

ANALYSIS

16 November 2016

External Trade Price Indices Development in Q3 2016

Export prices in Q3 2016, compared to Q2 2016, stayed unchanged, import prices remained increased by 0.7% and terms of trade reached 99.3%. Compared year-on-year (y-o-y), export prices in Q3 2016 decreased by 2.7%, import prices fell by 3.7%, and terms of trade reached the value of 101.0%.

Quarter-on-quarter (q-o-q) comparison

Export prices in Q3 2016, compared to Q2 2016 remained unchanged (in Q2 2016 they fell by 0.4%). The highest growths were found in prices for 'mineral fuels, lubricants and related materials' by 1.3%, for 'manufactured goods classified chiefly by material' by 1.1% and for 'food and live animals' by 0.9%. More important price decreases were observed in 'crude materials, inedible, except fuels' by 0.6% and in 'machinery and transport equipment' by 0.5%.

Import prices in Q3 2016, compared to Q2 2016, increased by 0.7% (in Q2 2016 were unchanged). Prices grew for 'mineral fuels, lubricants and related materials' by 6.5%, for 'crude materials, inedible, except fuels' by 3.2%, and for 'manufactured goods classified chiefly by material' by 1.4%. The only group that saw a price drop by 0.1% was 'machinery and transport equipment'.

The **terms of trade** figures in Q3 2016, compared to Q2 2016, reached the value of 99.3% (in Q2 2016 they were 99.6%). Negative values of terms of trade were recorded in 'mineral fuels, lubricants and related materials' (95.1%), 'crude materials, inedible, except fuels' (96.3%), and in 'machinery and transport equipment' (99.6%). There was none of the monitored groups that recorded any positive value of terms of trade.

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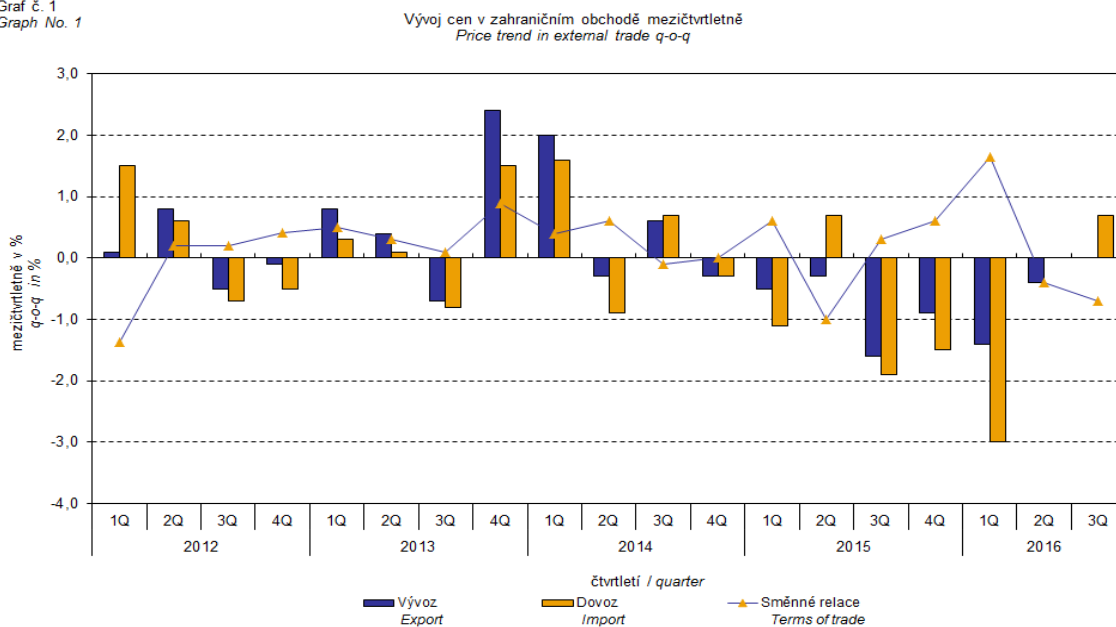
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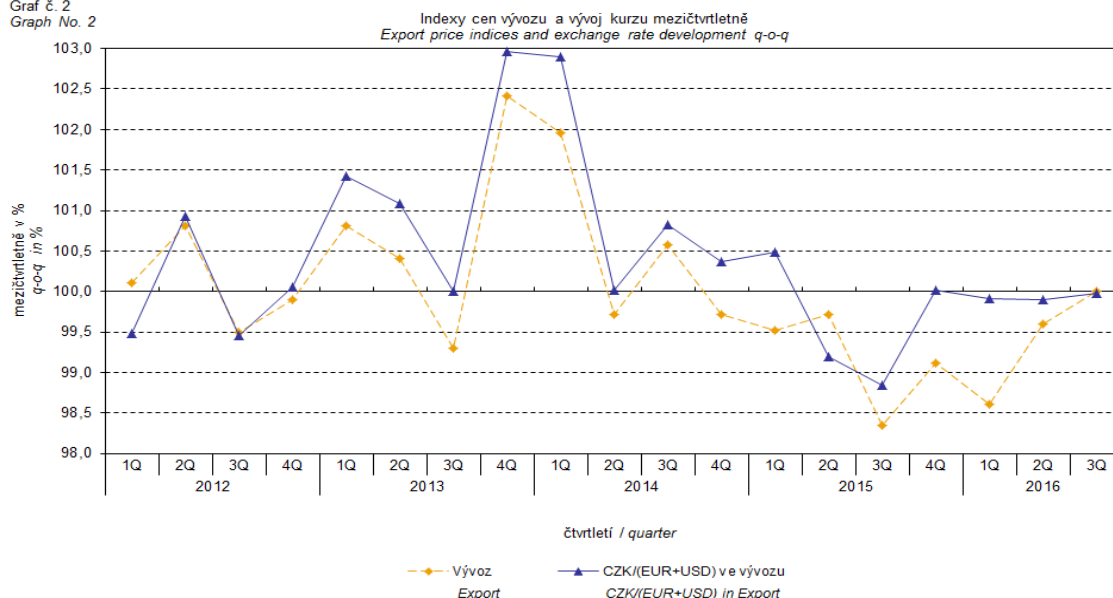
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Graf č. 1
Graph No. 1



The external trade price development was also significantly affected by the CZK exchange rate to the major foreign currencies. The quarter-on-quarter (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
Graph No. 2



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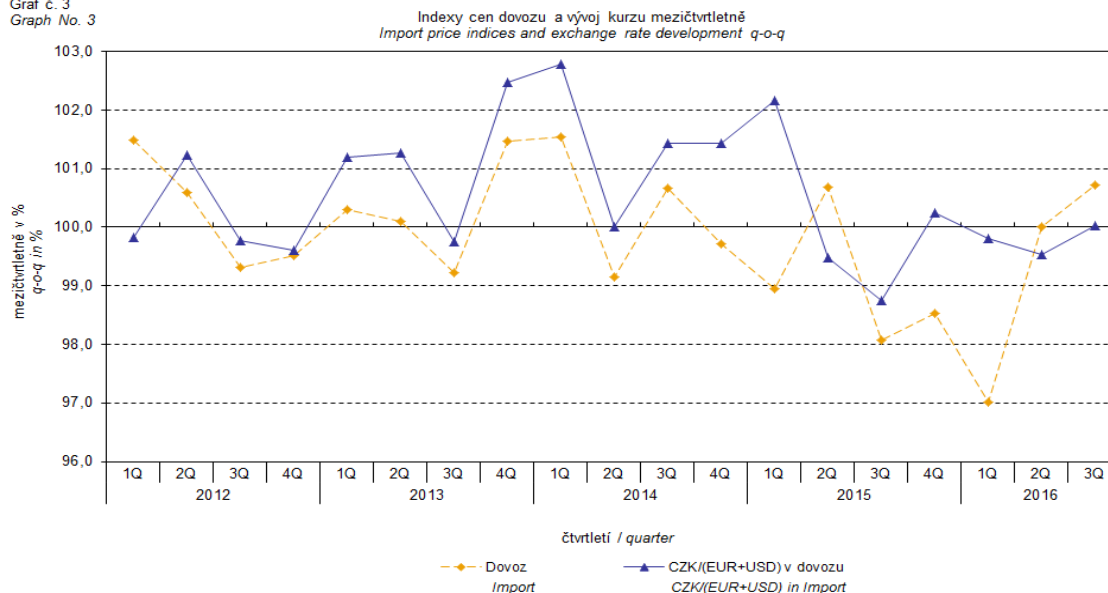
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Graf č. 3
Graph No. 3



It can be seen from Graphs Nos. 2 and 3 above, 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 (y-o-y) comparison

Export prices in **Q3 2016** decreased by 2.7% (in Q2 2016 they fell by 4.3%), year-on-year. Among more important groups of goods, the highest drop was reported for prices of 'mineral fuels, lubricants and related materials' by 13.6%, then for those of 'chemicals and related products' by 7.8%, 'crude materials, inedible, except fuels' by 7.1%, 'manufactured goods classified chiefly by material' by 3.0%, and of 'machinery and transport equipment' by 1.7%. The growing prices were namely those of 'beverages and tobacco' by 2.6%.

Import prices in **Q3 2016** decreased by 3.7% (in Q2 2016 they fell by 6.3%), year-on-year. A decline in prices was recorded for 'mineral fuels, lubricants and related materials' by 20.8%, then for 'chemicals and related products' by 4.9%, 'manufactured goods classified chiefly by material' by 3.0%, and for 'machinery and transport equipment' by 1.2%. Prices for 'food and live animals' grew by 0.3%.

Terms of trade in **Q3 2016** decreased year-on-year to reach the value of 101.0% (in Q2 2016 they were 102.1%) and so they remained in positive values – see Graph No. 4 below. Among more important groups of goods higher positive values of terms of trade were recorded for 'mineral fuels, lubricants and related materials' (109.1%) and for 'miscellaneous manufactured

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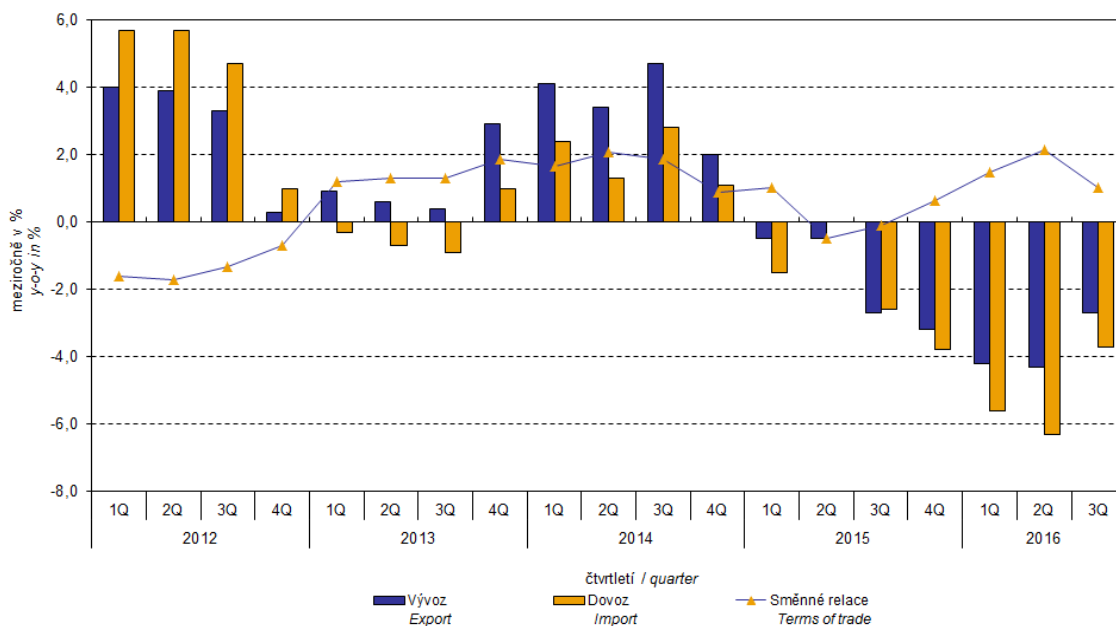
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articles' (101.4%). Negative values of terms of trade were recorded namely for 'crude materials, inedible, except fuels' (94.6%), 'chemicals and related products' (97.0%), and for 'machinery and transport equipment' (99.5%).

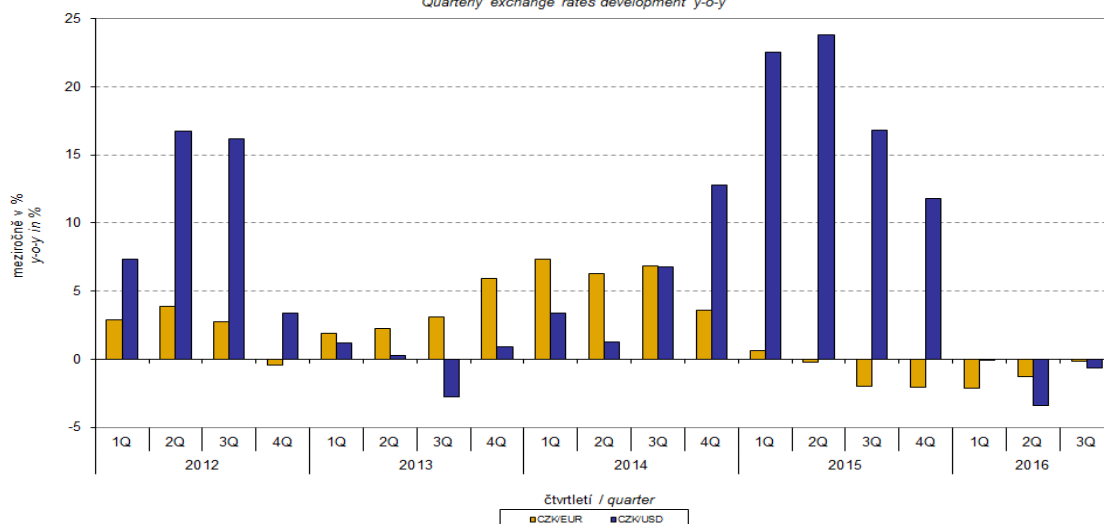
Graf č. 4
Graph No. 4

Vývoj cen v zahraničním obchodě meziročně
Price trend in external trade y-o-y



Graf č. 5
Graph No. 5

Vývoj čtvrtletních kurzů meziročně
Quarterly exchange rates development y-o-y



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External trade price indices adjusted y-o-y for exchange rate influence

The 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 is then calculated the way that this exchange rate adjusted base price index is related to the non-adjusted base price index of the same month of the last year. **Differences among adjusted and non-adjusted price indices may be substantial**. They can be clearly seen in Graphs Nos. 6 and 7 for November 2013 and December 2013, for instance.

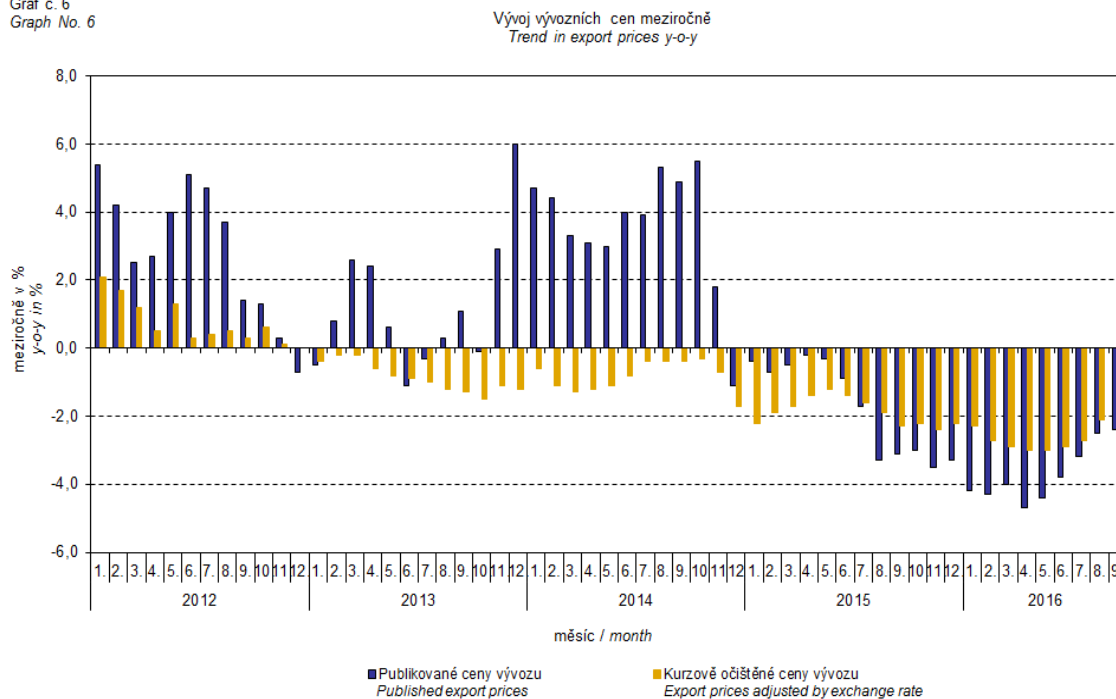
The method employed does not enable, for many practical reasons, to carry out 100% exchange rate adjustment because all trade transactions concluded in foreign currencies are not reported in foreign currencies. This share is up to 30%. It follows from the aforementioned, that **at the full exchange rate 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, last but one page, 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 given index.

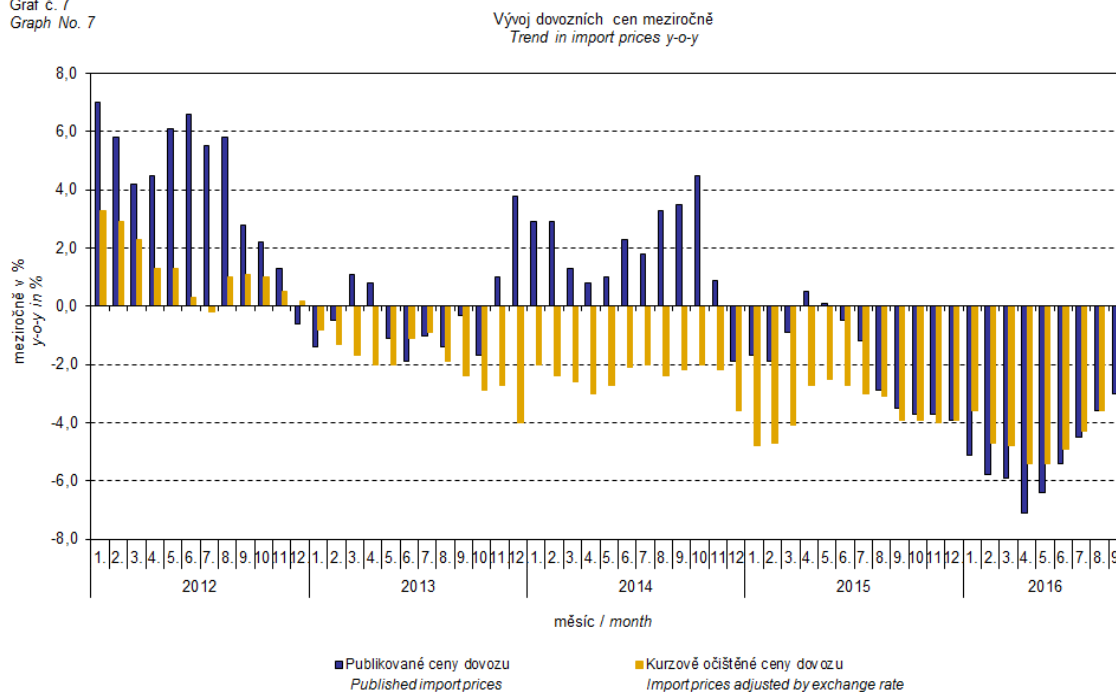
It holds in general that the effects of exchange rate decrease the value of price indices in external trade if CZK is strengthening to foreign currencies in total. Conversely, the effects of exchange rate push the price indices up if CZK is weakening to foreign currencies in total. It is obvious from following Graphs Nos. 6 and 7, how significant was the exchange rate impact on the value of export and import price indices.

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Graf č. 6
Graph No. 6



Graf č. 7
Graph No. 7



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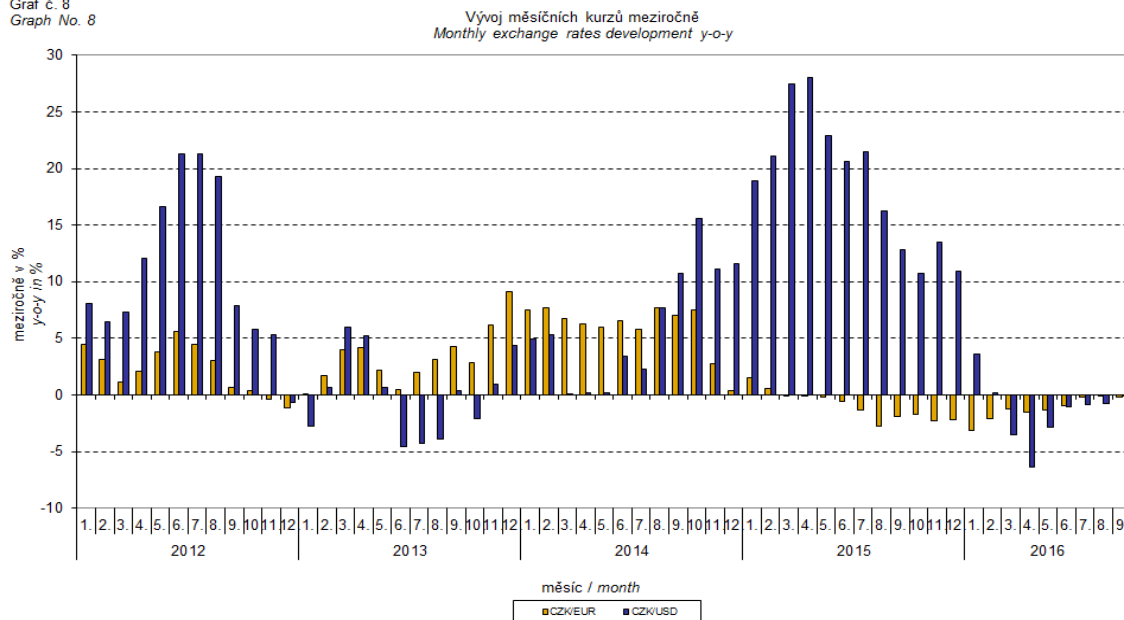
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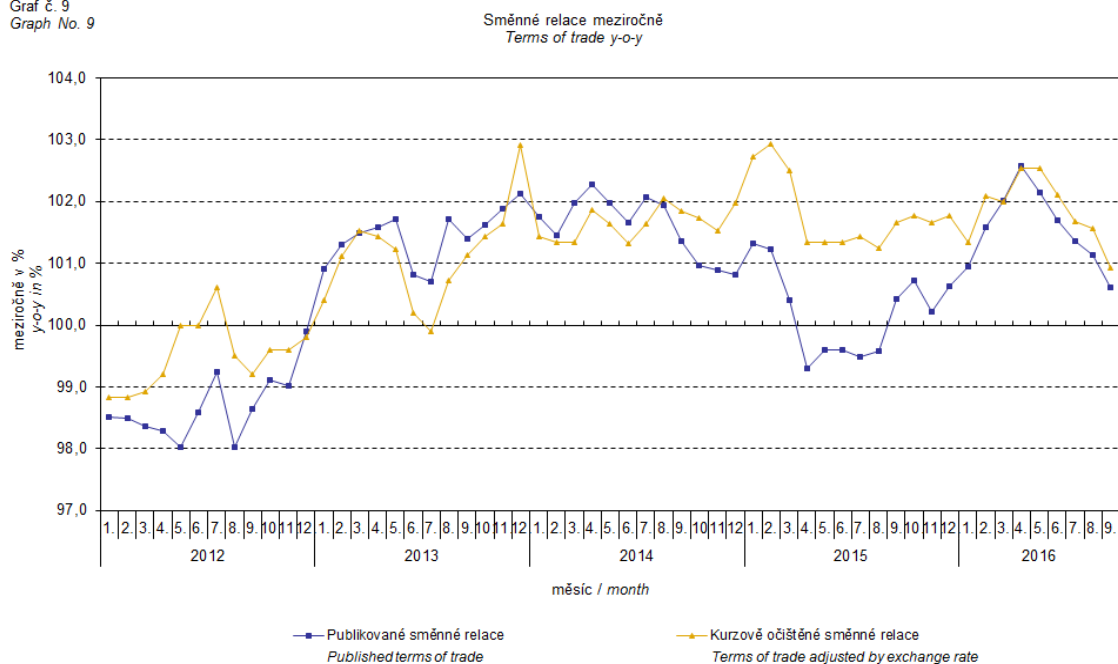
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Graf č. 8
Graph No. 8



Graf č. 9
Graph No. 9



It can be seen from Graph No. 9 how the exchange rate influences the value of the year-on-year terms of trade.

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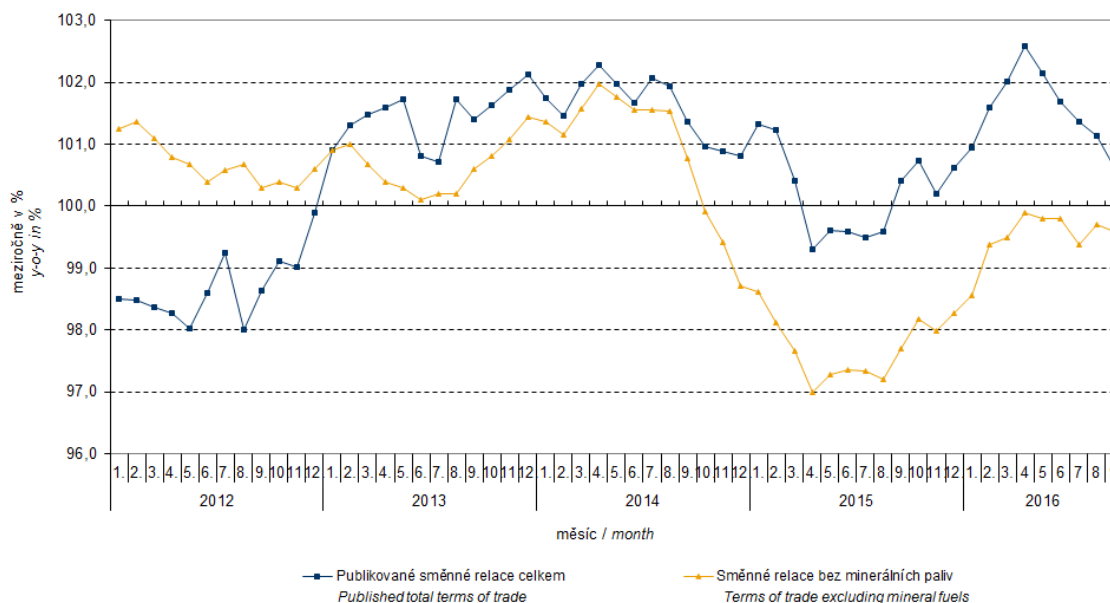
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Graph No. 10 demonstrates how the value of terms of trade would develop if the observed groups would not include that of 'mineral fuels, lubricants and related materials'.

Graf č. 10
Graph No. 10

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



It can be observed in Graph No. 10 that the effects of 'mineral fuels, lubricants and related materials' decreased the overall value of y-o-y terms of trade till Q4 2012. In Q1 2013 the situation began to reverse and 'mineral fuels, lubricants and related materials' have had again an upward effect on the value of 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, terms of trade, as a rule, go down and, conversely, when prices of crude materials fall, terms of trade grow.

Closing summary

The exchange rate effects in **Q3 2016** caused year-on-year decreases in export as well as import prices got deeper, unless there were no exchange rate effects, the decline in export and import prices would be slower. The export price fell less than the import prices and therefore the terms of trade remained in positive values. Yet if exchange rate non-adjusted, terms of trade would be positive anyway. Values free of the exchange rate effects correspond to exchange rate adjusted indices – see Graphs Nos. 6, 7, and 9.

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Tabulka 1: Rozklad přírůstků publikovaných a kurzově očištěných indexů cen vývozu a dovozu za září 2016
Table 1: Breakdown of export and import price indices - published and exchange rate adjusted for September 2016

SITC	Název Name	Publikované Published				Očištěné Adjusted			
		Meziměsíční M-o-m	Meziroční Year-on-year			Meziměsíční M-o-m	Meziroční Year-on-year		
		09/2016	07/2016	08/2016	09/2016	09/2016	07/2016	08/2016	09/2016
Rozklad přírůstků indexů vývozních cen <i>Breakdown of export price indices</i>									
	Celkem <i>Total</i>	-0,2	-3,2	-2,5	-2,4	-0,2	-2,7	-2,1	-1,9
0	Potraviny a živá zvířata <i>Food and live animals</i>	0,0	-0,1	-0,1	0,0	0,0	-0,1	0,0	0,0
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
2	Suroviny nepoživatelné, s výjimkou paliv <i>Crude materials, inedible, except fuels</i>	0,0	-0,3	-0,2	-0,2	0,0	-0,2	-0,2	-0,2
3	Minerální paliva, maziva a příbuzné materiály <i>Mineral fuels, lubricants and related materials</i>	0,0	-0,5	-0,4	-0,4	0,0	-0,5	-0,4	-0,4
4	Živočišné a rostlinné oleje <i>Animal and vegetable oils, fats and waxes</i>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
5	Chemikálie a příbuzné výrobky <i>Chemicals and related products</i>	0,0	-0,6	-0,5	-0,4	0,0	-0,6	-0,5	-0,4
6	Tržní výrobky tříděné hlavně podle materiálu <i>Manufactured goods classified chiefly by material</i>	0,0	-0,7	-0,5	-0,5	0,0	-0,6	-0,5	-0,4
7	Stroje a dopravní prostředky - z toho: <i>Machinery and transport equipment - thereof:</i>	-0,2	-1,0	-0,8	-0,9	-0,2	-0,7	-0,5	-0,6
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	-0,2	0,0	0,0	-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	-0,1	-0,1	-0,1	0,0	-0,1
78	Silniční vozidla <i>Road vehicles (including air-cushion vehicles)</i>	-0,1	-0,3	-0,2	-0,2	-0,1	0,0	0,0	0,0
8	Průmyslové spotřební zboží <i>Miscellaneous manufactured articles</i>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1
Rozklad přírůstků indexů dovozních cen <i>Breakdown of import price indices</i>									
	Celkem <i>Total</i>	0,0	-4,5	-3,6	-3,0	0,0	-4,3	-3,6	-2,8
0	Potraviny a živá zvířata <i>Food and live animals</i>	0,0	0,0	0,1	0,0	0,0	0,0	0,1	0,0
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
2	Suroviny nepoživatelné, s výjimkou paliv <i>Crude materials, inedible, except fuels</i>	0,0	-0,1	0,0	0,0	0,0	0,0	0,0	0,0
3	Minerální paliva, maziva a příbuzné materiály <i>Mineral fuels, lubricants and related materials</i>	0,1	-2,5	-1,8	-1,4	0,1	-2,4	-1,8	-1,3
4	Živočišné a rostlinné oleje <i>Animal and vegetable oils, fats and waxes</i>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
5	Chemikálie a příbuzné výrobky <i>Chemicals and related products</i>	0,0	-0,7	-0,6	-0,4	0,0	-0,7	-0,6	-0,4
6	Tržní výrobky tříděné hlavně podle materiálu <i>Manufactured goods classified chiefly by material</i>	0,0	-0,6	-0,5	-0,5	0,0	-0,6	-0,5	-0,4
7	Stroje a dopravní prostředky - z toho: <i>Machinery and transport equipment - thereof:</i>	-0,1	-0,4	-0,6	-0,6	-0,1	-0,5	-0,7	-0,6
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. <i>General industrial machinery and equipment, n.e.s.</i>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
75	Kancelářské stroje a zař. k automat. zpracování dat <i>Office machines and automatic data-processing machines</i>	-0,1	-0,2	-0,2	-0,2	-0,1	-0,1	-0,2	-0,2
77	Elektrická zařízení, přístroje a spotřebiče, j.n. <i>Electrical machinery, apparatus and appliances, n.e.s.</i>	0,0	-0,2	-0,2	-0,2	0,0	-0,3	-0,3	-0,3
78	Silniční vozidla <i>Road vehicles (including air-cushion vehicles)</i>	0,0	0,0	-0,1	-0,1	0,0	0,0	-0,1	-0,1
8	Průmyslové spotřební zboží <i>Miscellaneous manufactured articles</i>	0,0	-0,2	-0,2	-0,1	0,0	-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 3. čtvrtletí 2016

Table 2: Export and import price indices in Q3 2016

SITC	Název Name	Stejně období předchozího roku = 100 Corresponding period of previous year = 100				
		2Q/2016	7/2016	8/2016	9/2016	3Q/2016
Indexy vývozních cen <i>Export price indices</i>						
	Celkem <i>Total</i>	95,7	96,8	97,5	97,6	97,3
0	Potraviny a živá zvířata <i>Food and live animals</i>	95,5	96,8	97,9	98,5	97,7
1	Nápoje a tabák <i>Beverages and tobacco</i>	102,4	103,4	103,1	101,3	102,6
2	Suroviny nepoživatelné, s výjimkou paliv <i>Crude materials, inedible, except fuels</i>	87,8	91,2	93,8	93,8	92,9
3	Minerální paliva, maziva a příbuzné materiály <i>Mineral fuels, lubricants and related materials</i>	82,7	84,1	86,3	89,0	86,4
4	Živočišné a rostlinné oleje <i>Animal and vegetable oils, fats and waxes</i>	103,7	99,4	101,2	103,8	101,5
5	Chemikálie a příbuzné výrobky <i>Chemicals and related products</i>	90,9	90,9	92,0	93,7	92,2
6	Tržní výrobky tříděné hlavně podle materiálu <i>Manufactured goods classified chiefly by material</i>	94,5	96,4	97,2	97,4	97,0
7	Stroje a dopravní prostředky <i>Machinery and transport equipment</i>	97,5	98,0	98,6	98,3	98,3
8	Průmyslové spotřební zboží <i>Miscellaneous manufactured articles</i>	98,1	99,4	99,7	100,3	99,8
Indexy dovozních cen <i>Import price indices</i>						
	Celkem <i>Total</i>	93,7	95,5	96,4	97,0	96,3
0	Potraviny a živá zvířata <i>Food and live animals</i>	96,4	100,1	101,2	99,7	100,3
1	Nápoje a tabák <i>Beverages and tobacco</i>	99,5	102,0	101,7	102,0	101,9
2	Suroviny nepoživatelné, s výjimkou paliv <i>Crude materials, inedible, except fuels</i>	94,0	97,0	98,1	99,6	98,2
3	Minerální paliva, maziva a příbuzné materiály <i>Mineral fuels, lubricants and related materials</i>	68,3	74,1	79,9	84,3	79,2
4	Živočišné a rostlinné oleje <i>Animal and vegetable oils, fats and waxes</i>	99,2	93,6	98,5	99,3	97,1
5	Chemikálie a příbuzné výrobky <i>Chemicals and related products</i>	93,6	93,7	95,2	96,3	95,1
6	Tržní výrobky tříděné hlavně podle materiálu <i>Manufactured goods classified chiefly by material</i>	94,0	96,3	97,1	97,6	97,0
7	Stroje a dopravní prostředky <i>Machinery and transport equipment</i>	98,0	98,9	98,6	98,7	98,8
8	Průmyslové spotřební zboží <i>Miscellaneous manufactured articles</i>	96,9	98,2	98,3	98,7	98,4

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