Statistic Indicators on the Relationship between Economy and Foreign Trade of the Republic of Moldova (including with Romania) during 2003- 2014

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Abstract

The basic component of the national economy system and the component of the foreign economic relations is – foreign trade. The foreign trade balance of the country can ensure the balance of the national economy, economic efficiency, increase of economic potential, benefit from the experience of economically advanced countries etc. So, the analysis of the interdependence between foreign trade and economy of a country is natural.

***Key words:** international openness, annual advance coefficient, foreign trade contribution to GDP creation, coverage degree of imports by exports, coverage index of imports by exports, country's participation intensity in the international exchange of goods.*

Over time foreign trade was considered the centre of each country's economy. Thus, foreign trade area is considered not just a transaction of goods, but also a necessary element of the production process and the national economy as a whole.

For the Republic of Moldova foreign trade plays a very important role, motivated by a small internal market, which limits the production development, insufficient quantity of raw material and energy sources needed to meet the exigencies of the national economy, both for intermediate consumption (production goods and services) and for the final consumption (private and government consumption, households), which caused high imports increase.

The relationship between foreign trade and the national economy has always been discussed in the works of researchers given the important role of trade in economic growth of the country. Thus, the purpose of the investigations carried out in the paper is to analyse the statistical indicators that ground the investigation of this relationship.

As additional information necessary for calculating and analysing the indicators that describe the relationship between foreign trade and Moldovan economy, may be presented in the following table:

Evolution of statistical indicators underlying the characterization of the relationship between foreign trade and Moldovan economy of during the years (2003 - 2014)

Table 1

Indicators	2003	2004	2005	2006	2007	2008
Gross Domestic Product (GDP), million MDL (current market prices)	227619	332032	337652	444754	553430	662922
Average annual exchange official rates, in MDL for USD 1*	113,943	112,3283	112,600	113,1319	112,1362	110,3895
Gross Domestic Product (GDP), milion USD	11980,9	22598,2	22988,3	33408,0	44402,5	66056,3
The average annual number of resident population ($\overline{N}_p$), thousand persons	33612,9	33604,0	33595,2	33585,2	33577,0	33570,1

Indicators	2009	2010	2011	2012	2013	2014
Gross Domestic Product (GDP), million MDL (current market prices)	660430	771885	882349	888228	1100312	1111501
Average annual exchange official rates, in MDL for USD 1*	111,1134	112,3663	111,737	112,1122	112,5907	114,0388
Gross Domestic Product (GDP), milion USD	55437,6	55813,0	77016,2	77284,2	77967,2	77942,3
The average annual number of resident population ($\overline{N}_p$), thousand persons	33565,6	33562,1	33560,0	33559,5	33558,6	33556,4

Source: Prepared by the author based on information provided by the National Bureau of Statistics (www.statistica.md) (quoted 02/03/2015)
*Note: Information presented by the National Bank of Moldova (https://bnm.md/md/medium_ exchange_rates) (quoted 03/02/2015)

Therefore, the analysis of the relationship between foreign trade and the national economy can be performed using the following core indicators:

Evolution of statistical indicators on the relationship between foreign trade and economy of Moldova during the years (2003 - 2014)

Table 2

Indicators	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
1	2	3	4	5	6	7	8	9	10	11	12	13
Opening or international ventilation $\left(D=\frac{E+I}{PIB}\cdot100\right)$, in % - TOTAL	110,7	106,0	113,2	109,8	114,2	107,2	*83,9*	92,8	105,6	101,2	99,4	96,4
of which:												
- with Romania	9,5	10,1	12,3	14,7	15,0	15,3	10,1	10,9	13,6	13,4	14,2	15,6
Annual advance coefficient $\left(CD=\frac{Id(E+I)}{Id\,PIB(n)}\cdot100\right)$, in % - TOTAL	109,4	95,7	106,9	97,1	103,9	93,8	78,3	110,7	113,8	96,0	98,2	97,0
of which:												
-with Romania	107,3	106,6	122	119,1	101,9	101,7	66,3	107,4	124,4	99,0	106,0	109,5
Contribution of foreign trade to GDP creation ($\gamma^{SBC/PIB}$), in % - TOTAL	-30,9	-30,1	-40,2	-48,2	-53,4	-54,6	-36,7	-39,8	-42,4	-41,9	-38,5	-37,5
of which:												
-with Romania	-0,4	-2,5	-4,9	-5,6	-5,4	-4,2	-1,3	-2,4	-2,8	-3,6	-3,9	-4,6
The coefficient of variation of trade balance $\left(C\Delta SBC=\frac{\Delta SBC}{\Delta PIB}\right)$, in units - TOTAL	0,11	0,07	0,14	0,13	0,16	0,16	-0,24	0,05	0,09	0,01	0,002	-0,01
of which:												
- with Romania	-0,013	0,022	0,027	0,013	0,011	0,003	-0,034	0,012	0,008	0,009	0,006	0,007
Imports coverage by exports *(GA=E/I)*, in % - TOTAL	56,3	55,7	47,6	339,0	36,3	32,5	39,1	40,0	42,7	41,5	44,2	44,0
of which:												
-with Romania	92,3	60,3	43,4	44,8	47,0	56,8	76,9	63,7	65,5	57,5	57,0	54,0
Index of imports coverage by exports *(IGA=GA₁/GA₀)*, in % - TOTAL	-	98,9	85,5	81,9	93,1	89,5	120,3	102,3	106,8	97,2	106,5	99,5
of which:												
-with Romania	-	65,3	72,0	103,2	104,9	120,9	135,4	82,8	102,8	77,8	99,1	94,7
Intensity of the country's participation in the international exchange of goods $\left(I_{psi}=\frac{E}{N_p}\right)$ in UDS per inhabitant - TOTAL	218,6	273,4	303,4	290,3	374,6	445,7	360,0	432,8	622,7	607,4	682,4	657,8
of which:												
-with Romania	25,0	27,4	31,0	43,2	59,0	94,1	67,2	69,2	105,7	100,2	115,5	122,0

Source: Elaborated by the author based on information provided by the National Bureau of Statistics (www.statistica.md) (quoted 05/26/2015)

The degree of Moldova's openness or international ventilation in 2014 was 96.4%, which decreased by 3 p.p. compared to 2013. A value below 100% was recorded both in 2009 (83.9%) and in 2010 (92.8%). For the other years, during the analysed period, the degree of openness recorded values over 100%, reaching the maximum 114.2% in 2007. This share is due to the high values of imports, as the local market is relatively narrow and the domestic base of raw materials and energy resources is insufficient to cover the country's needs. The share of foreign trade between Moldova and Romania in GDP was 15.6% in 2014, increasing by 1.4 p.p. compared to 2013 and by 6.1 p.p. compared to 2003.

The annual advance coefficient in 2014 was 97%; its value below

100% indicates that the contribution of foreign trade of goods is insufficient for Moldova's domestic economic processes. Such a contribution is shown in years: 2004 (95.7%), 2006 (97.1%), 2008 (93.8%) 2012 (96.0%), 2013 (98.2%). The remaining years of the period under review show that the dynamic index the of merchandise trade volume exceeds the dynamic index of the nominal GDP in our country. For most years in the period 2003 – 2014 can be stated a sufficient contribution of the merchandise foreign trade of Moldova with Romania, apart from 2009 (representing 66.3%) and 2012 (being 99%). The advance of the dynamics index of country's foreign trade with Romania to the index of nominal dynamics of GDP growth registered a peak of 124.4% in 2011.

During the analysed period (2003 - 2014) the share of Moldova's trade deficit with all foreign countries in GDP, including Romania, suggests the idea of a passive role of foreign trade in domestic economic processes. The negative contribution of merchandise trade with Romania in the creation of GDP in 2014 was – 4.6%, which, compared to the previous year, increased by 0.7 p.p., due to increased trade deficit with Romanian of 18.7%. The passive maximum contribution of foreign trade between Moldova and Romania was reached in 2006, constituting -5.6%.

The coefficient of variation of Moldova's trade balance in during the years 2004 - 2008 shows that, on average, for every increase unit in GDP, the trade deficit of Moldova with Romania increased by 0.02 units, while in 2010 -2013 the trade deficit with Romania on average for each unit of GDP increased by 0.01 units. In 2014, compared to 2013, for every unit of GDP decrease corresponded an increase of 0,007 units of Moldova's trade deficit with Romania.

Regarding the coverage degree of imports by exports of Moldovan goods with other countries, it can be revealed that during the last 12 years there have been recorded values under 100%. Thus, total merchandise imports in 2014 were covered by exports at a rate of 44.0%, which, compared to the previous year, this coverage decreased slightly by 0.2 percentage points, while compared to 2003 (being 56 3%) fell considerably (12.3 p.p.). Imports of goods from Romania were covered with exports from this country in 2014 at a rate of 54.0%, which, compared to the previous year, decreased by 3 percentage points and 38.3 percentage points compared to 2003, when was registered the highest coverage rate in the analysed period – 92.3%.

The index of Moldova's imports coverage of total merchandise through exports in 2014 was 99.5%, showing a slight negative trend explained by the reduction of imports coverage by exports compared to 2013. This is because, exports decreases more (by 3.7%) compared to the decrease of imports (3.2%). Moldova's index of imports coverage by exports from Romania was 94.7%

in 2014, being explained, in this case by a stronger import growth (11.2%) compared to export growth of the previous year (5.6%). So the value of imports coverage index with Romania shows that the trade deficit of Moldova with Romania increased in 2014 (being USD 369.1 million) from USD 58.1 million in 2013. Such adverse circumstances – reduction of imports coverage payments generated through revenue earned from exports compared to the base period are emphasised in the years 2005, 2010, 2012, 2013, where the most considerable reduction was recorded in 2004 of 34.7 p.p. (imports coverage index was 65.3%). During the years (2006-2009) and in 2011 imports coverage index with Romania has showed values above 100%, where the highest value of 135.4% was known in 2009 (caused by the financial crisis in America). This year is characterized by a more pronounced pace of decline in imports from Romania (with 47.2%) compared to the pace of decline in exports to the neighbouring country (28.6%), implying significant decrease in trade deficit by USD 182.9 million or about 40%.

The intensity of Moldova's participation in international trade of goods in 2014 amounted USD 657.8 per capita, which compared to the previous year decreased by USD 24.6 per capita (or 3.6%) and compared to 2003 with USD 439.2 per capita (or three times). This indicator, being an indicator of the merchandise foreign trade level of development, represents an expression of performance outside of the national economy, calculated in relation to Romania has experienced an upward trend with little deviation, i.e. recorded decreases for 2009 and 2012 compared to previous year with USD 26.9 per capita, respectively USD 5.5 per capita.

Given the fact that exports and imports have different roles in the process of reproduction, these trade flows are reported, usually separately to gross domestic product, forming the following indicators:

National economy evolution compared to foreign markets, including Romania during the years (2003 - 2014)

Table 3

Indicators	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
1	2	3	4	5	6	7	8	9	10	11	12	13
Average propensity to export or share of exports in GDP ($y^{x/PIB}$), in % - TOTAL	39,9	37,9	36,5	30,8	30,4	26,3	23,6	26,5	31,6	29,7	30,5	29,5
of which:												
-with Romania	4,6	3,8	3,7	4,5	4,8	5,5	4,4	4,2	5,4	4,9	5,2	5,5
Coefficient of variation of exports $\left(CVE = \frac{\Delta E}{\Delta PIB}\right)$ in units - TOTAL	0,46	0,32	0,27	-0,1	0,29	0,15	0,5	0,69	0,56	-0,2	0,39	3,57
of which:												
-with Romania	0,1	0,014	0,033	0,103	0,06	0,08	0,16	0,018	0,11	-0,07	0,08	-0,92
Average propensity to import or export share in GDP ($y^{I/PIB}$), in % - TOTAL	70,8	68,1	76,7	79,0	83,8	80,9	60,3	66,3	74,0	71,6	68,9	66,9
of which:												
-with Romania	0,1	0,014	0,033	0,103	0,06	0,08	0,16	0,018	0,11	-0,07	0,08	-24,9
Coefficient of variation of imports $\left(CVI = \frac{\Delta I}{\Delta PIB}\right)$ in units - TOTAL	1,14	0,6	1,34	0,96	1,002	0,73	2,62	1,54	1,11	0,08	0,41	7,04
of which:												
-with Romania	0,02	0,11	0,24	0,21	0,104	0,09	0,45	0,2	0,156	0,17	0,15	-3,25

Source: Elaborated by the author based on information provided by the National Bureau of Statistics (www.statistica.md) (quoted 27/03/2015)

The share of Moldova's domestic production for export to foreign countries in 2014 was 29.5%, which, compared to the previous year decreased by 1 per cent, and from 2003 it had a more significant decline of 10.4 p.p. It may be noted that, on average, during the analysed period (2003 - 2014) our country's total export share was 31.1%. Extension of Moldovan goods to the Romanian market in 2014 was 5.5% of GDP; compared to 2013 it increased slightly by 0.3 p.p. and by 0.9 p.p. compared to 2003. On average, over the studied period, the share of domestic production for export to Romania recorded 4.7%. For each unit decrease in GDP in 2014 compared to 2013 exports of goods made on Romanian market increased by 0.92 units. While in 2013 for every unit increase in GDP compared to 2012, exports of goods in Romania increased by 0.08 units, and in 2012, compared to the previous year the unit growth in GDP corresponds to a decrease of exports of goods made with the neighbouring country. Specific for the year 2009 compared to 2008 is the coefficient of variation of exports to Romania Moldova, which is characterized by the fact that for every unit of GDP decline lays a 0.5 p.p. decrease in exports. The share of total merchandise imports in Moldovan

GDP is much higher than that of exports in GDP, already a known fact. So Moldovan national economy was dependent on international markets in 2014 in the proportion of 66.9% of GDP, where the dependence, compared to 2013, decreased by 2 p.p. When referring to the share of the country's merchandise imports from Romania, in 2014 this share was 10.1%, which, compared to previous year, increased by 1 p.p. Over the years, since 2003 our country's dependence on imports of Romanian goods had an increasing trend, registering a share of 4.9% of GDP in 2003, compared to a share of 10.1% from the previous year, with some deviations noted in 2008 and 2009. During these years, compared to the previous year, the share of supplementing domestic resources rate of imports of goods from Romania has decreased by 0.4 p.p. and 4.1 p.p. respectively. Referring to the coefficient of variation in imports from Romania to Moldova in 2014 we can state that every unit of GDP reduction compared to 2013 of imports of goods increased by 3.25 units. From 2003 to 2008 the average growth in each unit of GDP imports from Romanian market increased by 0.13 units in the period (2010-2013) for every unit increase in GDP, which corresponds to an increase of imports on average by 0.8 p.p. Only in 2009, compared to 2008, each unit of GDP reduction registered a decrease in imports of goods from Romania with 0.45 units.

In conclusion we can mention that considering Romania as Moldova's main foreign trade partner in 2014 is a significant event. On top of the partner countries Romania ranks first both in Moldovan exports and imports. Trade relations between Moldova and Romania experienced a good evolution, i.e. an upward trend both in exports and imports of Romanian goods, which was interrupted by significant falls in 2009. This year, under the impact of the global economic crisis decreased the intensity of economic flows between the two countries.

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