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# STRENGTHENING TRADE BETWEEN MOLDOVA AND THE EUROPEAN UNION - A CASE OF POLISH-MOLDOVAN TRADE

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***Abstract***

*An Association Agreement between the Republic of Moldova and the European Union, including its most important part DCFTA, was signed on June 27, 2014, and on July 1, 2016 it entered into force. Although since 2015 the EU apply almost no tariff against imports from Moldova, Moldova has up to ten years for some sectors to gradually remove its tariffs. The main aim of this paper is to evaluate the current short term effects of DCFTA and the potential results of complete tariff removal by Moldova against imports from the EU. Hence the analysis includes ex post part based on WITS data and ex ante part based on partial equilibrium modelling with SMART. Simulation results suggest that the highest increase in exports to Moldova is expected in the case of Italy and Poland, especially due to the changes in trade flows on the food market and textiles and skins market.*

***Keywords**: DCFTA, trade liberalisation, SMART model, international trade, EU*

## 1. Introduction

Trade between the EU and the Republic of Moldova has a long tradition and is based on preferential treatment. Moldova holds the status of a developing country and has been a beneficiary of the EU Generalized System of Preferences (GSP) since 1998 and since 2006 exports of goods from Moldova to the EU have been based on the "GSP plus" system, which has offered Moldova even more privileges. In 2008 the European Commission (EC) has implemented Autonomous Trading Preferences (ATP) against Moldova and in 2011 it started negotiations on the Deep and Comprehensive Free Trade Agreement (DCFTA).

An Association Agreement between the Republic of Moldova and the European Union, including its most important part DCFTA, was signed on June 27, 2014, however it entered into force on July 1, 2016. In accordance with provisions of the Association Agreement, the Republic of Moldova is obliged to take the necessary steps to ensure progressively consistency with the Union's regulations, especially with regard to the EU regulations on trade, since the free movement of goods is one the four fundamental principles of the internal market and is guaranteed by the abolition of customs duties and other quantitative restrictions [5, p. 8].

Since 2015, the EU apply almost no tariff against imports from Moldova. Moldova however has up to ten years for some sectors to gradually remove its tariffs and quotas on imports from the EU and eliminate technical barriers to trade, which refers especially to agricultural products (e.g. dairy

products, meat products and wines). Moreover, Moldova has the possibility to only partially liberalise trade for sensitive products through tariff rate quotas (e.g. pigment, poultry meat, processed meat products, sugar and sweeteners).

Although the benefits of the DCFTA can only be fully realised in longer perspective, some preliminary positive results can already be seen [1, p. 79]. The purpose of this paper is to evaluate the static effects[1] of DCFTA and also previous trade agreements between the EU and the Republic of Moldova, with special attention paid to the Moldovan import from the EU and Poland. In the ex post part of the research we analyse recent development in the trade flows between the Moldova and the EU, including Poland. In the ex ante part of the research we use partial equilibrium model SMART to simulate the potential results of complete tariff removal by Moldova against imports from the EU.

## 2. Methods and materials applied

For the ex post analysis of trade flow developments and structure, we used trade data from the World Integrated Trade Solution (WITS) platform of World Bank [10]. As a simulation tool in ex ante analysis we used partial equilibrium (PE) model SMART available also in WITS. This model belongs to the group of partial equilibrium models, which, alongside the models of general equilibrium, serve to assess the effects of trade policy changes. The core assumption of this PE model is the Armington assumption, i.e. the imports from different countries are imperfect substitutes. Another important assumption is that all countries face fixed world prices and the change in the domestic price is simply the direct effect of tariff changes [6, p. 694]. Exogenous parameters such as price elasticity of export supply, price elasticity of import demand, and elasticity of import substitution between products from different countries are used to perform the simulation.

The result of SMART simulation is the net trade effect being a summation of total trade creation and trade diversion effects. The first is the change in exports resulting from the improvement of the price competitiveness of the exporter caused by the reduction of the tariffs by the trading partner. The latter is a change in trade flows determined by the relative price competitiveness of exporters. Both effects are shown in Figure 1. In the initial situation, country *A* and country B are exporters of good q on the world market, and the volume of exports from each country ($A_0$ and $B_0$) is determined by the tangent point ($E_0$) of the importer's indifference curve $q_0$ and the line representing price relationship between the good *q* of countries *A* and *B*.

If the importer reduces the duty on the product *q* imported from country *A*, then its price relative to the price in country *B* will decrease and thus the line representing the price ratio will be more steep. At the new equilibrium point ($E_1$) the volume of exports from country *A* will increase to $A_1$, while the volume of exports from country *B* will decrease to $B_1$. This effect is called trade diversion.

As a result of lowering customs duties on imports from country *A*, the income effect will also be achieved, which will allow the importer to reach a higher curve of indifference $q_1$. With the same

[1] Short run changes in trade flows resulting from reduction in tariffs and non-tariff barriers. Static effects include trade creation and trade dicersion effect.

level of expenditure, consumers will be able to purchase more good *q* from country A and import volumes will increase from $A_1$ to $A_2$. This is the effect of trade creation.

From the point of view of importers, the effect of trade diversion is neutral. It does not change the volume of imports, only its structure. The total trade effect of the reduction in the duty will be equal only to the effect of trade creation. From the exporter's point of view, against whom the duty is reduced, the overall trade effect will be the sum of the positive effects of the trade creation and the trade diversion. On the other hand, the overall trade effect for the exporter omitted from the tariff reduction process will be negative and equal to the effect of the trade diversion.

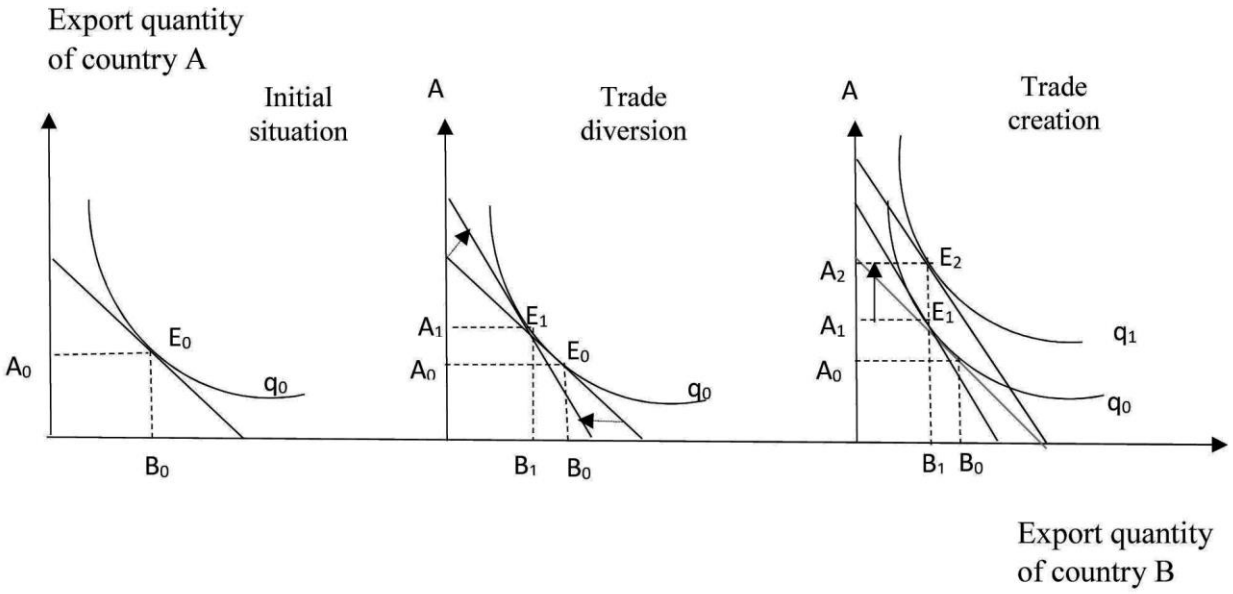


Figure 1. Trade creation and trade diversion effects

Source: Amjadi, A., Schuler, P., Kuwahara, H., Quadros, S., WITS User Manual, World Bank, Washington, 2011, p. 173

In the SMART model, the effect of trade creation is defined as the demand increase in country *j* for good *i* originating from the country *k*, resulting from the reduction or elimination of tariff and non-tariff barriers. This effect is described in the model with the following equation [6, p. 695]:

$$TC_{ijk} = \frac{M_{ijk} \times \mu \times \Delta t_{ijk}}{(1+t_{ijk}) \times (1-\frac{\mu}{\beta})} \quad (1)$$

where: $TC_{ijk}$ – trade creation effect in good i imported from country *k* to country *j*; $M_{ijk}$ – import of good *i* to country *j* from country *k*; μ – price elasticity of import demand; $t_{ijk}$ – duty on good *i* imported from country *k* to country *j*; β – price elasticity of export supply.

The effect of trade diversion means that the share of imports of good *i* from country k in total imports of country *j* increases as a result of reducing or eliminating tariff and non-tariff barriers at the expense of reducing the share of imports from the rest of the world *K* not included in preferential trade system. This effect is described in the model with the following equation [6, p. 695]:

$$TD_{ijk} = \frac{M_{ijk} \times M_{ijK} \left(\frac{1+t^1_{ijk}}{1+t^0_{ijk}} - 1\right)\lambda}{M_{ijk} + M_{ijK} + M_{ijK} \left(\frac{1+t^1_{ijk}}{1+t^0_{ijk}} - 1\right)\lambda} \quad (2)$$

where: $TD_{ijk}$ – trade diversion effect in good *i* imported from country *k* to country *j*; $M_{ijk}$ – import of good *i* to country *j* from country *k*; $M_{ijK}$ – import of good *i* to country *j* from the rest of the world *K*; $t_{ijk}$ – duty on good *i* imported from country *k* to country *j* before duty change (0) and after duty change (1); λ – elasticity if import substitution.

The trade net effect ($TE_{ijk}$) is the sum of the trade creation and trade diversion effect and can be noted as:

$$TE_{ijk} = TC_{ijk} + TD_{ijk} \quad (3).$$

In order to evaluate the potential effects of DCFTA[2] and tariff reduction in trade between the European Union and the Republic of Moldova we carried out a simulation in which we assumed the full tariff reduction applied to all products imported by Moldova from the EU. Simulating the total tariff reduction in the EU brings no results, since the SMART model already includes preferential zero tariff level in the EU against import from Moldova. The SMART model has allowed us to determine the overall trade effect including the trade creation and trade diversion effect. In the simulation we used exogenous parameters: export supply elasticities (99), import substitution elasticities (1.5), and the import demand elasticities as set in the model. The liberalization scenarios included products defined at the two-digit level of disaggregation of data in the HS nomenclature. The initial level of trade flows and customs came from 2014.

## 3. Results obtained and discussions

Due to EU decision to implement Autonomous Trading Preferences in 2008 and open its market unilaterally to the Republic of Moldova, the EU has become the most important trading partner for Moldova in terms of both import and export [9, p.22]. In 2004, 30% of the exported goods went to the EU and nearly 1/3 of the imports came from EU countries. In 2016, almost two thirds of exports were directed to the EU (65%) and nearly half of the imported products came from the EU (49%).[3] In 2004-2016, Moldova's exports to the EU increased by 4.5 times and import by nearly 240% (table 1). Despite a higher export growth compared to imports, Moldova's trade balance with the EU was negative (reached over: -0.6 billion USD in 2016) but reducing from 2013. It is worth to note that Moldovan exports to the EU decreased by 2.3% in 2015-2014 (Table 1), that was significantly lower than the downhill in total exports. Next year the growth of export was observed. In the case of import, the level of drop was comparable with the situation of total Moldovan import.

[2] Trade liberalization scenario includes only tariff reduction, which is a simplifying assumption, since the EU-Moldova trade is a subject also to quotas and non-tariff barriers [4, p. 32]. Studies by ECORYS [3] and Rau M. [8] suggest that highest gains are associated with the reduction in non-tariff barriers to trade and elimination of tariffs would bring only modest results.

[3] In 2016, the second trade Moldova's partner was Commonwealth of Independent States (CIS). Its share was about 25% in Moldova's export and about 20% in import respectively. The role of CIS was weakening as the significance of the EU was strengthening.

As for the geographical structure, the most important trading partners within the EU were Romania, Germany and Italy. In 2016, Moldova's exports to these countries accounted for almost 63% of EU exports (Romania 38.5%, Italy around 15%, Germany close to 10%). In the case of imported products, the importance of these three countries was close to 60% of total EU imports (Romania nearly 28%, Germany 16% and Italy over 14%). Poland was in sixth position in exports (5.5%) and fourth in imports (6.7%).

In 2004-2016, the value of Moldovan total trade increased systematically. The higher dynamics of imports in comparison to exports shifted into growing trade deficit. During the analyzed period, exports increased twice (an increase of 107%) and import almost 2.3 times (Table 1). In 2016, Moldovan total exports amounted to more than 2 billion USD, but the import was nearly 2 times bigger. That transformed into a negative trade result of over 1.9 billion USD (Table 1). Some economic and political problems affected trade [4, p. 33-34] in recent analyzed years. In the first year of DCFTA implementation, total exports of Moldova decreased by nearly 16% and import by 25% respectively[4], so despite fears that DCFTA implementation would induce an inflow of EU products to Moldova, EU exports to Moldova in fact decreased [7].

Table 1. Trade relations between Moldova and the World, the European Union and Poland

| **Year** | **2004** | **2009** | **2014** | **2015** | **2016** | **2004-2016** | **2014-2015** | **2015-2016** |
|---|---|---|---|---|---|---|---|---|
| **Trade relations between Moldova and the world (USD million)** | | | | | | **% change** | | |
| Export | 985.2 | 1283.0 | 2339.5 | 1966.8 | 2045.3 | 207.6 | 84.1 | 104.0 |
| Import | 1768.5 | 3278.3 | 5317.0 | 3986.8 | 4020.4 | 227.3 | 75.0 | 100.8 |
| Balance | -783.4 | -1995.3 | -2977.4 | -2020.0 | -1975.0 | 252.1 | 67.8 | 97.8 |
| **Trade relations between Moldova and the European Union (USD million)** | | | | | | **% change** | | |
| Export | 296.3 | 667.3 | 1246.0 | 1217.6 | 1332.4 | 449.7 | 97.7 | 109.4 |
| Import | 581.1 | 1421.2 | 2567.7 | 1954.3 | 1973.7 | 339.6 | 76.1 | 101.0 |
| Balance | -284.8 | -753.8 | -1321.7 | -736.7 | -641.3 | 225.2 | 55.7 | 87.1 |
| **Trade relations between Moldova and Poland (USD million)** | | | | | | **% change** | | |
| Export | 6.6 | 33.7 | 64.4 | 68.5 | 73.4 | 1120.5 | 106.2 | 107.2 |
| Import | 44.8 | 87.6 | 155.8 | 122.4 | 132.2 | 295.4 | 78.5 | 108.0 |
| Balance | -38.2 | -53.9 | -91.4 | -53.9 | -58.8 | 153.9 | 59.0 | 109.1 |

Source: elaborate based on data from WITS (http://wits.worldbank.org/)

In 2016 the main product groups exported to the European Union were: electrical machinery and equipment, oil seeds ad oleaginous fruits and articles of apparel and clothing accessories. A share of more than 5% was also characteristic of furniture, cereals and edible fruit and nuts (6.4%). Moldova imported mainly mineral fuels, electrical machinery and equipment, and machinery and mechanical apliances. Nearly 20% represented three product groups: vehicles (7.7%). pharmaceutical products (6.3%) and plastics and articles thereof (5.5%). The first top five product groups were responsible for almost 60% of total exports to the EU and more than 45% of import (Table 2).

[4] It should be noted that in 2014 total export decreased by almost 4%, and import by over 3%.

As was mentioned above, Poland is one of the important Union's trade partners for Moldova. The trade turnover between Moldova and Poland was increasing consistently. There was an enormous growth of export (from 6.6 billion USD to 73.4 billion USD in 2004-2016) to Poland, but it should be notice that such dynamics is also connected with base effect. Import from Poland increased 3 times (Table 1). As in the case of the EU, the trade balance with Poland was negative within analyzed period. In 2014 there was fall of export to Poland by almost 25%, but next years the growth at the level of 6,2% and 7,2% was observed. In the case of import, the biggest decrease was present in 2015 (-21.5%), but in the 2016 there was an increase once again (8.1%). Moldova exports to Poland mainly furniture, beverages, spirits, and articles of apparel and clothing accessories (Table 2). These three groups are responsible for almost 60% of exported goods to Poland. Among the goods imported from Poland are mainly machinery and appliances, plastics and electrical machinery. They are account for over 30% imports from Poland.

Table 2. Top five product groups* in exports and imports of Moldovan trade with the European Union and Poland in 2016

| Product Code | Product group description | Value (USD million) | Share (%) | Product Code | Product group description | Value (USD million) | Share (%) |
|---|---|---|---|---|---|---|---|
| **Export** | | | | **Import** | | | |
| **Top 5 product groups in trade of Moldova with the EU** | | | | | | | |
| 85 | Electrical machinery and equipment and parts thereof | 246.6 | 18.5 | 27 | Mineral fuels, mineral oils. and products of their distillation | 302.3 | 15.3 |
| 12 | Oil seeds and oleaginous fruits | 152.2 | 11.4 | 85 | Electrical machinery and equipment and parts thereof | 166.4 | 8.4 |
| 62 | Articles of apparel and clothing accessories | 144.5 | 10.8 | 84 | Nuclear reactors, machinery and mechanical appliances | 160.0 | 8.1 |
| 94 | Furniture | 119.1 | 8.9 | 87 | Vehicles other than railway or tramway rolling-stock | 151.2 | 7.7 |
| 10 | Cereals | 101.7 | 7.6 | 30 | Pharmaceutical products | 124.4 | 6.3 |
| Others | | 568.2 | 42.6 | Others | | 1065.9 | 54.1 |
| **Top 5 product groups in trade of Moldova with Poland** | | | | | | | |
| 94 | Furniture | 17.4 | 23.7 | 84 | Nuclear reactors, machinery and mechanical appliances | 18.7 | 14.1 |
| 22 | Beverages, spirits, and vinegar | 13.0 | 17.7 | 39 | Plastics and articles thereof | 13.0 | 9.9 |
| 62 | Articles of apparel and clothing accessories | 11.7 | 16.0 | 85 | Electrical machinery and equipment and parts thereof | 8.3 | 6.3 |
| 20 | Preparations of vegetables, fruit, nuts, or other parts of plants | 8.8 | 11.9 | 33 | Essential oils and resinoids | 6.5 | 4.9 |
| 12 | Oil seeds and oleaginous fruits | 7.7 | 10.5 | 48 | Paper and paperboard | 5.8 | 4.4 |
| Others | | 14.8 | 20.2 | Others | | 79.9 | 60.4 |

*Product groups description in short version

Source: elaborate based on data from WITS (http://wits.worldbank.org/)

In order to evaluate potential future development of trade flow from the EU to the Republic of Moldova, we decided to use the partial equilibrium model SMART. Results of modelling have been presented in Tables 3, 4 and 5. Table 3 includes value of exports in 2014 from the most important Moldovan trading partners from the EU and potential trade effects (divided into creation and diversion effect) as a result of total abolition of tariffs against all trade from the EU[5]. The short term increase in exports to Moldova from all 28-EU Member States (MS) is expected to be around 5%[6] and in absolute terms around 122 USD million. It is worth to notice that 72% of this increase should result from trade creation and only 28% from the shifts in trade (mainly from Ukraine, China Turkey and Russian Federation). Italy[7] is expected to be the biggest beneficiary of tariffs reduction in both absolute and relative terms. Almost 25 USD million increase of exports is expected in case of Romania, and 15 USD million in case of Germany. Among the biggest beneficiary of exports increase in relative terms, it is worth to mention also Poland with 6.7%.

Table 3. Results of SMART simulation – potential trade effects for European countries in response to the total tariff abolition by Moldova Republic against the EU (base year 2014)

| | **Exports before (USD million)** | **Total trade effect (%)** | **Total trade effect (USD million)** | **Trade creation effect (USD million)** | **Trade diversion effect (USD million)** |
|---|---|---|---|---|---|
| EU-28 | 2418.4 | 5.1 | 122.3 | 88.4 | 33.9 |
| Romania | 720.1 | 3.5 | 24.9 | 17.1 | 7.8 |
| Germany | 388.5 | 3.9 | 15.3 | 10.0 | 5.3 |
| Italy | 342.5 | 9.4 | 32.2 | 26.7 | 5.5 |
| Poland | 140.8 | 6.7 | 9.5 | 6.2 | 3.3 |
| France | 97.4 | 4.6 | 4.5 | 3.1 | 1.4 |
| Hungary | 99.4 | 5.1 | 5.1 | 4.2 | 0.9 |
| Bulgaria | 66.4 | 6.0 | 4.0 | 2.3 | 1.7 |
| Czech Rep. | 58.2 | 4.6 | 2.7 | 1.8 | 0.9 |
| UK | 58.0 | 2.2 | 1.3 | 0.8 | 0.5 |

Source: elaborate based on SMART simulation

With regard to the specific product groups, the simulation results (table 4) are particularly evident in the food market. Exports of food from the EU to the Republic of Moldova as a result of tariffs abolition is expected to increase by almost 32 USD million, which gives around 15% rise. The biggest beneficiary the food export increase would be Italy, Romania, Germany, Netherlands and Greece. Essential growth in exports to Moldova is also expected in case of: hides, skins and leather (mainly from Italy); textiles and textiles products (mainly from Hungary and Italy); and also machinery and mechanical appliances (mainly from Austria). In the case of mineral products and chemical products, which currently play an important role in the structure of Moldovan import, expected results of tariffs abolition are rather modest, because currently applied duties are low.

[5] Tariffs in the EU against Moldovan exports have been set in SMART model at zero level since 2008. Simulation does not encompass quotas and NTBs.

[6] Some authors [9, p. 33] argue that expected import increase to Moldova in short term will amount to 6% and in long term to 8%. These results may however differ, since our simulation assumes only tariffs reduction.

[7] Significant increase is expected on the following markets: raw hides, skins and leather; articles of apparel and clothing accessories; furniture, bedding and mattresses.

As it was mentioned before, Poland is one of the most important trading partners for Moldova, with the value of exports to Moldova in 2014 equal to more than 140 USD million. Poland is also expected to be one of the biggest beneficiary of a stronger cooperation between the EU and Republic of Moldova (Table 5). Total reduction of tariffs by Moldova against EU trade would contribute to increase in Poland's export to Moldova by 6.7% (that is by 9.4 USD million), and in the case of food products even by 18.4% (that is 3.3 USD million). It is also worth to notice that an important trade effect is expected in the case of plastics and articles thereof (HS chapter no 39), however almost 50% this increase would result from the diversion effect (mainly at the expense of China, Turkey and Ukraine). Potential increase in exports from Poland to Moldova in other product groups which currently play important role in the structure of trade[8] are expected to be modes, because currently they are subject to low tariffs.

Table 4. Results of SMART simulation – potential changes in exports from the EU in response to the total tariff abolition by Moldova Republic against the EU (base year 2014)

| HS section (chapters) | Section name | Exports before (USD million) | Total trade effect (%) | Total trade effect (USD million) | Old simple average duty rate |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| I (1-5) | Live animals; animal products | 43.6 | 16.1 | 7.0 | 7.6 |
| II (6-14) | Vegetable products | 83.2 | 11.8 | 9.8 | 7.9 |
| III (15) | Animal or vegetable fats and oils and their cleavage | 4.4 | 25.0 | 1.1 | 8.5 |
| IV (16-24) | Products; prepared edible fats; animal or vegetable waxes | 85.0 | 16.1 | 13.7 | 14.4 |
| V (25-27) | Mineral products | 460.8 | 0.2 | 1.0 | 1.2 |
| VI (28-38) | Products of the chemical or allied industries | 362.2 | 2.1 | 7.7 | 2.9 |
| VII (39-40) | Plastics and articles thereof; rubber and articles thereof | 148.7 | 7.3 | 10.9 | 4.9 |
| VIII (41-43) | Raw hides and skins, leather, furskins and articles thereof; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut) | 24.5 | 67.3 | 16.5 | 11.8 |
| IX (44-46) | Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork | 45.0 | 0.2 | 0.1 | 1.6 |
| X (47-49) | Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard; paper and paperboard and articles thereof | 61.7 | 5.8 | 3.6 | 7.3 |
| XI (50-63) | Textiles and textile products | 174.7 | 8.6 | 15.0 | 6.4 |
| XII (64-67) | Footwear, headgear, umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof; prepared feathers and articles made thereof; article flowers; articles of human hair | 7.8 | 12.8 | 1.0 | 11.0 |

[8] Which are: chapter 33 (essential oils and resinoids; perfumery, cosmetic or toilet preparations) chapter 34 (soap, organic surface-active agents, washing preparations, lubricating preparations, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles); and chapter 84 (boilers, machinery and mechanical appliances).

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| XIII (68-70) | Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware | 63.9 | 11.1 | 7.1 | 7.8 |
| XIV (71) | Natural or cultured pearls, precious or semi–precious stones, precious metals, metals clad with precious metal and articles thereof; imitation jewellery; coin | 1.6 | 31.3 | 0.5 | 9.3 |
| XV (72-83) | Base metals and articles of base metal | 128.7 | 2.4 | 3.1 | 1.9 |
| XVI (84-85) | Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles | 440.6 | 3.4 | 15.2 | 2.1 |
| XVII (86-89) | Vehicles, aircraft, vessels, and associated transport equipment | 181.0 | 2.1 | 3.8 | 2.4 |
| XVIII (90-92) | Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof | 37.0 | 2.2 | 0.8 | 3.9 |
| XX (94-96) | Miscellaneous manufactured articles | 64.4 | 9.3 | 6.0 | 6.8 |
| XXI (97-99) | Works or art, collectors' pieces and antiques | 0.0 | 22.7 | 0.0 | 10.0 |

Source: elaborate based on SMART simulation

Table 5. Results of SMART simulation – potential changes exports from Poland in response to the total tariff abolition by Moldova Republic against the EU (base year 2014)

| **HS section (chapters)** | **Exports before (USD 000)** | **Total trade effect (%)** | **Total trade effect (USD 000)** | **Trade creation effect (USD 000)** | **Trade diversion effect (USD 000)** |
|---|---|---|---|---|---|
| I (1-5) | 4410.7 | 17.3 | 763.5 | 464.8 | 298.7 |
| II (6-14) | 5122.4 | 13.6 | 695.1 | 481.8 | 213.3 |
| III (15) | 110.2 | 29.7 | 32.8 | 12.1 | 20.7 |
| IV (16-24) | 8444.5 | 21.8 | 1839.4 | 1497.8 | 341.6 |
| V (25-27) | 6978.0 | 0.0 | 1.3 | 1.1 | 0.3 |
| VI (28-38) | 20309.7 | 4.6 | 932.0 | 608.0 | 324.1 |
| VII (39-40) | 14030.4 | 9.6 | 1342.3 | 737.0 | 605.3 |
| IX (44-46) | 7039.6 | 0.0 | 2.6 | 2.4 | 0.2 |
| X (47-49) | 13073.6 | 3.1 | 403.0 | 262.4 | 140.6 |
| XI (50-63) | 8668.0 | 7.5 | 651.5 | 453.0 | 198.5 |
| XIII (68-70) | 7868.8 | 10.7 | 839.0 | 462.7 | 376.2 |
| XV (72-83) | 11765.1 | 3.5 | 409.6 | 266.3 | 143.3 |
| XVI (84-85) | 23924.7 | 3.2 | 769.5 | 442.1 | 327.3 |
| **Total** | **140806.9** | **6.7** | **9438.9** | **6179.6** | **3259.5** |

Source: elaborate based on SMART simulation

## 5. Conclusions

The main aim of this paper was to evaluate short term effect of DCFTA trade agreement between the Republic of Moldova and EU Member States, especially Poland. Although the results of the DCFTA can only be fully evaluated in the medium and long term, some benefits can already be seen after almost three years from signing the agreement.

The ex post part of the trade flows analysis revealed that due to strengthening the trade relation between the Republic of Moldova and the EU, Moldova's exports to the EU increased since 2004 by 4.5 times and import from the EU by nearly 240%. The EU has become the most important trading partner for Moldova in terms of both import and export. Despite fears that DCFTA implementation would induce an inflow of EU products to Moldova, EU exports to Moldova in fact decreased and reversed the trend of growing negative trade balance.

In the ex ante analysis we used partial equilibrium model SMART to simulate the potential results of complete tariff removal by the Republic of Moldova against all imports from the EU. This approach has some limitations, since the trade liberalization scenario includes only tariffs reduction on Moldova and highest gains are associated with the reduction in non-tariff barriers to trade. Although eliminating tariffs will bring only modest benefits, it is still worth to see which countries and which markets are going to benefit the most. The highest increase in exports to Moldova is expected in the case of Italy and Poland, especially due to the changes in trade flows on the food market and textiles and skins market. Around 25-35% of this increase will result from the diversion effect at the expense of Ukraine, Russia Federation, Turkey and China.

In the longer perspective, results of strengthening trade between the EU and the Republic of Moldova will depend on the reduction of non-tariff barriers, including food safety, sanitary and phytosanitary measures and technical standards for industrial products, which is an issue worth further investigation.

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***Rezumat***

*Acordul de asociere între Republica Moldova și Uniunea Europeană, inclusiv partea sa cea mai importantă DCFTA, a fost semnat la 27 iunie 2014, iar la 1 iulie 2016 a intrat în vigoare. Deşi începând cu anul 2015, UE nu aplică aproape nici un tarif la importurile din Republica Moldova, Moldova are la dispoziție aproximativ zece ani pentru a elimina treptat tarifele din unele sectoare ale sale. Scopul principal al acestei lucrări constă în evaluarea actualelor efecte pe termen scurt ale DCFTA și potențialelor rezultate ale renunțării complete a Republicii Moldova la tarife pentru importurile din UE. Prin urmare, analiza include două părți: o parte ex post bazată pe datele platformei WITS și o parte ex ante bazată pe modelarea parțială a echilibrului cu ajutorul tehnologiei SMART. Rezultatele simulării sugerează că cea mai mare creștere a exporturilor în Republica Moldova sunt preconizate din țările, precum Italia și Polonia, în special datorită schimbărilor în fluxurile comerciale pe piața produselor alimentare și pe piața produselor textile, articolelor din piele.*

***Cuvinte-cheie**: DCFTA, liberalizarea comerțului, modelul SMART, comerțul internațional, UE*

***Аннотация***

*Соглашение об ассоциации между Республикой Молдова и Европейским Союзом, включая его самую важную часть DCFTA, было подписано 27 июня 2014 года и вступило в силу 1 июля 2016 года. Несмотря на то, что с 2015 года ЕС практически не применяет тарифы на импорт из Республики Молдова, Молдова имеет около десяти лет для поэтапного отказа от тарифов в некоторых своих секторах. Основная цель настоящего исследования заключается в оценке текущих краткосрочных последствий применения DCFTA и возможных результатов полного отказа со стороны Республики Молдова по тарифам на импорт из ЕС. Анализ включает в себя две части: ex post на основе данных платформы WITS и ex ante, основанная на моделировании частичного баланса с использованием технологии SMART. Результаты моделирования показывают, что наибольший рост экспорта в Республику Молдова ожидается из Италии и Польши, в основном из-за изменений в торговых потоках на продовольственном рынке и на рынке текстильных изделий, изделий из кожи.*

***Ключевые слова:** DCFTA, либерализация торговли, модель SMART, международная торговля, ЕС*

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