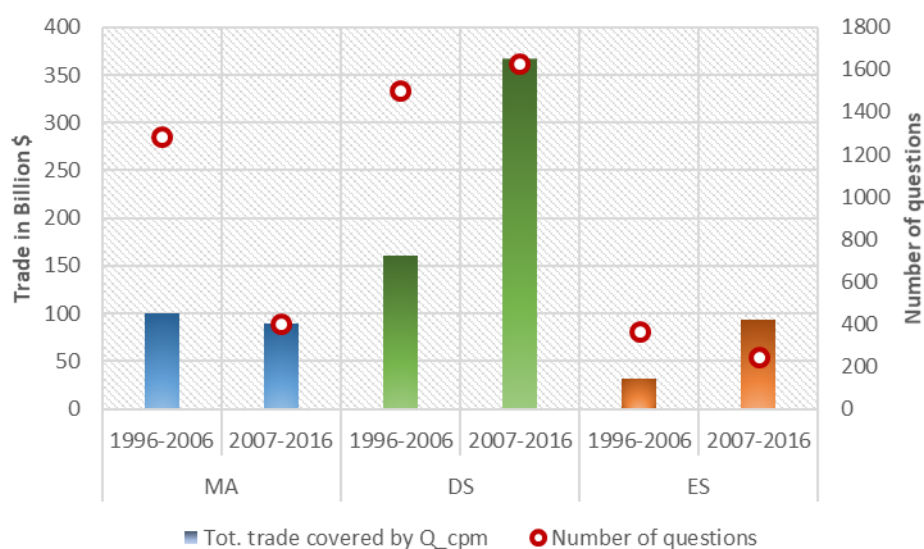


Figure 12: Total trade covered and the number of questions by type of measure

Export subsidies questions had a lesser role in both periods: from 1996 to 2006, with 366 questions, they covered \$32 billion trade, while in the last decade they addressed \$94 billion of trade with 248 questions.

Figure 13 shows the average amount of trade per question²¹: Domestic support shows up as an increasingly important issue even from this aspect.

²¹ The average trade covered by each question is computed dividing the cumulated bilateral trade (import plus export) covered by questions asked from 1996 to 2006 or from 2007 to 2016 by the number of questions.

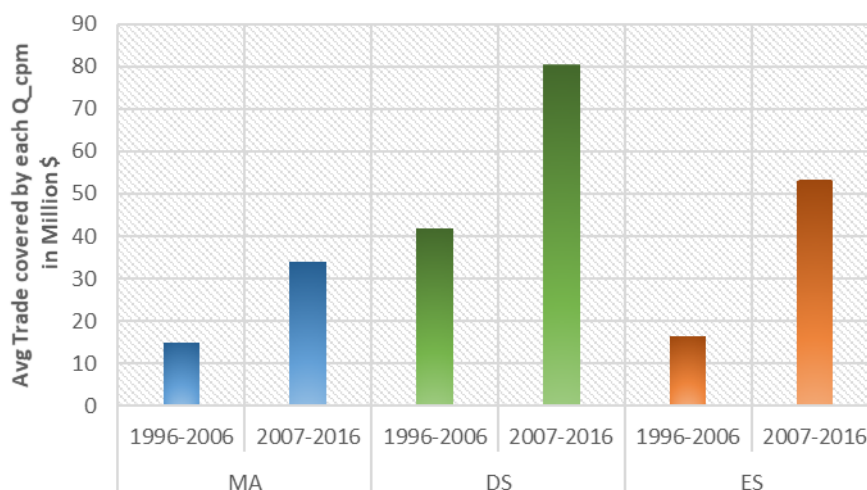


Figure 13: Average trade covered by each question by type of measure

On average the economic value of each question has increased over time. Domestic support questions shifted from \$42 million for the first decade to \$81 million for the last one. Export subsidies questions registered even a larger increase in terms of the average trade covered by each question: from \$16 million to \$53 million in the most recent years.

6.2 From Notified Measures to Non-Notified Measures: CoA helps highlight new issues

As shown in Figure 14, in the period 1996-2006 a large share of questions²² related to notified measures (91%). In the second decade, instead, there was a shift to non-notified measures and the share of questions related to notifications declined to 77%.

²² In this Section we consider the number of asked questions as identified in the AG-IMS (and not the Q_cpm bits) to have a general overview of the evolution of the phenomenon, taking into account also questions not matched with a HS code. For what concerns trade, instead, in order not to overestimate the flows, questions with same Questioner, Respondent, HS code, status of measure and year have been dropped. That is, we do not consider the "type of measure" dimension of our database.

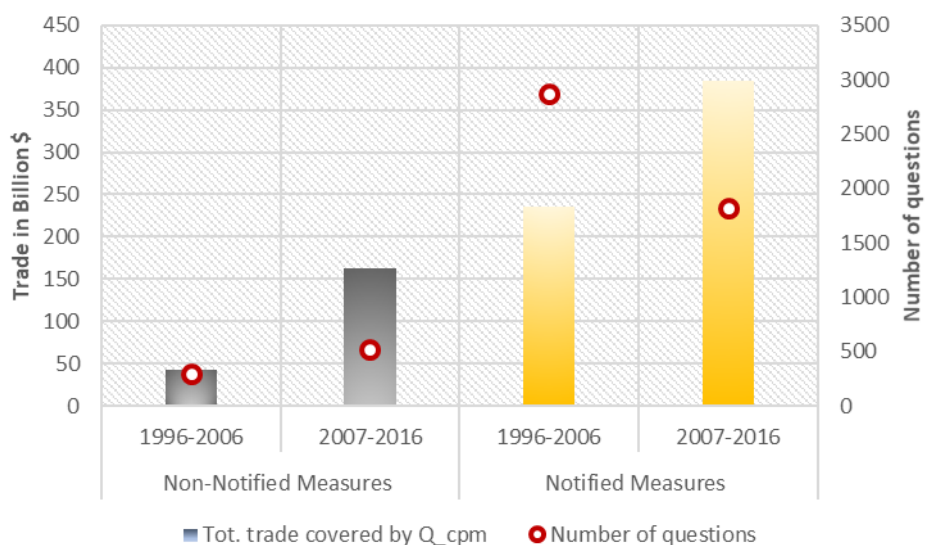


Figure 14: Total trade covered and the number of questions by status of the measure

Total cumulative trade covered by questions on non-notified measures increased too, shifting from \$42 billion over the period 1996-2006 to \$162 billion over the period 2007-2016. Relative to trade covered by questions on notified measures (amounting to \$385 billion over the period 2007-2016), trade covered by questions on non-notified measures has increased from 18% to 42%.

The observed increase in trade covered by questions on non-notified measures is largely due to the increased value of trade covered by each question²³ rather than the increase in the number of questions. The average trade covered by a question on non-notified measure was \$25 million over the period 1996-2006 and reached \$52 million in 2007-2016.

The analysis shows that Q&As are being used by Members not only for issues related to past notifications, but also to address current concerns: the increasing importance of current concerns in terms of international trade highlights the value of the exchange in the CoA for fostering transparency and potentially managing conflicts.

7. Conclusion

Once a trade agreement is reached, it is the beginning of policy reforms. The discussion in the WTO Committee on Agriculture allow Members to exchange information about new measures, monitor each other's implementation of commitments and compliance with the rules contained in the Agreement

²³ The average trade covered by each question is computed dividing the cumulated bilateral trade (import plus export) covered by questions asked from 1996 to 2006 or from 2007 to 2016 by the number of questions.

on Agriculture. The Committee provides a forum to pose questions and receive answers. All WTO Members can participate to the discussion, hear the questions asked and the information provided in the answers. The forum facilitates feedback and sharing of best practices which may help improve Members' regulatory quality and prevent disputes.

The information contained in the AG-IMS database covers all questions raised during meetings of the CoA. This information is complementary to the one available in notifications or disputes. Q&As are perceived by trading parties as less formal than disputes: if the latter tend to be raised by countries with more power or more resources, questions may be asked by all countries that would like more information on notifications or other agricultural policy measures.

Despite being a very valuable source of information, the AG-IMS database is not in a format that facilitates economic quantitative analysis. While it is possible to use the database to count the number of questions, by country and type of measure, it is not possible to get a sense of the economic value of the issues discussed in the Committee. An analysis based on the simple count of questions gives the same weight to questions related to very different trade value.

In this paper, to better understand the economic relevance of these questions, we weigh each question by the value of trade for which it matters. We use text-as-data analysis to match each question with 4-digit HS codes of the products to which the question refers. Then we match questions with trade flows. Out of the 5'526 questions asked in the CoA, we were able to match 3'295. For this reason, it is possible that our analysis underestimates the actual value of the trade covered in the Committee. In fact, most unmatched questions concern domestic support measures which often relate to a generic agricultural policy. As this topic became more prevalent in the second decade of our sample (2006-2016), the share of unmatched questions, and thus the potential for underestimation, also increased.

Notwithstanding these limitations, our analysis reveals that questions in CoA covered at least \$778 billion of agricultural trade over the period 1996-2016. This represents only 3% of total trade in the agricultural sector on average per year. That is, trade in agriculture appears to proceed largely without controversy. This, however, does not mean that the work of the Committee is marginal. First, this is likely to be an underestimation of the value of the Committee because it is a figure merely based on the questions we could match to a product (because it was explicitly mentioned in the question itself). Second, on average, questioners covered 48% of a Member trade in the main product concerned by the question. Third, for some countries, the share of trade in agriculture covered by the questions they raise is as large as 9% of their own trade in agriculture. In addition, we observe a shift from questions covering market access issues to questions covering domestic support (typically harder to address through bilateral or regional agreements), pointing at the increasing importance of addressing this issue in WTO negotiations. Also, questions have increasingly been related to trade concerns on non-notified

measures - an indication of the increasing importance of new issues and the need for enhanced transparency.

This study is a first step to show how much more value can be extracted from the information contained in the Q&As. Further research will aim at studying the reasons why Members submit a question (lack of clarity in the notifications or perceived distortionary effects of the measures), as well as the effectiveness of the system, by analysing whether questions asked in CoA affect a respondent country's trade policy.

More generally, we aim at showing the importance of improving the way information is collected at the WTO to enhance the effectiveness of its transparency mechanisms. The analysis of the information is a key component of transparency. By collecting information on HS codes and providing a ready to use database, the WTO could leverage the trade research community to provide analytical work. Using matching techniques to supplement the information currently available is still very resource intensive (although machine learning may facilitate this task in the future) and it remains subject to error. Having an officially validated database where Q&As are reported with their HS codes would be a significant improvement in the transparency effort of the WTO.

References

- Bown, C. P. (2009). *Self-Enforcing Trade: Developing Countries and WTO Dispute Settlement*. Washington: Brookings Institution Press.
- Bown, C. P. (2011). Developing Countries and Monitoring WTO Commitments in Response to the Global Economic Crisis. In T. Cottier, & E. Manfred, *Governing the World Trade Organization: Past, Present and Beyond Doha* (pp. 157-87). Cambridge, UK: Cambridge University Press.
- Cassehgari, K., Ganne, E., & Piermartini, R. (2020). The role of WTO committees through the lens of Specific Trade Concerns raised in the TBT Committee. *WTO working paper*.
- Karlas, J., & Parížek, M. (2019). The Process Performance of the WTO Trade Policy Review Mechanism: Peer-Reviewing Reconsidered. *Global Policy*, 10 (3), 376-84.
- Karttunen, M. (2020). *Transparency in the WTO SPS and TBT Agreements: The Real Jewel in the Crown*. Cambridge: Cambridge University Press.
- Kuenzel, D. (2019). Do trade flows respond to nudges? Evidence from the WTO's Trade Policy Review Mechanism. *Review of International Economics*, 27 (3), 735-764.
- Wolfe, R. (2020). Reforming WTO conflict management: why and how to improve the use of "specific trade concerns". *European University Institute, Working paper RSCAS 2020/53*.

Appendix A: High-income countries

Australia	Canada
Czech Republic	EEC
Estonia	Hungary
Iceland	Israel
Japan	New Zealand
Norway	Poland
Slovakia	Slovenia
South Korea	Switzerland
United States	

Appendix B

Until 2012, questions registered in the Agriculture Information and Management System (AG-IMS) often include more than one questioner. This is because supporting/co-sponsoring Members were included, without differentiating the Member that asked a question from the Members that supported or co-sponsored this question.

From 2012, instead, a change in the collection of questions asked has been introduced: it is not possible to insert in the system more than one questioner for the same question.

For this reason, supporting Members do not appear as questioners, but in the body of the questions, and co-sponsored questions are entered separately and with their own distinct ID. To have a homogeneous dataset, all the Members that are registered as supporting a question have been inserted in our dataset as questioners (keeping the same ID of the question). Moreover, in order not to overcount the number of submitted questions, we replace the question ID of co-sponsored questions with the ID of the main question.

Aim of these adjustments is to have a homogenous dataset, making possible the comparison among different years. In our analysis, we take into account both the main questioner and the supporting/co-sponsoring Members since our goal is to understand and highlight products or countries with a key role in the Agriculture Committee.

Appendix C: The methodology for matching questions with HS code

Using text-as-data, the word corpus of each question is matched with each of the 4-digit agricultural HS descriptions.

The matching is performed after standardising the word corpuses by removing punctuation, English stop words, numbers etc. Further, the singular/plural version of words and products is converted into a standard form and words/products representing the same thing are further standardised. Thus, for example, juices become juice, and both kiwifruit and kiwis are converted to kiwi across the text of all questions and products.

In order to match questions with products based on the number or count of common words, four different techniques were employed:

1. Some words are not relevant in identifying products but will show up in the question-product description matching nonetheless. These include words like resulting, broad, mainly, type, inactive etc. (a total of 184 words). They need to be removed so as to not artificially inflate the count of common words. The identification of these words was done manually by continually repeating the exercise and observing instances where the count was artificially inflated.

2. There are some words which are relevant only if they exist with another word. For example, if the only common word between the question and the product description is 'refined', the common word count could be misleading, but if the common words are refined oil and refined sugar, refined helps in adding meaning and information to the analysis. There were 45 such words, including fractions, extract and dried. For these words, the common word count was adjusted to zero, the word was the only unique element. Similarly, there may be two words occurring together as the common ones but it still does not imply a tangible relationship between the question and product. If the only two common words are "cut" and "frozen", they will increase the count even without a relationship between the question and product, but they will be relevant if we are talking about meat. The idea is to readjust the count to zero when only two such words are the common ones. There were 28 of such two-word sets.

3. Some products, for example milk, are very common. The problem is having a question which is specifically about a common product. Such questions will not only match with product descriptions which are about milk, but also match with descriptions based on milk products or any product containing milk. This is because the algorithm only cares about the existence of the words, not the context. To refine this, similar products were identified, and the word count was forced to be zero for HS codes not about the relevant product. Using the milk example, if the only common word between the question and product description is milk, the common word count will be zero if the relevant HS code is not one of 0401, 0402, 0403, 0404 (codes only about milk). This means the count will ignore the HS descriptions which are not strictly about milk. There were 18 such words, including rice, potato, animals etc.

4. The final stage involves looking across matched products within each question. Some words are relevant for matching the question with a product description, but their relevance decreases if there is another product description which involves the same word but has more common words. For example, we look at the question about cottonseed oil. The question will then have a word count of one with many product descriptions, because the word oil is quite common. But for the HS description 1512 and 1515, the common word count will be two. The final stage will reduce the word count from one to zero for the rest of the product descriptions, because the question identifies more uniquely with only a specific product category. Other examples (out of a total of 10) include *tea* (think *black tea* and *tea*), *seed*, *flowers* etc.

Appendix D: Broad product categories

BROAD ECONOMIC CATEGORY	DESCRIPTION
ANIMAL MEAT	Edible Meat fresh, chilled or frozen. Sausages and other food preparations based on these products.
BEVERAGES, INCL. ALCOHOLIC BEVERAGES	Waters, fruit and vegetable juices. Beer, wine and other fermented beverages. Ethyl alcohol and spirits.
CEREALS	Wheat, rice, oats and all the other cereals.
COCOA AND OTHER CONFECTIONERY	Jams and fruit purée. Bread, cakes and biscuits. Cocoa, chocolate and other food preparations containing cocoa.
COFFEE, TEA, SPICES	Coffee, tea, vanilla and other spices (cinnamon, anise cumin, ginger, saffron, etc.)
DAIRY PRODUCTS	Milk and cream, butter, yogurt and other fermented milk. Honey. Cheese and curd. Birds' egg, fresh, preserved or cooked.
FATTY ACIDS AND OTHER CHEMICALS	Acyclic alcohols and essential oils. Casein and derivatives. Peptones and other industrial monocarboxylic fatty acids.
FIBRES	Silk, wool, cotton, flax, etc.
FOOD PREPARATION	Sauces, soups and preparation. Vinegar and substitutes. Ice cream and other edible ice.
FRUITS	Fruits and nuts fresh or dried, whether or not shelled.
LIVE ANIMALS	Horses, bovine and all the other live Animals
OTHER ANIMAL PRODUCTS	Edible products of animal origin. Parts of animals. Ivory, amber, coral and similar materials. Raw hides and skins of animals; raw foreskins.
PLANT AND VEGETABLE MATERIAL	Plants, part of plants and cut flowers. Vegetable material (bamboos, rattans, etc.)
PRODUCTS DERIVED FROM CEREALS	Flours of cereal or of dried leguminous vegetables. Malt and starches. Cereal pellets or grains. Pasta and tapioca.
RESIDUES OF PROCESSING INDUSTRY	Bran, sharps and other residues. Oilcake and other solid residues. Vegetable material or preparations of a kind used in animal feeding.
SEEDS, ANIMAL FATS AND OILS	Soya beans and groundnuts. Oil seeds and flours of oil seeds. Lard and other animal fat. Olive oil, other oils and other vegetable fats.
SUGAR	Cane or beet sugar. Other sugars.
TOBACCO	Tobacco
VEGETABLES	Vegetables, fresh or chilled. Dried vegetables. Mushrooms. Other vegetable prepared.

Appendix E: Questions without matching product categories

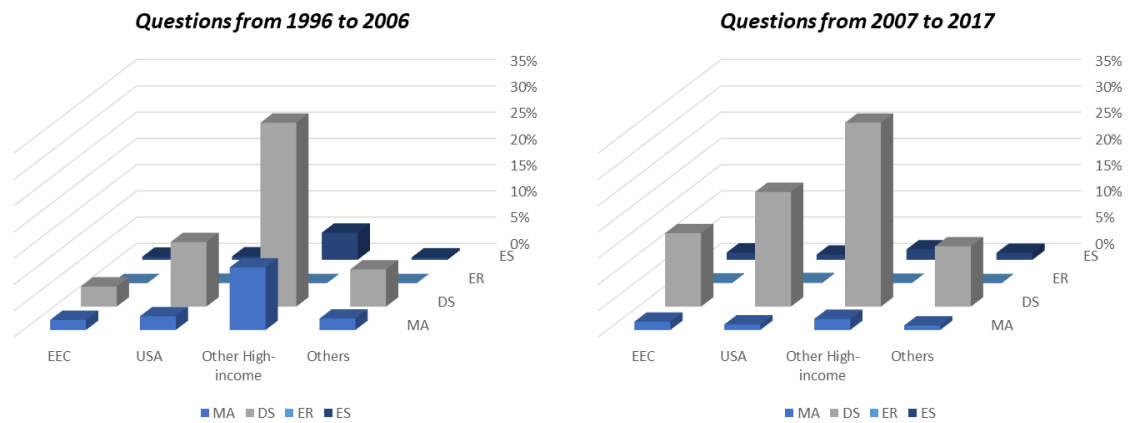


Figure 15: Breakdown of questions without products by type of measure and country group²⁴

²⁴ In Figure 16, questions raised by several countries (co-sponsored) are counted multiple times, as many as the number of Members that supported or co-sponsored them. For this reason, we count 3'088 questions.

Appendix F: Top questioners with a share of trade covered by questions lower than 2%

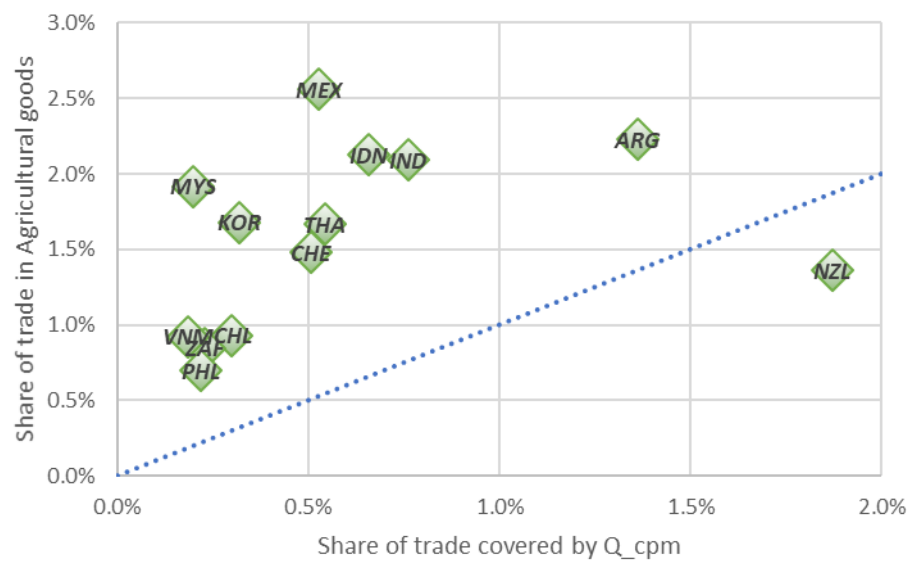


Figure 16: Share of trade covered by questions and of global agriculture trade, by top questioners

Appendix G: Main respondents with a share of trade covered by received questions lower than 2%



Figure 17: Share of trade covered by questions and of global agriculture trade, by main respondent