

ANALYSIS

18 February 2019

External Trade Price Indices Development in Q4 2018 and in The Year 2018

In Q4 2018, compared to Q3 2018, export prices and import prices increased by 0.9% and 0.3%, respectively. The terms of trade reached the value of 100.6%. Compared year-on-year, in Q4 2018 export prices and import prices grew by 3.4% and 3.5%, respectively, and the terms of trade reached the value of 99.9%.

Quarter-on-Quarter Comparison

Export prices in Q4 2018, compared to Q3 2018, increased by 0.9%, quarter-on-quarter (q-o-q) (in Q3 2018 they grew by 1.1%, q-o-q). Prices of 'miscellaneous manufactured articles', 'crude materials, inedible, except fuels', and 'machinery and transport equipment' grew by 1.9%, 1.5%, and 0.8%, respectively. The only prices that declined were those for 'mineral fuels, lubricants and related materials' and for 'chemicals and related products' by 0.8% and 0.2%, respectively.

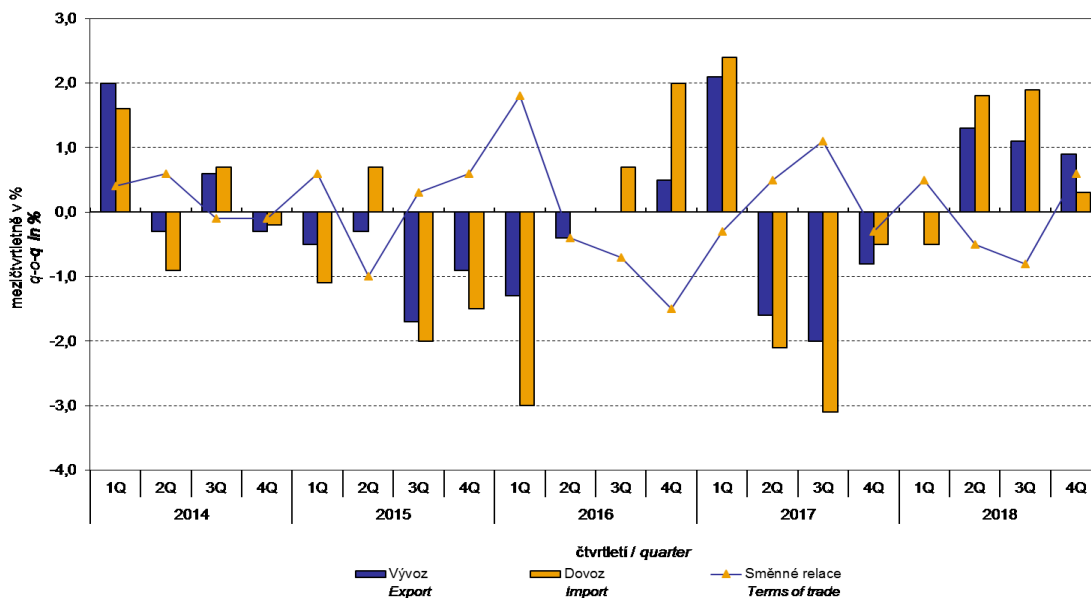
Import prices in Q4 2018, compared to Q3 2018, increased by 0.3%, q-o-q (in Q3 2018 they increased by 1.9%, q-o-q). Prices for 'crude materials, inedible, except fuels', 'chemicals and related products', 'miscellaneous manufactured articles', and 'manufactured goods classified chiefly by material' grew by 2.8%, 1.7%, 0.9%, and 0.2%, respectively. Prices for 'mineral fuels, lubricants and related materials' and for 'food and live animals' decreased by 1.0% and 0.8%, respectively.

The terms of trade in Q4 2018, compared to Q3 2018, reached the value of 100.6% (in Q3 2018 they stayed at the value of 99.2%). Positive values of the terms of trade were recorded for 'food and live animals' (102.0%), 'miscellaneous manufactured articles' and 'manufactured goods classified chiefly by material' (identically 101.0%), 'machinery and transport equipment' (100.7%), and for 'mineral fuels, lubricants and related materials' (100.2%). Negative values of the terms of trade were recorded namely for 'chemicals and related products' (98.1%) and for 'crude materials, inedible, except fuels' (98.7%).

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Graf č. 1
Chart No. 1

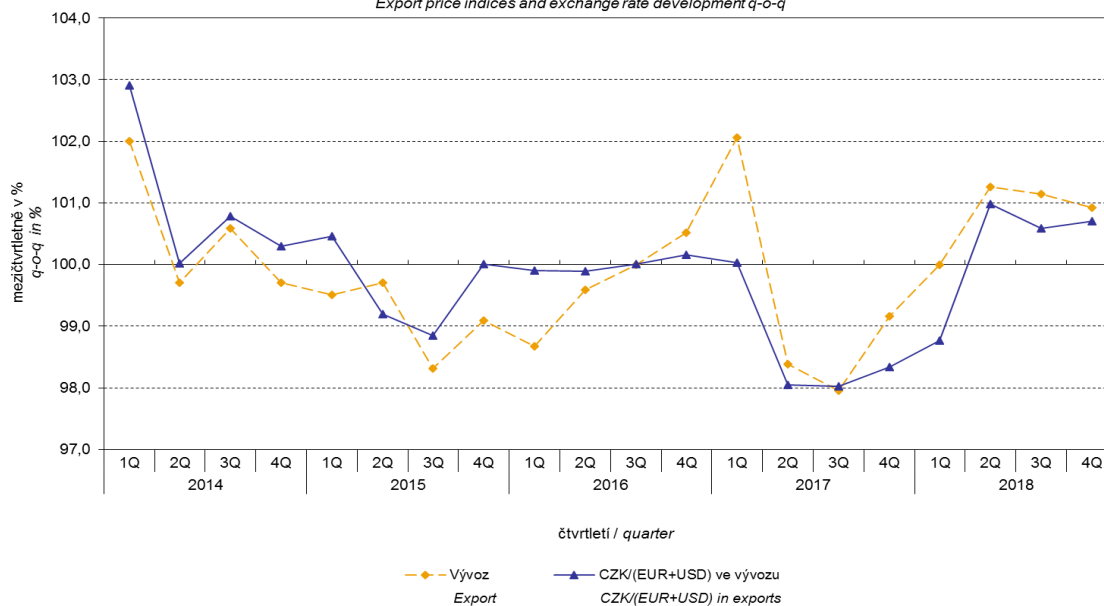
Vývoj indexů cen v zahraničním obchodě mezičtvrtletně
Trend of price indices in external trade q-o-q



The external trade price development was also significantly affected by the CZK exchange rate to the major foreign currencies. The q-o-q exchange rate index includes two most important currencies from the Czech Republic's external trade point of view, 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.

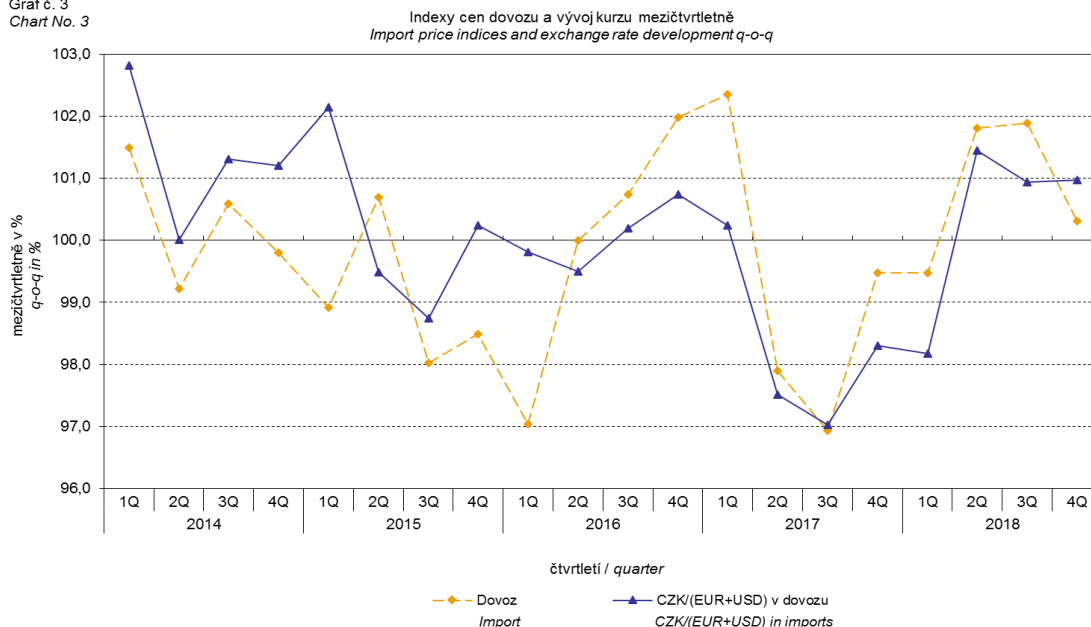
Graf č. 2
Chart No. 2

Indexy cen vývozu a vývoj kurzu mezičtvrtletně
Export price indices and exchange rate development q-o-q



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Graf č. 3
Chart No. 3



It can be seen from the aforementioned Graphs Nos. 2 and 3 that in both cases of imports and exports, external trade prices have a strong relation to exchange rate impacts. Contracts with foreign entities are, as a rule, signed for a longer period of time and the longer the contract period is, the stronger the relation to exchange rates is.

Year-on-Year Comparison

Export prices in Q4 2018 increased by 3.4%, year-on-year (y-o-y) (in Q3 2018 they grew by 1.6%, y-o-y). The most growing prices were those of 'mineral fuels, lubricants and related materials' by 16.7%, followed by those for 'manufactured goods classified chiefly by material' increased by 5.4%, 'miscellaneous manufactured articles' rose by 3.5%, 'chemicals and related products' increased by 3.2%, and 'machinery and transport equipment', which grew by 1.8%. No decline of prices was recorded in any of the groups monitored.

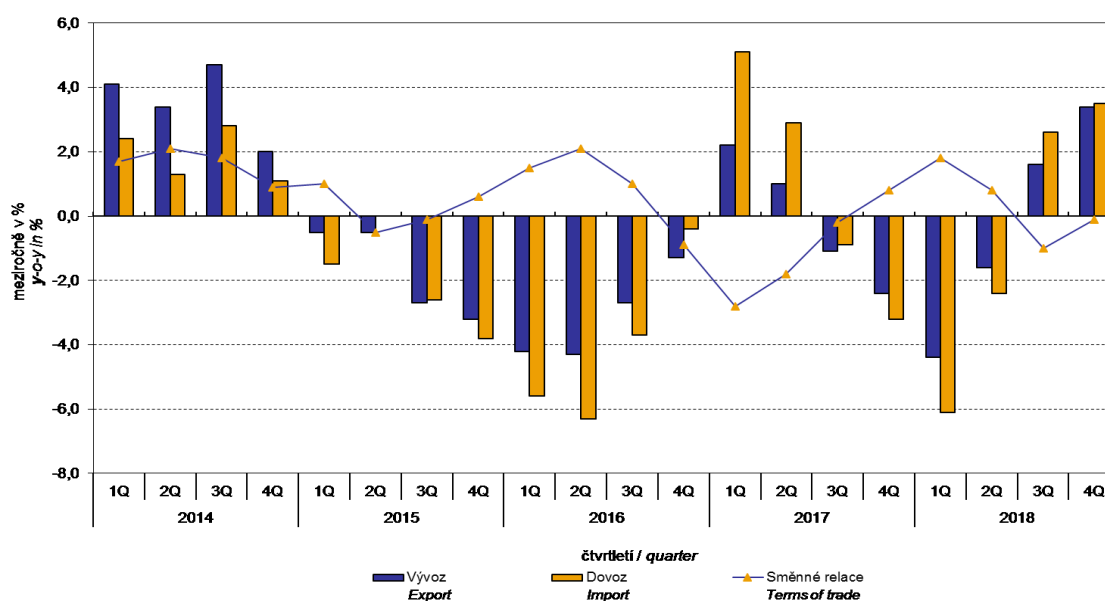
Import prices in Q4 2018 rose by 3.5%, y-o-y (in Q3 2018 they grew by 2.6%, y-o-y). Prices of 'mineral fuels, lubricants and related materials' jumped up by 23.1%. Prices of 'chemicals and related products', 'crude materials, inedible, except fuels', and 'machinery and transport equipment' increased by 5.7%, 5.4%, and 1.6%, respectively. Prices of 'miscellaneous manufactured articles' did not change. The only prices that saw a decline were those for 'food and live animals' by 1.4%.

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The terms of trade in Q4 2018 decreased year-on-year to reach the value of 99.9% (in Q3 2018 they were at the value of 99.0%) and remained in negative values for already two quarters, see Graph No. 4 below. Negative values of the terms of trade were recorded namely for 'mineral fuels, lubricants and related materials' (94.8%), 'crude materials, inedible, except fuels' (97.5%), and 'chemicals and related products' (97.6%). Positive values of the terms of trade were recorded in prices for 'food and live animals' (104.2%), 'miscellaneous manufactured articles' (103.5%), and 'manufactured goods classified chiefly by material' (103.4%).

Graf č. 4
Chart No. 4

Vývoj indexů cen v zahraničním obchodě meziročně
Trend of price indices in external trade y-o-y



External Trade Price Development in 2018

On average, over the whole year 2018, compared to the year 2017, export prices decreased by 0.3%, y-o-y (in 2017 they declined by 0.1%, y-o-y). Import prices declined by 0.7%, y-o-y (in 2017 they grew by 0.9%, y-o-y).

In export prices decreases were noticed in groups of 'machinery and transport equipment' and of 'miscellaneous manufactured articles' by 1.7% and 1.5%, respectively. Growing prices were namely those of 'mineral fuels, lubricants and related materials' and 'crude materials, inedible, except fuels' by 7.6% and 2.6%, respectively.

In import prices a significant price decrease was recorded in 'crude materials, inedible, except fuels' by 5.6%. Prices in 'miscellaneous manufactured articles' and 'machinery and transport equipment' fell by 3.3% and 3.1%, respectively. The highest price increase was recorded for prices of 'mineral fuels, lubricants and related materials' by 16.8%.

The terms of trade reached in total in 2018 the value of 100.4% (they stayed at 99.0% in 2017).

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External Trade Price Indices, Year-on-Year, Adjusted for Exchange Rate Influence

The Czech Statistical Office (CZSO) also carries out calculations of year-on-year external trade price indices adjusted for effects of exchange rate. The method is prices in foreign currencies reported in the current month are **converted** into Czech crowns by the **exchange rate** of the same month **of the last year**. Then they are used for the weighted mean calculation along 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 same month of the last year. Adjusted quarter-on-quarter price indices are calculated in an analogous way since 2017. **Differences among adjusted and non-adjusted price indices may be substantial**. They can be clearly seen in Graphs Nos. 6 and 7 for Q1 2018, for instance.

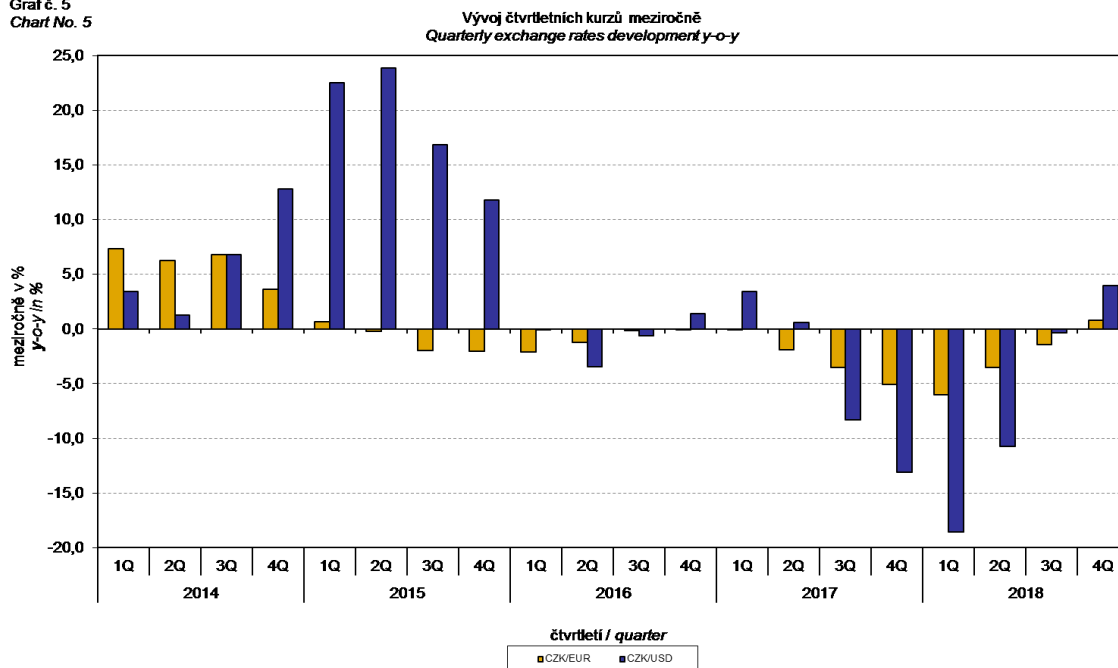
The method employed does not enable, for many practical reasons, to carry out 100% exchange rate adjustment because all trade transactions concluded in foreign currencies are not reported in foreign currencies. This share is up to 30%. It follows from the aforementioned, that **at the full exchange rate adjustment differences** in between the price indices published and the exchange rate adjusted price indices **would be probably even larger**.

The aforementioned exchange rate adjusted indices can be used to form the exchange rate adjusted breakdown of price indices increments. Table 1 gives the **published and exchange rate adjusted breakdowns of increments** of export and import price indices, expanded to the most important two-digit code groups of the SITC 7. These breakdowns illustrate, in a good manner, how many percentage points each of the groups “exchange rate contributed” to the index.

It holds in general, that the effects of exchange rate decrease the value of price indices in external trade if CZK is strengthening to foreign currencies in total. Conversely, the effects of exchange rate push the price indices up if CZK is weakening to foreign currencies in total.

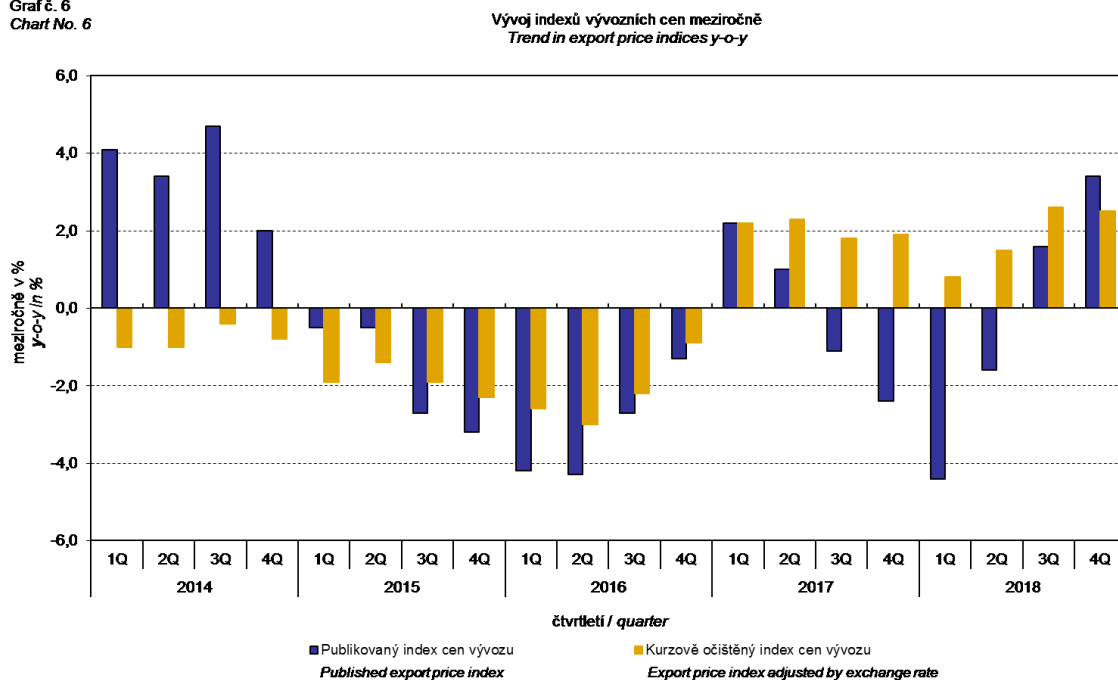
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Graf č. 5
Chart No. 5



It is obvious from the following Graphs Nos. 6 and 7, how significant was the exchange rate impact on the value of export and import price indices.

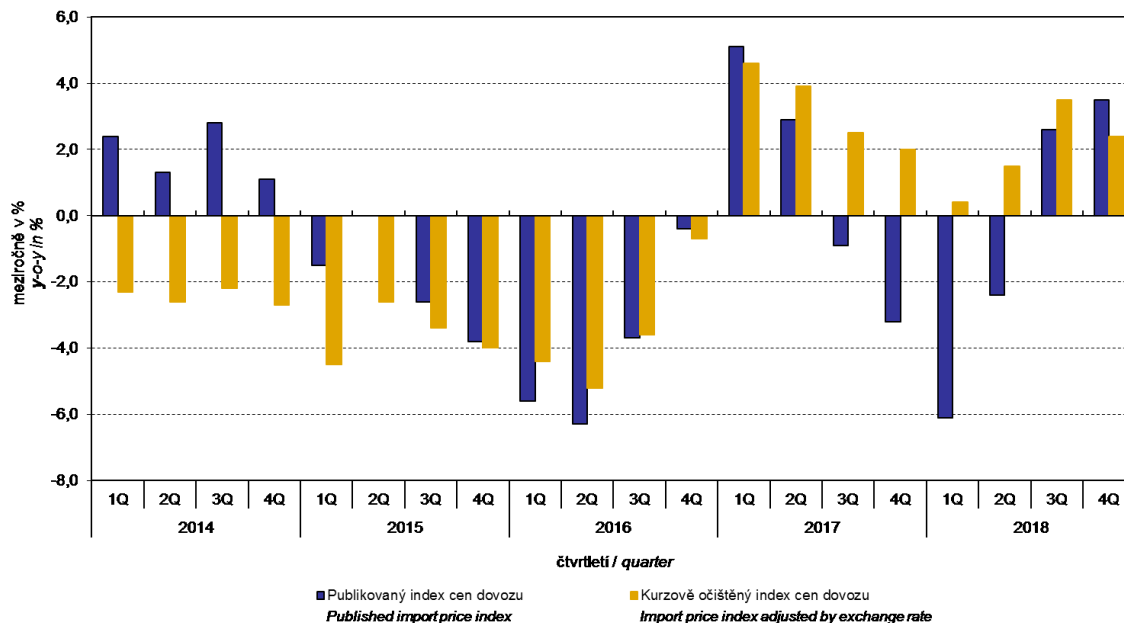
Graf č. 6
Chart No. 6



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Graf č. 7
Chart No. 7

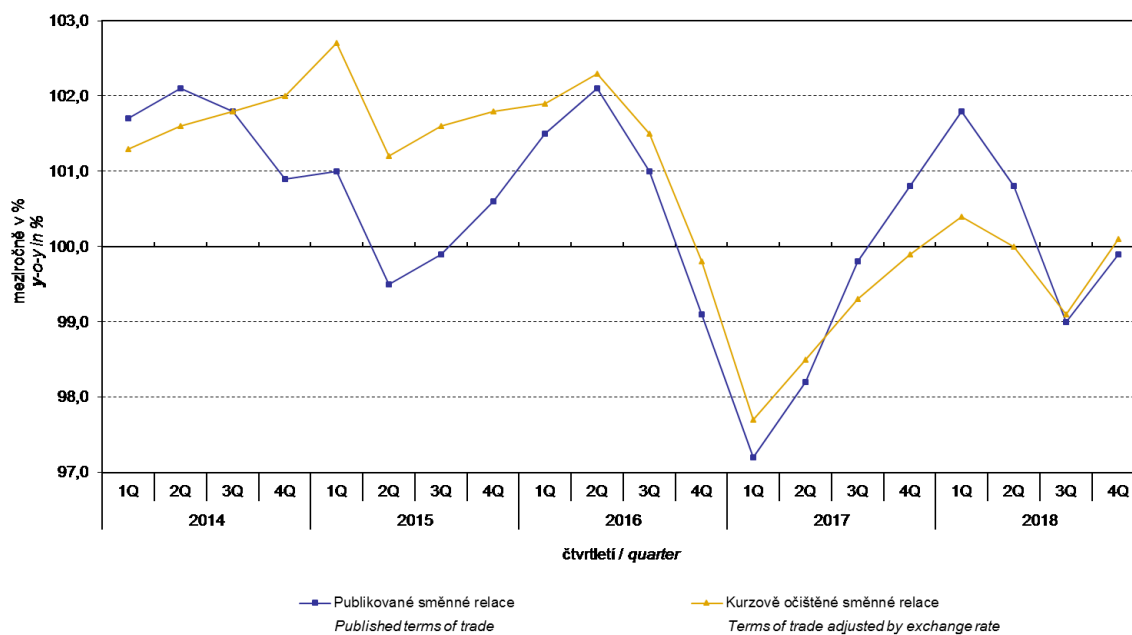
Vývoj indexů dovozních cen meziročně
Trend in import price indices y-o-y



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

Graf č. 8
Chart No. 8

Směnné relace meziročně
Terms of trade y-o-y

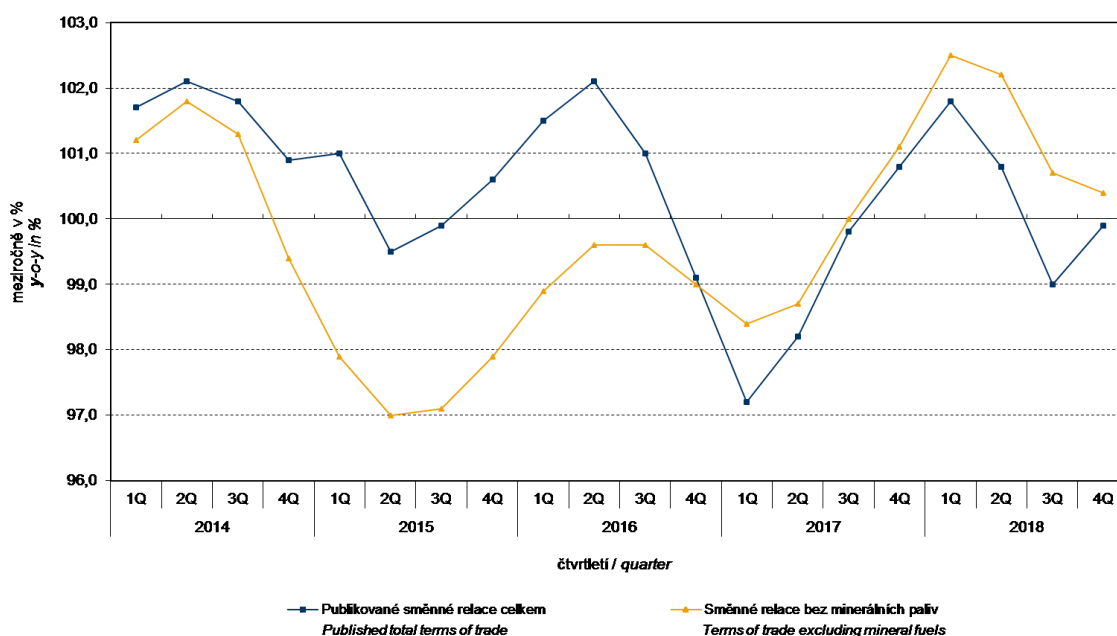


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Graph No. 9 demonstrates how the value of the terms of trade would develop if the observed groups of goods would not include that of 'mineral fuels, lubricants and related materials'. It can be observed in the graph that the effects of 'mineral fuels, lubricants and related materials' were increasing the overall value of the y-o-y terms of trade till Q4 2016. In Q1 2017 the situation began to reverse and 'mineral fuels, lubricants and related materials' have had a downward effect on the value of the terms of trade. It is, of course, related to the world market price development, especially in crude oil. Import prices, which, compared to export prices, include a higher proportion of crude materials, respond in a more sensitive way to price turbulences and therefore when prices of crude materials go up, the terms of trade, as a rule, go down, and, conversely, when prices of crude materials fall, the terms of trade grow.

Graf č.9
Chart No. 9

Publikované směnné relace a směnné relace s vyloučením minerálních paliv meziročně
Published terms of trade and terms of trade excluding mineral fuels y-o-y



Closing summary

The exchange rate effects in Q4 2018 boosted a growth in export and import price indices, year-on-year. Export prices grew year-on-year at a pace lower by 0.1 percentage point than that of import prices, and therefore the terms of trade fell into negative values. If exchange rate unadjusted, the terms of trade would reach a positive value of 100.1%. Values free of the exchange rate effects correspond to exchange rate adjusted indices, see Graphs Nos. 6, 7, and 8.

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Tabulka 1: Rozklad přírůstků publikovaných a kurzově očištěných indexů cen vývozu a dovozu za 4. čtvrtletí 2018
Table 1: Breakdown of export and import price indices - published and exchange rate adjusted for 4Q 2018

SITC	Název Name	Publikované Published					Očištěné Adjusted				
		Meziroční Year-on-year					Meziroční Year-on-year				
		3Q/2018	10/2018	11/2018	12/2018	4Q/2018	3Q/2018	10/2018	11/2018	12/2018	4Q/2018
Rozklad přírůstků indexů vývozních cen <i>Breakdown of export price indices</i>											
	Celkem <i>Total</i>	1,6	3,1	4,0	3,1	3,4	2,6	2,8	2,7	2,5	2,5
0	Potraviny a živá zvířata <i>Food and live animals</i>	0,0	0,1	0,1	0,1	0,1	0,0	0,1	0,1	0,1	0,1
1	Nápoje a tabák <i>Beverages and tobacco</i>	-0,1	0,1	0,1	0,0	0,1	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	0,0	0,1	0,1	0,1	0,1	0,0	0,1	0,1	0,0
3	Minerální paliva, maziva a příbuzné materiály <i>Mineral fuels, lubricants and related materials</i>	1,0	0,8	0,5	0,3	0,5	0,7	0,7	0,5	0,2	0,5
5	Chemikálie a příbuzné výrobky <i>Chemicals and related products</i>	0,3	0,2	0,3	0,1	0,2	0,3	0,2	0,2	0,1	0,1
6	Tržní výrobky tříděné hlavně podle materiálu <i>Manufactured goods classified chiefly by material</i>	1,2	1,0	1,2	1,1	1,1	0,9	1,0	1,0	1,0	1,0
7	Stroje a dopravní prostředky - z toho: <i>Machinery and transport equipment - thereof:</i>	-0,5	0,6	1,3	1,0	1,0	0,5	0,5	0,5	0,7	0,5
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. <i>General industrial machinery and equipment, n.e.s.</i>	0,2	0,2	0,2	0,1	0,2	0,3	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>	-0,1	-0,1	0,0	0,0	0,0	0,0	-0,1	-0,1	-0,1	-0,1
78	Silniční vozidla <i>Road vehicles (including air-cushion vehicles)</i>	0,0	0,4	0,7	0,5	0,5	0,3	0,3	0,3	0,3	0,3
8	Průmyslové spotřební zboží <i>Miscellaneous manufactured articles</i>	-0,3	0,3	0,4	0,4	0,3	0,1	0,3	0,3	0,3	0,3
Rozklad přírůstků indexů dovozních cen <i>Breakdown of import price indices</i>											
	Celkem <i>Total</i>	2,6	3,8	4,2	2,4	3,5	3,5	3,4	2,5	1,4	2,4
0	Potraviny a živá zvířata <i>Food and live animals</i>	-0,2	-0,1	0,0	-0,1	-0,1	-0,2	-0,1	-0,1	-0,1	-0,1
1	Nápoje a tabák <i>Beverages and tobacco</i>	0,0	0,1	0,1	0,0	0,1	0,1	0,1	0,1	0,0	0,1
2	Suroviny nepoživatelné, s výjimkou paliv <i>Crude materials, inedible, except fuels</i>	-0,1	0,1	0,1	0,2	0,2	0,0	0,0	0,1	0,1	0,1
3	Minerální paliva, maziva a příbuzné materiály <i>Mineral fuels, lubricants and related materials</i>	2,2	2,5	1,6	0,6	1,6	2,3	2,5	1,4	0,5	1,5
5	Chemikálie a příbuzné výrobky <i>Chemicals and related products</i>	0,5	0,7	0,8	0,7	0,7	0,5	0,6	0,7	0,6	0,6
6	Tržní výrobky tříděné hlavně podle materiálu <i>Manufactured goods classified chiefly by material</i>	0,3	0,3	0,6	0,3	0,4	0,5	0,3	0,3	0,2	0,2
7	Stroje a dopravní prostředky - z toho: <i>Machinery and transport equipment - thereof:</i>	0,0	0,3	0,9	0,7	0,6	0,4	0,1	0,1	0,2	0,1
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. <i>General industrial machinery and equipment, n.e.s.</i>	0,0	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,0	0,1
75	Kancelářské stroje a zař. k automat. zpracování dat <i>Office machines and automatic data-processing machines</i>	-0,1	0,0	0,0	0,1	0,0	-0,1	0,0	-0,1	-0,1	-0,1
77	Elektrická zařízení, přístroje a spotřebiče, j.n. <i>Electrical machinery, apparatus and appliances, n.e.s.</i>	0,0	-0,1	-0,1	0,1	0,0	0,1	-0,1	0,0	0,0	0,0
78	Silniční vozidla <i>Road vehicles (including air-cushion vehicles)</i>	0,2	0,2	0,2	0,2	0,2	0,3	0,2	0,2	0,2	0,2
8	Průmyslové spotřební zboží <i>Miscellaneous manufactured articles</i>	-0,1	-0,1	0,1	0,0	0,0	-0,1	-0,1	-0,1	-0,1	-0,1

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Closing table gives published external trade price indices **without adjustment**.

Tabulka 2: Indexy cen vývozu a dovozu ve 4. čtvrtletí 2018

Table 2: Export and import price indices in Q4 2018

SITC	Název Name	Stejně období předchozího roku = 100 Corresponding period of previous year = 100				
		3Q/2018	10/2018	11/2018	12/2018	4Q/2018
Indexy vývozních cen <i>Export price indices</i>						
	Celkem <i>Total</i>	101,6	103,1	104,0	103,1	103,4
0	Potraviny a živá zvířata <i>Food and live animals</i>	99,7	101,8	103,1	103,1	102,7
1	Nápoje a tabák <i>Beverages and tobacco</i>	104,2	105,4	102,3	101,5	103,1
2	Suroviny nepoživatelné, s výjimkou paliv <i>Crude materials, inedible, except fuels</i>	101,8	100,9	104,4	103,2	102,8
3	Minerální paliva, maziva a příbuzné materiály <i>Mineral fuels, lubricants and related materials</i>	122,8	124,9	116,9	108,4	116,7
5	Chemikálie a příbuzné výrobky <i>Chemicals and related products</i>	102,8	103,4	104,7	101,5	103,2
6	Tržní výrobky tříděné hlavně podle materiálu <i>Manufactured goods classified chiefly by material</i>	103,6	104,9	106,0	105,5	105,4
7	Stroje a dopravní prostředky <i>Machinery and transport equipment</i>	99,7	101,2	102,4	101,9	101,8
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. <i>General industrial machinery and equipment, n.e.s.</i>	102,2	102,1	103,0	102,1	102,4
77	Elektrická zařízení, přístroje a spotřebiče, j.n. <i>Electrical machinery, apparatus and appliances,</i>	99,2	99,1	100,1	99,6	99,6
78	Silniční vozidla <i>Road vehicles (including air-cushion vehicles)</i>	100,0	101,6	102,9	102,3	102,3
8	Průmyslové spotřební zboží <i>Miscellaneous manufactured articles</i>	99,8	102,8	104,0	103,8	103,5
Indexy dovozních cen <i>Import price indices</i>						
	Celkem <i>Total</i>	102,6	103,8	104,2	102,4	103,5
0	Potraviny a živá zvířata <i>Food and live animals</i>	95,9	98,1	99,6	98,1	98,6
1	Nápoje a tabák <i>Beverages and tobacco</i>	105,8	108,6	107,1	102,6	106,0
2	Suroviny nepoživatelné, s výjimkou paliv <i>Crude materials, inedible, except fuels</i>	97,4	102,4	105,9	107,9	105,4
3	Minerální paliva, maziva a příbuzné materiály <i>Mineral fuels, lubricants and related materials</i>	133,3	137,6	123,7	108,9	123,1
5	Chemikálie a příbuzné výrobky <i>Chemicals and related products</i>	103,6	105,3	106,7	105,2	105,7
6	Tržní výrobky tříděné hlavně podle materiálu <i>Manufactured goods classified chiefly by material</i>	101,5	101,6	102,6	101,5	101,9
7	Stroje a dopravní prostředky <i>Machinery and transport equipment</i>	100,1	100,8	102,2	101,8	101,6
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. <i>General industrial machinery and equipment, n.e.s.</i>	99,6	101,7	102,8	101,6	102,0
75	Kancelářské stroje a zař. k automat. zpracování dat <i>Office machines and automatic data-processing</i>	98,3	100,6	101,1	101,5	101,0
77	Elektrická zařízení, přístroje a spotřebiče, j.n. <i>Electrical machinery, apparatus and appliances,</i>	99,8	99,2	101,7	101,5	100,8
78	Silniční vozidla <i>Road vehicles (including air-cushion vehicles)</i>	102,0	102,0	102,8	102,2	102,3
8	Průmyslové spotřební zboží <i>Miscellaneous manufactured articles</i>	98,3	99,3	100,4	100,2	100,0

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