ANALYSIS OF COMPETITIVENESS OF THE EXTERNAL TRADE WITH AGRI-FOOD PRODUCTS OF THE REPUBLIC OF MOLDOVA

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Abstract

The paper aims to analyse the current status of competitiveness of agri-food products of Moldovan origin in terms of foreign trade. Republic of Moldova has had a positive trade balance for agri-food products in the last 10 years, the main economic partners being countries from EU, CIS and some from the other states. Nevertheless, it is becoming increasingly important to assess which Moldovan agri-food products have a potential competitive degree on external markets, thus making the necessary sectoral recommendations. For the analysis of competitiveness of external trade with agri-food products, the following methodological indexes have been used: Revealed Comparative Advantage, Revealed Symmetric Comparative Advantage, Open Trade Index, Trade Specialization Index and Grubel-Lloyd index. Based on the analysis, agri-food commodities with a significant competitive advantage have been identified, like oil seeds, edible fruits and nuts, beverages and spirits, cereals and preparations of vegetables and fruits, thus indicating on the competitive potential in foreign trade.

Key words: *trade, Revealed Comparative Advantage, Revealed Symmetric Comparative Advantage, Open Trade Index, Trade Specialization Index, Grubel-Lloyd index, Republic of Moldova.*

JEL Classification: *Q17.*

Introduction

The agricultural sector of the Republic of Moldova represents an important pillar for the national economy, playing a vital role in ensuring food security, employment, especially in rural areas and population's general well-being.

Foreign trade of Moldovan agri-food products has been presenting a positive trade balance during 2010 – 2020, export increasing with 48.6% and import – with 43%, both holding important shares in the total exports and imports (43.8% and 15.6%, respectively, in 2020), while the total trade balance remained negative during the analysed period.

The development of foreign trade, especially exports, is one of important factors for economic growth in the small open economies (Drozdz, 2018). In the Republic of Moldova, the agricultural sector supplies a large quantity of products for export, made up largely of raw unprocessed material at very low prices, while the import of agri-food products is comprised mainly of processed products (Petrea et al, 2020). Therefore, the paper aims to assess the level of specialization in the agri-food trade of the Republic of Moldova in the period 2010 – 2020, by emphasizing the current status of its competitiveness.

1. Literature review

Competitiveness of the external trade of the Republic of Moldova was analysed by various researchers through a series of different methods, including Revealed Comparative Advantage (RCA), Revealed Symmetric Comparative Advantage (RSCA), Trade Specialization Index (TSI) or Grubel-Lloyd index (GLi). The Revealed Comparative Advantage of Moldovan agri-food products was calculated and analysed by Cimpoies L. in 2013 (Cimpoies, 2013), Cimpoies and Sarbu (Cimpoies, Sarbu, 2017), Cimpoies and Coser (Cimpoies, Coser, 2018) and more recently in 2020 (Cimpoies, Sarbu, 2020), Lucasenco E. and Ceban A. (Lucasenco, Ceban, 2020). Ignat, Stratan and Lucasenco (Ignat et al, 2017) have focused their research on the competitiveness of the livestock sector, Golban selected the horticultural production for assessment of competitiveness (Golban, 2015), (Golban, Gorgos, 2017), while Moroz, Ignat and Lucasenco concentrated their study on the agri-food trade openings at the regional level (Moroz et al, 2011).

At the same time, inclusion of other indexes in research like Revealed Symmetric Comparative Advantage or the Grubel-Lloyd index has been approached by Cimpoies L. (Cimpoies, 2013) and (Cimpoies, Sarbu, 2020).

2. Research methodology, data and hypotheses

In order to analyse the competitiveness of the external trade with agri-food products of the Republic of Moldova, a number of trade indicators were calculated and used by the author.

Thus, the Revealed Comparative Advantage (RCA) is the most common indicator used for the assessment of the level of specialisation in trade, but still has lots of inconsistencies, so it is performed in different forms **Invalid source specified.**. The mostly used RCA formula to assess the competitiveness of certain products or categories of products is the following:

$$RCA = \frac{\frac{X_{ij}}{X_{it}}}{\frac{X_{nj}}{X_{nt}}} = \frac{\frac{X_{ij}}{X_{nj}}}{\frac{X_{it}}{X_{nt}}}$$

where, X represents exports, i – a country, j – a commodity or an industry, t – a set of commodities or industries, and n – a set of countries (Balassa, 1965). If RCA> 1, it denotes a comparative advantage, for example: the sector in which the country is relatively specialized in the terms of exports (Moroz et al, 2011).

Since RCA turns out to produce values that cannot be compared on both sides of 1, the index is made to be a symmetric one (Saleh, Widido, 2010). The new index is called Revealed Symmetric Comparative Advantaged (RSCA) and is calculated according to the formula:

$$RSCA = \frac{RCA_{ij} - 1}{RCA_{ij} + 1}$$

The interpretation of RSCA is similar with that of RCA. RSCA greater than 0 implies that country i has comparative advantage in good j. In contrast, RSCA less than 0 implies that country i has comparative disadvantage in product j (Saleh, Widido, 2010).

Another indicator is represented by the economic openness measured with Open trade index as the sum of exports and imports ratio in GDP, which shows that the country could be sensitive to external shocks, which may affect

trade volumes and cause the economic slowdown (Drozdz, 2018a). The formula is the following:

$$OTI = (X + M)/GDP$$

Where, X – exports; M – imports; GDP – Gross domestic product

At the same time, in order to approach the OTI indicator in terms of agri-food trade, an adapted formula is used to measure openness in agricultural and food sector. It measures the sum of the exports and imports of agricultural and food products as ratio of gross value added created in agriculture:

$$OTIa = (Xa + Ma)/GVAa$$

Where, Xa – exports of agricultural and food products, Ma – imports of agricultural and food products, GVAa – Gross Value Added in agriculture and food sector (Drozdz, 2018a).

At the same time, another indicator is the trade specialization index that compares the net flow of goods (exports minus imports) to the total flow of goods (exports plus imports).

$$TSI = \frac{X - M}{X + M}$$

Where, X – exports; M – imports.

This index removes bias of high exports values due to significant re-exports activities, being more suitable to identify real producers instead of any intermediate traders.

And the Grubel–Lloyd Index measures intra-industry trade of a particular product, being introduced by Herb Grubel and Peter Lloyd in 1971. It is calculated as

$$GLi = 1 - \frac{|X_i - M_i|}{X_i + M_i}$$

where Xi denotes the export, Mi the import of good i. If GLi = 1, there is only intra-industry trade, no inter-industry trade. This means the country in consideration exports as much of good i as at it imports. At the same time, if GLi = 0, there is no intra-industry trade, only inter-industry trade. This would mean that the country in consideration either only exports or only imports good i.

The foreign trade data for the period 2010 – 2020 was accessed by the author from WITS database.

Data for 2020 is only preliminary and may be later updated. The computed values of RCA, RSCA, trade specialization index and intra-

industry trade (Grubel–Lloyd Index) in the Republic of Moldova are presented and discussed in the results part.

3. Results and discussions

Nowadays, the trade policy of the Republic of Moldova is focused on development of strong trade relations with EU countries in the framework of DCFTA and geographical diversification of the agri-food exports to other countries (Lucasenco, Ceban, 2020).

The OTI or openness index measures a country's exposure to international trade. The large the ratio is, the more the given country is exposed to international trade. The popularity of trade to GDP probably stems from its availability and its seemingly close alignment to the question at stake (Gräbner et al, 2020).

Therefore, the OTI for total trade of the Republic of Moldova accounts for less than 1 during the analysed period, with a declining trend in the 3 years. On the other side, OTI for the agri-food trade (OTIa) has higher values, with an average of 1.7 during 2010 -2020, meaning the higher exposure to international trade with agri-food products (Figure 1).

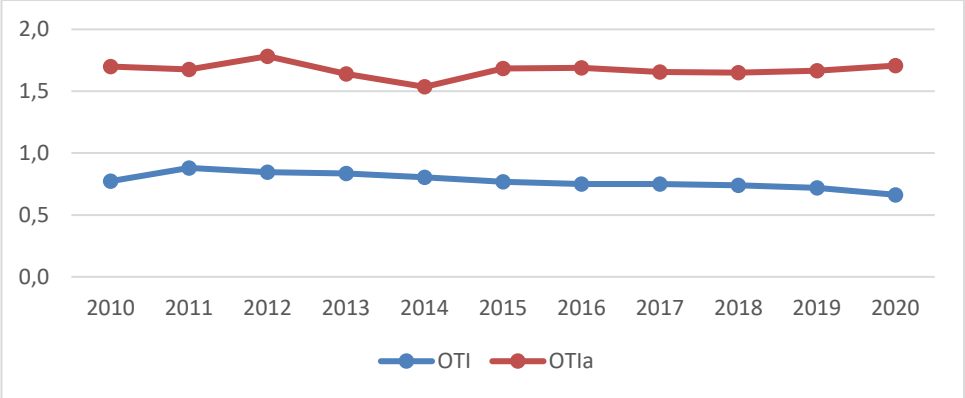

Figure 1. Open Trade Index for total trade and for trade with agri-food products of the Republic of Moldova

Source: author's calculations based on NBS and WITS data

External trade of Moldovan agri-food products is continuously increasing, both in terms of exports, as well as imports. Therefore, it is

becoming necessary to analyse which commodities have a considerable competitive potential on foreign markets, and which ones are lacking in it or whose position may be significantly improved.

The analysis of Moldovan agri-food RCA was carried out with respect to the world market. Thus, during 2010 – 2019, the average RCA values may be classified in 3 separate groups:

- high RCA values have been registered by the following commodity groups: edible fruit and nuts (15.1), oil seeds (15.0), beverages and spirits (14.0), cereals (9.6), preparations of vegetables and fruits (8.0) animal or vegetable fats and oils (6.0), sugars and sugar confectionery (5.0) vegetable plaiting materials (4.6), tobacco (4.1), live animals (3.3). These data point on a strong competitive potential of the given commodity groups.

- moderate positive RCA values were registered in residues from food (2), preparations of cereals (1.7), dairy products (1.4), vegetables (1.4), expressing a moderate competitive potential of the given commodity groups.

- negative RCA values (</=1) were noted in cocoa preparations (1), miscellaneous edible preparations (0.9), meat (0.9), live trees (0.7), products of the milling industry (0.7), other products of animal origin (0.2), coffee, tea (0.2), preparations of meat (0), lac, gums (0) and fish an crustaceans (0) (Table 1), meaning that the Republic of Moldova is not competitive in exporting these types of products on foreign markets.

At the same time, there is rising concerns the fact that some of the most competitive groups with high RCA values in 2019 / 2020 still decreased in competitiveness degree compared to 2010. Thus, decreases are noted in edible fruits and nuts, beverages and spirits, tobacco, live animals and edible vegetables.

Table 1. RCA for Moldovan agri-food products in relation to world market

No.	Commodity group	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
01	Live animals	5,9	3,2	3,4	2,5	2,2	4,1	3,8	2,6	3,6	3,0	2,5
02	Meat and edible meat offal	1,0	1,5	1,5	1,2	2,1	0,6	0,6	0,6	0,5	0,4	0,3
03	Fish and crustaceans	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
04	Dairy produce	0,7	0,8	0,7	0,9	1,4	2,0	2,3	2,4	1,8	1,4	0,9

No.	Commodity group	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
05	Products of animal origin	0,1	0,2	0,2	0,2	0,1	0,3	0,0	0,1	0,3	0,3	0,3
06	Live trees and other plants	0,8	0,7	0,9	0,7	0,4	0,7	0,8	0,6	0,6	0,6	0,4
07	Edible vegetables	1,5	3,3	2,4	1,5	1,8	1,2	0,9	0,9	0,7	0,9	0,3
08	Edible fruit and nuts	22,1	17,8	19,5	16,2	15,1	15,7	11,1	13,4	11,9	11,1	12,2
09	Coffee, tea	0,1	0,1	0,0	0,0	0,1	0,3	0,2	0,3	0,4	0,3	0,2
10	Cereals	8,2	4,9	2,5	7,5	11,9	9,0	12,6	12,7	14,0	15,2	6,8
11	Products of the milling industry	0,4	1,5	1,0	0,4	1,0	0,8	0,3	0,7	0,8	0,5	0,5
12	Oil seeds	12,8	17,8	8,8	12,7	12,2	16,8	17,4	17,8	17,0	18,7	13,4
13	Lac; gums	0,0	0,0	0,0	0,0	0,0	0,1	0,2	0,1	0,0	0,0	0,0
14	Vegetable plaiting materials	2,5	1,4	4,0	0,4	8,1	7,9	0,3	2,6	6,4	7,7	9,1
15	Animal or vegetable fats and oils	5,9	5,8	7,0	3,5	6,5	7,0	4,8	3,9	5,1	5,6	10,5
16	Preparations of meat, of fish	0,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
17	Sugars and sugar confectionery	6,3	2,2	5,7	4,6	9,7	8,1	7,6	4,0	3,2	1,7	1,9
18	Cocoa and cocoa preparations	0,7	0,5	0,7	1,0	1,0	0,9	1,1	1,2	1,3	1,1	1,0
19	Preparations of cereals, flour	1,5	1,7	1,9	2,1	2,0	1,7	2,0	1,4	1,4	1,4	1,2
20	Preparations of vegetables, fruit	10,6	9,8	8,9	9,6	7,8	7,1	5,5	8,0	5,3	7,5	7,4
21	Miscellaneous edible preparations	0,9	0,8	1,1	1,2	0,9	1,0	1,0	0,8	0,9	0,7	0,5
22	Beverages, spirits	19,6	14,0	16,5	17,1	13,7	12,6	12,7	12,8	12,5	11,6	11,4
23	Residues and waste from the food	2,6	2,2	2,5	0,9	2,0	1,8	1,8	1,7	2,0	2,3	2,7
24	Tobacco	7,4	5,8	6,7	4,6	3,2	2,7	2,6	3,3	3,5	3,4	1,6

*preliminary data for 2020

Source: author's calculations based on WITS data

The RSCA values offered below present values that can be compared on both sides. Therefore, for 2010 – 2020, average values most close to 1 have been registered for oil seeds (0.9), edible fruit and nuts (0.9), beverages and spirits (0.9), cereals (0.8) and preparations of vegetables and fruits (0.8), pointing on the high competitive advantage on the external market (Table 2). On the other side, figures close or equal to -1 were registered in fish and crustaceans, lac and gums, preparations or meat and fish, coffee and tea, meaning the lack of export potential.

Table 2. RSCA for Moldovan agri-food products in relation to world market

No.	Commodity group	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
01	Live animals	0,7	0,5	0,5	0,4	0,4	0,6	0,6	0,4	0,6	0,5	0,4
02	Meat and edible meat offal	0,0	0,2	0,2	0,1	0,4	-0,2	-0,3	-0,2	-0,3	-0,4	-0,6
03	Fish and crustaceans	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0
04	Dairy produce	-0,2	-0,1	-0,2	-0,1	0,2	0,3	0,4	0,4	0,3	0,2	0,0
05	Products of animal origin	-0,8	-0,7	-0,7	-0,7	-0,8	-0,6	-0,9	-0,8	-0,5	-0,6	-0,5
06	Live trees and other plants	-0,1	-0,1	-0,1	-0,2	-0,4	-0,1	-0,1	-0,2	-0,3	-0,2	-0,4
07	Edible vegetables	0,2	0,5	0,4	0,2	0,3	0,1	0,0	0,0	-0,2	-0,1	-0,6
08	Edible fruit and nuts	0,9	0,9	0,9	0,9	0,9	0,9	0,8	0,9	0,8	0,8	0,8
09	Coffee, tea	-0,8	-0,9	-1,0	-0,9	-0,8	-0,6	-0,6	-0,6	-0,4	-0,6	-0,7
10	Cereals	0,8	0,7	0,4	0,8	0,8	0,8	0,9	0,9	0,9	0,9	0,7
11	Products of the milling industry	-0,4	0,2	0,0	-0,4	0,0	-0,1	-0,5	-0,2	-0,1	-0,3	-0,3
12	Oil seeds	0,9	0,9	0,8	0,9	0,8	0,9	0,9	0,9	0,9	0,9	0,9
13	Lac; gums	-0,9	-1,0	-0,9	-1,0	-1,0	-0,8	-0,7	-0,8	-0,9	-1,0	-1,0
14	Vegetable plaiting materials	0,4	0,2	0,6	-0,4	0,8	0,8	-0,5	0,4	0,7	0,8	0,8
15	Animal or vegetable fats and oils	0,7	0,7	0,8	0,6	0,7	0,8	0,7	0,6	0,7	0,7	0,8
16	Preparations of meat, of fish	-0,7	-1,0	-1,0	-1,0	-0,9	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0

No.	Commodity group	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
17	Sugars and sugar confectionery	0,7	0,4	0,7	0,6	0,8	0,8	0,8	0,6	0,5	0,3	0,3
18	Cocoa and cocoa preparations	-0,2	-0,3	-0,2	0,0	0,0	0,0	0,1	0,1	0,1	0,1	0,0
19	Preparations of cereals, flour	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,2	0,2	0,2	0,1
20	Preparations of vegetables, fruit	0,8	0,8	0,8	0,8	0,8	0,8	0,7	0,8	0,7	0,8	0,8
21	Miscellaneous edible preparations	-0,1	-0,1	0,1	0,1	0,0	0,0	0,0	-0,1	0,0	-0,2	-0,4
22	Beverages, spirits	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,8	0,8
23	Residues and waste from the food	0,4	0,4	0,4	0,0	0,3	0,3	0,3	0,2	0,3	0,4	0,5
24	Tobacco	0,8	0,7	0,7	0,6	0,5	0,5	0,4	0,5	0,6	0,5	0,2

*preliminary data for 2020
Source: author's calculations based on WITS data

Based on the Trade Specialization Index, one can identify where a certain country, in this case the Republic of Moldova is a net exporter or net importer of products (agri-food products in our case). While, if the computed value is 1 with positive sign, it denotes that this particular country j specialized in production of commodity i and it holds the position of net exporter. In the terminology of international trade, country j has the comparative advantage in that commodity. By contrast, the country j has comparative disadvantage and net importer of the commodity i if the value is - 1 (Pourmoghim, 2011).

Therefore, during 2010 – 2020, Republic of Moldova had on average positive TSI values for cereals (0.8), oil seeds (0.7), beverages and spirits (0.6), edible fruits and nuts (0.5), animal or vegetable fats and oils (0.5), vegetable plaiting materials (0.4), preparations of vegetables (0.4), sugars and sugar confectionery (0.1) and live animals (0.1). Most of these commodity groups have increased the TSI values during 2010 – 2020 or remained the same. The other commodities groups had negative values (Table 3). This is partly explained through the considerable share of crop production in the total

agricultural output (over 70% on average in the last years) in contrast to the livestock sector, which can still not access external markets, mainly due to the lack in compliance with international safety standards.

It is worth mentioning that most of the commodity groups identified as competitive through RSCA also serves as trade specialization of the country.

Table 3. Trade Specialization Index for Moldovan agri-food products

No.	Commodity group	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
01	Live animals	0,2	0,2	0,1	-0,1	-0,5	0,1	0,2	0,1	0,4	0,3	0,2
02	Meat and edible meat offal	-0,5	-0,2	-0,3	-0,4	-0,2	-0,5	-0,5	-0,5	-0,6	-0,7	-0,7
03	Fish and crustaceans	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0
04	Dairy produce	-0,7	-0,6	-0,7	-0,6	-0,4	-0,3	-0,3	-0,3	-0,4	-0,5	-0,6
05	Products of animal origin	-0,9	-0,8	-0,8	-0,8	-0,9	-0,9	-1,0	-0,9	-0,8	-0,9	-0,8
06	Live trees and other plants	-0,6	-0,6	-0,7	-0,8	-0,8	-0,8	-0,7	-0,8	-0,8	-0,8	-0,8
07	Edible vegetables	-0,5	-0,2	-0,3	-0,4	-0,3	-0,5	-0,6	-0,6	-0,8	-0,8	-0,9
08	Edible fruit and nuts	0,5	0,5	0,5	0,5	0,5	0,4	0,5	0,6	0,5	0,5	0,5
09	Coffee, tea	-0,9	-0,9	-1,0	-1,0	-0,9	-0,8	-0,8	-0,8	-0,7	-0,8	-0,9
10	Cereals	0,8	0,8	0,5	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,5
11	Products of the milling industry	-1,0	-0,8	-0,9	-0,9	-0,8	-0,9	-0,9	-0,9	-0,8	-0,9	-0,9
12	Oil seeds	0,5	0,8	0,6	0,7	0,7	0,7	0,7	0,7	0,7	0,8	0,7
13	Lac; gums	-1,0	-1,0	-0,9	-1,0	-1,0	-0,9	-0,8	-0,8	-0,9	-1,0	-1,0
14	Vegetable plaiting materials	0,5	0,6	0,7	0,3	1,0	1,0	-0,5	-0,1	0,2	0,7	0,7
15	Animal or vegetable fats and oils	0,4	0,5	0,5	0,2	0,5	0,6	0,4	0,4	0,5	0,6	0,7
16	Preparations of meat, of fish	-0,9	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0	-1,0
17	Sugars and sugar confectionery	0,4	-0,2	0,1	-0,1	0,5	0,5	0,3	-0,1	0,0	-0,3	-0,3
18	Cocoa and cocoa preparations	-0,8	-0,8	-0,8	-0,6	-0,6	-0,6	-0,5	-0,5	-0,5	-0,5	-0,6

No.	Commodity group	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
19	Preparations of cereals, flour	-0,6	-0,6	-0,5	-0,5	-0,4	-0,4	-0,3	-0,4	-0,5	-0,5	-0,5
20	Preparations of vegetables, fruit	0,4	0,5	0,4	0,5	0,5	0,5	0,4	0,5	0,3	0,5	0,5
21	Miscellaneous edible preparations	-0,8	-0,8	-0,8	-0,8	-0,8	-0,8	-0,7	-0,8	-0,7	-0,8	-0,8
22	Beverages, spirits	0,6	0,6	0,5	0,5	0,5	0,6	0,6	0,6	0,6	0,6	0,6
23	Residues and waste from the food	-0,1	0,0	0,0	-0,4	-0,2	-0,2	-0,3	-0,3	-0,2	-0,1	-0,1
24	Tobacco	-0,5	-0,5	-0,4	-0,5	-0,6	-0,6	-0,6	-0,6	-0,5	-0,5	-0,7

*preliminary data for 2020
Source: author's calculations based on WITS data

Recent years have seen a revival of interest in intra-industry trade, stimulated by frontier work on trade costs, economic geography and a range of aspects of firm level adjustment to globalization (Egger et al, 2004). According to the Grubel-Lloyd index, the most frequently used method to measure the intra-industry trade, one can note that average values closer to 1 (identification for intra-industry trade) for the period 2010 – 2020 are observed in such commodity groups like: live animals (0.8), residues and waste from the food (0.8), sugars and sugar confectionery (0.7), preparations of fruits and vegetables (0.6). Intra-industry trade arises if a country simultaneously imports and exports similar types of goods or services (Table 4).

Table 4. Grubel–Lloyd Index for Moldovan agri-food products

No.	Commodity group	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
01	Live animals	0,8	0,8	0,9	0,9	0,5	0,9	0,8	0,9	0,6	0,7	0,8
02	Meat and edible meat offal	0,5	0,8	0,7	0,6	0,8	0,5	0,5	0,5	0,4	0,3	0,3
03	Fish and crustaceans	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
04	Dairy produce	0,3	0,4	0,3	0,4	0,6	0,7	0,7	0,7	0,6	0,5	0,4
05	Products of animal origin	0,1	0,2	0,2	0,2	0,1	0,1	0,0	0,1	0,2	0,1	0,2

No.	Commodity group	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
06	Live trees and other plants	0,4	0,4	0,3	0,2	0,2	0,2	0,3	0,2	0,2	0,2	0,2
07	Edible vegetables	0,5	0,8	0,7	0,6	0,7	0,5	0,4	0,4	0,2	0,2	0,1
08	Edible fruit and nuts	0,5	0,5	0,5	0,5	0,5	0,6	0,5	0,4	0,5	0,5	0,5
09	Coffee, tea	0,1	0,1	0,0	0,0	0,1	0,2	0,2	0,2	0,3	0,2	0,1
10	Cereals	0,2	0,2	0,5	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,5
11	Products of the milling industry	0,0	0,2	0,1	0,1	0,2	0,1	0,1	0,1	0,2	0,1	0,1
12	Oil seeds	0,5	0,2	0,4	0,3	0,3	0,3	0,3	0,3	0,3	0,2	0,3
13	Lac; gums	0,0	0,0	0,1	0,0	0,0	0,1	0,2	0,2	0,1	0,0	0,0
14	Vegetable plaiting materials	0,5	0,4	0,3	0,7	0,0	0,0	0,5	0,9	0,8	0,3	0,3
15	Animal or vegetable fats and oils	0,6	0,5	0,5	0,8	0,5	0,4	0,6	0,6	0,5	0,4	0,3
16	Preparations of meat, of fish	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
17	Sugars and sugar confectionery	0,6	0,8	0,9	0,9	0,5	0,5	0,7	0,9	1,0	0,7	0,7
18	Cocoa and cocoa preparations	0,2	0,2	0,2	0,4	0,4	0,4	0,5	0,5	0,5	0,5	0,4
19	Preparations of cereals, flour	0,4	0,4	0,5	0,5	0,6	0,6	0,7	0,6	0,5	0,5	0,5
20	Preparations of vegetables, fruit	0,6	0,5	0,6	0,5	0,5	0,5	0,6	0,5	0,7	0,5	0,5
21	Miscellaneous edible preparations	0,2	0,2	0,2	0,2	0,2	0,2	0,3	0,2	0,3	0,2	0,2
22	Beverages, spirits	0,4	0,4	0,5	0,5	0,5	0,4	0,4	0,4	0,4	0,4	0,4
23	Residues and waste from the food	0,9	1,0	1,0	0,6	0,8	0,8	0,7	0,7	0,8	0,9	0,9
24	Tobacco	0,5	0,5	0,6	0,5	0,4	0,4	0,4	0,4	0,5	0,5	0,3

*preliminary data for 2020
Source: author's calculations based on WITS data

Average values of 0.5 are hold by such groups as: meat, dairy products, edible vegetables, fruits and nuts, vegetable plaiting material and preparations of cereals, while values close to 0 (inter-industry trade) have

been recorded for fish and crustaceans, other products of animal origin, coffee and tea, products of the milling industry, lac and gums, preparations of meat and fish.

Conclusion

Republic of Moldova has a net positive balance in trade with agri-food products during 2010 - 2020, both exports and imports increasing with 48.6% and 43%, respectively. The agri-food trade has a higher Open Trade Index compared to total trade, while the country is currently competitive in providing the foreign market with low added value products like oil seeds, cereals, animal or vegetable fats and oils (high levels of RCA) and less competitive in products from the livestock sector (except for live animals) and foodstuff (except beverages).

According to the Grubel-Lloyd index, average values closer to 1 are noticed in such commodity groups like: live animals, residues and waste from the food, sugars and sugar confectionery, preparations of fruits and vegetables, while values close to 0 have been recorded for fish and crustaceans, other products of animal origin, coffee and tea, products of the milling industry, lac and gums, preparations of meat and fish.

The future prospects on competitiveness of Moldova's agri-food products may be based on the stimulation for development of added value sub-sectors, enhance of skilled labour force in the sector, improvement of the quality and distinctiveness of products, development of quality standard infrastructure, investments in post-harvest and processing infrastructure, etc.

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