

The Assessment of South-South Trade Potentialities: The Case of Turkey and ECOWAS Countries.

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Abstract

This paper presents an economic analysis of the intensity and the trade potential between Turkey and the ECOWAS countries. Using the trade intensity, the trade complementarity and the revealed comparative advantage indexes, the results indicate that Ghana, Burkina Faso, and Togo have high export proportions towards Turkey while Benin, the Gambia, Ghana, Guinea, Senegal, and Togo are increasingly using Turkey as a source of imports. Ghana appears to be the country with the most integrated trade relationship with Turkey compared to other countries in the region. Turkey has a comparative advantage over most of the ECOWAS countries in foodstuffs, textiles, metals, miscellaneous, and plastic and rubber. The trade complementarity index shows that a trade agreement would be ideal between Turkey, Ghana, and Guinea but such an agreement would not be viable for Liberia and Mali, while the results are less conclusive for the remaining of countries. In light of these results, we emphasize that trade potentials exist between Turkey and ECOWAS, notably in the processed food sector, textile, and cotton processing plants, and for an effective trade agreement implementation, individual characteristics of each ECOWAS country need to be taken into account.

Key Words: South-South trade, Trade agreement, Trade complementarity, Trade intensity, ECOWAS, Turkey.

JEL Classification: F14, F15, O57

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1. Introduction

South-South trade, defined as trade between developing countries, has been boosted in recent decades. As a share of world trade, it went from 11.4% in 1995 to 25.3% in 2015, largely dominated by intra-regional trade especially within Asian countries (UNCTAD, 2016). Meanwhile, the share of Africa's trade with developing economies almost doubled, particularly driven by the growing share of exports to China (1.2% to 10.6%) but also by intra-African exports from 12.4% to 17.7% (Horner and Nadvi, 2018).

The enthusiasm generated by South-South trade could partly be explained by the cultural and social proximity between these groups of countries, though some significant disparities exist amongst them. The emerging countries such as China, India or Turkey, are supposed to better understand the current challenges facing those who are still falling behind and thus would be able to provide them with adequate strategies. Hence, South-South cooperation is expected to continue to play a key role in the future development of poor nations through partnerships, knowledge exchange, and finance (Ekor *et al.*, 2015).

Following this trend, African countries have somewhat freed themselves from the colonial powers by intensifying their trade with emerging countries, notably China. Since 2009 China has become a large trade partner of Africa, surpassing the United States. In 2018, its share in Sub Saharan Africa's (SSA) imports was 7.80% and 17.50% for exports (WITS, 2018). Before the 2008's economic crisis, Africa's trade share with other emerging markets was around 30%, in 2011, it was getting closer to 50% and by 2020, the trend is expected to be around 70% (UNECA, 2011). However, outside of Asia, the main South-South exporters are suppliers of raw materials and regional industrial powers such as Brazil or Turkey (Chaponnière and Lautier, 2012). Turkey ranked as the 31st largest exporter in the world in 2018, experienced a dynamic change in its economy in the last decade that make it possible to expand its size in international markets. Since the beginning of the 2000s, Turkey has been increasingly penetrating Africa's market with a substantial improvement of its trade flow (TUIK, 2018). As one of the emerging countries with significant economic progress in recent years, it has reoriented its economic diplomacy and resolutely put itself in the exploration of new markets in Africa.

In this vein, Afacan and Bacik (2013), argued that Turkish expansion in SSA countries may be explained by both economic and political interests. Relying mostly on export-oriented strategy, it needed to conquer an alternative markets to its exports after the recession in the western world and secondly, the goal is to break its possible isolation emerged from certain crises such as Cyprus crisis, and to provide precious voting support in forums like the United Nations. Ozkan (2010), emphasizes the need for Turkey to gain allies and converge views in some international debates, and the transformation of its economy that requires exploration of new economic partnerships.

Traditionally Turkey's trading relationship in Africa has been focused in North Africa. To some extent, this can be explained by their geographical proximity, and historical links materialized by Turkey's presence in North Africa back to Ottoman empire (Ozkan, 2010). Between 2008 and 2017 North Africa countries' share in Turkey's exports was on average 5.8% while that of SSA countries was 2.6% (TUIK, 2018). Focusing on West African countries

and specifically on the Economic Community of West African States (ECOWAS)¹, Turkey's trade with this economic area has been very marginal until 2006. ECOWAS's share in Turkey's exports, which remained around 0.03% of total exports in 2001, experienced a strong upward trend and approached 1% in 2017 (TUIK, 2018). This share, though seemingly negligible, deserves our attention as these countries are mostly low-income countries. Also, the deepening of their trade relation is very recent and thus, efforts remain to be done in order to intensify or to transform this relationship which could bring hope for development, considering the new pattern that global trade is taking among developing countries.

ECOWAS countries aim to transform their economy and engage in partnerships that can help them achieve pro-poor structural change. It becomes then important to analyze and prospect to what extent the ongoing partnership could lead to more gain for both parties. This study aims to make an economic analysis of the intensification and the potential of trade relationships between Turkey and the ECOWAS countries. It analyzes the current economic relations path and explores the potential for trade and investment achievable between both partners. Specifically, we analyze the sectoral advantage path between Turkey and ECOAWS countries. Moreover, we assess to which extent both parties exploit the potential of trade between them, and we explore the similarity between their imports and exports. There are many global studies (Ozkan, 2010; Afacan and Bacik, 2013) analyzing relations between Turkey and Africa in general, but they almost all focus on the political aspects of Turkey's growing interest in Africa. This paper is intended to serve as a seminal paper attempting to study this relationship from a strictly economic perspective.

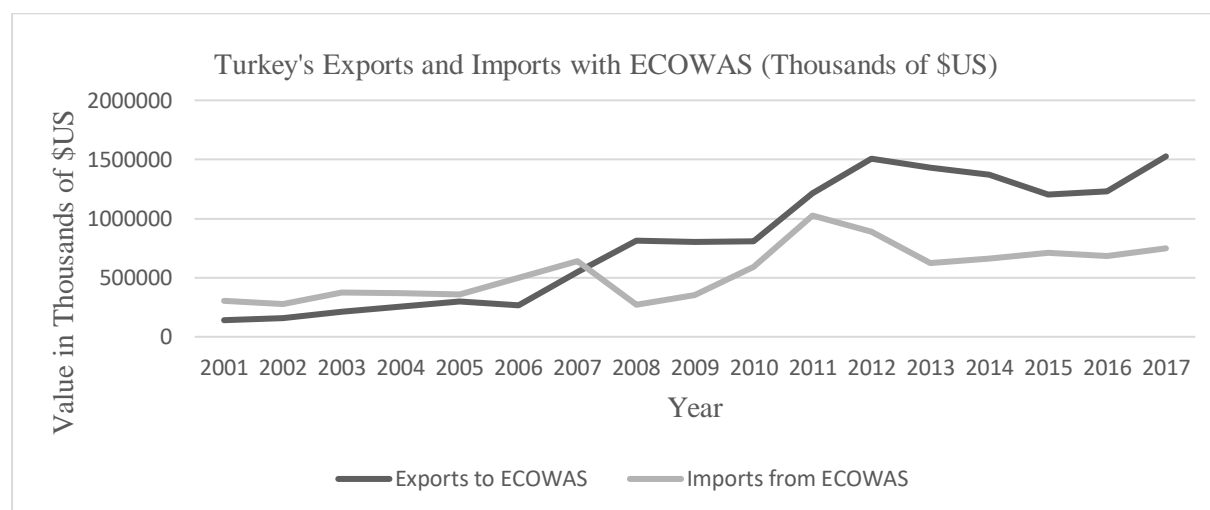
The remainder of the paper is structured as follows: Section 2 presents trade evolution between Turkey and ECOWAS; Section 3 provides empirical results and final section concludes.

2. Trade Flows Between Turkey and ECOWAS

As shown in Figure 1, three phases can be noticed in the trade relationship between Turkey and ECOWAS. From 2001 to 2007, ECOWAS had a trade surplus over Turkey. The exports of Cotton, Woods, Mineral Fuel, Fish and crustaceans, by ECOWAS countries to Turkey mainly drive this surplus. Between 2007 and 2011, Turkey gained a better position as its trade balance became positive, but there was still some trend toward gap reduction until 2011, a year after which Turkey gained a definitive advantage up to 2017. The emergence of Turkey after 2007 could be explained by the diplomatic offensive it has implemented in Africa from 2005. In fact, Turkey declared the year 2005 as "Year of Africa" and the first international Turkish-African Congress was held in Istanbul the same year. Since then, each year an economic event gathers Turkey and African countries.

¹Economic Community of West African States (ECOWAS) is a regional economic union of fifteen countries. Member states are Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Togo. For data availability issue we removed Sierra Leone from the study.

Figure 1: Trade flows between Turkey and ECOWAS countries



Source: by authors

ECOWAS share in Turkey’s total trade is still very low. In fact, Turkey is not a top trade partner² of these countries even though their trade relation is globally growing (Figure 2). With a total population of 350 million, the majority of ECOWAS countries are low-income countries, mostly agricultural and raw materials extraction-based economies³. The goal of ECOWAS has been to promote and sustain exchanges between its members as well as with the rest of the world. Due to its historical past, the European Union (EU) and the United State (US) are its historical and natural trading partner, but recently, China and India started gaining influence on the continent given their size in the world market. Referring to Turkey, the share of ECOWAS in its total trade is less than 1% (See Figure 2), reflecting the overall low level of exchange between them.

The largest partner of Turkey in terms of exports is Nigeria, representing 31% of Turkey exports to ECOWAS on average, followed by Ghana (14.3%), Senegal (11.6%), Liberia (10%), Cote d’Ivoire (7.26%), and Benin (5.32%). In terms of imports, Nigeria (43.7%), Ghana (22.12%), Cote d’Ivoire (21.29%) and Burkina (4.92%) are respectively the top partners of Turkey in West Africa (See Appendix-Table 13 and Table 14).

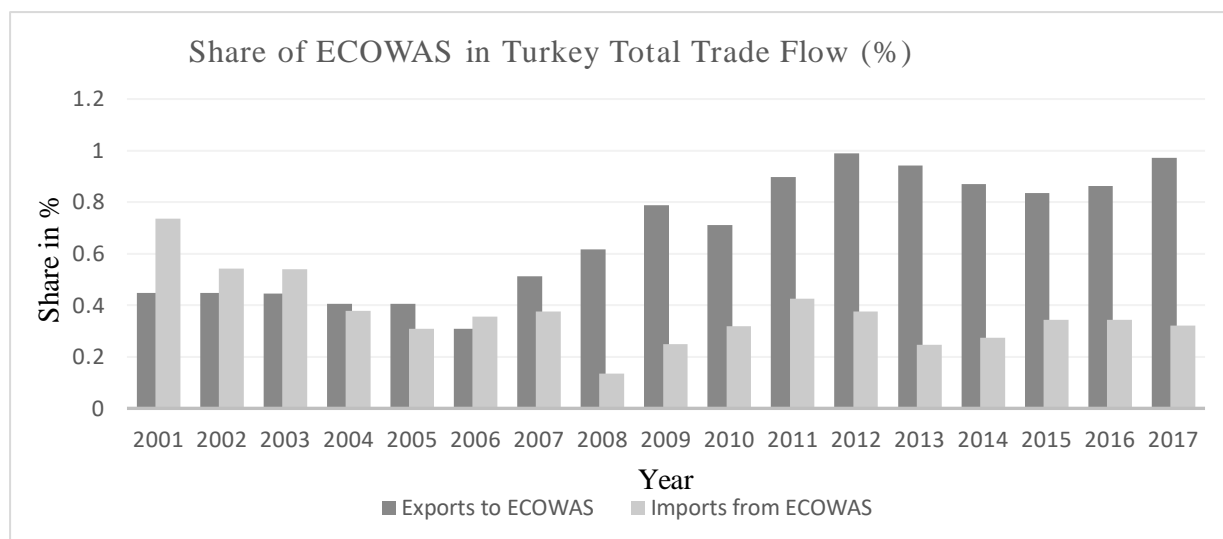
Over the period 2005 and 2016, the products exported by ECOWAS countries to Turkey are mainly composed of Vegetable products (HS 2)⁴, Foodstuffs (HS 3), Mineral products (HS 4), Textile (HS 9) Stone Glass (HS 11), and Transportation (HS 14).

² Europe accounts for about 28% of ECOWAS exports with 23% for the European Union. The Americas account for 40 % (34 % for the Free Trade Association of North America (NAFTA) involving the United States, Canada and Mexico). With the raise of South-South trade, Asian countries capture 16% of exports (ECOWAS, 2020).

³ External trade of ECOWAS is dominated by fuels coming from extractive industries (75% of exports) Cocoa and cocoa food preparations (5% of exports), precious stones (3%) and secondarily cotton, edible fruit, rubber, plastics, wood and wood products, fish and shellfish (about 1% each) (ECOWAS, 2020).

⁴HS stands for: Harmonized System Codes or Harmonized Commodity Description and Coding System.

Figure 2: ECOWAS' share in Turkey's Total Trade



Source: by authors

In return Vegetable products (HS 2), Foodstuffs (HS3), Mineral products (HS4), Chemicals & Allied Industries (HS 5), Plastics / Rubbers (HS 6), Textile (HS 9), Metal (HS 12), Machinery / Electrical (HS 13) are respectively the main products they imported from Turkey (Appendix-Table 4 and Table 5). To have good insight, a deep analysis of this trade relationship through statistic indexes is important.

3. Assessment of the Pattern and the Potential of Trade and Investment Between Turkey and ECOWAS Countries.

3.1. Methodology and Data

A deep analysis of trade pattern and trade potential is done by using statistical measures commonly used when analyzing trade flows between countries. We use three indexes: The Revealed Comparative Advantage index (RCA), the Trade Intensity index (TI) and the Trade Complementarity index (TC). These indicators are useful analytical tools for analyzing trade flows between countries (WTO, 2012). Data used in this study comes from three principal sources: International Trade Center (ITC), the UN Comtrade, and the Turkish Statistical Institute (TUIK) database, and cover the period 2001-2017. The choice of this period mainly lied on the data availability.

3.1.1. Revealed Comparative Advantage (RCA)

The revealed comparative advantage (RCA) index is an indicator of a country's relative advantage or disadvantage in a specific industry as evidenced by trade flows. It helps assess a

country's export potential. An index above the unit (1) indicates that a country's share of exports in that sector exceeds the global export share of the same sector. So, the country has a comparative advantage in that sector. The formula is:

$$RCA_{ijk} = \frac{\frac{x_{ijk}}{X_{ij}}}{\frac{x_{wjk}}{X_{wj}}} \quad (1)$$

Where x is the value of exports of product k from country i to destination j , and X is the total exports from i to j ; w indicates the world as origin. Values of RCA between 0 and 1 indicates a comparative disadvantage, while above 1 it indicates a comparative advantage.

3.1.2. Trade Intensity Index (TI)

The trade intensity index is used to determine whether the value of trade between two countries is greater or smaller than would be expected on the basis of their importance in world trade. It is defined as the share of one country's exports going to a partner divided by the share of world exports going to the partner. It is calculated as:

$$T_{ij} = \frac{\frac{x_{ij}}{X_{iw}}}{\frac{x_{wj}}{X_{ww}}} \quad (2)$$

Where x is the value of exports from origin country i to destination j , and X is total exports from i of product k ; w indicates the world as origin. The values of the index range from 0 to $+\infty$. A value greater than 1 indicates a relationship more intense than the world average for the partner.

3.1.3. Trade Complementarity Index (TC)

The trade complementarity index indicates to what extent the export profile of the exporter matches, or complements, the import profile of the partner. A high index may indicate that two countries would stand to gain from increased trade, and may be useful in evaluating prospective bilateral or regional trade agreements. The TC formula is:

$$TC_{ij} = 100 * \left[1 - \sum_k \left(\left| \frac{m_{jk}}{M_j} - \frac{x_{ik}}{X_i} \right| / 2 \right) \right] \quad (3)$$

Where: x is the value of exports of product k from exporter country i , and X is country i 's total exports. Partner country j 's value of imports of product k is given by m , and its total imports value is denoted by M . The value range between 0 and 100. A score of 100 indicates ideal trading partners while a score of 0 indicates that the two countries are perfect competitors.

Findings from these indexes in Turkey and ECOWAS trade relationships are reported and discussed in the next section.

3.2. Empirical Results

3.2.1. Revealed Comparative advantage (RCA)

Table 6 (See Appendix) shows the RCA evolution between Turkey and each ECOWAS countries. Turkey is observed to have an advantage in Foodstuffs (HS3), Textiles (HS9), Metals (HS12), and Miscellaneous (HS15) and overall, in Plastic and rubber (HS6). In contrast, it has a disadvantage in Animal & Animal Products (HS1), Vegetable Products (HS 2), Mineral Products (HS4), Raw Hides, Skins, Leather, & Furs (HS7), Wood & Wood Products (HS 8), Footwear / Headgear (HS10), and Transportation (HS14). We can notice an advantage for Turkey in Miscellaneous (HS15) products category compared to countries like Burkina Faso, Guinea, Mali, Nigeria, and Senegal, but a disadvantage with Cape Verde, Gambia, Niger, Ivory Coast, and Benin. In fact, China holds world comparative advantage in these products and it is worth noticing that China is one of the top trade partners of most SSA countries (WITS, 2020). China produces Miscellaneous products at a lower cost, then it can sell them at relatively cheaper prices. Hence, any country trying to capture market share in these products has to directly compete with China.

Among all ECOWAS countries, Liberia appeared to be the country that has a large disadvantage with Turkey in many sectors. In fact, over the period of study Turkey has an advantage in 8 out of 15 sectors⁵ over Liberia. Liberia has been an unstable country for years⁶. It only started to find political stability during the last decade. An intense trade relationship and investments can help its economic recovery.

In contrast with Liberia, there are some countries against which Turkey starts losing its advantage in specific products. That is the case for Benin and Nigeria (HS 4); Cape Verde (HS 8); Guinea Bissau (HS 3); Cote d'Ivoire (HS 2) and start gaining in HS-15 for Benin, Cabo Verde, Gambia and Togo; HS-9 for Senegal; HS-3 for Nigeria; HS-6 for Nigeria, Niger, Guinea, Gambia; HS-13 for Liberia; HS-8 for Guinea and Cote d'Ivoire, HS-4 for Cote d'Ivoire and HS-14 for Burkina Faso.

3.2.2. Trade intensity

Table 1 and Table 2 present trade intensity between Turkey and fourteen countries in ECOWAS. Even though none of these countries has Turkey as a top trade partner, Turkey appears to have intense trade relations with Senegal, Ghana, Guinea, The Gambia, Benin, Togo, and Niger (especially in the last years). Three out of fourteen countries have high export proportions toward Turkey (Table 5). Between these countries, the index with Ghana is significantly above one (1) over most of the study period. For the other two countries, Burkina

⁵ Animal & Animal Products (HS1); Vegetable Products (HS3); Mineral Products (HS4); Chemicals & Allied Industries (HS5); Plastics / Rubbers (HS6); Textiles (HS9); Stone / Glass (HS 11); Metals (HS 12)

⁶ Most violent civil war years in Liberia were between 1989 and 2003.

Faso and Togo, the results are more mixed, although improvements are noticeable in recent years. These results could suggest that so far, Turkey is much less dependent on imports from West Africa.

Table 1: Trade intensity Turkey/ECOWAS

Year	Benin	Burkina	Cape Verde	Cote D'iv	Gambia	Ghana	Guinea	Guinea Bissau	Liberia	Mali	Niger	Nigeria	Senegal	Togo
2001	1.32	0.18	2.44	0.66	4.93	1.10	1.57	n.a.	0.42	0.52	0.46	1.70	1.52	0.83
2002	1.22	0.49	3.87	1.08	6.89	n.a.	1.65	n.a.	0.09	0.66	0.32	1.28	1.74	3.60
2003	0.96	0.62	2.50	0.68	10.04	1.82	n.a.	0.76	0.81	0.62	0.61	0.71	1.76	0.70
2004	0.82	0.38	1.68	0.44	8.75	1.21	1.14	0.13	1.52	0.67	0.72	n.a.	1.30	1.60
2005	0.81	0.47	1.00	0.64	5.60	0.91	1.04	0.23	1.28	0.91	0.74	n.a.	1.41	1.23
2006	0.84	n.a.	1.21	0.72	5.95	0.86	2.24	0.14	0.19	0.59	0.64	0.51	1.54	n.a.
2007	2.93	0.42	1.36	0.62	7.07	1.49	1.82	0.66	1.64	0.71	1.49	0.53	1.72	2.09
2008	1.80	0.46	1.63	0.61	6.52	1.42	1.78	0.24	1.62	0.32	1.56	1.20	1.67	1.81
2009	2.23	0.40	0.89	1.03	8.24	1.36	1.12	0.35	1.82	n.a.	0.82	0.92	2.44	3.28
2010	7.25	0.67	1.06	0.81	9.62	1.59	2.34	1.46	0.54	0.28	0.86	0.75	2.31	3.36
2011	5.60	0.81	0.79	1.31	15.87	2.32	2.75	1.03	0.44	0.72	1.71	0.83	3.52	4.58
2012	4.12	0.48	0.70	0.95	11.14	1.99	3.19	0.85	0.78	0.67	2.78	1.48	2.41	18.50
2013	5.39	0.61	1.20	0.85	12.09	1.74	6.57	2.05	1.00	n.a.	3.36	1.17	2.26	5.63
2014	3.22	0.86	1.02	1.00	6.42	n.a.	3.16	1.81	1.05	n.a.	1.96	1.18	3.05	3.71
2015	3.59	0.80	0.97	1.38	4.40	n.a.	3.00	2.09	1.08	n.a.	1.45	1.06	2.61	2.97
2016	3.59	0.83	0.86	1.46	5.29	2.94	2.01	1.30	0.76	1.88	1.44	0.77	3.15	2.23
2017	3.27	0.82	1.6	1.8	0.01	0.68	0.22	0.36	3.37	1.19	0.033	0.29	0.12	1.22

Source: Author's calculations

Note: n.a. indicates a year with no reported data by a country.

On the other hand, considering the index with Turkey exports to ECOWAS countries (Table 4), we can notice that six out of the fourteen countries are increasingly using Turkey as a source of imports. Indeed, the TI index with Benin, the Gambia, Guinea, Ghana, Senegal, and Togo exceed one (1) and improves over time. The case of Nigeria, Liberia and Cote d'Ivoire remain more mixed. Given that most of these countries have had the United Kingdom or France as a colonial power they have almost a natural commercial relationship with the E.U. or the U.S. countries. Ghana is the country with the most integrated trade relationship with Turkey compared to other countries in the region since its index on both sides is globally above 1. It should be noted that Ghana has made economic progress in recent years by diversifying its economy in addition to its natural resources such as gold and recently Petroleum which allows it to better integrate international markets. It has thus moved from LDCs status to Lower-Middle Income country.

Table 2: Trade intensity ECOWAS/Turkey

Year	Benin	Burkina Faso	Cape Verde	Cote D'iv	Gambia	Ghana	Guinea	Guinea Bissau	Liberia	Mali	Niger	Nigeria	Senegal	Togo
2001	8.30	0.66	0.00	0.70	2.82	3.07	0.03	n.a.	0.99	0.00	0.03	1.87	0.03	2.00
2002	2.61	0.97	0.00	0.75	0.00	n.a.	0.07	n.a.	1.31	0.00	0.03	1.22	0.05	1.42
2003	0.01	0.39	0.00	0.89	7.55	4.42	n.a.	0.00	0.63	0.00	0.13	1.00	0.01	0.95
2004	0.01	0.44	0.00	0.87	0.04	3.06	0.00	0.00	2.01	0.04	0.00	n.a.	0.01	1.18
2005	0.65	0.07	0.00	0.40	2.20	2.12	0.02	0.00	0.66	0.24	0.02	n.a.	0.03	0.59
2006	1.20	n.a.	0.00	0.46	0.00	1.36	0.04	0.00	0.12	0.07	0.11	0.55	0.03	n.a.
2007	0.65	1.19	0.01	0.86	0.71	0.94	0.05	0.16	0.07	0.12	0.14	0.74	0.09	0.24
2008	0.18	0.62	0.02	0.96	0.01	0.96	0.33	0.05	0.24	0.03	0.18	0.08	0.07	0.78
2009	0.00	0.54	0.00	0.77	0.01	1.76	0.06	0.00	0.07	n.a.	0.01	0.26	0.06	0.07
2010	0.49	2.83	0.00	0.77	0.02	3.02	0.11	0.00	0.61	0.06	0.00	0.21	0.06	0.87
2011	0.18	4.77	0.06	0.94	0.04	1.21	0.08	0.00	0.21	0.09	0.00	0.22	0.07	4.14
2012	0.31	8.20	0.00	0.87	0.66	1.50	0.17	0.26	1.41	0.06	0.00	0.06	0.07	3.70
2013	0.21	1.17	0.00	0.82	0.00	1.20	0.53	0.03	0.61	n.a.	0.01	0.13	0.16	3.03
2014	0.12	0.67	0.24	1.43	0.04	n.a.	0.22	0.17	1.01	n.a.	0.00	0.11	0.13	4.42
2015	0.37	1.66	1.13	1.83	0.02	n.a.	0.20	0.43	0.14	n.a.	0.01	0.31	0.17	0.97
2016	0.56	1.43	3.38	1.90	0.00	1.36	0.21	0.44	0.69	0.26	0.01	0.39	0.19	0.65
2017	2.29	1.71	0.60	1.67	7.77	2.0	2.56	2.44	10.40	1.36	2.45	1.31	4.08	4.11

Source: Author's calculations

Note: n.a. indicates a year with no reported data by a country.

3.2.3. Trade complementarity Turkey/ECOWAS

The Trade Complementarity index indicates how better exports and imports match between two partners. So, it shows whether both countries are natural trading partners and it stands as an indicator for a trade agreement implementation.

Table 3: Trade Complementarity between Turkey and ECOWAS countries.

TCI	Benin	Burkina Faso	Cape Verde	CIV	Gambia	Guinea	Ghana	Liberia	Guinea Bissau	Mali	Niger	Nigeria	Senegal	Togo
2001	66.35	60.73	65.24	55.92	60.88	65.91	62.02	30.15	n.a.	34.12	49.94	62.11	60.81	61.87
2002	61.41	65.82	65.36	56.92	60.29	63.85	n.a.	30.97	n.a.	37.47	53.22	61.79	59.72	61.47
2003	61.73	69.06	60.00	61.18	59.18	n.a.	64.99	34.51	45.55	33.67	55.53	61.08	55.38	62.47
2004	57.88	67.87	66.66	64.35	56.41	69.49	66.91	39.45	58.04	35.50	56.24	n.a.	54.89	56.20
2005	59.31	66.16	64.64	66.27	61.30	48.48	70.78	40.47	41.62	36.51	58.23	n.a.	56.91	58.13
2006	57.56	n.a.	66.30	59.81	65.99	66.28	72.48	41.34	56.07	32.26	61.42	69.74	59.44	n.a.
2007	60.54	68.03	71.22	62.02	65.39	74.15	75.58	42.42	65.17	31.53	59.98	73.83	57.22	58.32
2008	63.44	65.40	67.88	57.05	62.57	74.52	74.03	43.34	57.84	28.99	59.24	75.36	57.36	62.46
2009	64.68	67.56	67.25	62.26	61.46	68.57	76.30	40.84	57.54	n.a.	72.45	68.73	64.27	68.07
2010	57.30	70.11	71.43	69.36	61.26	72.31	76.21	39.55	61.59	25.41	77.48	70.66	61.79	67.17
2011	62.53	66.98	70.52	58.00	60.95	73.25	79.58	43.08	63.12	29.30	68.03	67.49	60.44	72.11
2012	60.13	66.79	67.63	62.67	54.65	66.95	78.15	44.10	65.41	31.47	64.23	64.27	58.19	65.05
2013	63.44	70.96	62.59	67.40	55.42	70.97	81.64	44.49	56.58	n.a.	70.90	68.72	59.78	66.88
2014	57.38	64.79	70.26	69.82	53.66	68.31	n.a.	45.63	53.54	n.a.	67.09	70.52	59.72	71.78
2015	59.66	66.73	66.74	67.13	54.92	74.32	n.a.	48.20	59.67	n.a.	64.85	69.42	64.14	73.30
2016	50.26	69.58	65.22	68.65	54.04	70.40	77.18	45.12	62.79	30.31	63.22	64.16	65.80	74.91
2017	45.68	n.a.	n.a.	0.00	0.00	n.a.	n.a.	0.00	n.a.	n.a.	0.00	0.00	n.a.	0.00

Source: Author's calculations.

Note: n.a. indicates a year with no reported data by a country.

In Table 3, it can be observed that most of the countries show an index around 50. A trade agreement will clearly be ideal between Turkey, Ghana, and Guinea. It could also be ideal for Nigeria, Cote d'Ivoire, Cape Verde, Burkina Faso, Togo, and Niger. Such a deal would not be viable for Liberia and Mali because the offer (resp. demand) of goods of Turkey and demand (offer) of goods of Liberia and Mali in each commodity do not match well.

However as stated by Bhagwati and Panagariya (1996), even if the mainstream is that complementarity matter for a reciprocal benefice from the trade agreement, a loss from the creation of Preferential Trade Agreement (PTA) is predicted if the volume of trade is greater before the conclusion of the PTA.

3.3. Trade Structure Between Turkey and ECOWAS

To analyze in depth, the exchanges between the two parties we implement a matching exercise by comparing 4 digits' products. For this purpose, we compare Turkey and ECOWAS' world trade flows from 2015 to 2017. Overall, products exported by Turkey to ECOWAS mainly consist of Foodstuffs⁷, Machinery and Equipment⁸ with a low and medium technological value added.

Considering the 15 major products exported by ECOWAS to the rest of the world (Appendix 2), only two products correspond to the main products imported by Turkey from the rest of the world: Petroleum oils and oils obtained from bituminous minerals (2710) and Gold, incl. gold plated with platinum (7108); And three goods are part of the major Turkey imports from the ECOWAS countries: Cotton (5201), Gold, including gold plated with platinum (7108) and Petroleum gas and other gaseous hydrocarbons (2711).

It's interesting to note that Polymers of ethylene, in primary forms (3901) purchased by Turkey from ECOWAS (in 2011 and 2017) is among the top products imported by Turkey from the rest of the world but is not among the top products exported by ECOWAS to the rest of the world.

Three conclusions can be drawn from these observations. First, there may not be a perfect match between the needs of Turkey in terms of imports, and goods mainly exported by ECOWAS since only two products match. That would partly explain the low rate of trade between them. Secondly, as Turkey buys ECOWAS' non-major export products, combined with the fact that this trade is increasingly growing, can help boost the potential of ECOWAS in terms of diversification of its export products. If this trade relationship increases in the long term, it may contribute promoting new sectors or products like Soybeans. Thirdly, there is untapped sector (2710- Petroleum oils and oils obtained from bituminous minerals) where ECOWAS can capture a potential market share. But this can also be more difficult in practice since this product is a strategic product with mostly a long term contract already set in advance with countries.

⁷ In this category, Turkey mainly exports Pasta; Cakes, Biscuit, Pastry; Cigars and Cigarettes; Chocollatte; Yeasts.

⁸ Turkey mainly exports Wire, Cables; Electrical transformers and inductors; Boards and Panels; Machinery for Cleaning or sorting grains, or dried leguminous; Freezing and Heating Equipment.

In the other hand, considering the top 15 products imported by ECOWAS from the rest of the world, two correspond to the main products exported by Turkey to the rest of the world: (Petroleum oils and oils obtained from bituminous minerals (2710) and Motor cars and other motor vehicles (8703)); and three categories of products match with Turkey's exports to ECOWAS (Petroleum oils and oils (2710); Structures and parts of structures "e.g., bridges and bridge-sections, lock-gates, towers, lattice masts, roofs, roofing frameworks, doors and windows and their frames and thresholds for doors" of iron or steel (7308); Cement, including cement clinkers, whether or not colored (2523)). A possibility of trade in Motor cars and other motor vehicles (8703) is not fully used.

4. Concluding Remarks

The ongoing globalization process requires for African countries, to go beyond traditional and historical relations and prospect new partnerships. It becomes evident that this process cannot be achieved without emerging markets. China understands this by intensifying its cooperation with Africa. Turkey is relatively a newcomer in the African market, particularly in SSA.

This study shows that despite Turkey not being among the top trade partners of ECOWAS it appears to have intense trade relation with Senegal, Ghana, Guinea, The Gambia, Benin Togo, and Burkina Faso. Three out of fourteen countries seem to have high export proportions toward Turkey and six countries are increasingly using Turkey as a source of their imports. Ghana is the country with the most integrated trade relationship with Turkey compared to other countries in the ECOWAS zone.

Turkey has a comparative advantage globally on Food stuff (HS-3), Textiles (HS-9), Metals (HS-12) and Miscellaneous (HS-15). However, considering each country specifically, we have globally two trends. First, countries that have a disadvantage in a lot of sectors, that is the case of Liberia and secondly, there are some countries with which Turkey starts losing the advantage in specific sectors. That is the case for Benin and Nigeria (HS-4), Cabo Verde (HS-8), Guinea Bissau (HS-3), Ghana (HS-6), and Cote d'Ivoire (HS-2). We emphasize that potential in terms of trade and investments exist between Turkey and ECOWAS notably in the food processing sector, given that these countries are mostly agricultural-based economies. Adding value to domestic agricultural products before exporting them is a big challenge for LDCs in general. As most of the transformed and consumed foods in Turkey are locally made, Turkey has the ability to engage in a win-win partnership with some ECOWAS countries by investing in products transformation like Fruit juice or Nuts. For example, Mango in Mali, Pineapple and Cashew in Benin, Ground Nuts in Senegal or Gambia. In the case of Liberia, we emphasized that all-else-being-equal, it appears to be a key point in this relationship. Liberia has been an unstable country for years and it only started to find political stability during the last decade. Trade relationships and investment can help its economic recovery.

The trade complementarity index shows that a trade agreement would clearly be ideal between Turkey, Ghana, and Guinea. Such a deal would not be viable for Liberia and Mali while the result is less conclusive for the remaining of countries. Results also show that there are two product groups (Motor cars and other motor vehicles (8703); Petroleum oils (2710)) for which the potentialities are not fully used. However, Turkey import of some ECOWAS non-top

exports products can enhance the diversification process. Benin, Burkina Faso, Mali, and Togo are top cotton producing countries in SSA. Turkey can take part in this sector by investing in cotton processing plants while benefiting from affordable labor cost.

Energy and infrastructures are one of the major challenges faced by African countries. As most of LDC countries, ECOWAS countries deal with these issues in their multilateral cooperation notably with World Bank. The potential of Africa in Energy is great especially renewable energy but, in the meantime, the lack of electricity remains a puzzle. As investments in these sectors carry high costs, there is a possibility for Turkish firms to join this process through development agencies like World Bank programs.

Turkey and ECOWAS are planning to sign a trade agreement. A special emphasis has been laid on this deal during the West African economic business forum held in Istanbul in 2018. To be favorable for both parties, ECOWAS countries should stimulate Turkey to invest in low skill and medium-size industries, infrastructure construction projects and investment in the tourism sector. That would contribute to improve infrastructure for trade and should, in the long run, improve the trade relationship between partners and could help avoid the classical pattern observed in trade between LDCs and developed countries for a long time.

Considering the textile sector, Turkey buys raw cotton from ECOWAS countries (Burkina Faso, Mali, Benin, Cote d'Ivoire, and Togo are the top exporters). Its potential in textile is huge but exports of clothes made in Turkey, to ECOWAS region is relatively recent. ECOWAS market is large, consisting of more than 350 Million people, and we think this potentiality is underexploited. There are sectors like soybeans and vegetable oil (for instance based on cotton grain) which are stagnating because of weak demand. Turkey already started boosting soybeans demand for example in Benin and there are still opportunities for vegetable oil production in many countries like Benin, Senegal, and the Gambia.

It is important for ECOWAS to take advantage of this partnership to acquire equipment, aiming at improving the development of small industries, a prelude to technological mastery. Sectors to target include crafts activities such as carpentry, construction, sewing, and the processing of agricultural products. However, a prerequisite for a better implementation of our recommendation is that ECOWAS countries strengthen the peace process and keep improving trade infrastructures through their national and sub-regional policies that are important measures in economic development and investments attraction. The scope of this work was limited by the unavailability of bilateral investment and service sector data which would have made it possible to refine the analyses.

References

- Afacan, I. and Bacik, G. (2013). Turkey Discovers Sub-Saharan Africa: The Critical Role of Agents in the Construction of Turkish Foreign-Policy Discourse. *Turkish Studies*, 14:3, 483-
- Bhagwati, J. and Panagariya, A. (1996). Preferential Trading Areas and Multilateralism: Strangers, Friends or Foes? in Jagdish Bhagwati and Arvind Panagariya, eds., *The Economics of Preferential Trade Agreements*, AEI Press, Washington, D.C.
- Chaponnière, J. & Lautier, M. (2012). VI. La montée des échanges Sud-Sud dans le commerce mondial. Dans: CEPII éd., *L'économie mondiale 2013* (pp. 91-103). Paris: La Découverte.
- Ekor, M., Adeniyi, O., & Saka, J. (2015). Trade Intensity Analysis of South Africa-BRIC Economic Relations. *Eastern Africa Social Science Research Review* 31(2), p.1-34.
- Horner, R. and Nadvi, K. (2018). Global value chains and the rise of the Global South: unpacking twenty-first century polycentric trade. *Global Networks*, 18: 207-237.
- Ozkan, M. (2010). What drives Turkey's involvement in Africa? *Review of African Political Economy*, 37:126, 533-540,
- UNECA (2011), Economic report on Africa 2011: governing development in Africa-The role of the state in economic transformation, Addis Ababa.
- WTO (2012), A Practical Guide to Trade Policy Analysis. ISBN: 9789287043245 (HTML), 9789287045508 (PDF),
- ECOWAS (2018), <http://www.ecowas.int/documentation/statistics/> (Consulted on December 22, 2018)
- ECOWAS (2020), <https://www.ecowas.int/doing-business-in-ecowas/import-and-export/> (Consulted on May 5, 2020)
- TUIK (2018), <http://www.turkstat.gov.tr/UstMenu.do?metod=kategorist> (consulted on February 10, 2018)
- WITS (2018), <https://wits.worldbank.org/analyticaldata/analyticaldata.aspx> (Consulted on March 14, 2018)
- WITS (2020). <https://wits.worldbank.org/countrysnapshot/en/SSF> (Consulted on May 5, 2020)

APPENDIX:

Harmonized System Codes (HS Code 2017)

Code		
HS 1	01-05	Animal & Animal Products
HS 2	06-15	Vegetable Products
HS 3	16-24	Foodstuffs
HS 4	25-27	Mineral Products
HS 5	28-38	Chemicals & Allied Industries
HS 6	39-40	Plastics / Rubbers
HS 7	41-43	Raw Hides, Skins, Leather, & Furs
HS 8	44-49	Wood & Wood Products
HS 9	50-63	Textiles
HS10	64-67	Footwear / Headgear
HS11	68-71	Stone / Glass
HS12	72-83	Metals
HS13	84-85	Machinery / Electrical
HS14	86-89	Transportation
HS15	90-99	Miscellaneous

Source: United Nations Trade Statistics database.

Table 4: Turkey Export to ECOWAS by product groups (Thousands of US dollars)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total	298666	264875	548838	814448	804322	809196	1211375	1508937	1430807	1371930	1201095	1229159
HS 1	72	0	949	1222	2794	3292	4323	5780	9258	7680	5834	4090
HS 2	11867	27571	35958	20356	15132	27755	60831	76939	115538	84476	73573	70914
HS 3	48881	45523	75909	107300	79076	89637	139158	147435	226888	191922	193697	191303
HS 4	30479	23813	60143	50054	134919	181923	179866	432377	192562	172086	151684	119631
HS 5	15889	11437	20413	19796	18260	32052	35492	45378	52430	60147	52419	68143
HS 6	10866	14992	23566	31113	35729	35374	44434	43411	63830	86048	89068	86219
HS 7	23	62	35	102	129	213	226	323	611	711	720	395
HS 8	2637	3224	9604	13024	14906	22928	30608	11498	15159	30793	19269	17017
HS 9	14838	18492	26915	32950	29556	32513	42668	53643	62110	67159	53095	47228
HS 10	417	455	589	1311	2112	2008	3731	4680	3974	4332	4674	4190
HS 11	5231	4638	5827	6388	4783	7060	7950	11923	17347	21685	20224	19874
HS 12	58674	53299	86705	206008	157726	189991	452978	427053	317365	294598	203401	192317
HS 13	45243	44295	74357	107991	78990	117409	138862	151760	174846	198616	180203	277086
HS 14	48460	10042	117240	199765	210458	48689	45804	38835	60568	45653	51341	36792
HS 15	5085	7013	10613	17069	19752	18353	24426	57901	118322	106021	101890	93946

Source: by authors

Table 5: Turkey Imports from ECOWAS by product groups (Thousands of US dollars)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total	360347	496956	638766	271276	352081	590900	1025368	891043	622504	662819	711349	682030
HS 1	161	402	586	1003	894	1218	2014	6670	9255	8771	5746	6092
HS 2	10819	12239	15818	28370	46489	78580	78104	86654	95136	109758	145454	143262
HS 3	101562	96806	123854	161688	175838	228309	304465	279900	284130	376376	401969	383227
HS 4	223801	362645	472663	42389	94886	127841	264091	13256	53939	29944	35001	19490
HS 5	51	10	0	2	0	18	2	114	211	252	4821	266
HS 6	955	3964	4762	9262	2570	5417	22355	14113	10514	4625	4860	8268
HS 7	1663	5550	4446	2917	5394	14263	18207	11539	10610	9686	11118	4250
HS 8	604	2234	3130	2629	2214	7418	4746	5271	5822	4772	6402	7184
HS 9	4240	6819	10264	3641	4114	18870	8711	3125	6262	33470	71919	71914
HS 10	0	12	4	185	1	1	3	2	21	20	1	8
HS 11	4335	73	11	12604	15778	90364	289734	374239	76086	24822	14834	26935
HS 12	716	5848	2058	3026	58	25	57	7605	9610	195	398	826
HS 13	189	54	670	613	333	256	377	387	413	645	325	439
HS 14	11212	183	441	2921	3439	18251	32340	88041	59936	58753	8221	9639
HS 15	38	113	54	30	72	67	155	118	553	723	285	223

Source: by authors

Table 6: Revealed Comparative Advantage (RCA)

RCA Turkey/Benin

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.11	0.36	0.00	0.03	0.00	0.00	0.00	0.03	0.35	0.04	0.05	0.12	0.12	0.21	0.14	0.05	0.19
2	0.03	0.00	0.00	0.03	0.00	0.18	0.02	0.07	0.15	0.01	0.03	0.17	0.45	0.61	1.10	0.84	0.64
3	2.34	3.46	4.44	5.92	8.49	9.38	3.02	8.65	4.61	2.79	5.18	7.46	15.82	17.72	12.17	15.74	12.14
4	1.36	0.66	0.18	0.00	0.00	0.00	2.35	0.78	1.04	3.50	1.92	1.24	0.63	0.41	0.10	0.03	0.01
5	1.07	2.21	3.55	3.37	4.75	0.52	2.81	0.17	0.15	0.16	0.11	0.32	0.13	0.40	0.25	0.20	0.21
6	1.86	1.28	1.13	0.92	0.01	0.36	0.12	0.53	0.29	0.07	0.19	0.22	0.28	0.62	0.33	0.59	0.55
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.00	0.01	1.21
8	0.14	0.03	0.93	1.03	0.90	1.04	0.12	0.63	0.60	0.18	0.24	0.17	0.11	0.70	0.81	0.88	1.13
9	0.02	0.08	0.13	0.30	0.32	0.27	0.01	0.14	0.29	0.03	0.10	0.09	0.13	0.18	0.12	0.22	0.18
10	0.28	0.00	3.34	0.00	0.06	0.04	0.00	0.00	0.02	0.15	0.38	0.01	0.27	0.09	1.00	0.20	0.15
11	2.83	1.23	1.08	1.08	0.71	0.95	0.21	0.38	0.24	0.06	0.09	0.07	0.11	0.15	0.22	0.32	0.27
12	2.91	1.88	2.41	3.65	2.52	3.61	1.21	2.27	4.51	0.74	3.47	2.72	0.94	1.08	0.38	0.77	3.97
13	1.90	2.27	0.76	0.89	0.69	2.86	0.76	0.66	0.94	0.20	0.16	0.40	0.20	0.75	0.72	0.96	0.33
14	0.19	0.03	1.71	0.32	0.00	0.39	0.00	0.00	0.02	0.02	0.14	0.01	0.00	0.03	0.03	0.02	0.04
15	0.16	0.19	0.47	1.21	0.17	1.05	0.12	0.40	0.67	0.20	0.15	1.00	1.39	2.88	1.56	0.26	0.72

Source: Authors' Calculation

RCA Turkey/Burkina Faso

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.00	0.00	0.00	0.00	n.a.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.10
2	0.23	0.00	0.00	0.00	0.80	n.a.	0.00	0.00	0.00	0.06	0.05	0.00	0.03	0.05	0.07	0.21	0.25
3	6.60	4.75	3.67	3.48	5.07	n.a.	7.41	3.39	4.03	1.28	1.50	2.36	2.51	1.76	2.93	2.88	3.33
4	0.00	0.00	0.00	0.00	0.00	n.a.	0.00	0.00	0.00	0.00	0.01	0.05	0.09	0.56	0.02	1.02	0.21
5	1.80	0.12	0.26	0.16	0.29	n.a.	0.18	0.42	1.11	0.65	0.65	0.75	0.35	0.31	0.37	0.19	0.29
6	6.54	5.07	3.53	1.83	1.30	n.a.	2.15	1.94	0.97	1.68	0.75	0.93	0.98	1.07	0.77	0.83	3.04
7	0.00	0.00	0.00	0.00	0.00	n.a.	0.00	0.20	0.34	1.34	0.96	1.01	0.28	0.47	0.70	0.58	0.59
8	0.41	0.22	0.19	0.01	0.15	n.a.	0.45	0.17	0.71	0.63	0.53	0.16	1.09	0.32	0.43	0.12	0.28
9	0.00	0.08	0.18	0.39	0.08	n.a.	0.48	0.66	0.56	1.06	1.64	2.47	1.18	1.30	3.62	1.42	5.00
10	0.00	0.15	0.08	0.00	0.07	n.a.	0.00	0.11	0.00	0.42	1.45	0.83	0.40	0.21	1.69	6.97	4.92
11	4.41	3.32	1.33	0.89	0.15	n.a.	1.65	5.07	0.09	0.73	0.27	0.60	2.19	0.81	0.76	1.57	2.22
12	2.15	2.74	3.85	6.78	4.80	n.a.	1.99	4.63	3.00	5.47	6.50	3.64	4.52	0.77	1.73	0.79	0.84
13	1.09	0.65	0.62	0.49	0.46	n.a.	0.59	1.00	0.82	1.20	0.54	1.40	1.24	1.83	1.04	1.20	1.23
14	0.30	1.08	1.39	0.13	1.26	n.a.	0.89	0.34	0.87	0.04	0.87	0.06	0.02	3.02	3.10	0.92	1.50
15	1.05	0.23	0.16	0.03	0.03	n.a.	5.05	1.01	3.94	1.72	2.09	6.04	5.85	3.00	2.92	2.71	3.79

Source: Authors' Calculation

Note: n.a. indicates a year with no reported data by a country.

RCA Turkey/Cape Verde

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
3	0.33	0.17	0.35	0.54	1.03	0.53	0.32	0.39	0.64	1.50	1.71	1.89	1.15	1.65	1.91	2.06	2.63
4	6.90	7.14	3.07	3.75	3.71	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
5	1.44	0.91	0.44	1.46	2.46	2.46	2.21	1.89	2.89	3.02	2.52	3.57	2.11	2.20	1.31	1.20	1.20
6	0.09	0.00	0.07	0.10	0.20	1.37	1.21	0.81	1.04	1.18	1.36	2.01	0.99	1.19	1.06	1.44	1.04
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.33	0.50	1.29	1.08	2.45	2.21	1.58	1.22	2.68	2.00	4.72	0.17	0.00	0.03	0.01	0.11	0.15
9	0.00	0.00	0.67	0.67	0.76	0.00	0.02	0.01	0.11	0.00	0.00	0.17	0.41	0.04	0.48	0.06	0.08
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.05	0.00	0.00
11	0.00	0.00	0.00	0.00	0.18	1.43	1.13	0.14	1.17	0.04	0.01	0.01	0.00	0.09	0.01	0.05	0.01
12	0.11	1.49	4.22	5.30	0.00	6.23	5.69	6.94	2.91	7.05	3.35	5.20	2.37	6.26	5.82	2.13	2.62
13	0.12	0.06	0.19	0.20	0.23	0.31	0.39	0.19	0.16	0.18	0.65	0.07	0.35	0.07	0.27	0.41	0.16
14	1.81	0.74	0.00	0.00	0.49	0.51	1.47	0.12	4.24	0.03	2.09	0.27	7.03	0.09	0.86	1.42	1.16
15	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.11	0.03	3.99	4.93	4.68	4.66	5.20	5.48

Source: Authors' Calculation

RCA Turkey/Cote d'Ivoire

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.01	0.03	0.01	0.00	0.04	0.02
2	2.38	0.67	1.72	3.91	3.04	3.63	3.94	1.89	0.42	0.29	0.20	0.47	1.62	0.57	0.16	0.50	0.51
3	0.37	1.02	2.56	5.78	2.94	2.76	3.94	3.63	2.96	4.41	3.11	4.05	4.40	3.60	2.92	2.71	2.25
4	0.01	1.20	0.00	0.02	1.00	0.64	0.06	0.08	1.70	0.16	0.30	0.34	0.04	0.16	1.02	1.04	0.72
5	0.09	0.27	0.49	0.23	0.42	0.49	0.46	0.68	0.41	0.74	0.41	0.50	0.74	0.66	0.38	0.44	0.44
6	2.51	1.09	1.96	2.84	1.98	1.69	2.39	2.15	1.34	2.45	1.14	1.16	2.23	1.38	1.22	0.91	0.96
7	0.00	0.00	2.04	0.22	0.11	0.07	0.03	0.35	0.16	0.12	0.06	0.32	0.67	0.40	0.08	0.22	0.04
8	0.16	0.10	0.24	0.35	0.40	0.59	0.22	0.29	0.15	0.66	0.63	0.55	0.65	1.01	1.22	0.61	0.63
9	3.84	2.21	3.04	3.63	2.32	1.73	2.00	2.41	1.21	1.99	0.92	1.59	4.35	1.31	2.10	2.94	2.52
10	0.10	0.08	0.34	0.18	0.00	0.34	0.01	0.06	0.04	0.23	0.62	0.40	0.23	0.53	1.67	0.81	2.29
11	4.73	1.91	1.80	5.16	2.65	1.78	2.31	1.94	1.19	2.11	1.11	2.11	3.37	3.76	1.51	2.02	3.07
12	4.65	4.37	5.36	2.08	2.43	2.65	3.90	6.15	2.66	5.48	11.35	7.80	6.37	4.89	1.58	2.06	3.36
13	1.10	0.63	1.26	1.07	0.70	0.63	0.49	0.42	0.37	1.08	0.65	0.50	0.70	0.89	0.87	0.65	0.90
14	1.49	1.24	0.63	0.16	0.14	0.26	0.31	0.94	0.17	0.48	0.76	0.71	0.34	0.21	0.65	0.26	0.19
15	0.06	0.32	0.35	0.18	0.32	0.06	0.09	0.54	0.24	1.17	0.63	1.83	3.69	3.59	3.75	3.96	4.08

Source: Authors' Calculation

RCA Turkey/Gambia

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.09	0.08	0.00	0.00
2	0.00	0.01	1.02	1.28	1.43	3.87	3.79	1.15	1.25	2.58	2.07	2.14	1.83	0.02	0.06	0.02	1.39
3	1.07	1.00	1.18	1.91	1.97	1.33	1.57	3.23	2.94	2.10	2.44	2.90	2.26	4.09	4.13	3.36	3.25
4	3.42	3.69	1.92	0.85	0.56	0.09	0.11	0.23	1.00	0.23	0.07	0.07	0.08	0.18	0.20	0.17	0.06
5	5.14	2.05	2.23	2.39	3.20	0.69	0.42	0.14	0.10	0.17	0.08	0.12	0.04	0.24	0.46	0.51	3.14
6	0.34	0.18	0.22	0.10	0.21	0.22	0.16	0.12	0.05	0.27	1.27	1.44	0.74	0.86	1.73	1.69	0.87
7	0.00	0.00	0.04	0.02	0.00	0.71	0.00	0.06	0.00	0.00	0.00	0.07	0.31	0.19	0.08	0.42	0.42
8	0.04	0.02	0.14	0.08	0.14	0.09	0.34	0.10	0.59	1.34	0.54	0.33	0.23	0.10	0.07	0.17	0.14
9	0.57	0.37	0.64	0.40	0.89	0.63	0.18	0.55	0.44	0.13	0.02	0.22	0.08	0.15	0.17	0.43	0.20
10	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.06	0.01	0.01	0.01	0.01	0.03	0.31	0.03	0.55	0.46
11	0.13	0.04	1.55	0.93	0.61	0.05	0.00	0.00	0.25	0.36	0.00	0.15	0.02	0.01	0.02	0.26	0.08
12	1.13	1.14	1.58	1.87	2.84	1.83	2.85	10.24	4.49	5.38	3.96	5.43	9.80	15.82	12.88	9.03	15.06
13	0.40	0.11	0.09	0.07	0.26	0.12	0.15	0.24	0.57	0.04	0.93	0.21	0.65	0.62	0.92	0.91	1.23
14	0.06	0.08	0.02	0.47	0.06	0.00	0.00	0.01	0.01	0.03	0.00	0.00	0.00	0.23	0.11	0.02	0.28
15	0.01	0.40	0.14	0.69	0.18	0.26	0.09	0.63	0.13	0.19	0.13	1.08	1.95	3.30	4.90	3.41	4.47

Source: Authors' Calculation

RCA Turkey/Guinea

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.00	n.a.	0.04	0.00	0.00	0.26	3.39	6.45	6.26	2.35	1.78	1.97	1.17	0.34	0.45	0.27
2	0.00	0.00	n.a.	0.07	1.09	1.88	3.09	0.55	0.02	1.10	0.94	0.69	1.08	1.19	0.57	0.07	0.04
3	3.77	3.02	n.a.	2.72	4.85	3.21	4.37	2.96	5.62	3.90	4.20	2.30	1.06	2.08	1.73	2.16	0.89
4	0.23	0.43	n.a.	0.49	1.23	0.09	0.22	0.61	0.92	0.78	0.41	1.36	0.10	0.13	0.43	0.84	1.18
5	0.75	0.57	n.a.	0.83	1.32	0.18	0.10	0.25	0.34	0.36	0.25	0.14	0.09	0.20	0.54	0.39	0.15
6	3.14	2.20	n.a.	0.79	1.15	0.24	1.41	0.53	0.89	0.89	0.94	0.91	1.14	2.37	1.32	1.51	0.81
7	0.00	0.00	n.a.	0.03	0.25	0.04	0.12	0.06	0.00	0.02	0.05	0.09	0.02	0.06	0.08	0.14	0.01
8	2.82	1.12	n.a.	2.07	0.96	0.18	0.17	0.03	0.09	0.53	0.55	0.40	1.03	1.93	1.89	4.43	3.83
9	0.05	1.11	n.a.	2.11	0.70	0.04	0.04	0.29	0.13	0.30	0.54	0.28	0.20	0.54	0.52	1.29	0.55
10	0.00	0.00	n.a.	0.07	0.22	0.01	0.00	0.12	0.08	0.01	0.02	0.04	0.05	0.21	0.31	0.15	0.61
11	0.17	1.72	n.a.	3.04	4.06	0.48	0.00	0.35	0.00	0.26	0.38	0.39	0.43	0.72	1.53	1.17	0.44
12	3.95	3.09	n.a.	2.80	2.00	4.10	3.84	6.46	1.70	3.02	5.84	4.64	3.91	7.17	5.68	5.27	3.53
13	0.78	1.26	n.a.	0.82	1.00	0.35	0.19	0.36	0.58	0.80	0.46	0.54	1.08	0.63	1.04	1.16	1.34
14	0.07	0.32	n.a.	0.14	0.01	0.00	0.01	0.03	2.66	0.04	0.01	0.06	0.51	0.16	0.10	0.33	0.56
15	0.70	0.38	n.a.	1.44	0.10	1.47	0.53	5.99	0.55	0.46	1.09	1.39	12.75	0.73	1.88	3.47	1.28

Source: Authors' Calculation

Note: n.a. indicates a year with no reported data by a country.

RCA Turkey/Ghana

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	n.a.	0.01	0.01	0.06	0.00	0.16	0.03	0.02	0.03	0.06	0.13	0.21	n.a.	n.a.	0.08	0.08
2	0.02	n.a.	0.36	0.51	0.43	1.27	0.88	0.59	0.50	1.37	1.44	1.68	2.19	n.a.	n.a.	0.73	0.72
3	1.46	n.a.	2.41	4.62	4.58	2.85	2.38	2.50	1.14	1.11	0.67	1.18	1.17	n.a.	n.a.	1.39	2.58
4	0.91	n.a.	0.59	0.42	0.12	0.44	1.71	1.14	6.38	4.59	1.45	3.79	2.07	n.a.	n.a.	1.27	1.64
5	0.79	n.a.	0.47	0.55	0.58	0.76	0.71	0.57	0.34	0.46	0.24	0.24	0.44	n.a.	n.a.	0.92	0.72
6	0.35	n.a.	0.72	0.83	1.10	1.57	0.71	1.10	1.06	0.77	0.76	0.65	1.32	n.a.	n.a.	2.29	0.76
7	0.03	n.a.	0.00	0.00	0.00	0.00	0.01	0.15	0.01	0.03	0.06	0.36	n.a.	n.a.	0.03	0.03	
8	0.27	n.a.	0.05	0.01	0.06	0.11	0.57	1.42	1.37	1.32	0.76	0.32	0.83	n.a.	n.a.	0.16	0.29
9	0.59	n.a.	0.54	0.49	0.79	0.75	0.39	0.30	1.25	0.55	0.38	0.83	0.72	n.a.	n.a.	0.54	0.61
10	0.99	n.a.	0.02	0.32	0.45	0.21	0.13	0.11	0.25	0.11	0.04	0.08	0.15	n.a.	n.a.	0.18	0.12
11	1.98	n.a.	0.43	0.65	0.61	1.08	0.62	0.19	0.19	0.27	0.13	0.29	0.70	n.a.	n.a.	0.74	1.05
12	4.98	n.a.	5.66	3.61	2.95	3.30	1.62	2.52	1.79	2.65	4.41	2.76	1.86	n.a.	n.a.	1.03	1.82
13	1.25	n.a.	0.63	1.32	1.57	1.30	1.18	0.94	0.48	0.50	0.66	0.60	0.89	n.a.	n.a.	1.95	1.07
14	0.36	n.a.	0.83	0.72	0.45	0.35	0.25	0.54	0.14	0.31	0.38	0.12	0.29	n.a.	n.a.	0.19	0.26
15	0.21	n.a.	0.12	0.22	0.21	0.23	0.10	0.31	0.27	0.51	0.28	0.56	1.14	n.a.	n.a.	0.39	1.76

Source: Authors' Calculation

Note: n.a. indicates a year with no reported data by a country.

RCA Turkey/Liberia

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.00	0.00	0.00	0.00	0.00	0.70	1.38	1.59	3.79	7.40	4.02	3.33	2.39	1.20	2.42	0.19
2	0.05	0.00	5.26	0.08	0.02	0.39	0.00	0.00	0.00	0.20	1.56	4.63	2.89	3.68	1.29	0.75	0.10
3	8.96	34.08	17.35	7.46	15.45	41.99	10.19	11.78	5.24	10.00	14.09	5.78	3.94	2.52	3.25	3.62	0.39
4	0.60	16.25	0.00	0.00	0.15	4.46	1.59	0.62	1.98	6.76	6.03	6.09	7.83	6.95	5.68	8.12	0.83
5	4.91	21.96	1.94	1.64	0.53	7.19	0.62	0.81	0.64	1.79	4.01	1.62	2.35	2.03	2.10	3.40	0.50
6	0.87	12.60	0.60	0.81	0.30	6.26	1.36	1.51	1.50	7.34	6.28	3.30	1.56	1.17	1.85	4.50	0.51
7	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.44	0.00	0.00	0.11	0.67	0.11	0.11	0.04
8	0.36	15.18	2.39	0.73	0.41	2.14	0.08	0.04	0.56	28.18	4.47	0.30	1.66	1.53	2.49	3.10	0.16
9	6.16	0.00	0.08	0.00	0.10	0.76	0.14	0.20	0.17	2.38	0.61	2.16	2.48	1.38	1.10	1.54	0.39
10	0.00	0.00	2.30	0.05	0.00	4.12	0.99	0.00	0.00	0.04	0.12	0.00	0.10	0.11	0.16	0.21	0.19
11	0.00	0.00	0.00	0.62	0.20	3.06	0.07	0.04	1.02	1.69	0.63	0.88	1.28	1.31	1.69	1.34	1.22
12	4.68	2.55	8.59	0.08	0.63	1.45	2.65	1.62	1.15	9.52	10.95	5.89	9.10	5.72	7.63	7.74	1.55
13	0.15	0.11	0.25	0.72	0.22	5.54	0.32	0.37	0.12	0.38	0.29	0.63	0.43	1.11	1.85	3.23	0.66
14	1.02	0.55	0.88	1.11	1.00	0.11	1.11	1.24	1.10	0.52	0.05	0.10	0.23	0.24	0.22	0.20	4.40
15	0.01	0.06	0.37	0.27	0.38	2.04	0.15	0.14	0.18	0.51	17.34	0.28	0.27	0.46	0.52	0.87	4.45

Source: Authors' Calculation

RCA Turkey/Guinea Bissau

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	n.a.	n.a.	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.36	0.00	0.00	0.13	0.41	0.20	0.17	0.00
2	n.a.	n.a.	0.00	0.00	0.00	1.58	0.00	0.00	0.06	0.53	0.10	0.94	2.29	3.47	1.00	0.25	0.37
3	n.a.	n.a.	0.00	0.00	1.04	3.86	1.74	4.29	4.49	3.22	2.88	3.22	1.08	0.78	0.66	0.89	0.15
4	n.a.	n.a.	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.11	0.00	0.00	0.02	0.06	0.19	0.12
5	n.a.	n.a.	0.00	6.83	0.00	0.10	0.00	3.96	1.68	1.82	1.38	0.94	0.85	0.59	0.31	0.54	0.01
6	n.a.	n.a.	0.00	0.00	11.05	0.14	0.38	3.11	2.03	0.30	1.43	0.97	0.16	0.60	0.54	1.01	0.44
7	n.a.	n.a.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	n.a.	n.a.	0.00	0.00	0.67	0.00	1.27	0.00	0.00	0.69	2.21	0.28	0.00	0.07	1.51	2.00	0.00
9	n.a.	n.a.	0.00	2.80	0.00	0.40	0.00	0.00	0.00	0.12	0.32	0.05	0.18	0.01	0.12	0.00	0.04
10	n.a.	n.a.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	n.a.	n.a.	0.00	0.00	0.00	2.97	0.00	0.00	0.12	0.03	0.27	0.00	0.00	0.55	0.02	0.00	0.00
12	n.a.	n.a.	31.35	10.01	9.65	0.00	9.92	0.00	0.93	0.00	2.61	2.07	4.35	4.20	4.84	7.05	0.43
13	n.a.	n.a.	0.00	0.00	1.22	0.32	0.00	0.28	0.38	0.18	0.25	0.48	0.01	0.18	0.97	0.87	0.10
14	n.a.	n.a.	0.00	0.00	0.16	0.00	0.04	0.04	0.00	0.94	0.72	0.00	0.04	0.00	0.00	0.10	0.00
15	n.a.	n.a.	0.00	0.00	2.51	0.22	0.00	0.00	4.96	0.51	0.67	0.52	0.38	1.64	3.10	0.42	n.a.

Source: Authors' calculation

Note: n.a. indicates a year with no reported data by a country.

RCA Turkey/Mali

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.00	0.01	0.08	0.00	0.00	0.00	0.00	n.a.	0.00	0.01	0.00	n.a.	n.a.	n.a.	0.00	0.01
2	0.00	0.00	0.02	0.07	0.11	0.40	0.10	2.01	n.a.	0.71	2.19	0.81	n.a.	n.a.	n.a.	0.24	0.24
3	2.02	2.14	2.10	1.36	1.53	1.28	1.74	3.49	n.a.	2.32	1.33	3.99	n.a.	n.a.	n.a.	1.82	2.33
4	0.00	0.00	0.00	0.02	0.11	0.24	0.13	0.13	n.a.	0.07	0.13	0.23	n.a.	n.a.	n.a.	0.09	0.17
5	0.00	0.09	0.09	0.07	0.19	0.17	0.07	0.11	n.a.	0.68	0.24	0.36	n.a.	n.a.	n.a.	0.35	0.20
6	1.43	1.41	1.56	2.34	2.85	1.22	0.43	0.33	n.a.	0.55	0.99	0.48	n.a.	n.a.	n.a.	1.01	1.10
7	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.06	n.a.	0.00	0.06	0.00	n.a.	n.a.	n.a.	0.22	0.05
8	0.05	0.25	0.65	0.03	0.24	1.18	0.40	1.13	n.a.	1.87	1.50	1.01	n.a.	n.a.	n.a.	0.72	2.80
9	1.32	2.45	3.60	1.46	1.25	1.02	0.34	0.93	n.a.	2.74	2.02	1.72	n.a.	n.a.	n.a.	1.21	1.90
10	0.06	0.05	0.03	0.29	0.95	0.13	0.17	0.20	n.a.	1.05	0.43	0.20	n.a.	n.a.	n.a.	0.59	0.45
11	1.02	0.48	2.09	0.23	5.64	2.90	1.44	0.35	n.a.	0.98	1.60	2.01	n.a.	n.a.	n.a.	1.14	2.66
12	6.49	7.87	4.71	5.56	4.80	4.69	3.80	1.23	n.a.	3.40	4.63	3.89	n.a.	n.a.	n.a.	2.07	2.49
13	0.66	0.92	0.27	1.48	0.64	0.38	1.45	0.64	n.a.	0.88	1.17	0.71	n.a.	n.a.	n.a.	2.70	1.37
14	1.37	0.35	2.16	1.49	1.29	2.27	2.42	3.27	n.a.	1.63	0.59	0.34	n.a.	n.a.	n.a.	0.30	0.62
15	0.00	0.00	0.42	1.38	2.77	2.66	4.63	4.60	n.a.	2.22	3.62	8.55	n.a.	n.a.	n.a.	4.04	7.54

Source: Authors' calculation

Note: n.a. indicates a year with no reported data by a country.

RCA Turkey/Niger

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.04	0.03	0.40	0.00	0.11	0.00
2	0.00	0.00	0.00	0.00	0.00	0.15	0.03	0.00	0.03	0.03	0.12	0.02	0.19	0.06	0.40	0.78	0.30
3	1.06	2.26	1.37	3.45	6.47	6.53	6.03	9.36	9.50	11.54	9.52	4.92	5.52	6.75	7.29	5.50	5.28
4	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.10	0.01	0.03	0.08	0.08	0.04
5	2.20	1.90	0.66	1.52	0.64	0.53	0.29	0.16	0.36	0.81	0.25	2.09	0.14	0.23	0.26	0.55	0.32
6	1.19	0.67	1.67	1.00	0.32	1.11	0.66	0.50	0.10	0.08	0.18	0.28	0.36	0.58	1.60	1.21	1.29
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.59	0.39	0.21	0.07	0.02	0.41	0.66	0.49	0.10
8	0.12	0.17	0.08	0.10	0.28	0.00	0.20	1.11	1.69	2.78	0.37	0.19	0.21	0.46	0.65	0.56	0.59
9	1.98	2.97	3.72	3.74	1.38	1.99	1.19	1.15	1.41	3.02	1.37	0.87	1.64	3.60	2.55	2.78	1.32
10	0.58	25.08	11.36	0.96	0.00	2.72	0.63	7.36	11.66	20.15	14.43	6.88	2.48	2.22	5.02	10.08	0.53
11	2.37	8.61	2.34	2.67	2.59	1.46	1.40	1.38	1.96	0.95	0.69	0.33	0.72	1.14	1.66	2.64	3.27
12	13.27	0.60	9.52	0.28	3.31	0.53	0.35	0.48	0.76	0.10	1.50	0.53	0.37	0.69	1.16	1.34	0.99
13	0.17	0.57	0.17	1.99	0.35	1.03	0.70	0.47	0.12	0.17	0.18	0.18	0.41	0.44	0.56	0.63	0.77
14	0.02	0.00	0.00	0.00	0.32	0.00	0.00	0.02	0.19	0.02	0.06	0.19	0.18	0.14	0.05	0.08	0.15
15	0.00	1.87	0.04	0.00	0.02	0.10	8.44	0.12	0.42	1.52	1.32	0.59	1.51	0.90	2.07	1.98	1.46

Source: Authors' calculation

RCA Turkey/Nigeria

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.00	0.00	n.a.	n.a.	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.11	0.02
2	0.02	0.01	0.00	n.a.	n.a.	0.00	0.00	0.01	0.02	0.06	0.01	0.03	0.09	0.18	0.25	0.64	0.66
3	0.64	0.85	0.50	n.a.	n.a.	1.92	0.74	1.17	0.99	0.38	0.11	0.25	0.35	0.59	1.29	1.53	1.25
4	2.72	3.13	0.47	n.a.	n.a.	1.29	0.35	1.12	6.57	3.22	1.37	2.89	0.45	0.70	0.54	0.27	0.20
5	0.60	0.72	1.27	n.a.	n.a.	0.50	0.38	0.27	0.25	0.77	0.77	0.43	0.73	0.56	0.63	0.79	0.78
6	1.00	0.78	1.46	n.a.	n.a.	0.89	0.84	0.76	0.96	0.83	0.64	0.73	0.61	1.13	1.15	1.86	3.78
7	0.04	0.19	0.07	n.a.	n.a.	1.08	0.06	0.11	0.15	0.15	0.05	0.38	0.50	0.89	1.28	0.87	1.10
8	0.04	0.11	0.21	n.a.	n.a.	0.58	1.57	0.74	1.11	1.25	2.19	0.56	0.75	0.92	0.97	1.36	0.71
9	1.83	4.97	6.53	n.a.	n.a.	15.37	2.83	1.16	3.48	2.78	5.52	5.04	6.95	6.25	6.78	6.76	3.78
10	1.77	3.21	0.86	n.a.	n.a.	1.68	1.50	0.80	0.47	0.89	1.89	2.58	1.72	1.84	1.69	1.05	0.77
11	3.01	3.07	3.77	n.a.	n.a.	2.48	1.92	0.76	0.39	0.48	1.22	0.92	1.55	1.49	2.26	3.47	2.40
12	3.08	2.72	2.99	n.a.	n.a.	2.39	1.84	2.61	3.03	3.13	5.99	4.30	3.42	2.63	2.16	3.06	2.89
13	0.99	0.90	1.26	n.a.	n.a.	1.08	1.01	0.70	0.63	1.03	0.92	0.83	1.07	0.93	0.88	0.84	0.95
14	0.27	0.20	0.19	n.a.	n.a.	0.25	1.49	1.34	0.34	0.18	0.43	0.21	0.42	0.21	0.17	0.24	2.48
15	0.31	0.39	1.02	n.a.	n.a.	1.21	1.29	0.50	1.77	0.82	1.08	3.60	6.06	5.87	5.78	5.16	3.69

Source: Authors' Calculation

Note: n.a. indicates a year with no reported data by a country.

RCA Turkey/Senegal

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.06	0.03	0.02	0.03	0.01
2	0.10	0.00	0.02	0.01	0.04	0.13	0.11	0.02	0.04	0.24	0.44	0.47	0.29	0.24	0.50	0.29	0.41
3	4.36	4.98	3.02	4.14	4.35	3.76	3.48	3.22	1.85	2.14	1.63	1.48	1.64	1.42	2.61	2.41	1.32
4	0.00	0.22	0.33	0.01	0.52	0.45	0.39	0.01	0.08	0.49	0.05	0.12	0.05	0.06	0.10	0.13	0.21
5	0.42	0.77	0.84	0.72	0.46	0.42	0.30	0.46	0.35	0.49	0.34	0.54	0.60	1.01	0.76	0.89	0.58
6	1.12	1.02	0.81	1.17	1.00	1.25	1.68	1.72	1.60	3.12	1.84	1.60	2.21	2.27	2.34	2.06	2.14
7	0.31	0.59	1.04	0.32	0.51	0.41	0.29	0.54	0.24	0.68	0.28	0.61	0.73	0.45	0.82	0.39	0.48
8	0.33	0.29	0.65	0.31	0.30	0.15	0.27	0.43	0.58	1.60	1.52	0.39	0.28	2.25	0.33	0.26	0.29
9	5.47	7.44	7.54	9.02	7.90	9.47	7.81	5.96	2.15	2.54	1.60	1.98	1.92	2.14	2.16	1.84	1.52
10	2.83	2.75	0.77	0.93	0.59	0.84	0.61	0.34	0.30	0.39	0.20	0.53	0.41	1.54	0.75	2.08	0.69
11	2.42	1.42	2.47	2.89	2.19	0.97	0.75	0.59	0.72	1.08	0.56	0.58	0.93	1.80	0.75	1.20	1.58
12	4.12	2.91	4.10	2.43	3.13	3.01	2.33	6.23	2.78	4.96	8.60	8.29	6.92	5.56	4.39	4.30	4.73
13	0.29	0.35	0.38	0.71	0.62	0.54	1.35	1.15	0.59	0.75	0.51	0.61	0.62	0.96	0.74	0.70	0.93
14	0.40	0.17	0.58	0.53	0.31	0.44	0.47	0.39	5.55	0.42	0.26	0.23	0.46	0.16	0.33	0.27	0.37
15	0.38	0.43	0.38	0.44	0.50	0.88	0.28	1.37	0.66	1.01	0.82	2.54	4.48	2.88	2.51	2.82	2.01

Source: Authors' Calculation

RCA Turkey/Togo

HS	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	0.00	0.45	2.05	0.14	0.00	n.a.	0.00	0.00	0.63	1.00	0.34	0.09	0.54	0.56	0.30	0.04	0.60
2	0.06	0.01	0.00	0.03	0.24	n.a.	0.63	0.32	0.12	0.41	0.19	0.10	0.14	0.43	0.89	0.64	0.75
3	1.84	0.40	2.80	1.61	6.42	n.a.	7.23	11.45	6.71	8.17	9.58	1.57	5.72	9.33	11.03	11.55	7.00
4	0.51	2.96	0.79	0.00	0.00	n.a.	0.00	0.01	0.69	0.02	0.46	2.94	1.46	0.51	0.71	0.61	0.54
5	0.86	0.74	3.84	2.50	2.70	n.a.	0.43	0.51	0.25	0.36	0.24	0.03	0.69	0.20	0.14	0.28	0.25
6	1.65	0.20	1.52	7.72	4.34	n.a.	0.71	0.12	0.06	0.27	0.14	0.04	0.33	0.47	0.34	0.79	0.06
7	0.00	0.00	0.00	0.07	0.00	n.a.	0.00	0.00	0.00	0.00	0.00	0.01	0.15	0.04	0.36	0.01	0.10
8	0.00	0.02	0.20	0.38	0.18	n.a.	1.38	4.48	1.09	1.50	0.73	0.04	0.26	1.29	0.15	1.07	0.81
9	0.80	0.02	1.13	0.29	0.51	n.a.	0.22	0.29	0.09	0.07	0.08	0.01	0.02	0.05	0.26	0.35	0.12
10	0.27	0.00	0.00	0.09	0.18	n.a.	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.03	0.05	0.04	0.16
11	0.00	0.00	0.00	0.01	0.29	n.a.	0.00	0.02	0.02	0.25	0.17	0.04	0.24	0.19	0.22	0.70	0.26
12	4.78	1.58	0.95	1.46	0.56	n.a.	3.70	2.04	5.28	4.57	4.67	1.02	1.73	2.46	0.66	1.16	2.09
13	0.61	0.05	0.20	4.98	2.15	n.a.	1.03	0.34	0.25	0.24	0.25	0.06	0.14	0.35	0.47	0.32	0.65
14	0.00	0.29	0.00	0.27	0.08	n.a.	0.03	0.07	0.11	0.02	0.04	0.01	0.14	0.09	0.09	0.00	0.03
15	0.07	0.00	0.00	0.20	0.00	n.a.	0.68	0.45	0.74	0.23	1.10	0.31	0.82	1.19	1.57	1.49	1.83

Source: Authors' Calculation

Note: n.a. indicates a year with no reported data by a country.

Table 7: ECOWAS's exports to world (Top 15 goods)

		Value in 2015
'TOTAL	All products	70512665
'2709	Petroleum oils and oils obtained from bituminous minerals, crude	34932161
'2711	Petroleum gas and other gaseous hydrocarbons	7498360
'1801	Cocoa beans, whole or broken, raw or roasted	4149292
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	3211809
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	2640665
'8905	Light-vessels, fire-floats, dredgers, floating cranes, and other vessels the navigability of ...	1726790
'0801	Coconuts, Brazil nuts and cashew nuts, fresh or dried, whether or not shelled or peeled	1264500
'8901	Cruise ships, excursion boats, ferry-boats, cargo ships, barges and similar vessels for the ...	958754
'5201	Cotton, neither carded nor combed	874944
'1803	Cocoa paste, whether or not defatted	794159
'4001	Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary ...	697788
'8908	Vessels and other floating structures for breaking up	671009
'1207	Other oil seeds and oleaginous fruits, whether or not broken (excluding edible nuts, olives, ...	609968
'2606	Aluminium ores and concentrates	579831
'8802	Powered aircraft "e.g. helicopters and aeroplanes"; spacecraft, incl. satellites, and suborbital ...	493607
		Value in 2016
'TOTAL	All products	68549686
'2709	Petroleum oils and oils obtained from bituminous minerals, crude	28661809
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	11001939
'1801	Cocoa beans, whole or broken, raw or roasted	5304669
'2711	Petroleum gas and other gaseous hydrocarbons	4604148
'0801	Coconuts, Brazil nuts and cashew nuts, fresh or dried, whether or not shelled or peeled	2309469
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	1384993
'5201	Cotton, neither carded nor combed	837004
'4001	Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary ...	764750
'1803	Cocoa paste, whether or not defatted	683048
'2606	Aluminium ores and concentrates	661808
'1804	Cocoa butter, fat and oil	494185
'4407	Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, ...	438082
'1511	Palm oil and its fractions, whether or not refined (excluding chemically modified)	422465
'3923	Articles for the conveyance or packaging of goods, of plastics; stoppers, lids, caps and other ...	416696
'1207	Other oil seeds and oleaginous fruits, whether or not broken (excluding edible nuts, olives, ...	344613
		Value in 2017
'TOTAL	All products	41453437
'2709	Petroleum oils and oils obtained from bituminous minerals, crude	32965022
'2711	Petroleum gas and other gaseous hydrocarbons	5688073
'5201	Cotton, neither carded nor combed	348951
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	184662
'1801	Cocoa beans, whole or broken, raw or roasted	178740
'2707	Oils and other products of the distillation of high temperature coal tar; similar products ...	171026
'0801	Coconuts, Brazil nuts and cashew nuts, fresh or dried, whether or not shelled or peeled	156108
'3102	Mineral or chemical nitrogenous fertilisers (excluding those in pellet or similar forms, or ...	149824
'1207	Other oil seeds and oleaginous fruits, whether or not broken (excluding edible nuts, olives, ...	149290
'8908	Vessels and other floating structures for breaking up	133816
'8901	Cruise ships, excursion boats, ferry-boats, cargo ships, barges and similar vessels for the ...	111448
'2716	Electrical energy	103505
'2402	Cigars, cheroots, cigarillos and cigarettes of tobacco or of tobacco substitutes	102356
'2523	Cement, incl. cement clinkers, whether or not coloured	73200
'4001	Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary ...	55366

Source: by Authors

Table 8: ECOWAS's imports from the world

		Value in 2015
'TOTAL	All products	72737526
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	10248382
'8901	Cruise ships, excursion boats, ferry-boats, cargo ships, barges and similar vessels for the ...	4142225
'9999	Commodities not elsewhere specified	2581048
'1006	Rice	2506830
'2709	Petroleum oils and oils obtained from bituminous minerals, crude	1967726
'8703	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	1620059
'1001	Wheat and meslin	1593037
'0303	Frozen fish (excluding fish fillets and other fish meat of heading 0304)	1489519
'3004	Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic uses, put ...	1336811
'8517	Telephone sets, incl. telephones for cellular networks or for other wireless networks; other ...	1012725
'1701	Cane or beet sugar and chemically pure sucrose, in solid form	858145
'8711	Motorcycles, incl. mopeds, and cycles fitted with an auxiliary motor, with or without side-cars; ...	852455
'8704	Motor vehicles for the transport of goods, incl. chassis with engine and cab	836064
'7308	Structures and parts of structures "e.g., bridges and bridge-sections, lock-gates, towers, ...	753149
'0402	Milk and cream, concentrated or containing added sugar or other sweetening matter	665074
		Value in 2016
'TOTAL	All products	89111429
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	13449745
'8901	Cruise ships, excursion boats, ferry-boats, cargo ships, barges and similar vessels for the ...	6541687
'1006	Rice	2901405
'8703	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	2514606
'9999	Commodities not elsewhere specified	1869045
'3004	Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic uses, put ...	1793245
'1001	Wheat and meslin	1777796
'2709	Petroleum oils and oils obtained from bituminous minerals, crude	1466543
'8704	Motor vehicles for the transport of goods, incl. chassis with engine and cab	1332912
'0303	Frozen fish (excluding fish fillets and other fish meat of heading 0304)	1278874
'8517	Telephone sets, incl. telephones for cellular networks or for other wireless networks; other ...	1264810
'8474	Machinery for sorting, screening, separating, washing, crushing, grinding, mixing or kneading ...	1211369
'1701	Cane or beet sugar and chemically pure sucrose, in solid form	1198708
'2523	Cement, incl. cement clinkers, whether or not coloured	1178757
'8429	Self-propelled bulldozers, angledozers, graders, levellers, scrapers, mechanical shovels, excavators, ...	904106
		Value in 2017
'TOTAL	All products	31983659
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	8356016
'1001	Wheat and meslin	1244594
'1006	Rice	1082381
'8703	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	739450
'1701	Cane or beet sugar and chemically pure sucrose, in solid form	599094
'0303	Frozen fish (excluding fish fillets and other fish meat of heading 0304)	581316
'2516	Granite, porphyry, basalt, sandstone and other monumental or building stone, whether or not ...	572512
'8481	Taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats or the like, ...	441149
'0402	Milk and cream, concentrated or containing added sugar or other sweetening matter	397779
'3004	Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic uses, put ...	395138
'8517	Telephone sets, incl. telephones for cellular networks or for other wireless networks; other ...	361964
'1511	Palm oil and its fractions, whether or not refined (excluding chemically modified)	354761
'3901	Polymers of ethylene, in primary forms	330694
'8711	Motorcycles, incl. mopeds, and cycles fitted with an auxiliary motor, with or without side-cars; ...	324744
'3808	Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products and plant-growth ...	315639

Source: by Authors

Table 9: Turkey imports from ECOWAS

		Value in 2015
'TOTAL	All products	711349
'1801	Cocoa beans, whole or broken, raw or roasted	261369
'1207	Other oil seeds and oleaginous fruits, whether or not broken (excluding edible nuts, olives, ...	143932
'1803	Cocoa paste, whether or not defatted	80433
'5201	Cotton, neither carded nor combed	71914
'1804	Cocoa butter, fat and oil	48047
'2711	Petroleum gas and other gaseous hydrocarbons	33099
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	14832
'4105	Tanned or crust skins of sheep or lambs, without wool on, whether or not split (excluding further ...	11118
'8908	Vessels and other floating structures for breaking up	8095
'1805	Cocoa powder, not containing added sugar or other sweetening matter	7955
'2814	Ammonia, anhydrous or in aqueous solution	4769
'4001	Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary ...	4735
'0303	Frozen fish (excluding fish fillets and other fish meat of heading 0304)	3405
'2306	Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting ...	2775
'4407	Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, ...	2346
		Value in 2016
'TOTAL	All products	682030
'1801	Cocoa beans, whole or broken, raw or roasted	269982
'1207	Other oil seeds and oleaginous fruits, whether or not broken (excluding edible nuts, olives, ...	140174
'5201	Cotton, neither carded nor combed	71501
'1803	Cocoa paste, whether or not defatted	69606
'1804	Cocoa butter, fat and oil	30068
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	26912
'2711	Petroleum gas and other gaseous hydrocarbons	17020
'8908	Vessels and other floating structures for breaking up	8694
'1805	Cocoa powder, not containing added sugar or other sweetening matter	8234
'4001	Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary ...	6845
'0303	Frozen fish (excluding fish fillets and other fish meat of heading 0304)	4562
'4105	Tanned or crust skins of sheep or lambs, without wool on, whether or not split (excluding further ...	4137
'4402	Wood charcoal, incl. shell or nut charcoal, whether or not agglomerated (excluding wood charcoal ...	4022
'2302	Bran, sharps and other residues, whether or not in the form of pellets, derived from the sifting, ...	2644
'2306	Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting ...	2540
		Value in 2017
'TOTAL	All products	748578
'1801	Cocoa beans, whole or broken, raw or roasted	283077
'5201	Cotton, neither carded nor combed	131236
'1207	Other oil seeds and oleaginous fruits, whether or not broken (excluding edible nuts, olives, ...	121097
'1803	Cocoa paste, whether or not defatted	57256
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	49427
'1804	Cocoa butter, fat and oil	19994
'2711	Petroleum gas and other gaseous hydrocarbons	17719
'8908	Vessels and other floating structures for breaking up	13835
'4001	Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary ...	10706
'1805	Cocoa powder, not containing added sugar or other sweetening matter	9030
'4105	Tanned or crust skins of sheep or lambs, without wool on, whether or not split (excluding further ...	5470
'4402	Wood charcoal, incl. shell or nut charcoal, whether or not agglomerated (excluding wood charcoal ...	5153
'2306	Oilcake and other solid residues, whether or not ground or in the form of pellets, resulting ...	2838
'3901	Polymers of ethylene, in primary forms	2553
'1201	Soya beans, whether or not broken	2543

Source: by Authors

Table 10: Turkey exports to ECOWAS

		Value in 2015
'TOTAL	All products	1201095
'1902	Pasta, whether or not cooked or stuffed with meat or other substances or otherwise prepared, ...	105211
'2523	Cement, incl. cement clinkers, whether or not coloured	80480
'1101	Wheat or meslin flour	45883
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	43124
'8544	Insulated "incl. enamelled or anodised" wire, cable "incl. coaxial cable" and other insulated ...	40572
'7308	Structures and parts of structures "e.g., bridges and bridge-sections, lock-gates, towers, ...	39884
'7214	Bars and rods, of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn ...	38058
'3917	Tubes, pipes and hoses, and fittings therefor, e.g. joints, elbows, flanges, of plastics	32932
'9619	Sanitary towels (pads) and tampons, napkins and napkin liners for babies, and similar articles, ...	32696
'7216	Angles, shapes and sections of iron or non-alloy steel, n.e.s.	25938
'7208	Flat-rolled products of iron or non-alloy steel, of a width \geq 600 mm, hot-rolled, not clad, ...	24043
'1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion ...	18522
'9403	Furniture and parts thereof, n.e.s. (excluding seats and medical, surgical, dental or veterinary ...	17545
'1702	Other sugars, incl. chemically pure lactose, maltose, glucose and fructose, in solid form; ...	15579
'3923	Articles for the conveyance or packaging of goods, of plastics; stoppers, lids, caps and other ...	15242
		Value in 2016
'TOTAL	All products	1229159
'1902	Pasta, whether or not cooked or stuffed with meat or other substances or otherwise prepared, ...	106392
'8502	Electric generating sets and rotary converters	87686
'2523	Cement, incl. cement clinkers, whether or not coloured	70144
'1101	Wheat or meslin flour	45847
'7308	Structures and parts of structures "e.g., bridges and bridge-sections, lock-gates, towers, ...	44987
'7214	Bars and rods, of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn ...	39793
'8544	Insulated "incl. enamelled or anodised" wire, cable "incl. coaxial cable" and other insulated ...	37008
'3917	Tubes, pipes and hoses, and fittings therefor, e.g. joints, elbows, flanges, of plastics	28519
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	26309
'9619	Sanitary towels (pads) and tampons, napkins and napkin liners for babies, and similar articles, ...	25625
'7216	Angles, shapes and sections of iron or non-alloy steel, n.e.s.	21426
'8504	Electrical transformers, static converters, e.g. rectifiers, and inductors; parts thereof	21229
'1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion ...	19804
'2106	Food preparations, n.e.s.	15465
'2520	Gypsum; anhydrite; plasters consisting of calcined gypsum or calcium sulphate, whether or not ...	13179
		Value in 2017
'TOTAL	All products	1526059
'1902	Pasta, whether or not cooked or stuffed with meat or other substances or otherwise prepared, ...	121109
'2523	Cement, incl. cement clinkers, whether or not coloured	102991
'1101	Wheat or meslin flour	61258
'7214	Bars and rods, of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn ...	58059
'7308	Structures and parts of structures "e.g., bridges and bridge-sections, lock-gates, towers, ...	55697
'7216	Angles, shapes and sections of iron or non-alloy steel, n.e.s.	50116
'7213	Bars and rods of iron or non-alloy steel, hot-rolled, in irregularly wound coils	46320
'8544	Insulated "incl. enamelled or anodised" wire, cable "incl. coaxial cable" and other insulated ...	43302
'8802	Powered aircraft "e.g. helicopters and aeroplanes"; spacecraft, incl. satellites, and suborbital ...	41031
'8901	Cruise ships, excursion boats, ferry-boats, cargo ships, barges and similar vessels for the ...	39675
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	30492
'1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa; communion ...	28028
'1702	Other sugars, incl. chemically pure lactose, maltose, glucose and fructose, in solid form; ...	21625
'3923	Articles for the conveyance or packaging of goods, of plastics; stoppers, lids, caps and other ...	19915
'9999	Commodities not elsewhere specified	19527

Source: by Authors

Table 11: Turkey's imports from world

		Value in 2015
'TOTAL	All products	207206509
'9999	Commodities not elsewhere specified	25065939
'8703	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	9227428
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	9023663
'8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, ...	4965958
'8517	Telephone sets, incl. telephones for cellular networks or for other wireless networks; other ...	4674820
'7204	Ferrous waste and scrap; remelting scrap ingots of iron or steel (excluding slag, scale and ...	4288070
'8802	Powered aircraft "e.g. helicopters and aeroplanes"; spacecraft, incl. satellites, and suborbital ...	3442443
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	3425893
'2701	Coal; briquettes, ovoids and similar solid fuels manufactured from coal	2956530
'3902	Polymers of propylene or of other olefins, in primary forms	2649741
'3004	Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic uses, put ...	2642577
'3901	Polymers of ethylene, in primary forms	2406427
'7601	Unwrought aluminium	2326951
'8408	Compression-ignition internal combustion piston engine "diesel or semi-diesel engine"	2264919
'7403	Copper, refined, and copper alloys, unwrought (excluding copper alloys of heading 7405)	2208298
		Value in 2016
'TOTAL	All products	198618235
'9999	Commodities not elsewhere specified	16352330
'8703	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	9841764
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	7342818
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	6458906
'8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, ...	5185313
'8517	Telephone sets, incl. telephones for cellular networks or for other wireless networks; other ...	4750825
'7204	Ferrous waste and scrap; remelting scrap ingots of iron or steel (excluding slag, scale and ...	3962158
'8802	Powered aircraft "e.g. helicopters and aeroplanes"; spacecraft, incl. satellites, and suborbital ...	3869475
'8541	Diodes, transistors and similar semiconductor devices; photosensitive semiconductor devices, ...	2963839
'2701	Coal; briquettes, ovoids and similar solid fuels manufactured from coal	2627918
'3004	Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic uses, put ...	2610787
'3902	Polymers of propylene or of other olefins, in primary forms	2346213
'3901	Polymers of ethylene, in primary forms	2340623
'8408	Compression-ignition internal combustion piston engine "diesel or semi-diesel engine"	2274270
'7403	Copper, refined, and copper alloys, unwrought (excluding copper alloys of heading 7405)	1998686
		Value in 2017
'TOTAL	All products	233791662
'9999	Commodities not elsewhere specified	21569047
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	16577308
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	9817276
'8703	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	8606797
'8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, ...	6166654
'7204	Ferrous waste and scrap; remelting scrap ingots of iron or steel (excluding slag, scale and ...	6138232
'8517	Telephone sets, incl. telephones for cellular networks or for other wireless networks; other ...	4284907
'2701	Coal; briquettes, ovoids and similar solid fuels manufactured from coal	3899058
'8541	Diodes, transistors and similar semiconductor devices; photosensitive semiconductor devices, ...	3789458
'3902	Polymers of propylene or of other olefins, in primary forms	2722314
'3004	Medicaments consisting of mixed or unmixed products for therapeutic or prophylactic uses, put ...	2717837
'3901	Polymers of ethylene, in primary forms	2442075
'7403	Copper, refined, and copper alloys, unwrought (excluding copper alloys of heading 7405)	2438222
'8408	Compression-ignition internal combustion piston engine "diesel or semi-diesel engine"	2424973
'7208	Flat-rolled products of iron or non-alloy steel, of a width \geq 600 mm, hot-rolled, not clad, ...	2395750

Source: by Authors

Table 12: Turkey's exports to world

		Value in 2015
'TOTAL	All products	143850376
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	7381135
'8703	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	6899764
'8704	Motor vehicles for the transport of goods, incl. chassis with engine and cab	4248871
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	3966454
'8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, ...	3803537
'7113	Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal ...	3756565
'7214	Bars and rods, of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn ...	3077933
'6109	T-shirts, singlets and other vests, knitted or crocheted	2979563
'6204	Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, ...	2195416
'9999	Commodities not elsewhere specified	2104944
'8544	Insulated "incl. enamelled or anodised" wire, cable "incl. coaxial cable" and other insulated ...	1947089
'0802	Other nuts, fresh or dried, whether or not shelled or peeled (excluding coconuts, Brazil nuts ...	1871646
'8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat ...	1721260
'5702	Carpets and other textile floor coverings, woven, not tufted or flocked, whether or not made ...	1712444
'8528	Monitors and projectors, not incorporating television reception apparatus; reception apparatus ...	1624326
		Value in 2016
'TOTAL	All products	142529584
'8703	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	8356035
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	8248539
'8704	Motor vehicles for the transport of goods, incl. chassis with engine and cab	4578026
'8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, ...	3867172
'7113	Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal ...	3760968
'6109	T-shirts, singlets and other vests, knitted or crocheted	2928826
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	2788401
'7214	Bars and rods, of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn ...	2663993
'6204	Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, ...	2268456
'9999	Commodities not elsewhere specified	1843283
'8544	Insulated "incl. enamelled or anodised" wire, cable "incl. coaxial cable" and other insulated ...	1766805
'8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat ...	1740073
'6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excluding ...	1624427
'5702	Carpets and other textile floor coverings, woven, not tufted or flocked, whether or not made ...	1623622
'8409	Parts suitable for use solely or principally with internal combustion piston engine of heading ...	1554931
		Value in 2017
'TOTAL	All products	157055371
'8703	Motor cars and other motor vehicles principally designed for the transport of persons, incl. ...	11814891
'7108	Gold, incl. gold plated with platinum, unwrought or not further worked than semi-manufactured ...	6606350
'8704	Motor vehicles for the transport of goods, incl. chassis with engine and cab	4821147
'7113	Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal ...	4134524
'8708	Parts and accessories for tractors, motor vehicles for the transport of ten or more persons, ...	4113905
'2710	Petroleum oils and oils obtained from bituminous minerals (excluding crude); preparations containing ...	3669432
'6109	T-shirts, singlets and other vests, knitted or crocheted	2877100
'7214	Bars and rods, of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn ...	2586705
'6204	Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, ...	2476781
'9999	Commodities not elsewhere specified	2342090
'8544	Insulated "incl. enamelled or anodised" wire, cable "incl. coaxial cable" and other insulated ...	1923218
'5702	Carpets and other textile floor coverings, woven, not tufted or flocked, whether or not made ...	1843743
'8418	Refrigerators, freezers and other refrigerating or freezing equipment, electric or other; heat ...	1802889
'6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted (excluding ...	1798113
'8409	Parts suitable for use solely or principally with internal combustion piston engine of heading ...	1664786

Source: by Authors

Table 13: Turkey Import from each ECOWAS country (% of country share)

	Ben	Bur	Cap	Gam	Gha	Guin	Gui	Cote	Lib	Mal	Nig	Nigr	Sen	Sier	Tog
2001	2.88	0.52	2.20	2.37	12.62	3.41	0.07	6.13	6.35	1.86	0.64	49.12	9.54	1.22	1.07
2002	3.09	1.00	3.95	3.83	13.70	3.83	0.00	9.76	1.36	2.12	0.48	39.05	11.94	0.82	5.08
2003	2.57	1.47	2.66	4.77	17.56	3.58	0.15	6.68	9.46	2.37	1.03	31.60	12.70	2.20	1.19
2004	1.98	1.02	1.95	5.61	12.43	2.94	0.02	5.59	18.29	2.49	1.29	31.36	9.98	2.61	2.42
2005	1.74	1.31	1.04	3.46	10.58	4.07	0.06	8.91	15.94	3.35	1.30	33.00	11.70	1.80	1.74
2006	2.27	1.41	1.76	4.16	12.45	6.45	0.06	11.27	3.60	2.89	1.50	31.34	15.27	2.50	3.08
2007	6.77	0.92	1.42	3.22	15.33	3.31	0.19	5.89	18.29	2.21	2.03	24.28	11.86	1.94	2.34
2008	3.12	0.88	1.29	2.13	12.32	3.31	0.06	4.84	19.51	1.10	1.91	34.44	11.05	1.88	2.15
2009	3.55	0.76	0.61	2.58	9.06	1.67	0.11	7.40	22.02	1.10	1.37	32.01	11.84	1.96	3.95
2010	14.42	1.27	0.72	2.56	11.92	3.42	0.31	5.92	8.34	1.23	1.82	30.97	10.30	3.02	3.78
2011	7.15	1.20	0.46	3.33	18.04	3.23	0.20	5.43	5.06	1.49	2.02	32.51	12.80	2.12	4.95
2012	5.24	0.85	0.29	2.33	14.81	3.63	0.15	5.07	6.92	1.28	2.58	29.08	8.51	2.38	16.90
2013	8.91	1.43	0.49	2.38	12.51	8.87	0.37	5.97	7.67	1.45	3.24	28.84	8.34	3.31	6.22
2014	7.26	1.87	0.48	1.51	12.78	4.83	0.45	6.79	7.58	2.45	2.57	32.06	12.07	3.33	3.97
2015	6.65	1.81	0.43	1.33	18.28	5.41	0.45	9.62	6.65	2.53	2.61	26.14	10.67	3.66	3.75
2016	6.86	2.01	0.34	1.48	24.28	5.07	0.34	8.94	5.26	5.26	1.94	19.66	12.56	3.23	2.78
2017	6.09	1.84	0.28	2.52	14.71	6.27	0.25	9.26	7.77	3.42	2.50	21.99	15.97	3.31	3.81

Source: by authors

Table 14: Turkey Export to ECOWAS countries (% country share)

	Ben	Burk	Cap	Gam	Ghan	Guin	GuiB	Cote	Lib	Mal	Nig	Nigri	Sen	Sier	Tog
2001	3.76	0.28	0.00	0.04	11.69	0.04	0.01	5.69	2.44	0.00	0.01	74.99	0.06	0.00	0.98
2002	1.81	0.47	0.00	0.00	13.57	0.11	0.00	10.70	6.85	0.00	0.02	65.35	0.10	0.00	1.02
2003	0.01	0.30	0.00	0.09	25.41	0.08	0.00	11.66	1.58	0.01	0.07	59.59	0.04	0.00	1.17
2004	0.01	0.50	0.00	0.00	21.89	0.01	0.00	16.66	6.65	0.11	0.00	52.80	0.02	0.00	1.34
2005	0.59	0.07	0.00	0.05	20.32	0.05	0.00	9.18	3.10	0.80	0.04	65.01	0.13	0.01	0.67
2006	0.63	0.52	0.00	0.00	11.56	0.08	0.00	8.85	0.48	0.27	0.12	76.51	0.12	0.30	0.57
2007	0.35	1.03	0.00	0.02	6.43	0.11	0.03	13.47	0.15	0.34	0.17	77.33	0.26	0.20	0.13
2008	0.36	1.38	0.00	0.00	17.12	2.23	0.03	43.59	1.36	0.30	0.88	29.19	0.69	0.82	2.05
2009	0.00	1.38	0.00	0.00	29.00	0.26	0.00	25.80	0.32	0.26	0.02	41.71	0.42	0.67	0.15
2010	0.54	7.59	0.00	0.00	32.89	0.45	0.00	16.45	1.29	0.24	0.00	37.32	0.25	1.80	1.18
2011	0.09	14.34	0.02	0.00	28.50	0.19	0.00	13.55	0.29	0.28	0.00	35.65	0.24	2.25	4.59
2012	0.21	25.00	0.00	0.11	34.06	0.54	0.07	13.61	2.71	0.24	0.01	12.70	0.24	5.37	5.13
2013	0.27	5.94	0.00	0.00	32.48	2.01	0.02	21.21	1.83	0.07	0.03	24.00	0.90	3.80	7.44
2014	0.22	3.38	0.16	0.01	23.83	0.82	0.09	36.01	2.25	1.45	0.00	20.28	0.67	3.95	6.88
2015	0.41	6.54	0.43	0.00	23.74	0.54	0.22	38.57	0.27	0.32	0.01	26.71	0.78	0.25	1.22
2016	0.42	6.56	0.39	0.00	26.46	0.93	0.23	36.85	1.32	1.34	0.02	23.14	0.90	0.60	0.85
2017	2.99	8.50	0.14	0.00	17.10	2.42	0.12	40.18	1.16	4.00	0.12	20.88	0.66	0.13	1.61

Source: by authors

Table 15: Imports and Exports in 2017 (main products)

	IMPORTS			EXPORTS		
	Main products	Value (Thousand US \$)	Share in Turkey import from the country (%)	Main products	Value (Thousand US \$)	Share in Turkey exports to the country (%)
ECOWAS						
Benin	52 - Cotton	22048	98.3	11 - Products of the milling industry; malt; starches; inulin; wheat gluten	24799	26.68
	23 - Residues and waste from the food industries; prepared animal fodder	316	1.41	19 - Preparations of cereals, flour, starch or milk;	45453	48.91
Burkina Faso	52 - Cotton	61,313	96.3	87 - Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	3568	12.73
	12 - Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal ...	2,206	3.4	85 - Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television ...	4103	14.64
Cape Verde	03- Fish and crustaceans, molluscs and other aquatic invertebrates	1048	99.5	96 - Miscellaneous manufactured articles	1092	25.77
	85- Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television ...	5	0.47	72 - Iron and steel	677	15.97
Gambia	82 - Other base metals; cermets; articles thereof	3	1	72 - Iron and steel	9516	24.78
				11 - Products of the milling industry; malt; starches; inulin; wheat gluten	9742	25.37
Ghana	18 - Cocoa and cocoa preparations	86199	67.33	25 - Salt; sulphur; earths and stone; plastering materials, lime and cement	33075	14.73
	71 - Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad ...	35781	27.94	85 - Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television ...	27673	12.32
Guinea	71 - Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad ...	12680	70	85 - Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television ...	12182	12.72
	Oil see 12 - ds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal ...	3695	20.4	72 - Iron and steel	13545	14.14
Guinea-Bissau	12 - Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal ...	897	1	19 - Preparations of cereals, flour, starch or milk; pastrycooks' products	588	15.35
				73 - Articles of iron or steel	1400	36.56
Côte d'Ivoire	18 - Cocoa and cocoa preparations	277796	92.35	25 - Salt; sulphur; earths and stone; plastering materials, lime and cement	18369	12.99
	52 - Cotton	10509	3.49	72 - Iron and steel	18117	12.81
Liberia	89 - Ships, boats and floating structures	6904	79.72	89 - Ships, boats and floating structures	39675	33.44
	44 - Wood and articles of wood; wood charcoal	1754	20.25	27 - Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral ...	15037	12.67
Mali	52 - Cotton	29733	99.3	21 - Miscellaneous edible preparations	4835	9.26
	76 - Aluminium and articles thereof	141	0.47	84 - Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof	7440	14.25
Niger	71 - Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad ...	731	84.11	19 - Preparations of cereals, flour, starch or milk; pastrycooks' products	12568	32.93
	85 - Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television ...	95	10.93	21 - Miscellaneous edible preparations	5363	14.05
Nigeria	12 - Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal ...	115256	73.74	88 - Aircraft, spacecraft, and parts thereof	41070	12.23
	27 - Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral ...	17719	11.33	84 - Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof	36080	10.75
Senegal	03 - Fish and crustaceans, molluscs and other aquatic invertebrates	1772	35.82	72 - Iron and steel	15321	6.28

	90 - Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical ...	1526	30.85	25 - Salt; sulphur; earths and stone; plastering materials, lime and cement	18456	7.57
Sierra Leone	89 - Ships, boats and floating structures	889	94.77	72 - Iron and steel	6052	11.96
	40 - Rubber and articles thereof	23	2.45	73 - Articles of iron or steel	21673	42.86
Togo	89 - Ships, boats and floating structures	6042	50.12	72 - Iron and steel	9034	15.53
	52 - Cotton	4719	39.14	19 - Preparations of cereals, flour, starch or milk; pastrycooks' products	26161	44.97

Source: by authors

Table 16: Turkey's total exports to ECOWAS countries (Thousands of US dollars)

ECOWAS	2001	2005	2010	2015	2016	2017
Benin	4049	5186	116690	79920	84307	92928
Burkina Faso	727	3917	10298	21696	24681	28017
Cape Verde	3092	3118	5844	5163	4206	4237
Gambia	3336	10344	20697	15977	18195	38399
Ghana	17736	31602	96484	219599	298469	224520
Guinea	4786	12156	27689	65037	62300	95758
Guinea-Bissau	100	184	2514	5432	4120	3829
Côte d'Ivoire	8618	26601	47926	115498	109879	141345
Liberia	8917	47596	67460	79860	64599	118639
Mali	2608	10000	9925	30383	64705	52204
Niger	897	3884	14741	31297	23906	38162
Nigeria	69023	98558	250602	313984	241604	335611
Senegal	13411	34951	83314	128206	154371	243680
Sierra Leone	1717	5376	24464	43956	39678	50562
Togo	1504	5193	30548	45087	34139	58168

Source: by authors

Table 17: Turkey's total imports from ECOWAS countries (Thousands of US dollars)

ECOWAS	2001	2005	2010	2015	2016	2017
Benin	11448	2109	3217	2912	2849	22409
Burkina Faso	841	250	44872	46526	44745	63614
Cape Verde	0	0	2	3075	2635	1053
Gambia	120	185	10	25	4	3
Ghana	35578	73208	194358	168907	180478	128019
Guinea	121	179	2655	3820	6367	18109
Guinea-Bissau	45	0	0	1543	1588	897
Côte d'Ivoire	17,312	33063	97215	274350	251303	300779
Liberia	7430	11155	7596	1897	8987	8660
Mali	4	2887	1397	2259	9128	29941
Niger	40	129	9	55	110	869
Nigeria	228200	234272	220546	189985	157814	156286
Senegal	180	1449	1449	5517	6138	4946
Sierra Leone	9	10610	10610	1810	4094	938
Togo	2976	6964	6964	8668	5790	12055

Source: by authors