

ANALYSIS

11 May 2021

International trade price indices development in the Q1 2021

In the Q1 2021, compared to the Q4 2020, both export and import prices increased by 0.7%. The terms of trade reached the value of 100.0%. In the year-on-year (y-o-y) comparison, export prices increased by 3.6% and import prices increased by 1.4%. The terms of trade reached the value of 102.2% in the Q1 2021.

Quarter-on-quarter comparison

Export prices increased by 0.7%, quarter-on-quarter (q-o-q), in the Q1 2021, compared to the Q4 2020. The following prices increased the most: prices of 'crude materials, inedible, except fuels' by 15.1% (mainly of metal scrap) and 'mineral fuels, lubricants and related materials' by 12.3% (especially prices of petroleum products). Prices of the following decreased the most: 'beverages and tobacco' by 2.8% and 'miscellaneous manufactured articles' by 2.0%.

Import prices in the Q1 2021, compared to the Q4 2020, increased by 0.7%, q-o-q. The highest increase of prices was in 'mineral fuels, lubricants and related materials' by 17.9% (primarily prices of petroleum and petroleum products) and in 'crude materials, inedible, except fuels' by 9.6% (mainly prices of metalliferous ores). Prices of 'miscellaneous manufactured articles' decreased by 3.8% and prices of 'machinery and transport equipment' by 1.7%.

The terms of trade in the Q1 2021, compared to the Q4 2020, reached the value of 100.0%. The highest positive values of the terms of trade were recorded by 'crude materials, inedible, except fuels' (105.0%) and by 'chemicals and related products' and 'miscellaneous manufactured articles' (both were the same, 101.9%). The lowest negative values of the terms of trade were reached by 'mineral fuels, lubricants and related materials' (95.3%).

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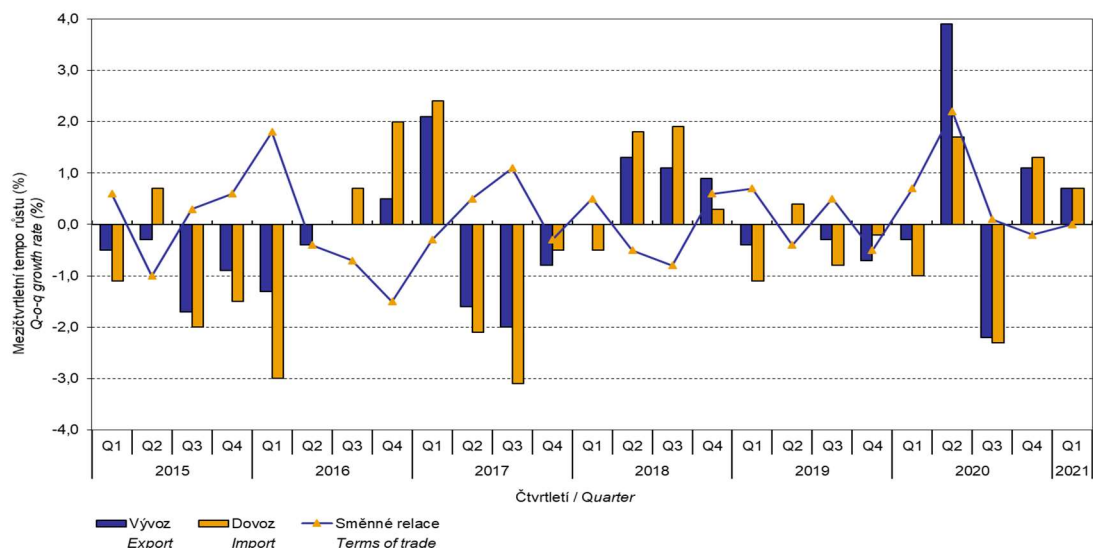
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Graf č. 1 Vývoj indexů cen v zahraničním obchodě se zbožím mezičtvrtletně
Chart No 1 Trend of price indices in international trade in goods, q-o-q



The international trade in goods (change of ownership) price development was also significantly influenced by the CZK exchange rate to the major foreign currencies. The q-o-q exchange rate index includes two most important currencies in terms of the Czech Republic's international trade, i.e. EUR and USD. Q-o-q indices of the CZK exchange rate to these currencies were weighted by the weight, which pertains to those foreign currencies in the export price index and import price index, respectively.

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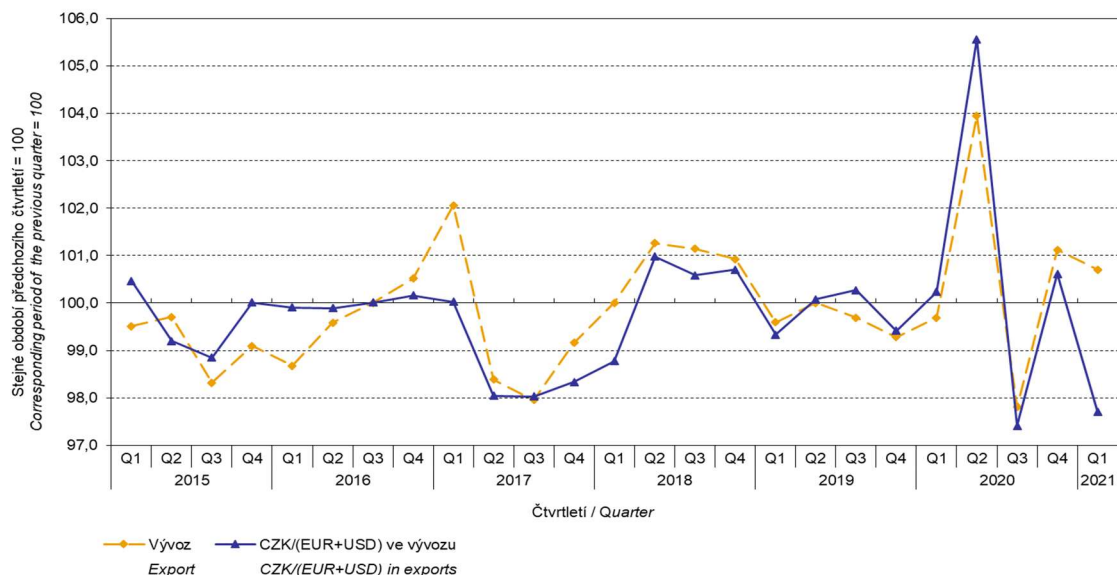
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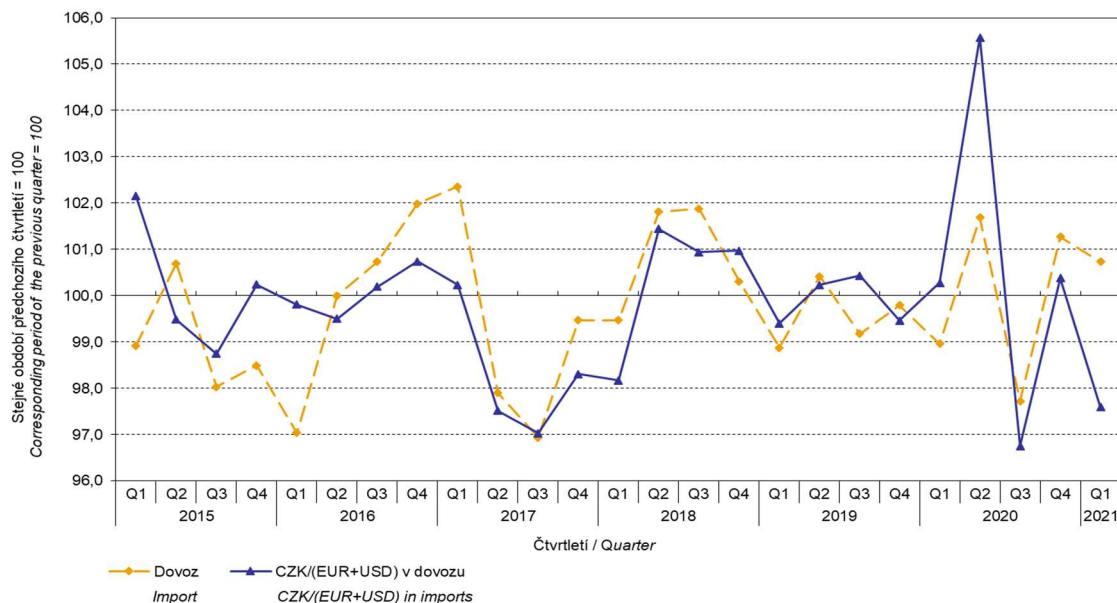
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Graf č. 2 Indexy cen vývozu a vývoj kurzu mezičtvrtletně
Chart No 2 Export price indices and exchange rate development, q-o-q



Graf č. 3 Indexy cen dovozu a vývoj kurzu mezičtvrtletně
Chart No 3 Import price indices and exchange rate development, q-o-q



It is apparent from the Chart No 2 and the Chart No 3 above that in both exports and imports, international trade in goods prices have a relation to exchange rate impacts. Contracts with foreign entities are usually concluded for a longer period and the longer the contract period is, the stronger the relation to exchange rates is.

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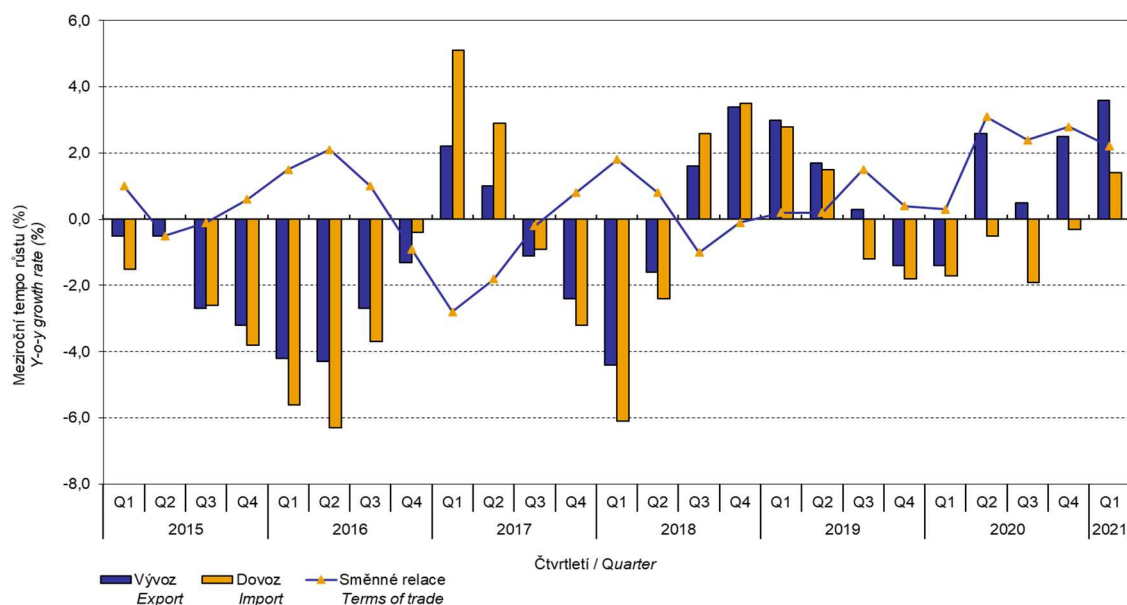
Year-on-year comparison

In the Q1 2021, export prices increased by 3.6%, y-o-y (in the Q4 2020 by 2.5%, y-o-y). Prices of the following were increasing the most: prices of 'crude materials, inedible, except fuels' by 20.6% (primarily prices of metal scrap and of waste paper), 'mineral fuels, lubricants and related materials' by 9.7% (mainly of electricity), and prices of 'machinery and transport equipment' by 3.7%. Prices decreased in none of the monitored groups.

Import prices in the Q1 2021 increased by 1.4%, y-o-y (in the Q4 2020 they decreased by 0.3%, y-o-y). Prices of the following increased the most: prices of 'crude materials, inedible, except fuels' by 13.4% (mainly prices of metalliferous ores), 'mineral fuels, lubricants and related materials' by 5.3% (primarily prices of electricity), and 'manufactured goods classified chiefly by material' by 4.4%. Prices of 'food and live animals' decreased by 3.0% and prices of 'miscellaneous manufactured articles' by 1.3%.

The terms of trade decreased to the value of 102.2%, year-on-year, in the Q1 2021 (in the Q4 2020 they were at the value of 102.8%, y-o-y) and remained in positive values, see the Chart No 4 below. The highest positive values of the terms of trade were reached by 'food and live animals' (106.5%), 'crude materials, inedible, except fuels' (106.3%), and 'mineral fuels, lubricants and related materials' (104.2%). Negative values of the terms of trade were only recorded for 'manufactured goods classified chiefly by material' (98.8%) and 'beverages and tobacco' (99.1%).

Graf č. 4 Vývoj indexů cen v zahraničním obchodě se zbožím meziročně
Chart No 4 Trend of price indices in international trade in goods, y-o-y



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International trade in goods price indices, year-on-year, adjusted for exchange rate influence

The Czech Statistical Office also carries out calculations of year-on-year international trade in goods price indices adjusted for effects of exchange rate. Prices in foreign currencies reported in the current month are **converted** to Czech crowns by the **exchange rate** of the same month **of the previous year**. Then they are used for the weighted mean calculation together with prices reported in CZK. The year-on-year adjusted price index for a month is then calculated the way that this exchange rate adjusted base price index of a month is related to the non-adjusted base price index of the corresponding month of the previous year. Similarly, adjusted quarter-on-quarter price indices have been calculated since 2017. **Differences between adjusted and non-adjusted price indices may be considerable**; they are obvious in the Chart No 6 and the Chart No 7, for example, in the Q2 2020.

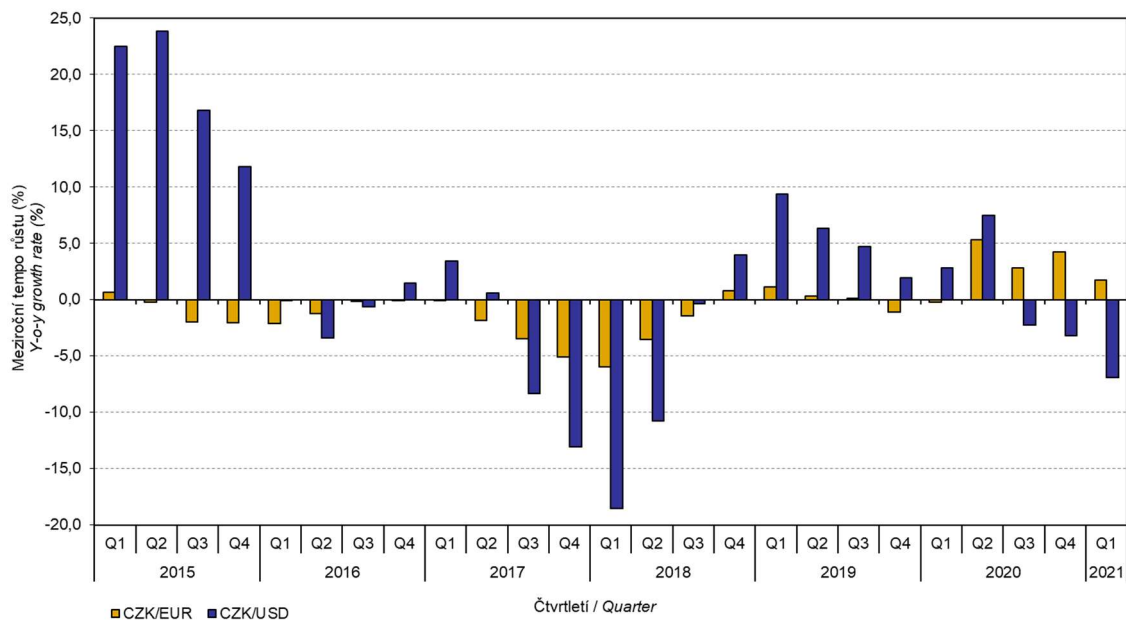
The method employed does not enable to make a 100% exchange rate adjustment because not all trade transactions made in foreign currencies are also reported in foreign currencies; the proportion does not exceed 30%. From the aforementioned it follows that, **at the full exchange rate adjustment, differences** between the price indices published and the exchange rate adjusted price indices **would** probably further **increase**.

The exchange rate adjusted indices described above can also be used to make the exchange rate adjusted breakdown of increments of price indices. The Table 1 gives the **published and exchange rate adjusted breakdown of increments** of export and import price indices, expanded by the most important two-digit code groups of the SITC 7. The breakdown illustrates well how many percentage points each of the groups “exchange rate contributed” to the index.

In general, it is true that the exchange rate effect decreases the value of price indices in international trade in goods if CZK is strengthening to foreign currencies in total. Conversely, the exchange rate effect pushes the price indices up if CZK is weakening to foreign currencies in total.

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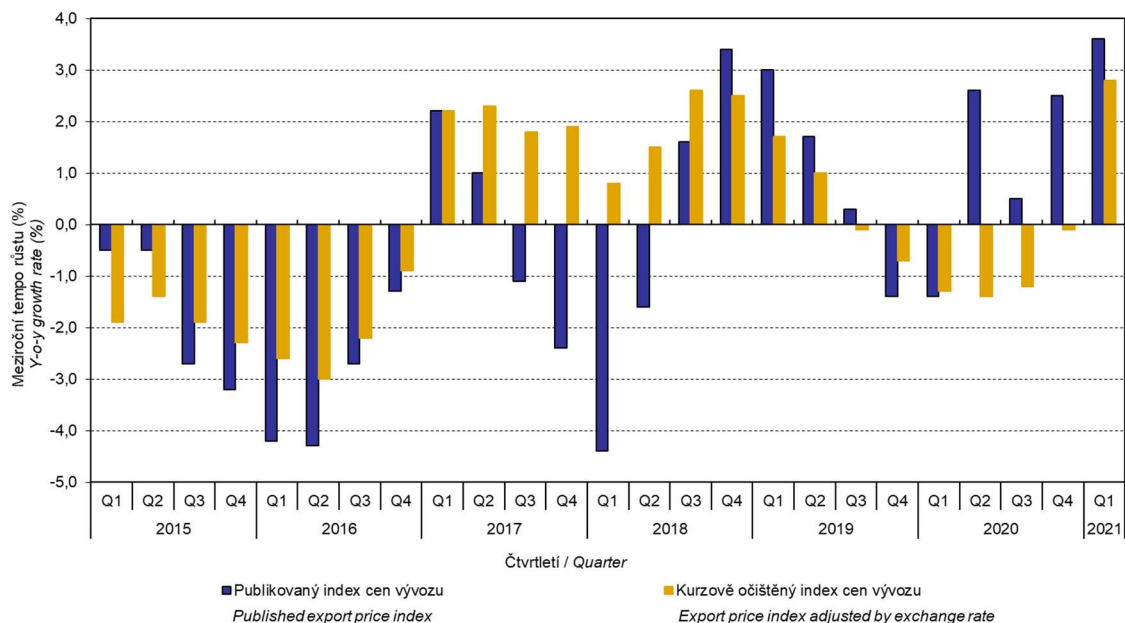
Graf č. 5 Vývoj čtvrtletních kurzů meziročně
Chart No 5 Quarterly exchange rates development, y-o-y



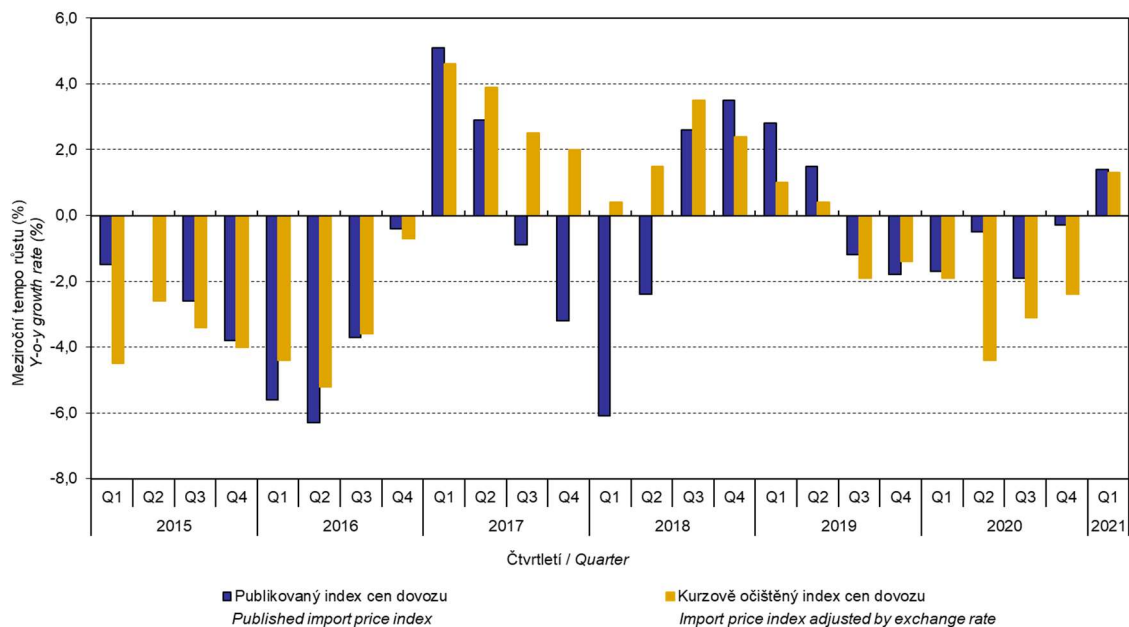
It is apparent from the Chart No 6 and the Chart No 7 below how significant the exchange rate influence on the value of the export and import price indices was.

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Graf č. 6 Vývoj indexů vývozních cen meziročně
Chart No 6 Trend in export price indices, y-o-y



Graf č. 7 Vývoj indexů dovozních cen meziročně
Chart No 7 Trend in import price indices, y-o-y



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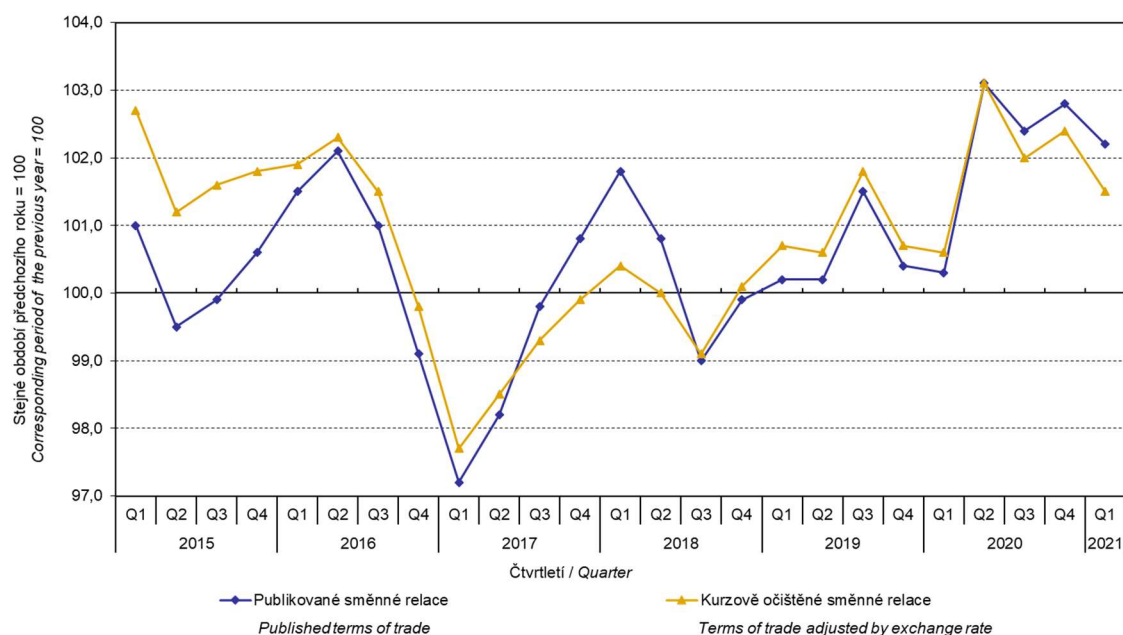
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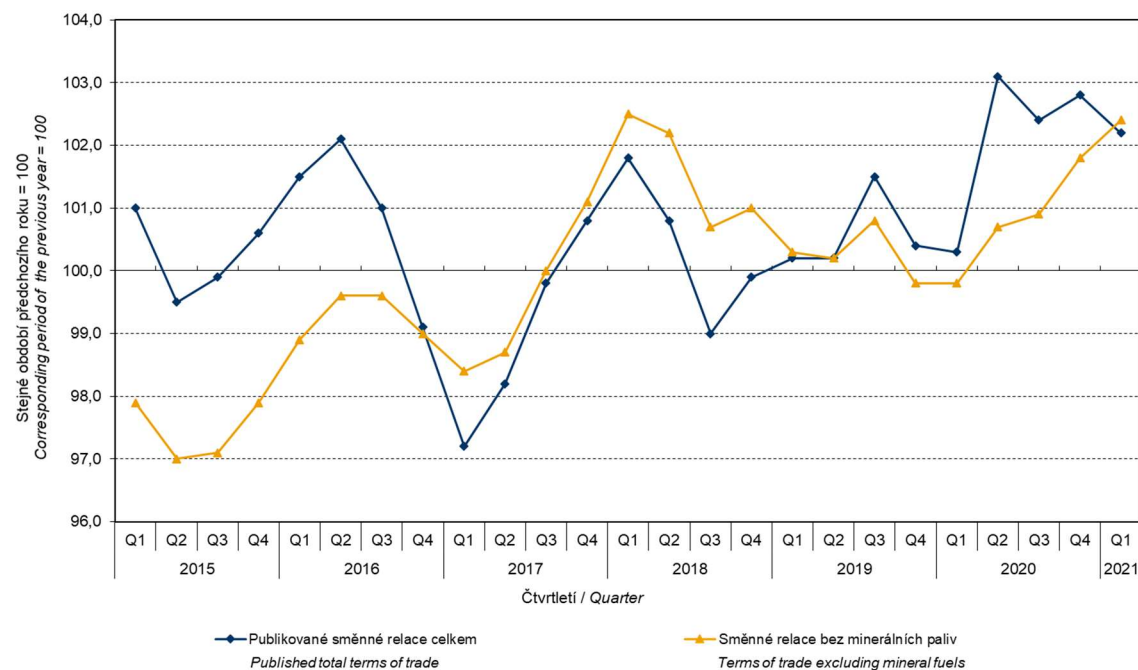
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The Chart No 8 shows the exchange rate influence on the value of the year-on-year terms of trade.

Graf č. 8 Směnné relace meziročně
Chart No 8 Terms of trade, y-o-y



Graf č. 9 Publikované směnné relace a směnné relace s vyloučením minerálních paliv meziročně
Chart No 9 Published terms of trade and terms of trade excluding mineral fuels, y-o-y



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The Chart No 9 shows the development of the value of the terms of trade when the group of 'mineral fuels, lubricants and related materials' is excluded. It can be observed in this chart that the effect of 'mineral fuels, lubricants and related materials' was increasing the overall value of the y-o-y terms of trade until the Q4 2016. In the Q1 2017, the situation turned around and 'mineral fuels, lubricants and related materials' started to have a downward effect on the value of the terms of trade, which continued until the Q1 2019. In the Q2 2019, as an exception, 'mineral fuels, lubricants and related materials' had no effect on the terms of trade value. Since the Q3 2019, 'mineral fuels, lubricants and related materials' started to raise the terms of trade value again. In the Q1 2021, there was a reversal, when 'mineral fuels, lubricants and related materials' decreased the value of the terms of trade. Naturally, it is related to the world market price development, especially in crude oil prices. Import prices, which, compared to export prices, have a higher proportion of crude materials, respond in a more sensitive way to price turbulences. Therefore, when prices of crude materials go up, the terms of trade, as a rule, go down, and, vice versa, when prices of crude materials decrease, the terms of trade grow.

Closing summary

In the Q1 2021, the exchange rate effect increased both the export price index and the import prices index, year-on-year. Export prices were increasing faster than import prices and therefore the terms of trade reached positive values. After elimination of the exchange rate effect, the terms of trade were lower than the published terms of trade, but remained positive. Values free of the exchange rate effect correspond to the exchange rate adjusted indices, see the Charts Nos. 6, 7, and 8.

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Tabulka 1 Rozklad přírůstků publikovaných a kurzově očištěných indexů cen vývozu a dovozu za 1. čtvrtletí 2021
Table 1 Breakdown of increments of export and import price indices - published and exchange rate adjusted for Q1 2021

SITC	Název Name	Publikované Published					Očištěné o kurzové vlivy Exchange rate adjusted				
		Meziroční Year-on-year					Meziroční Year-on-year				
		Q4/2020	01/2021	02/2021	03/2021	Q1/2021	Q4/2020	01/2021	02/2021	03/2021	Q1/2021
Rozklad přírůstků indexů vývozních cen <i>Break down of export price indices</i>											
	Celkem <i>Total</i>	2,5	3,8	4,5	2,5	3,6	-0,1	1,7	2,7	4,1	2,8
0	Potraviny a živá zvířata <i>Food and live animals</i>	0,2	0,2	0,2	0,0	0,0	0,1	0,1	0,1	0,1	0,1
1	Nápoje a tabák <i>Beverages and tobacco</i>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
2	Suroviny nepoživatelné, s výjimkou paliv <i>Crude materials, inedible, except fuels</i>	0,1	0,3	0,5	0,6	0,5	0,1	0,3	0,5	0,6	0,5
3	Minerální paliva, maziva a příbuzné materiály <i>Mineral fuels, lubricants and related materials</i>	-0,3	0,0	0,3	0,6	0,3	-0,4	-0,1	0,2	0,7	0,3
5	Chemikálie a příbuzné výrobky <i>Chemicals and related products</i>	-0,1	0,1	0,1	0,2	0,2	-0,3	0,0	0,1	0,3	0,1
6	Tržní výrobky tříděné hlavně podle materiálu <i>Manufactured goods classified chiefly by material</i>	0,3	0,6	0,7	0,5	0,6	-0,2	0,2	0,4	0,7	0,4
7	Stroje a dopravní prostředky - z toho: <i>Machinery and transport equipment - thereof:</i>	2,0	2,4	2,6	0,9	2,0	0,6	1,2	1,5	1,7	1,5
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. <i>General industrial machinery and equipment, n.e.s.</i>	0,3	0,4	0,4	0,1	0,3	0,1	0,1	0,2	0,2	0,2
77	Elektrická zařízení, přístroje a spotřebiče, j.n. <i>Electrical machinery, apparatus and appliances, n.e.s.</i>	0,4	0,5	0,6	0,4	0,5	0,2	0,4	0,5	0,5	0,5
78	Silniční vozidla <i>Road vehicles (including air-cushion vehicles)</i>	1,0	1,3	1,4	0,6	1,1	0,2	0,7	0,8	0,9	0,8
8	Průmyslové spotřební zboží <i>Miscellaneous manufactured articles</i>	0,3	0,2	0,1	-0,3	0,0	0,0	0,0	-0,1	0,0	-0,1
Rozklad přírůstků indexů dovozních cen <i>Breakdown of import price indices</i>											
	Celkem <i>Total</i>	-0,3	0,4	2,1	1,6	1,4	-2,4	-0,9	1,1	3,6	1,3
0	Potraviny a živá zvířata <i>Food and live animals</i>	-0,1	-0,2	-0,1	-0,2	-0,2	-0,2	-0,3	-0,2	-0,2	-0,2
1	Nápoje a tabák <i>Beverages and tobacco</i>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
2	Suroviny nepoživatelné, s výjimkou paliv <i>Crude materials, inedible, except fuels</i>	0,0	0,2	0,3	0,3	0,3	0,0	0,2	0,3	0,4	0,3
3	Minerální paliva, maziva a příbuzné materiály <i>Mineral fuels, lubricants and related materials</i>	-1,3	-0,9	0,1	1,7	0,3	-1,4	-0,7	0,3	2,1	0,5
5	Chemikálie a příbuzné výrobky <i>Chemicals and related products</i>	0,0	0,2	0,4	0,3	0,3	-0,3	-0,1	0,1	0,5	0,2
6	Tržní výrobky tříděné hlavně podle materiálu <i>Manufactured goods classified chiefly by material</i>	0,3	0,8	1,0	0,8	0,9	-0,3	0,3	0,7	1,0	0,7
7	Stroje a dopravní prostředky - z toho: <i>Machinery and transport equipment - thereof:</i>	0,6	0,2	0,5	-1,0	-0,1	-0,2	-0,3	0,1	0,0	-0,1
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. <i>General industrial machinery and equipment, n.e.s.</i>	0,3	0,3	0,5	0,2	0,3	0,1	0,1	0,3	0,3	0,3
75	Kancelářské stroje a zař. k automat. zpracování dat <i>Office machines and automatic data-processing machines</i>	0,0	-0,2	-0,2	-0,2	-0,2	0,0	-0,1	-0,1	-0,1	-0,1
77	Elektrická zařízení, přístroje a spotřebiče, j.n. <i>Electrical machinery, apparatus and appliances, n.e.s.</i>	-0,2	-0,1	-0,1	-0,5	-0,2	-0,4	-0,3	-0,2	-0,2	-0,2
78	Silniční vozidla <i>Road vehicles (including air-cushion vehicles)</i>	0,5	0,3	0,3	-0,1	0,2	0,2	0,1	0,1	0,0	0,1
8	Průmyslové spotřební zboží <i>Miscellaneous manufactured articles</i>	0,2	0,1	-0,1	-0,3	-0,1	0,0	0,0	-0,2	-0,2	-0,1

The closing table gives published **non-adjusted** international trade in goods price indices.

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Tabulka 2 Indexy cen vývozu a dovozu v 1. čtvrtletí 2021

Table 2 Export and import price indices in Q1 2021

SITC	Název Name	Stejně období předchozího roku = 100 Corresponding period of the previous year = 100				
		Q4/2020	01/2021	02/2021	03/2021	Q1/2021
Indexy vývozních cen Export price indices						
	Celkem Total	102,5	103,8	104,5	102,5	103,6
0	Potraviny a živá zvířata Food and live animals	104,2	104,3	104,6	101,0	103,3
1	Nápoje a tabák Beverages and tobacco	105,6	103,9	102,7	97,3	101,2
2	Suroviny nepoživatelné, s výjimkou paliv Crude materials, inedible, except fuels	103,6	113,9	122,1	125,8	120,6
3	Minerální paliva, maziva a příbuzné materiály Mineral fuels, lubricants and related materials	89,8	99,2	108,1	123,8	109,7
5	Chemikálie a příbuzné výrobky Chemicals and related products	97,9	101,5	102,3	103,5	102,5
6	Tržní výrobky tříděné hlavně podle materiálu Manufactured goods classified chiefly by material	101,4	103,2	103,5	102,6	103,1
7	Stroje a dopravní prostředky Machinery and transport equipment	103,9	104,7	104,9	101,6	103,7
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. General industrial machinery and equipment, n.e.s.	104,5	104,8	105,4	101,3	103,8
77	Elektrická zařízení, přístroje a spotřebiče, j.n. Electrical machinery, apparatus and appliances, n.e.s.	104,9	106,2	107,2	105,0	106,1
78	Silniční vozidla Road vehicles (including air-cushion vehicles)	104,1	105,6	106,0	102,3	104,6
8	Průmyslové spotřební zboží Miscellaneous manufactured articles	102,8	101,9	100,9	97,8	100,2
Indexy dovozních cen Import price indices						
	Celkem Total	99,7	100,4	102,1	101,6	101,4
0	Potraviny a živá zvířata Food and live animals	98,7	96,7	97,8	96,4	97,0
1	Nápoje a tabák Beverages and tobacco	102,5	103,4	103,0	99,9	102,1
2	Suroviny nepoživatelné, s výjimkou paliv Crude materials, inedible, except fuels	100,4	109,5	115,2	115,5	113,4
3	Minerální paliva, maziva a příbuzné materiály Mineral fuels, lubricants and related materials	81,2	88,4	102,3	131,3	105,3
5	Chemikálie a příbuzné výrobky Chemicals and related products	99,9	101,7	102,9	102,6	102,4
6	Tržní výrobky tříděné hlavně podle materiálu Manufactured goods classified chiefly by material	101,3	104,1	105,3	103,8	104,4
7	Stroje a dopravní prostředky Machinery and transport equipment	101,6	100,6	101,1	97,6	99,8
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. General industrial machinery and equipment, n.e.s.	105,5	105,0	107,6	103,0	105,1
75	Kancelářské stroje a zař. k automat. zpracování dat Office machines and automatic data-processing machines	99,7	96,5	96,7	94,6	95,9
77	Elektrická zařízení, přístroje a spotřebiče, j.n. Electrical machinery, apparatus and appliances, n.e.s.	98,4	98,8	99,2	95,4	97,8
78	Silniční vozidla Road vehicles (including air-cushion vehicles)	104,9	103,0	102,9	99,5	101,8
8	Průmyslové spotřební zboží Miscellaneous manufactured articles	102,1	100,7	99,2	96,3	98,7

Note: For internal reasons, the Czech decimal comma is used instead of the English decimal point as a decimal separator in tables and charts of this analysis.

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