

WORKING PAPER



MIRROR ANALYSIS  
EXTERNAL TRADE OF MONTENEGRO

Podgorica, September 2011  
External Trade Statistics Section

## **PREFACE**

With the working paper *Mirror Analysis of External Trade of Montenegro* Statistical Office of Montenegro – MONSTAT is starting with a special edition within its publishing activity under *Working papers*. The aim of edition is to make the survey data available to users, and through the analysis and indicating the problems encourage further scientific and research work.

One of the most used statistics under the process of European integration, actual in this moment for Montenegro, is the external trade statistics. Having in mind the importance this statistics has, it is very significant that the data are reliable, accurate, and of quality. The very aim of this working paper is with comparing the data of external trade statistics of other countries to check the reliability and quality of Montenegro external trade data.

The working paper indicates a high level of data quality of external trade, while reasons for the asymmetry between countries are explained in the methodological terms.

DIRECTOR

Ms. Gordana Radojevic, M.S.

**TABLE OF CONTENTS:**

1. Introduction.....	5
2. Mirror analysis of data.....	6
3. Reasons for asymmetry and deviations.....	8
4. External trade of Montenegro with the European Union and Western Balkan countries.....	9
5. Mirror analysis with the European Union member countries.....	11
6. Mirror analysis with the individual European Union member countries.....	13
7. Mirror analysis with the Western Balkan countries.....	18
8. Mirror analysis with Croatia and Serbia.....	20
9. Conclusion.....	24



## **Introduction**

External trade statistics has the task to process and publish the data on the trade of goods abroad. From the aspect of national and world economy, external trade statistics provides different information, important for the economy of a country. From the aspect of national economy, it contains information on the use, i.e. increase of material resources by export, i.e. import of goods. From the aspect of world economy, these data inform on the share of our country in the international division of work.

External trade statistics covers all goods originated from domestic production, i.e. internal turnover of goods, comprising also so called nationalised goods (goods imported and cleared through customs, and after that exported in the same condition to foreign market as the goods of our origin). The data source for the external trade statistics is Single Administrative Document (SAD) for export and import of goods. In cooperation with the Customs Administration of Montenegro the SAD, prepared for the automatic data processing, is taken over, further checked statistically and processed by the Statistical Office in accordance with the international methodology.

For the purposes of drafting the publication, there were used data from Eurostat, available at Comext database. The EU member countries and countries of Western Balkan were selected for drafting the Mirror analysis, having in mind their important share in the external trade of goods of Montenegro.

The analysis has indicated that the most differences within the import were noticed with Greece, Germany, and France, while there was no significant deviation with the EU members in the export. Analysing the Western Balkan countries, the largest differences are noticed with Serbia and Croatia, both at the export and import side.

**EXTERNAL TRADE STATISTICS SECTION**

**Statistical Office of Montenegro - MONSTAT**

## Mirror analysis of data

Mirror (correlative) analysis represents an analysis of external trade data between two countries or with the group of countries for a certain time period, and provides a possibility to analyse the data by:

1. Customs tariffs;
2. Aggregated level with partner countries;
3. Combination of chapters and partner countries;

If the mirror analysis is done at the aggregated level, the time series of up to five years is used, if it is done at the detailed level of customs tariff, up to two years are used for comparison because of the data extensiveness.

Variables used for the comparison are statistical values, net mass, and quantity in additional measurement unit. The most used variable for comparing is the statistical value.

EUROSTAT has defined the formula which is applied when the mirror analysis is used for identifying possible deviations, and asymmetries between the data of two countries and these are the following:

$$\text{Asymmetry} = \text{Mirror value (P)} - \text{Value (R)}$$

$$\text{Deviation} = \frac{\text{ABS (Mirror value (P) - Value (R))}}{\text{Mirror value (P) + Value (R) / 2}}$$

where:

- **ABS** represents the absolute value;
- **R** (report country) represents the country which performs the comparison, country which initiates the mirror analysis;
- **P** (partner country) indicates partner country (group of country), country with which the comparison is performed;

**Asymmetry** represents the difference between mirror values, i.e. difference between the values of country which initiates the mirror analysis, and value is of partner country with which the comparison.

**Deviation** represents the difference expressed in percentage, between values of country initiating the mirror analysis and value of partner country with which the comparison is performed.

The deviation is possible between 0% and 200%. If there is no deviation, it means that there is no difference in the data between two countries which is very rare occurrence, if the deviation is 200% it implies that one of countries has not registered the external trade.

In accordance with the defined rules of mirror analysis, three levels of deviations exist like the following:

➤ **From 0% to 15%.**

The deviation level from 0% to 15% is considered to be the low deviation.

➤ **From 15% to 50%.**

The deviation level from 15% to 50% is considered to be the medium deviation. The deviation over 30% needs additional deviation analysis.

➤ **Over 50%.**

The deviation level over 50% is considered to be the high deviation indicating irregularities or very serious imbalances in the external trade.

The mirror analysis includes the partner country or countries with the highest external trade turnover. The value of external trade with low share in the total external trade turnover is not representative for the analysis.

## Reasons for asymmetries and deviations

There are many cases and reasons bringing to deviations and asymmetries between the data of two countries. The reasons can be divided into methodological ones and errors when reporting.

Methodological reasons are:

- Statistical value
- Partner country – is the country of import or country of origin from the import side is taken into account, and from the export side is the country of last destination is taken
- Value of goods up to EUR 1 000 or 1 000 kilograms (Council Regulation (EC) No 1172/95-Consolidated Version)

In regards with the fact that Montenegro is a small country and small economy, there is certain number of customs declarations whose value does not exceed EUR 1 000 or 1 000 kilograms of net mass, i.e. there are importers whose customs declarations do not exceed EUR 1 000 or 1 000 kilograms of net mass. Processing the Montenegro external trade data includes customs declarations with the amount less than EUR 1 000 or 1 000 kilograms of net mass, of course in accordance with the external trade methodology.

The 2009 data processing has recorded 5.3% of customs declarations whose value is less than EUR 1 000. Comparing it with the EU, where the customs declarations less than EUR 1 000 are up to 3%, and they are not included when presenting the external trade turnover.

In Montenegro the number of customs declarations less than EUR 1 000 is much higher, and they are one of the most important reasons for differences between Montenegro and EU data from the import side.

- Data confidentiality

Data confidentiality is one of the reasons for asymmetry between the data, implying that certain customs tariffs do not show within the published data making additional burden for the comparison between countries.

- Trade system

The selection of trade system when processing the external trade data between special and general trade system represents an additional reason for existing deviations in the data. In dependence of which trade system is used in the external trade data processing, general or special one, this is one of possible reasons for deviations in the data between two countries because the coverage of these two systems is different. Deviations in the data between two countries are inevitable if different trade system is used in the comparison.

Errors in reporting are:

- “Rotterdam effect“
- Value of special goods, such as gas, electricity, sea products, ships, airplanes, etc.
- Value of trade

In dependence of value which is used when the external trade data are processed, is it customs, statistical or invoiced, is one of possible cases for deviations in the data.



## External trade of Montenegro with the EU and Western Balkan countries

External trade of Montenegro is based to a large extent on the trade with the EU and Western Balkan countries. The share of this country group in the last five years is over 95%.

At the export side, the share of these two groups of countries in period from 2006 to 2009 was from 98.5% in 2006 to 94.5% in 2009.

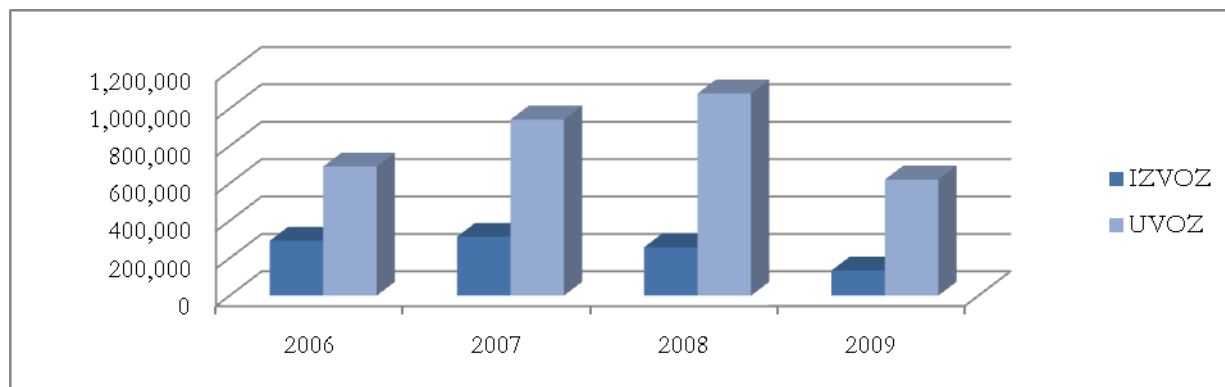
At the import side, the share of these two groups of countries in period from 2006 to 2009 was from 81.8% in 2006 to 76.7% in 2009.

**Table 1: External trade of Montenegro with the European Union in EUR millions**

	2006		2007		2008		2009	
	Value	Share %	Value	Share %	Value	Share %	Value	Share %
<b>EXPORT</b>	293,3	66.49	314,9	69.24	258,8	62.19	133,8	48.31
<b>IMPORT</b>	690,03	47.35	941,3	45.41	1,081,18	42.74	620,6	37.52

Main external trade partners of Montenegro with the European Union, at the import side are: Italia, Germany, and Greece while at the export side there are Italia, Greece, Hungary, and Slovenia.

**Diagram 1: External trade of Montenegro with the European Union**

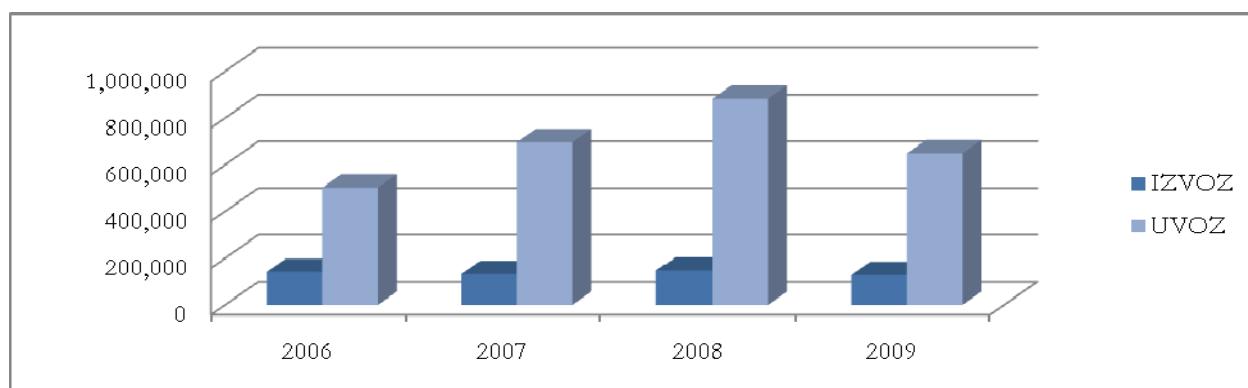


**Table 2: External trade of Montenegro with the Western Balkan countries in EUR millions**

	2006		2007		2008		2009	
	Value	Share %	Value	Share %	Value	Share %	Value	Share %
<b>EXPORT</b>	141,1	31.99	131,6	28.94	147,4	35.43	127,9	46.19
<b>IMPORT</b>	502,3	34.47	696,2	33.59	882,9	34.90	648,6	39.21

Main external trade partners of Montenegro with the Western Balkan countries, at the import side are: Serbia, Bosnia and Herzegovina, and Croatia while at the export side are Serbia, and Bosnia and Herzegovina.

**Diagram 2: External trade of Montenegro with the Western Balkan countries**



For drafting the Mirror Analysis the EU member countries and countries of Western Balkan are selected, having in mind their very important share in the external trade of Montenegro.

## Mirror analysis with the European Union member countries

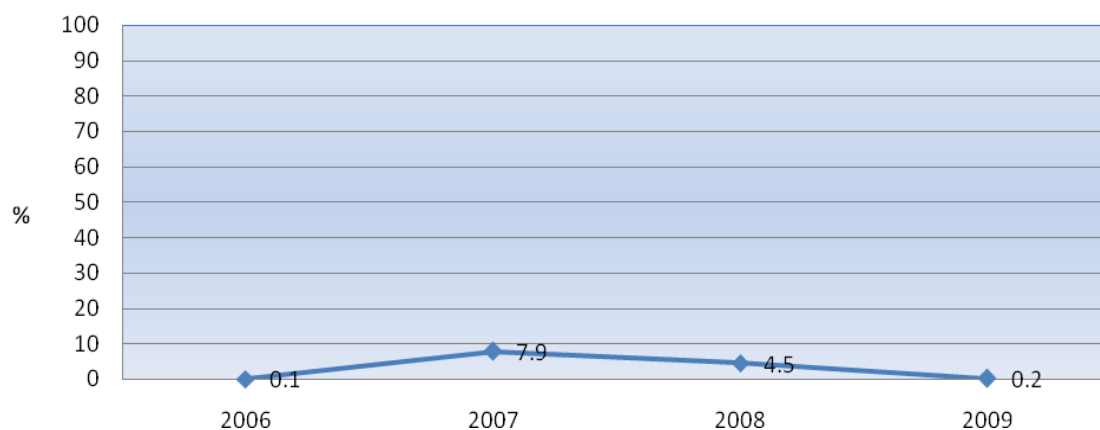
Mirror analysis of external trade of Montenegro with the EU countries at the level of total export indicates that existing differences belong to the group of low deviation.

**Table 3: Asymmetries between export of Montenegro with the EU and import of EU with Montenegro in EUR millions**

YEAR	EXPORT OF MONTENEGRO	IMPORT OF EU	ASYMMETRY	DEVIATION %
2006	293	293	0	0.1
2007	315	341	26	7.9
2008	259	271	12	4.5
2009	134	134	0	0.2

Analysing the time series, the highest deviations of turnover in the external trade are in 2007, while it is noticeable that in 2009 there was a significant decrease of asymmetries. The reason for this is correlation and improving the quality and the very processing of external trade data.

**Diagram 3: Deviations between Montenegro export and EU import**



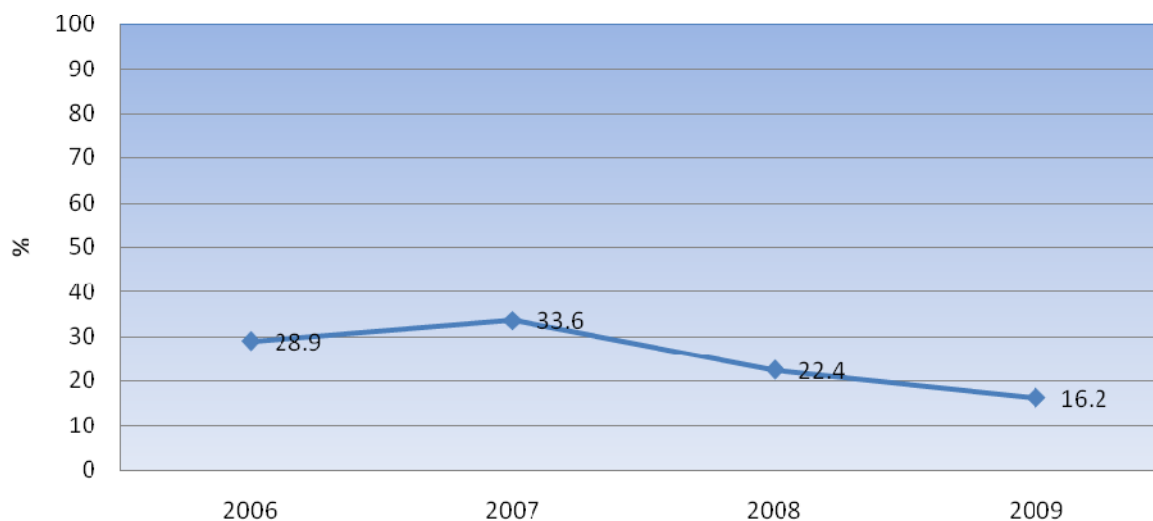
Analysing the external trade turnover of Montenegro to the European Union at the import side for period 2006-2010, it is possible to notice that the differences between import of Montenegro to the EU, and their export to Montenegro decreased from year to year.

**Table 4: Asymmetries between import of Montenegro in the EU, and export of EU to Montenegro in EUR millions**

YEAR	IMPORT OF MONTENEGRO	EXPORT OF EU	ASYMMETRY	DEVIATION %
2006	690	516	-174	28.9
2007	941	670	-271	33.6
2008	1,081	863	-218	22.4
2009	621	528	-93	16.2

The differences are from EUR 174 millions in 2006 to EUR 93 millions in 2009, i.e. expressed in the percentage from 28.9% in 2006 to only 16.2% in 2009.

**Diagram 4: Deviations between import of Montenegro and export of EU**



In terms of Montenegrin import, i.e. export of partner countries toward Montenegro, the highest differences appear in the trade of goods with Greece, Germany, and France.

**Table 5: Asymmetries and deviations between import of Montenegro and export of individual EU countries**

YEAR	2007		2008		2009	
	Asymmetry in EUR millions	Deviations in %	Asymmetry in EUR millions	Deviations in %	Asymmetry in EUR millions	Deviations in %
GREECE	-29.5	48.0	-152.5	143.6	-71.2	111.4
GERMANY	-115.0	72.8	-74.7	39.8	-40.8	45.0
FRANCE	-46.4	145.4	-32.8	71.7	-19.5	110.2

While at the export side, there is no significant difference in the data between EU member countries. The highest differences are with Greece and Germany in period 2007-2009.

**Table 6: Asymmetries and deviations between export of Montenegro and import of individual EU countries**

YEAR	2007		2008		2009	
	Asymmetry in EUR millions	Deviations in %	Asymmetry in EUR millions	Deviations in %	Asymmetry in EUR millions	Deviations in %
GREECE	-11.4	20.9	11.7	19.8	-10.3	24.0
GERMANY	0.7	13.2	-4.7	55.0	1.1	34.2

## Mirror analysis with individual EU member countries

At the side of import of Montenegro, i.e. export of partner countries, the highest differences appear in the trade of goods with Greece, Germany, and France.

Table 7: Asymmetries and deviations by chapters between import of Montenegro and export of Germany

YEAR	2007		2008		2009	
	Asymmetry in EUR thousands	Deviations %	Asymmetry in EUR thousands	Deviations %	Asymmetry in EUR thousands	Deviations %
01: Live animals; animal products	1,995	200	1,782	188	714	200
24: Tobacco and manufactured tobacco substitutes	4,008	158	862	70	12	2
27: Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	-3,975	171	-322	48	-446	76
30: Pharmaceutical products	-4,589	160	-3,029	100	-2,806	99
32: Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks	-470	153	-712	129	-408	84
33: Essential oils and resinoids; perfumery, cosmetic or toilet preparations	-878	49	278	21	673	64
38: Miscellaneous chemical products	-1,108	91	-1,605	84	-2,105	109
39: Plastics and articles thereof	-2,893	50	-1,714	22	-918	18
40: Rubber and articles thereof	-1,184	75	219	16	-406	48
48: Paper and paperboard; articles of paper pulp, of paper or of paperboard	-1,162	123	-677	66	128	12
72: Iron and steel	841	76	-2,321	99	-974	137
73: Articles of iron or steel	-2,259	69	-1,329	28	-1,176	46
76: Aluminium and articles thereof	-975	81	-2,275	83	-630	67
83: Miscellaneous articles of base metal	-1,112	93	1,259	63	787	78
84: Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	-7,617	31	-4,635	11	-4,367	40
87: Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	-83,994	118	-57,068	78	-20,220	83
88: Aircraft, spacecraft, and parts thereof	2,040	200	-2	10	-23	200
89: Ships, boats and floating structures	-2,628	199	1,105	93	141	56
90: Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof	-2,514	82	-1,756	48	-5,117	116

The highest asymmetries between the import of Montenegro and the export to Germany are in Chapter **87: Vehicles other than railway or tramway rolling stock, and parts and accessories thereof**. The share of these asymmetries was from 73% in 2007, 76% in 2008 and in 2009 was 54%.

One of possible causes for deviations in data is “Rotterdam effect“. In regards with the fact that EU is the uniform market and that there is valid the INTRASTAT system of trade which represents trade system where there are no customs declarations on keeping record on export and import of goods between the EU member countries, but documents “ARRIVAL” for import, and “DISPATCH” for the export of goods between member countries.

The document “ARRIVAL” does not contain the field for the country of origin where the product, i.e. goods, but only for country of import. INTRASTAT trade system, i.e. external trade turnover between the EU members does not oblige to provide the country of origin but only country of import, arrival of goods, while EXTRASTAT system obliges entering the country of origin in customs declarations in external trade with countries which are not EU members. In this manner, information on the country of origin are lost, and the lack of these information causes asymmetries and deviations between the data of EU members and Montenegro in this case.

A practical example of that situation is when Montenegro keeps record on import of vehicles from Germany although it is the country of origin, production of vehicles is France. In the INTRASTAT the export of Germany toward Montenegro is recorded, while in accordance with the EXTRASTAT system this external trade turnover should be recorded toward the country of origin, which automatically results with differences in external trade turnover between countries.

The Rotterdam effect represents one of most often reasons for deviations and asymmetries between EU member countries, and countries - non EU members.

**Table 8: Asymmetries and deviations by chapters between the import of Montenegro and the export of France**

YEAR	2007		2008		2009	
	Asymmetry in EUR thousands	Deviations %	Asymmetry in EUR thousands	Deviations %	Asymmetry in EUR thousands	Deviations %
18: Cocoa and cocoa preparations	1.009	189	-24	200	-17	200
30: Pharmaceutical products	-2.814	167	-2.441	163	-1.736	102
33: Essential oils and resinoids; perfumery, cosmetic or toilet preparations	-2.731	191	-2,076	186	-2,516	182
84: Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	-3.145	118	-3,061	94	-562	64
85: Electrical machinery and equipment and parts thereof; sound recorders and reproducers	-5.074	112	-6.086	44	-2.463	93
87: Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	-26.715	193	-23.936	184	-8.944	173
88: Aircraft, spacecraft, and parts thereof	4	89	1.207	192	1,056	189
89: Ships, boats and floating structures	-498	189	1.598	154	342	82

When the import from France is considered, i.e. import of Montenegro and export of France the highest asymmetries are in Chapter **87**: Vehicles other than railway or tramway rolling stock, and parts and accessories thereof. The same situation is in deviations with Germany. One of possible causes for asymmetries is “the Rotterdam effect”.

**Table 9: Asymmetries and deviations by chapters between import of Montenegro and export of Greece**

YEAR	2007		2008		2009	
	Asymmetry in EUR thousands	Deviations %	Asymmetry in EUR thousands	Deviations %	Asymmetry in EUR thousands	Deviations %
21: Miscellaneous edible preparations	-437	163	-39	88	58	64
22: Beverages, spirits and vinegar	703	200	462	152	990	198
24: Tobacco and manufactured tobacco substitutes	2.328	97	72	3	88	4
25: Salt; sulphur; Earths and stone; Plastering materials, lime and cement	-1.258	32	-2.337	55	-1.551	35
27: Mineral fuels, mineral oils and products of their distillation; Bituminous substances; Mineral waxes	-26.046	60	-147.206	176	-69.529	154
72: Iron and steel	-583	160	-119	14	-81	14
73: Articles of iron and steel	-450	87	-498	60	-146	15
76: Aluminium and articles thereof	-1.741	51	-252	6	-629	25
83: Miscellaneous articles of base metal	-578	168	-759	131	-332	128

The highest differences between import of Montenegro from Greece are in Chapter **27**: Mineral fuels, mineral oils, and products of their distillation; bituminous substances; mineral waxes, i.e. customs tariffs are considered. Share of asymmetries for chapter Mineral fuels, mineral oils and products of their distillation, bituminous substances; mineral waxes are from 89% to 98% in 2009. The causes for these deviations are non recording of export toward Montenegro by Greece, when the import of fuel from Greece is considered. From other side, Montenegro has recorded the turnover with Greece, i.e. all customs declarations for the mentioned turnover exist, as well as all invoices related to the import of fuels from Greece (in the database of Customs Administration of Montenegro).

The accuracy of external trade data of Montenegro is also indicated by the analysis which is conducted on the basis of import of fuel and excise collected for the import of fuel. Data on the collection of excises are taken over from the Ministry of Finance responsible for them. Based on the comparison between these data, the conclusion is that excises are paid for every imported litre of fuels, what confirms the accuracy of external trade data of Montenegro.

In regards with the export of Montenegro, there is no significant deviation in the data. The highest differences exist with Greece and Germany for period 2007-2009.

Table 10: Asymmetries and deviations by chapters between export of Montenegro and import from Greece

YEAR	2007		2008		2009	
CHAPTERS HS classifications	Asymmetry in EUR thousands	Deviations in %	Asymmetry in EUR thousands	Deviations in %	Asymmetry in EUR thousands	Deviations in %
22: Beverages, spirits and vinegar	0	0	112	200	185	200
44: Wood and articles of wood; wood charcoal	11	51	-15	4	149	25
72: Iron and steel	296	197	0	0	0	0
76: Aluminium and articles thereof	-11.706	22	11.514	20	-10.549	25

The highest asymmetries between the export of Montenegro and the import of Greece appear in Chapter **76: Aluminium and articles thereof**. One of most often reasons for deviations is the country of final destination. In the case of this, the goods are directed toward Greece, but in the meantime it has changed the direction to another country which represents the country of final destination. The change in the direction cannot be recorded in the customs declarations of Montenegro, while this turnover in customs declarations of Greece is not recorded (because the goods has not arrived in Greece), but in the country which represents the final destination of the export of goods.

Table 11: Asymmetries and deviations by chapters between export of Montenegro and import of Germany

YEAR	2007		2008		2009	
CHAPTERS HS classifications	Asymmetry in EUR thousands	Deviations in %	Asymmetry in EUR thousands	Deviations in %	Asymmetry in EUR thousands	Deviations in %
05: Products of animal origin, not elsewhere specified or included	153	200	252	200	101	200
22: Beverages, spirits and vinegar	-212	79	-239	64	-327	82
44: Wood and articles of wood; wood charcoal	286	51	113	49	-50	107
74: Copper and articles thereof	245	200	0	0	-68	200
89: Ships, boats and floating structures	0	0	-3,650	200	0	0

When it is considered the export of Montenegro and import from Germany for period 2007-2009, there are no significant deviations in the data. The highest deviations appear in 2008 in Chapter **89: Ships, boats and floating structures**. One of possible reasons in the deviations is the loss of information on the last destination country, i.e. loss of information on the changed direction of the export of goods.

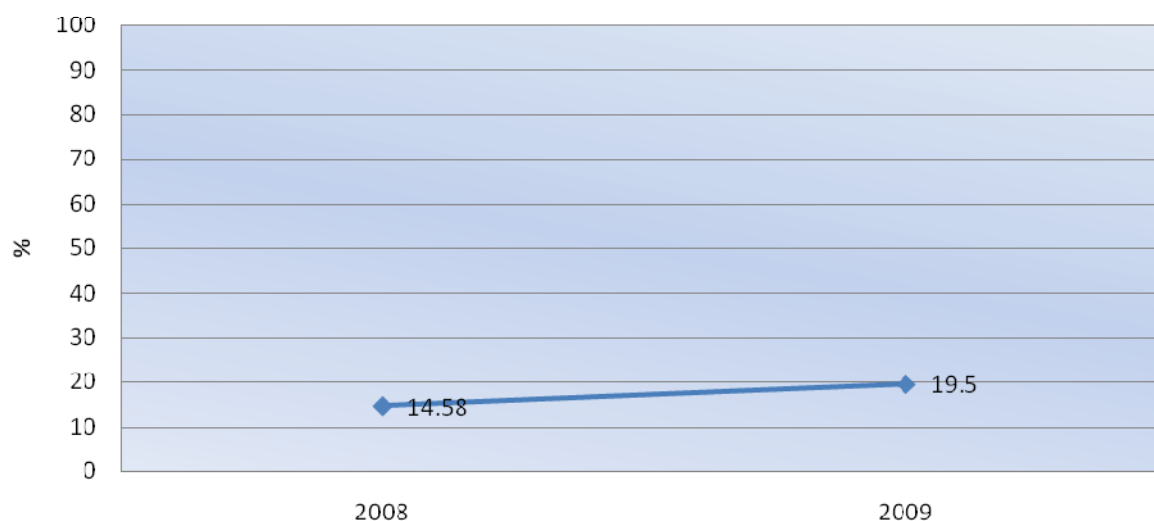
Also, one of possible reasons is the error in reporting, in regards with the fact that the deviation is not repeated from year to year.



## Mirror analysis with Western Balkan countries

Analysing the import external trade turnover of Montenegro toward the Western Balkan countries for 2008 and 2009, it is observable that differences between import of Montenegro toward Western Balkan countries, and their export toward Montenegro are 139 millions of euro in 2008, and 140 millions of euro in 2009, i.e. expressed in percentage - 14.6% in 2008, and 19.5% in 2009.

**Diagram 5: Deviations between import of Montenegro and export of Western Balkan countries**



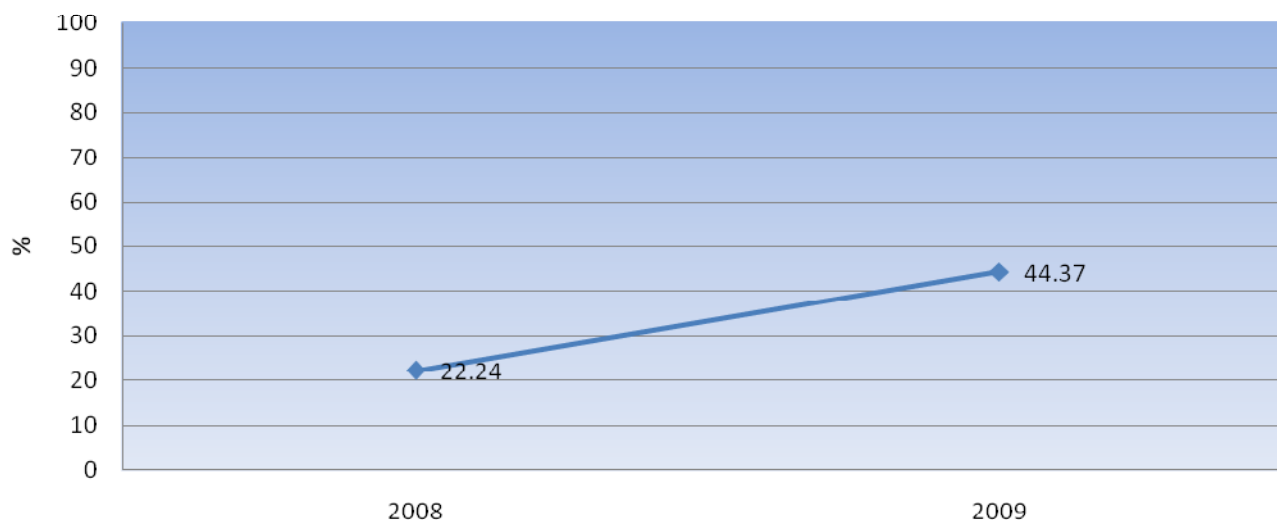
**Table 12: Asymmetries and deviations between import of Montenegro and export of Western Balkan countries**

YEAR	2008		2009	
	Asymmetry in EUR millions	Deviations in %	Asymmetry in EUR millions	Deviations in %
ALBANIA	0.62	3.41	1.50	15.72
BOSNIA AND HERZEGOVINA	3.64	3.13	26.17	25.11
CROATIA	16.09	13.65	39.58	39.31
KOSOVO under UNSCR 1244	1.54	52.39	1.86	86.52
FYR MACEDONIA	-2.95	10.61	-2.68	14.02
SERBIA	119.86	17.91	73.72	15.26
<b>TOTAL</b>	<b>138.81</b>	<b>14.58</b>	<b>140.15</b>	<b>19.50</b>

At the import side, the highest deviations are with Serbia, 17.9% in 2008, and 15.3% in 2009, and with Croatia - 13.6% in 2008, and 39.3% in 2009.

Analysing the external trade turnover of Montenegro from the export side for 2008, and 2009, it is noticeable the differences between export of Montenegro toward Western Balkan countries, and their import toward Montenegro - 37 millions of euro in 2008, and 73 millions of euro in 2009, i.e. in percentage 22 % in 2008, and 44% in 2009.

**Diagram 6: Deviations between export of Montenegro and import of Western Balkan countries**



**Table 13: Asymmetries and deviations between the export of Montenegro and the import of Western Balkan countries**

YEAR	2008		2009	
	Asymmetry in EUR millions	Deviations in %	Asymmetry in EUR millions	Deviations in %
ALBANIA	0.81	13.36	-0.14	2.41
BOSNIA AND HERZEGOVINA	0.40	2.00	2.01	10.67
CROATIA	-0.21	4.29	28.80	122.44
KOSOVO under UNSCR 1244	0.59	3.93	-3.20	21.84
FYR MACEDONIA	-0.02	2.72	-0.10	7.72
SERBIA	35.33	29.66	45.61	45.56
<b>TOTAL</b>	<b>36.90</b>	<b>22.24</b>	<b>72.96</b>	<b>44.37</b>

At the export side, the largest deviations are with Croatia - 122.44% in 2009, and with Serbia 29.7% in 2008, and 45.6% in 2009.

## Mirror analysis with Croatia and Serbia

Analysing the external trade turnover of Montenegro with Western Balkan countries, the highest asymmetries, both by Montenegro import and export side appear with Croatia and Serbia.

**Table 14: Asymmetries and deviations by chapters between import of Montenegro and export of Croatia**

YEAR	2008		2009	
CHAPTERS HS classifications	Asymmetry in EUR thousands	Deviations in %	Asymmetry in EUR thousands	Deviations in %
10: Cereals	723	140	-890	199
49: Printed books, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans	-441	77	-199	107
76: Aluminium and articles thereof	1,078	105	1,196	100
82: Tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	154	116	112	138
89: Ships, boats and floating structures	-838	70	36,267	199
90: Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof	357	80	644	159
92: Musical instruments; parts and accessories of such articles	129	189	103	197

When there is considered the import of Montenegro from Croatia, the largest differences appear in Chapter **76: Aluminium and articles thereof**. In 2009 the highest difference appears in chapter of customs tariffs **89: Ships, boats and floating structures**.

One of the approaches to define the actual deviation and differences in the data is the comparison of export and import, i.e. defining the balance between import and export. When import and export with Croatia is considered, high deviations appear at the side of import and export in chapter 89: Ships, boats and floating structures. The reason for asymmetries at both sides is the use of different customs procedure.

The reason for deviations in the data is that Croatia has recorded the import of tankers through customs procedure 21 51 - from Montenegro.

On the other side, analysing the turnover of Montenegro with Croatia, the conclusion is that Montenegro has recorded this turnover with Croatia through the customs procedure 31 53 which is not a part of special trade system according to which the Montenegro external trade data are processed.

**Table 15: Asymmetries and deviations by chapters between export of Montenegro and import of Croatia**

YEAR	2008		2009	
CHAPTERS HS classifications	Asymmetry in EUR thousands	Deviations u %	Asymmetry in EUR thousands	Deviations u %
36: Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations	41	7	-225	58
73: Iron and steel products	-28	2	-991	113
76: Aluminium and articles thereof	3	177	-4,134	159
84: Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	-210	65	112	17
89: Ships, boats and floating structures	52	92	34,380	199
90: Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof	-15	99	142	191

The highest deviations between export of Montenegro, and import of Croatia happened in 2009 in chapter **89: Ships, boats, and floating structures**. Croatia has recorded the import of tankers through the procedure 21 51 with Montenegro. Analysing the turnover with Croatia, it can be noticed that the export of Montenegro toward Croatia through the customs procedure which does not enter into the external trade processing, i.e. customs procedure for ship repair is the reason of this.

Table 16: Asymmetries and deviations by chapters between import of Montenegro and export of Serbia

YEAR	2008		2009	
CHAPTERS HS classifications	Asymmetry in EUR thousands	Deviations in %	Asymmetry in EUR thousands	Deviations in %
17: Sugar and sugar confectionery	736	54	801	67
27: Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	36,552	86	26,170	80
29: Organic chemicals	817	90	1,850	107
38: Miscellaneous chemical products	1,440	35	1,778	64
52: Cotton	253	107	150	121
61: Articles of apparel and clothing accessories, knitted or crocheted	1,310	35	926	38
63: Other made-up textile articles; sets; worn clothing and worn textile articles; rags	508	30	454	49
70: Glass and glassware	1,615	84	1,198	101
82: Tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	886	86	457	89
84: Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	13,584	60	9,082	60
87: Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	9,195	102	5,935	122
90: Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof	3,452	95	2,665	85
91: Clocks and watches and parts thereof	926	176	494	173
97: Works of art, collectors' pieces and antiques	-1,160	196	-205	175

The most often causes for asymmetries and deviations between import of Montenegro and export of Serbia are methodological ones.

Table 17: Asymmetries and deviations by chapters between the export of Montenegro and import of Serbia

YEAR	2008		2009	
CHAPTERS HS classifications	Asymmetry in EUR thousands	Deviations in %	Asymmetry in EUR thousands	Deviations in %
21: Miscellaneous edible preparations	-161	143	3	11
27: Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	39,951	184	44,418	181
33: Essential oils and resinoids; perfumery, cosmetic or toilet preparations	-523	197	-206	128
39: Plastics and articles thereof	-116	83	-86	74
61: Articles of apparel and clothing accessories, knitted or crocheted	-130	181	-158	198
62: Articles of apparel and clothing accessories, not knitted or crocheted	-54	43	-116	172
76: Aluminium and articles thereof	-242	68	4,584	28
84: Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	-1,626	69	-1,697	80
85: Electrical machinery and equipment and parts thereof; sound recorders and reproducers	-2,014	127	-415	50
86: Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electromechanical) traffic signalling equipment of all kinds	323	182	257	177
87: Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	-1,313	161	-1,481	144
90: Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof	-220	120	-88	103

Observing the export with Serbia, high deviations can be noticed in Chapter **27: Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes**, i.e. there is considered the customs tariff is considered, and it refers to the electricity. In the Montenegro external trade turnover, there is not recorded the export of electricity toward Serbia, i.e. the customs declarations for the export of electricity did not exist, because it is about the loan of electricity.

From the other side, in the external trade turnover of Serbia, the import of electricity from Montenegro has been recorded, i.e. there are customs declarations. The cases like this of keeping the turnover cause the asymmetry and differences in data.

Causes for other deviations between export of Montenegro and import of Serbia are of methodological nature, i.e. use of different trade systems and different customs procedures as parts of certain trade system.

## CONCLUSION

The purpose of publication „Mirror Analysis of External Trade of Montenegro” is to explain to users methodological and other reasons for the appearance of differences in the data. Nevertheless, comparing the external trade data is often not so simple because of different methodologies used by countries and their trade partners. Differences can appear because of different time of registered import/export. The most often reasons which appear are in use of approaches for monitoring the goods by country of intention, and country of origin. Also, differences can appear also because different currency values were used, as well as because of different parities in expressing value of import/export.

The analysis indicated that the differences are fewer than one million of euro in 2006, and also in 2009, analysing the export of Montenegro toward the EU. Observing individually the EU member countries, there are no important differences in data by the export side.

At the import side of Montenegro toward EU, deviations are from 28.9% in 2006, while 16.2% in 2009. The highest differences appear with Greece, Germany, and France. In practice, difficulties appear in cases when the trade of goods is not done directly between country of production and consumption, but through a third country, what is the most often cause for differences in data when these countries are considered.

The analysis has indicated that we have significant differences with Western Balkan countries. Individually, the highest differences are with Serbia and Croatia, and by the side of import and export. The reasons for deviations are differences in methodology, as well as differences in the very processing of external trade data. This means differences in customs procedures used in the data processing.

Statistical mismatches in the data can be attributed to these reasons, as well as other reasons provided in the publication. The purpose of this publication is to make familiar and explain to users the differences in the data of external trade of Montenegro with the most important external trade partners.

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**STATISTICAL OFFICE OF MONTENEGRO (MONSTAT)**

**81000 Podgorica, IV Proleterske 2**

**Phone: (+382) 20 230-811, Fax: (+382) 20 230-814**

**Publication prepared by:**

**Bojana Radevic, External Trade Statistics Section, the Head**

E/mail: [bojana.radevic@monstat.org](mailto:bojana.radevic@monstat.org)

**Maja Vucinic, External Trade Statistics Section, Statistician**

E/mail: [maja.vucinic@monstat.org](mailto:maja.vucinic@monstat.org)

**Ivan Lakovic, External Trade Statistics Section, Statistician**

E/mail: [ivan.lakovic@monstat.org](mailto:ivan.lakovic@monstat.org)

Phone: +382 20 230 805

Translation by:

**Katarina Bigovic, International Cooperation and European Integration Section**

E/mail: [katarina.bigovic@monstat.org](mailto:katarina.bigovic@monstat.org)