

First Release

Year: LIX.

Zagreb, 28 February 2023

IND-2022-4-1/12

ISSN 1334-0557



INDUSTRIAL TURNOVER INDEX, DECEMBER 2022

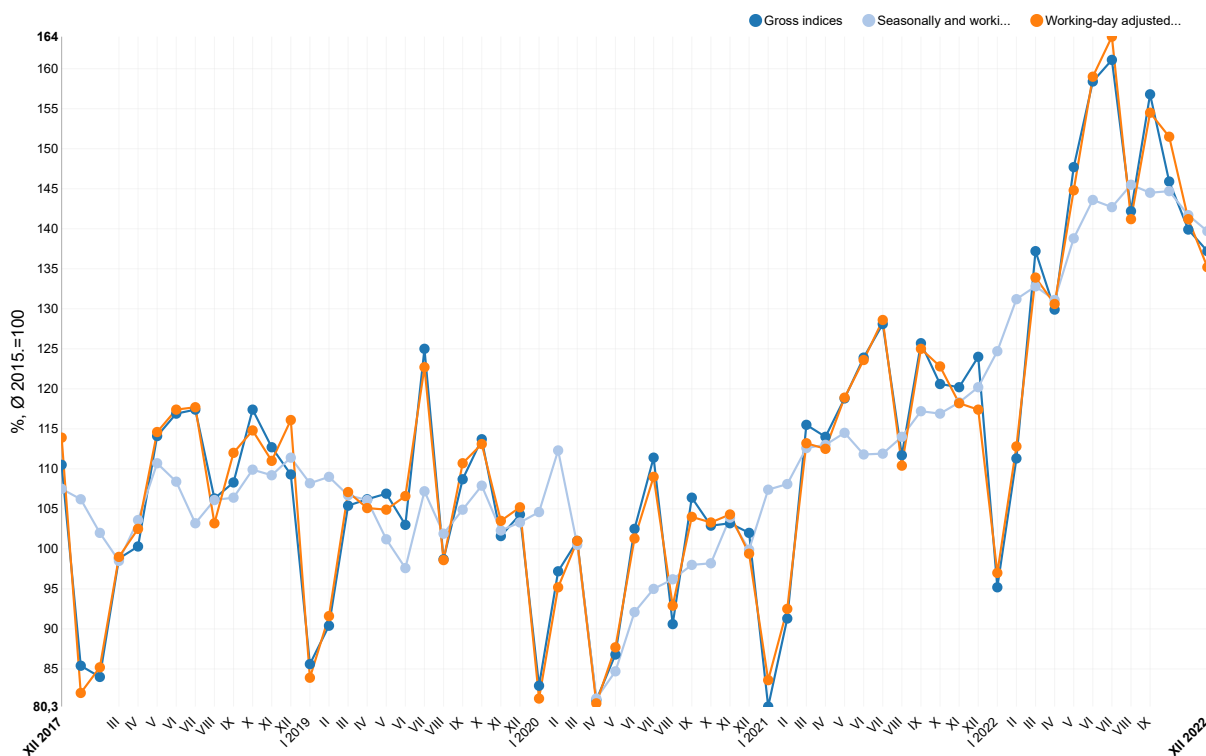
The total seasonally and working-day adjusted **industrial turnover**¹⁾ in the Republic of Croatia in December 2022, as compared to November 2022, decreased by 1.4%. If compared by the destination of markets, then in the same period it decreased by 1.4% on the domestic market and by 0.3% on the non-domestic market.

The total working-day adjusted industrial turnover²⁾ in the Republic of Croatia in December 2022, as compared to December 2021, increased by 15.1%. If compared by the destination of markets, then in the same period it increased by 14.2% on the domestic market and by 12.9% on the non-domestic market.

1) Data compared to those of the previous month (the so-called month-on-month comparison according to Eurostat's terminology and practice) for industrial turnover are seasonally and working-day adjusted data, in line with the Regulation (EU) of the European Parliament and of the Council 2019/2152 and the Commission Regulation (EU) 2020/1197.

2) Data compared to those of the same month or of the same period of the previous year (the so-called year-on-year comparison according to Eurostat's terminology and practice) are, for industrial turnover, working-day adjusted data.

G-1 INDUSTRIAL TURNOVER INDEX OF REPUBLIC OF CROATIA, DECEMBER 2017 – DECEMBER 2022



MONTHLY COMPARISON, ACCORDING TO MIGs 2009. - Seasonally and working-day adjusted indices

In December 2022, as compared to November 2022, the total turnover of Energy decreased by 22.6%, of Intermediate goods by 3.4%, of Non-durable consumer goods by 2.8% and of Durable consumer goods by 1.5%, while the total turnover of Capital goods increased by 7.7%.

ANNUAL COMPARISON, ACCORDING TO MIGs 2009. - Working-day adjusted indices

In December 2022, as compared to December 2021, Energy increased by 53.4%, Capital goods by 21.6%, Non-durable consumer goods by 14.7%, Intermediate goods by 4.4%, and Durable consumer goods by 1.2%.

1.1 INDUSTRIAL TURNOVER – MONTH-ON-MONTH GROWTH RATES CALCULATED ON BASIS OF SEASONALLY AND WORKING-DAY ADJUSTED INDICES

	VII 2022 VI 2022	VIII 2022 VII 2022	IX 2022 VIII 2022	X 2022 IX 2022	XI 2022 X 2022	XII 2022 XI 2022
Total industry	-0,6	1,9	-0,7	0,1	-2,1	-1,4
According to MIGs 2009						
AI Intermediate goods	-0,4	-1,7	6,0	1,8	-2,3	-3,4
AE Energy	-16,8	9,7	-6,0	-22,9	-21,8	-22,6
BB Capital goods	2,6	-0,8	0,2	8,1	-8,8	7,7
CD Consumer durables	1,1	-21,7	4,5	4,4	0,9	-1,5
CN Non-durable consumer goods	4,0	-3,6	3,4	-2,7	3,9	-2,8
According to markets						
Domestic industrial turnover	1,9	-0,5	-0,6	-0,9	-2,2	-1,4
Non-domestic industrial turnover	-3,7	0,6	3,2	-3,3	-2,1	-0,3

1.2 INDUSTRIAL TURNOVER – YEAR-ON-YEAR GROWTH RATES CALCULATED ON BASIS OF WORKING-DAY ADJUSTED INDICES

	VII 2022 VII 2021	VIII 2022 VIII 2021	IX 2022 IX 2021	X 2022 X 2021	XI 2022 XI 2021	XII 2022 XII 2021	I – XII 2022 I – XII 2021
Total industry	27,5	27,9	23,6	23,4	19,5	15,1	21,9
According to MIGs 2009							
AI Intermediate goods	21,5	19,3	20,4	22,6	16,8	4,4	21,5
AE Energy	73,0	143,6	96,1	24,5	34,5	53,4	64,9
BB Capital goods	16,5	11,8	12,3	22,7	4,4	21,6	13,3
CD Consumer durables	29,4	7,8	9,6	12,3	9,1	1,2	20,3
CN Non-durable consumer goods	27,5	16,0	21,1	18,5	22,5	14,7	18,5
According to markets							
Domestic industrial turnover	31,7	26,7	23,7	22,0	16,6	14,2	22,7
Non-domestic industrial turnover	22,9	24,3	27,2	20,6	15,7	12,9	19,7

1.3 INDUSTRIAL TURNOVER – GROSS (UNADJUSTED) INDICES, TOTAL AND ACCORDING TO MIGs 2009., DECEMBER 2022

	Structure	XII 2022 Ø 2021	XII 2022 XII 2021	I – XII 2022 I – XII 2021
Total industry	100,00	119,9	110,7	121,0
According to MIGs 2009				
AI Intermediate goods	35,68	113,1	101,7	120,8
AE Energy	7,16	57,3	153,6	164,9
BB Capital goods	17,81	149,0	118,3	112,8
CD Consumer durables	3,03	121,9	99,0	119,7
CN Non-durable consumer goods	36,32	121,1	112,9	118,4
According to markets				
Domestic industrial turnover	58,97	124,8	111,5	122,4
Non-domestic industrial turnover	41,03	112,8	109,3	119,1

I ANNEX – INDUSTRIAL TURNOVER INDICES – TIME SERIES

1 TOTAL INDUSTRY AND ACCORDING TO MIGs 2009. – GROSS AND WORKING-DAY ADJUSTED INDICES

Ø 2015 = 100

	Gross indices						Working-day adjusted indices					
	Total	Intermediate goods	Energy	Capital goods	Consumer durables	Consumer non-durables	Total	Intermediate goods	Energy	Capital goods	Consumer durables	Consumer non-durables
2020												
XII	102,0	108,0	18,3	137,1	135,1	98,6	99,4	105,9	18,3	134,0	131,8	97,3
2021												
I	80,3	94,9	17,1	81,9	116,8	81,3	83,6	99,5	17,1	84,4	122,9	82,6
II	91,3	111,8	16,6	100,0	124,5	87,1	92,5	112,8	16,6	103,7	124,2	87,7
III	115,5	146,2	33,7	119,9	150,5	106,8	113,2	145,2	33,7	117,2	147,8	105,4
IV	114,0	132,6	84,1	141,5	136,6	93,2	112,5	129,6	84,1	139,4	134,3	92,7
V	118,8	143,8	104,3	112,7	137,8	105,2	118,9	142,4	104,3	116,2	136,7	106,7
VI	123,9	135,2	112,9	122,8	139,1	118,2	123,6	135,6	112,9	120,9	139,3	117,1
VII	128,1	136,2	137,6	119,3	163,3	122,9	128,6	135,6	137,6	119,7	161,7	123,4
VIII	111,7	116,4	101,4	100,7	108,5	116,8	110,4	115,2	101,4	101,1	109,0	117,2
IX	125,7	146,1	113,5	124,3	144,3	113,1	125,0	145,1	113,5	122,5	141,7	112,0
X	120,6	142,2	129,5	118,0	150,0	102,0	122,8	144,8	129,5	121,6	153,3	103,7
XI	120,2	143,7	61,7	141,8	163,3	103,6	118,2	143,0	61,7	139,7	163,6	102,9
XII	124,0	147,9	29,3	150,4	175,4	112,9	117,4	141,4	29,3	147,0	166,3	111,6
2022												
I	95,2	118,8	25,9	93,4	129,3	92,1	97,0	121,6	25,9	96,3	134,5	93,4
II	111,3	148,0	23,8	116,2	182,6	96,9	112,8	149,0	23,8	120,4	182,3	97,6
III	137,2	184,8	29,2	149,0	187,6	116,9	133,9	179,3	29,2	145,6	183,3	115,4
IV	129,9	167,5	64,6	127,2	172,4	115,1	130,6	170,8	64,6	128,6	172,9	115,9
V	147,7	179,2	165,4	133,4	183,8	125,2	144,8	177,1	165,4	133,9	181,4	125,7
VI	158,4	164,8	247,1	136,8	190,5	143,8	159,0	165,2	247,1	134,7	190,5	142,3
VII	161,1	162,1	238,0	135,3	205,9	154,8	164,0	164,8	238,0	139,5	209,2	157,3
VIII	142,2	137,7	247,0	115,7	118,1	137,9	141,2	137,5	247,0	113,1	117,5	136,0
IX	156,8	176,6	222,5	139,6	158,4	136,2	154,5	174,7	222,5	137,5	155,4	135,6
X	145,9	173,9	161,2	144,8	166,9	121,2	151,5	177,5	161,2	149,3	172,2	122,9
XI	139,9	166,1	83,0	148,2	177,9	127,4	141,2	167,1	83,0	145,9	178,4	126,1
XII	137,2	150,6	44,9	178,0	173,7	127,5	135,2	147,7	44,9	178,7	168,3	128,0

2 INDUSTRIAL TURNOVER INDICES, TOTAL AND ACCORDING TO MIGs 2009. – SEASONALLY AND WORKING-DAY ADJUSTED INDICES AND TREND

Ø 2015 = 100

	Seasonally and working-day adjusted indices						Trend					
	Total	Intermediate goods	Energy	Capital goods	Consumer durables	Consumer non-durables	Total	Intermediate goods	Energy	Capital goods	Consumer durables	Consumer non-durables
2020												
XII	99,9	117,3	21,6	105,9	126,5	96,7	105,5	119,6	43,3	106,8	129,6	102,9
2021												
I	107,4	120,2	39,6	110,5	135,8	101,6	107,7	121,0	49,2	109,0	130,6	103,1
II	108,1	120,5	51,6	112,1	129,1	103,8	109,8	122,7	58,8	111,1	132,3	103,4
III	112,6	130,8	72,5	116,8	137,6	103,6	111,5	124,6	69,5	113,0	134,3	103,6
IV	113,0	123,0	123,6	143,6	135,0	98,1	112,6	126,4	78,5	114,6	136,1	103,9
V	114,5	130,0	94,6	115,1	135,0	104,6	113,2	128,4	84,3	116,0	137,7	104,2
VI	111,8	131,3	83,5	117,6	139,3	103,9	113,5	130,3	85,9	117,1	139,2	104,6
VII	111,9	130,4	86,2	115,8	145,5	103,1	113,7	132,0	83,8	118,0	140,9	105,2
VIII	114,0	134,9	66,2	120,5	141,0	108,6	114,3	134,1	79,4	118,9	142,9	105,9
IX	117,2	137,5	78,7	120,9	143,3	108,6	115,3	136,6	74,7	119,8	144,8	106,9
X	116,9	137,2	93,7	118,1	145,6	107,1	116,9	139,9	70,9	121,0	146,6	108,1
XI	118,3	141,6	63,8	125,1	151,5	107,9	119,2	143,9	67,7	122,3	147,9	109,6
XII	120,2	153,8	40,5	117,0	160,8	111,6	121,9	148,7	65,7	123,8	148,5	111,4
2022												
I	124,7	142,9	65,6	125,1	147,3	114,7	125,1	153,6	67,9	125,4	148,7	113,5
II	131,2	156,5	79,1	130,0	187,5	115,3	128,5	157,9	76,6	127,1	179,1	116,0
III	132,8	163,5	66,3	144,7	173,7	113,5	132,2	160,9	91,8	128,9	179,7	118,8
IV	131,1	163,9	94,7	131,9	174,8	122,4	135,7	162,3	112,2	130,5	181,1	121,6
V	138,8	164,2	145,9	133,8	181,0	123,2	138,9	162,5	133,2	132,1	183,4	124,1
VI	143,6	160,8	174,9	131,5	189,8	126,2	141,5	162,5	149,6	133,5	186,4	126,1
VII	142,7	160,1	145,5	134,8	191,9	131,3	143,5	162,9	156,6	134,6	189,8	127,8
VIII	145,5	157,4	159,5	133,7	150,2	126,5	144,4	163,5	152,0	135,4	154,8	128,8
IX	144,5	166,9	150,0	134,0	157,0	130,8	144,4	164,3	137,6	135,9	158,1	129,3
X	144,7	169,9	115,7	145,0	163,8	127,3	143,5	164,8	118,5	136,2	160,9	129,6
XI	141,7	166,0	90,5	132,2	165,3	132,2	142,2	164,9	101,2	136,4	162,9	129,8
XII	139,7	160,4	70,0	142,4	162,8	128,5	141,3	164,6	89,7	136,6	164,1	129,9

NOTES ON METHODOLOGY

Data on the industrial turnover index on a month-on-month and interannual chain basis and on the fixed base year 2015 = 100 are presented in line with the Regulation (EU) 2019/2152 of the European Parliament and of the Council of 27 November 2019 on European business statistics, repealing ten legal acts in the field of business statistics.

Short-term business indicators on industry – the industrial production index and the industrial turnover index – can be used to show the monthly market evolution of the products and services produced within industry.

Additionally, industrial turnover indices on **domestic market** serve to measure monthly movements in industrial turnover/production sold realised by industrial enterprises/industrial local units on the territory of the Republic of Croatia, while on the other hand, industrial turnover indices on **non-domestic market** serve to measure monthly movements in turnover/production sold realised by industrial enterprises/industrial local units on the non-domestic market, that is, outside the territory of the Republic of Croatia.

Legal and methodological framework

The Monthly Survey on Industrial Turnover (IND-2/KPS/M form) was carried out in 2022 by the Croatian Bureau of Statistics on the basis of the Official Statistics Act (NN, No 25/20).

Concepts and definitions used in the IND-2/KPS/M Survey are harmonised with the EU concepts and definitions, and especially with the Regulation (EU) of the European Parliament and of the Council 2019/2152 and the Commission Implementing Regulation (EU) 2020/1197, on definitions of variables, list of variables and frequency of data compilation.

Scope and coverage

The IND-2/KPS/M Survey covers enterprises and parts thereof employing 20 or more persons employed and performing one or several industrial activities by definitions of activity coverage of the NKD 2007 (NN, Nos 58/07 and 72/07) for each indicator separately due to the differences in coverage according to legislation of EU.

Industrial turnover index covers only two industrial sections of the NKD 2007, that is, sections B Mining and quarrying and C Manufacturing, and their divisions 05 – 33. The IND-2/KPS/M Survey for 2022 covers 3 384 enterprises (legal entities and tradesmen). In December 2022, the response rate was 98.1%, while the estimation of non-response rate was 1.9%.

Reference period

In 2022, a combined method of using two data sources is used to collect data: an administrative source (98.1% of units) and a statistical source in the way that data are collected directly from reporting units (1.9% of units), mostly from large enterprises where the reporting method via a web-based application (the so-called CAWI) is applied, i.e. reporting units fill in data directly onto the IND-2/KPS/M e-form, which is available on the web site of the Croatian Bureau of Statistics: <https://podaci.dzs.hr/hr/obrasci/industrija/>. The time schedule for data collection for reporting units is between 1st and 15th day in a month for data from the previous reference month. Data on reporting units that are taken over from the administrative source (VAT) are collected 45 days after a reference month, at which point they are available to the Tax Administration and further processed in the Croatian Bureau of Statistics for statistical purposes.

Definitions of indicators

Industrial turnover indices are chain indices calculated according to value data of the industrial turnover/sales at the level of main activity of industrial local units defined by the Croatian Bureau of Statistics.

Indices were calculated by aggregation of industrial turnover value data/sales in the reporting month.

Calculation method

Industrial turnover indices for different levels of the NKD 2007 are calculated for indices at the group level and higher by weighting with the share in turnover value (sales) for defined industrial activities according to the NKD 2007 in respect with each indicator. Indices for MIGs 2009 aggregates¹⁾ are calculated in the same way as well as indices for domestic and non-domestic market. They are presented below.

1) The Commission Regulation (EU) 2020/1197 of 30 July 2020 laying down technical specifications and arrangements pursuant to Regulation (EU) 2019/2152 of the European Parliament and of the Council as regards the definitions of Main Industrial Groupings (MIGs).

Industrial turnover

The value of total industrial turnover, that is, income from sales is the invoiced value of reporting local units for the products and services sold during the reference month. It corresponds to the market value of goods and services sold and delivered to third parties on domestic and non-domestic market in the reporting month.

The value of income from sales (turnover) in industry includes all transport and packing costs as well as taxes on invoiced goods and services of the reporting units, except the value added tax (VAT). Excluded are all reductions in prices, rebates and discounts as well as the value of returned packed goods, except cash price reductions. Price reductions, rebates and bonuses granted to customers later (e.g. at the end of the year) are also excluded.

The value of turnover on domestic and non-domestic market

The income from sales (turnover) of products and services to third parties residing in the same country, that is, to residents of the Republic of Croatia, is considered sale on domestic market, while sales on non-domestic market is considered sales to non-residents of the Republic of Croatia according to the criterion of the first destination of products or services and change of owner (irrespective of whether the goods or services for which the invoice was issued actually crossed the border or not).

MIGs 2009 aggregates

The calculation of the MIGs 2009 aggregates was done by grouping of the NKD 2007 activities at the level of groups or divisions within sections B and C (05.1 – 33.2), using alphabetic marks of abbreviations as follows:

AI	Intermediate goods: the NKD 2007. divisions and groups: 07 – 09, 10.6, 10.9, 13.1 – 13.3, 16, 17, 20.1 – 20.3, 20.5, 20.6, 22 – 24, 25.5 – 25.7, 25.9, 26.1, 26.8, 27.1 – 27.4 and 27.9
AE	Energy: the NKD 2007. divisions: 05, 06 and 19
BB	Capital goods: the NKD 2007. divisions and groups: 25.1 – 25.4, 26.2, 26.3, 26.5, 26.6, 28, 29, 30.1 – 30.4, 32.5 and 33
CD	Consumer durables: the NKD 2007. divisions and groups: 26.4, 26.7, 27.5, 30.9, 31, 32.1 and 32.2
CN	Consumer non-durables: the NKD 2007. divisions and groups: 10.1 – 10.5, 10.7, 10.8, 11, 12, 13.9, 14, 15, 18, 20.4, 21, 32.3, 32.4 and 32.9.

Activity structure according to the NKD 2007.

The structure of industrial activities (division structure) has been calculated for the industrial turnover index on the basis of the turnover value (sales) by using the pure activity principle for the Republic of Croatia in 2020. It was calculated on the basis of the 2020 annual statistical results of the Structural Business Survey carried out by the Croatian Bureau of Statistics and by processing annual administrative data taken over from Fina – the Annual Accounts of Industrial Enterprises in 2020, after which it was corrected by using the results of the PRODCOM Survey on Industrial Production for 2020. For the calculation of domestic and non-domestic market indices, the structure calculated on the basis of the PRODCOM Survey on Industrial Production for 2020 is used. The division structure is updated at the beginning of every year for the calculation of indices of a current year.

Indices series presentation

Seasonal and working-day adjustment has been done by using the X13 ARIMA method on the monthly index series, which starts with the January 2000 index for the total industry and for the MIGs 2009 in respect of NKD 2007 activity coverage of each of the indicators. The effect of a random component in the seasonal adjustment process of time series of indices has been excluded.

Due to the character of the implemented seasonal adjustment method, the extension of the index series by adding new monthly observations for each new month could cause subsequent corrections of the already published seasonally and working-day adjusted indices and trend for several previous months.

Seasonally and working-day adjusted indices

The term "seasonally and working-day adjusted" indices is used to indicate that gross indices are adjusted for both seasonal and working-day effects. In line with Eurostat's requirements for short-term business indicators, the data that are compared to those of the previous month (that is, monthly comparison) are presented in a seasonally and working-day adjusted form of industrial turnover indices or growth rates calculated from them.

Working-day adjusted indices

The term "working-day adjusted indices" is used to indicate that gross indices are adjusted only for working-day effects in line with Eurostat's requirements for short-term business indicators, while data compared to those of the same month of a previous year (that is, annual comparison) are presented in a working-day adjusted form of industrial turnover indices or growth rates calculated from them.

Notice

The Croatian Bureau of Statistics has changed the package and the method of seasonal adjustment of industrial turnover time series of indices and other short-term indicators. Up until now, the TRAMO-SEATS method was used in the Demetra (version 2.2.) package. Since January 2016, the new X13 ARIMA method in the new JDemetra+ (version 2.0.0. or newer version after they have been officially available) package has been used. Due to this, there was a change in the already published seasonal and working-day adjusted values and corresponding change rates on whole time series.

Abbreviations

CAWI	computer-assisted web interviewing
EU	European Union
Eurostat	Statistical Office of the European Communities
Fina	Financial Agency
MIGs 2009.	Main Industrial Groupings, 2009 version
NKD 2007.	National Classification of Activities, 2007 version
NN	Narodne novine, official gazette of the Republic of Croatia
PRODCOM	PRODUcts of the European COMMunity



The survey whose data are published in this First Release has been conducted with the financial assistance of the European Union. The contents of this document are the sole responsibility of the Croatian Bureau of Statistics and can under no circumstances be regarded as reflecting the position of the European Union.

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