

## ANALYSIS

15 August 2012

# EXTERNAL TRADE PRICE INDICES DEVELOPMENT IN Q2 2012

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

**Export prices** in **Q2 2012**, compared to **Q1 2012**, increased by 0.8% (in Q1 2012 they increased by 0.1%). **Import prices** increased by 0.6% (in Q1 2012 they rose by 1.5%).

In **export prices**, among the more important groups of goods, prices increased in 'chemicals and related products' by 3.1%, 'machinery and transport equipment' by 0.8%, and in 'miscellaneous manufactured articles' by 0.5%. A rather significant drop in prices was recorded in 'mineral fuels, lubricants and related materials' by 4.1%.

In **import prices** rather important price increases were recorded in 'chemicals and related products' by 2.4%, 'mineral fuels, lubricants and related materials' by 0.6%, 'machinery and transport equipment' by 0.5%, 'miscellaneous manufactured articles' by 0.3%, and 'manufactured goods classified chiefly by material' by 0.2%. There was no price drop recorded in any of the groups of goods measured.

The **terms of trade figures** in **Q2 2012** compared to **Q1 2012** rose to 100.2% (in Q1 2012 they were 98.6%). Rather important positive values of terms of trade were reached in 'manufactured goods classified chiefly by material' (100.8%), 'chemicals and related products' (100.7%), 'machinery and transport equipment' (100.3%), and in 'miscellaneous manufactured articles' (100.2%). Among important groups of goods, negative values of terms of trade were recorded in 'mineral fuels, lubricants and related materials' (95.3%).

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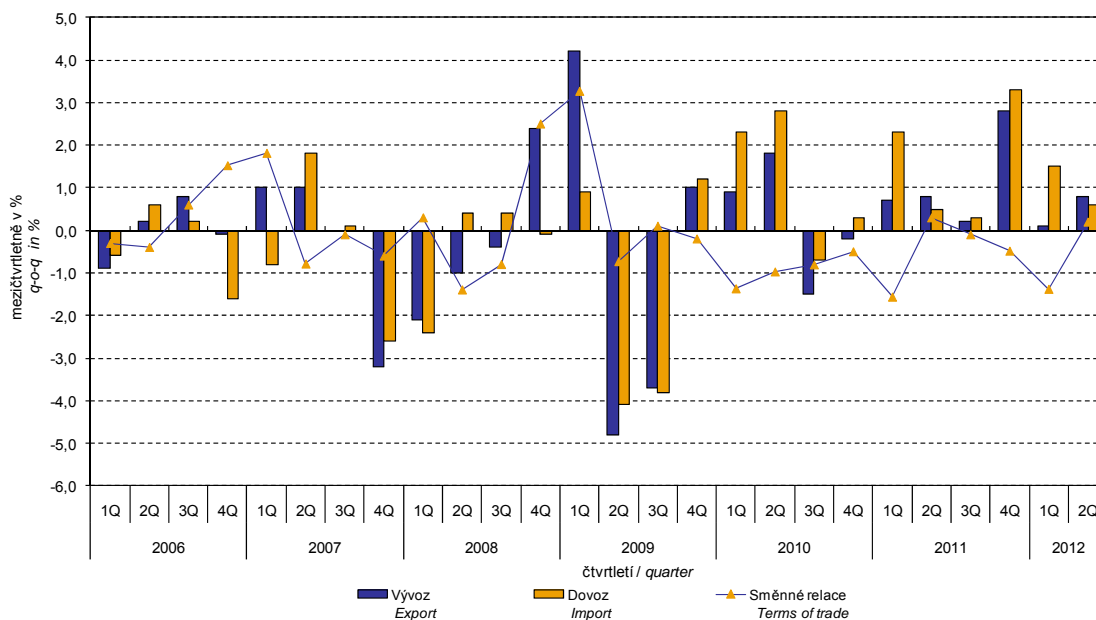
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Graf č. 1  
Graph No. 1

Vývoj cen v zahraničním obchodě mezičtvrtletně  
Price trends 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.

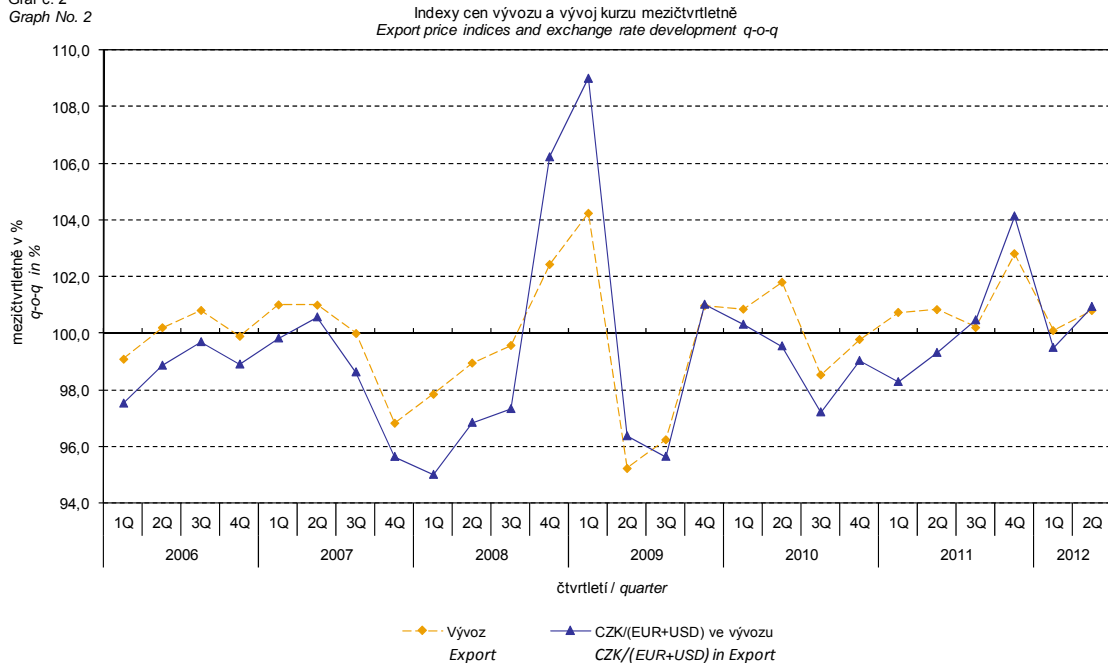
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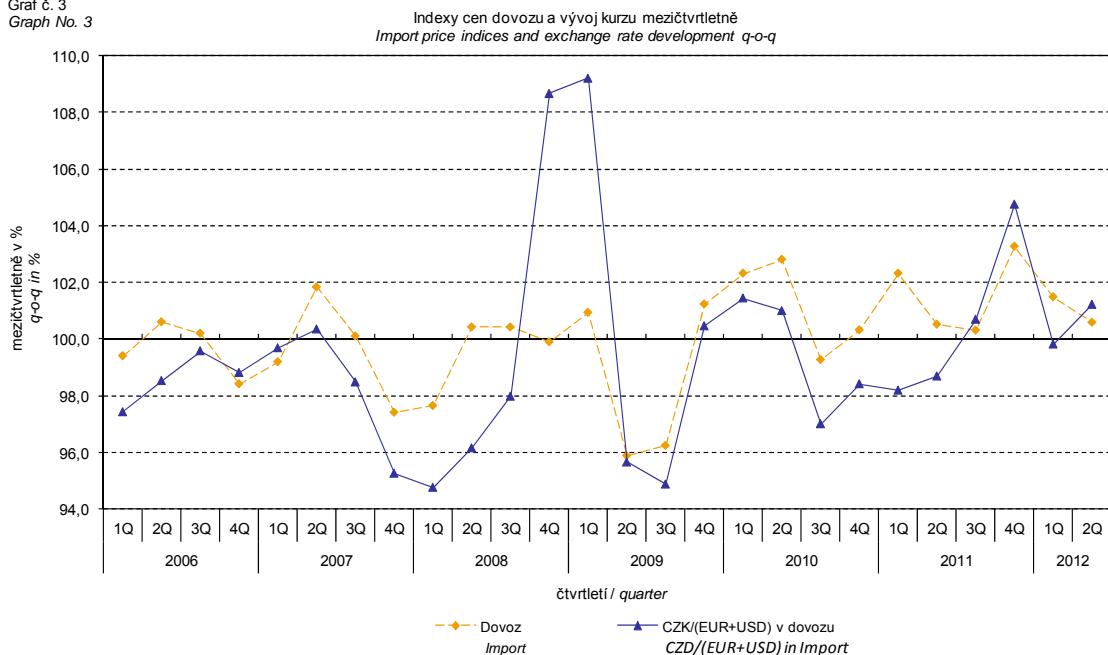
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Graf č. 2  
Graph No. 2



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. This relation could certainly be even stronger in the month-on-month (m-o-m) comparison; however, also in the q-o-q index it is relatively strong as the Graphs demonstrate. This conclusion is understandable because 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.

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### Year-on-year (y-o-y) comparison:

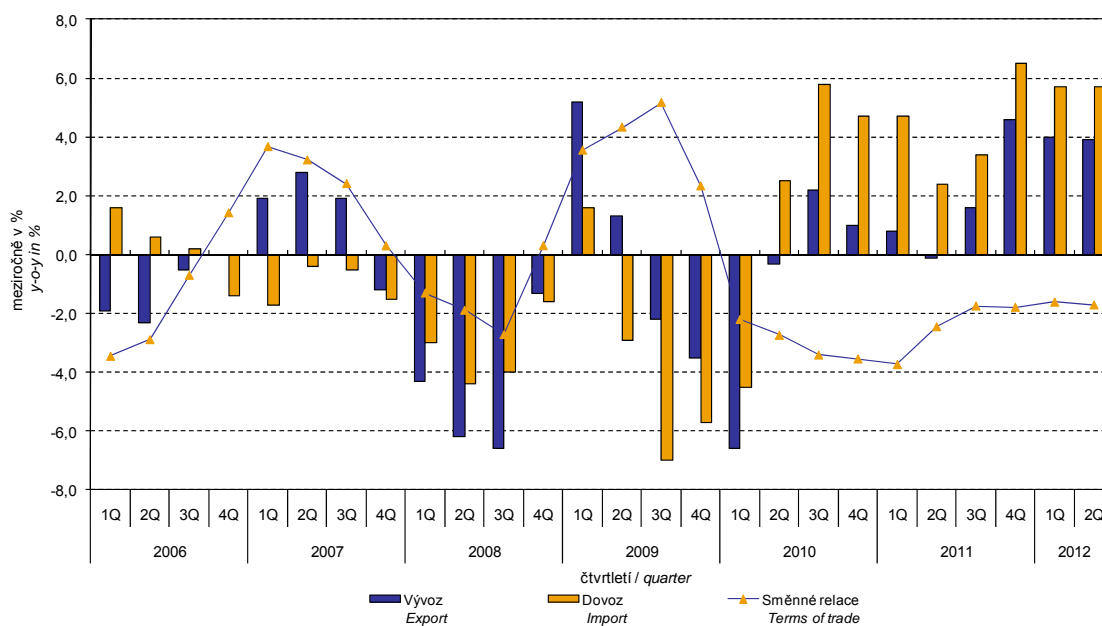
**Export prices** in Q2 2012 increased by 3.9% (in Q1 2012 they rose by 4.0%). Among more important groups of goods, a growth was reported for prices of 'chemicals and related products' by 6.2%, 'miscellaneous manufactured articles' by 4.9%, 'machinery and transport equipment' by 4.4%, and 'manufactured goods classified chiefly by material' by 3.9%. The biggest drop was recorded for prices of 'mineral fuels, lubricants and related materials' by 5.4%.

**Import prices** in Q2 2012 increased by 5.7% (in Q1 2012 they rose identically by 5.7%). A growth of prices among the more important groups was indicated for 'mineral fuels, lubricants and related materials' by 18.3% (in Q1 2012 they rose by 26.0%), 'chemicals and related products' by 4.8%, 'miscellaneous manufactured articles' by 4.5%, 'machinery and transport equipment' by 4.4%, and 'manufactured goods classified chiefly by material' by 1.4%. There was no drop in prices observed in any of the groups measured.

**Terms of trade** in Q2 2012 slightly decreased, year-on-year, to the value of 98.3% (by 0.1 percentage point (p.p.) less than in Q1 2012), and they had continued in showing negative values for the tenth quarter – see Graph No. 4 below. Rather important negative values were recorded for 'mineral fuels, lubricants and related materials' (80.0%) and 'food and live animals' (96.3%). Among more important groups, positive values of terms of trade were recorded in 'crude materials, inedible, except fuels' (105.0%), 'manufactured goods classified chiefly by material' (102.5%), 'chemicals and related products' (101.3%), and 'miscellaneous manufactured articles' (100.4%). Terms of trade of 'machinery and transport equipment' were sharp 100.0%.

Graf č. 4  
Graph No. 4

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



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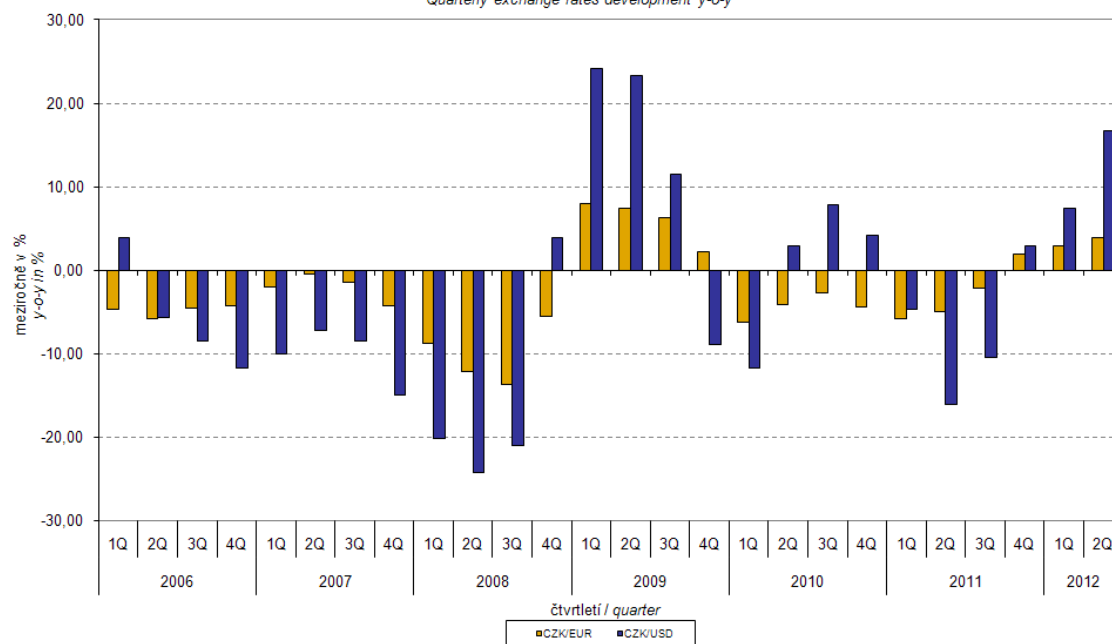
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Graf č. 5  
Graph No. 5

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



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## ANALYSIS

### 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 February 2009, 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 even larger**.

The aforementioned exchange rate adjusted indices can be used to form the exchange rate adjusted breakdown of price indices increments. Table 1, page 11, 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 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. 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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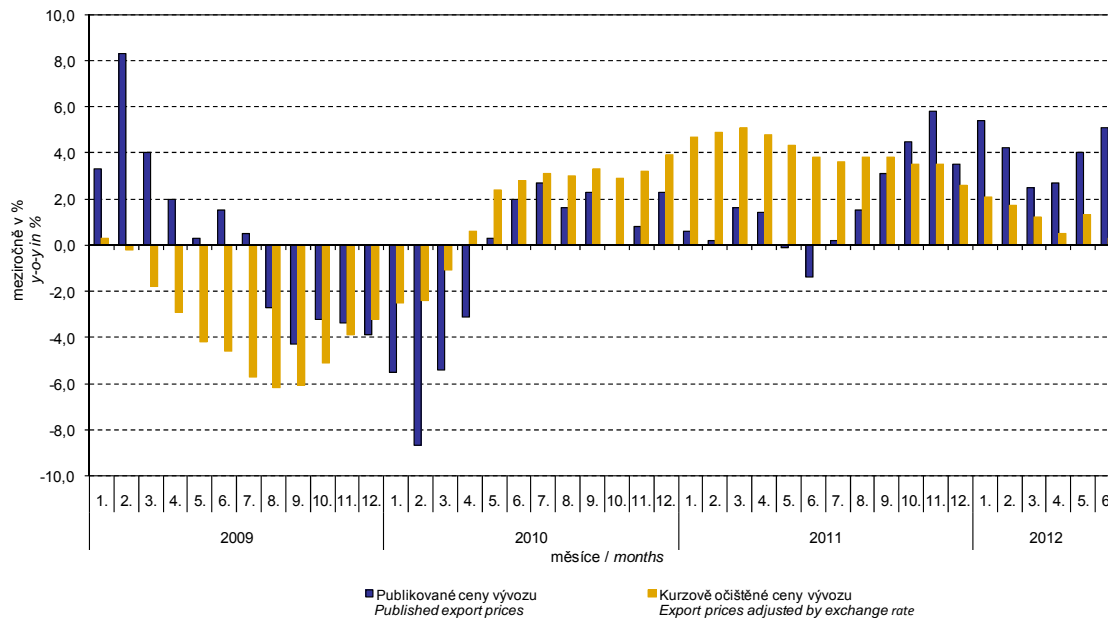
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## ANALYSIS

Graf č. 6  
Graph No. 6

Vývozní ceny meziročně  
Export prices y-o-y



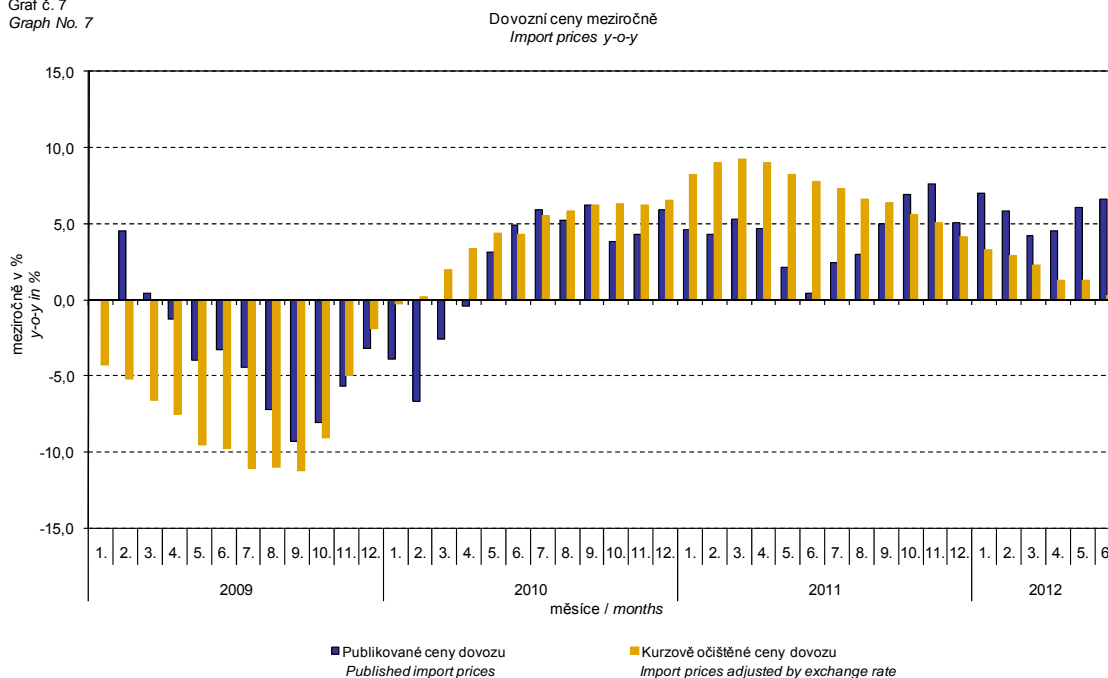
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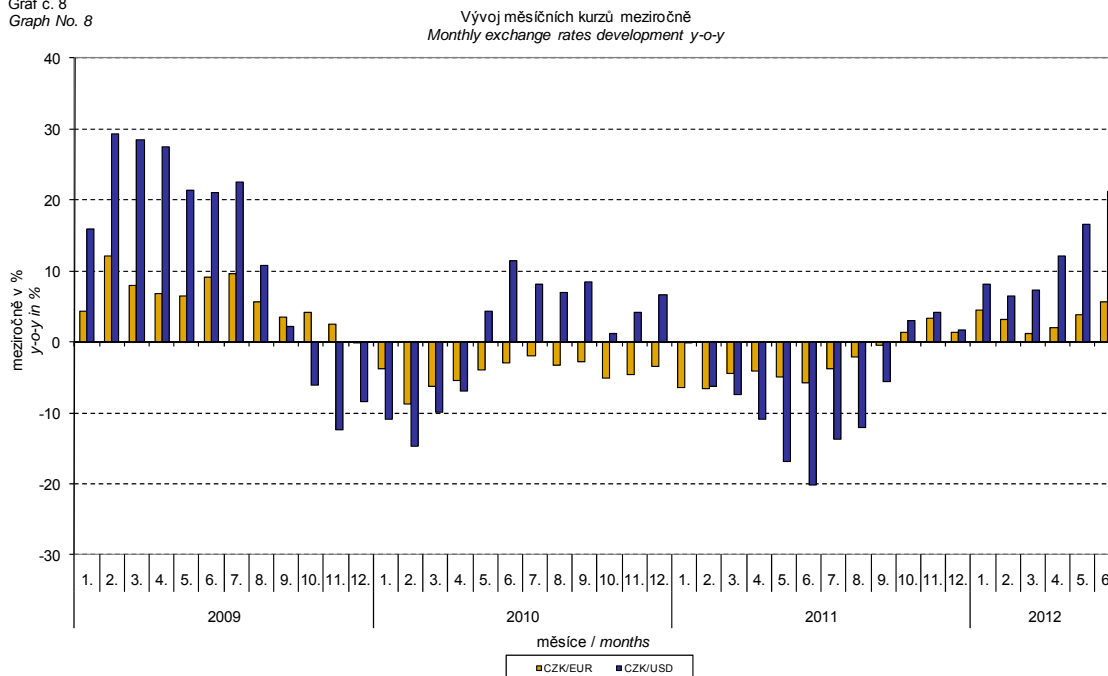
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Graf č. 7  
Graph No. 7



Graf č. 8  
Graph No. 8



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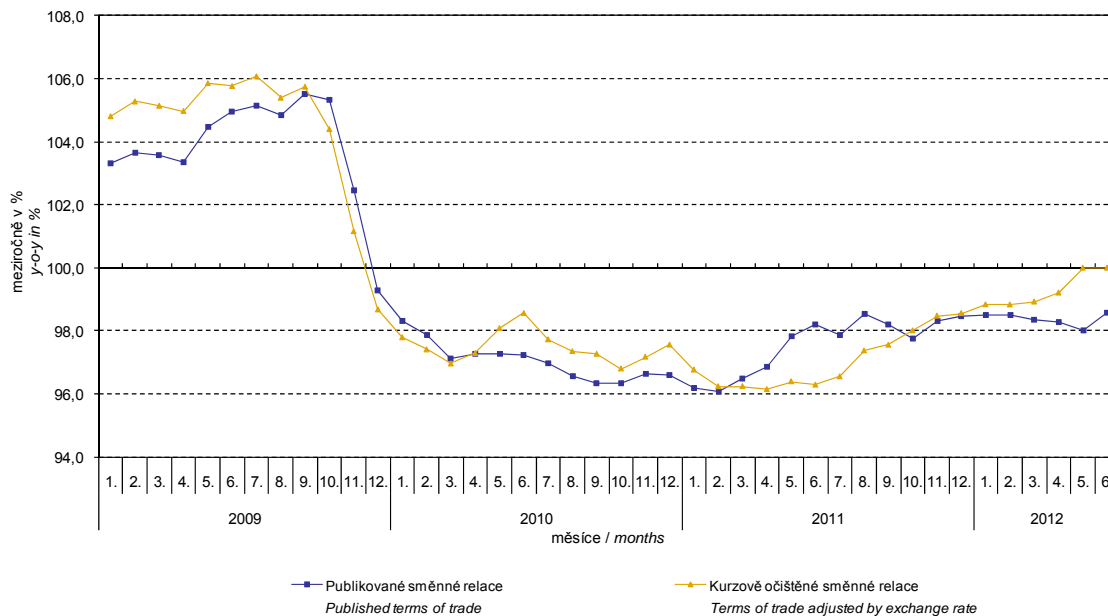
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Graf č. 9  
Graph No. 9

Směnné relace meziročně  
Terms of trade y-o-y



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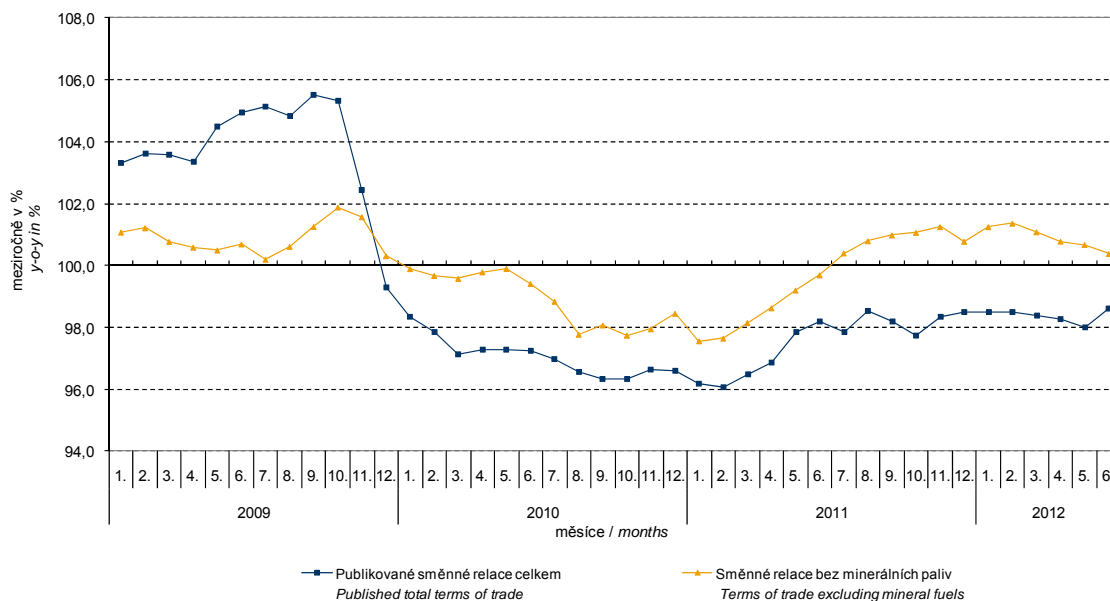
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Graph No. 10 demonstrates how the value of terms of trade would develop if the observed groups would not include that of 'mineral fuels, lubricants and related materials'.

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 'mineral fuels, lubricants and related materials' were increasing the overall value of y-o-y terms of trade in the period from January 2009 to November 2009. This is most seen right in Q2 and Q3 2009. In Q4 2009 the situation began to reverse and in December 2009 'mineral fuels, lubricants and related materials' had again a downward 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.

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**Tabulka 1: Rozklad přírůstků publikovaných a kurzově očištěných indexů cen vývozu a dovozu za červen 2012**  
**Table 1: Breakdown of export and import price indices - published and adjusted by exchange rate influences for June 2012**

SITC	Název Name	Publikované Published				Očištěné Adjusted			
		Meziměsíční M-o-m	Meziroční Year-on-year			Meziměsíční M-o-m	Meziroční Year-on-year		
			06/2012	04/2012	05/2012		06/2012	06/2012	04/2012
<b>Rozklad přírůstků indexů vývozních cen</b> <i>Breakdown of export price indices</i>									
	<b>Celkem</b> <i>Total</i>	0,8	2,7	4,0	5,1	-0,2	0,5	0,4	0,3
0	<b>Potraviny a živá zvířata</b> <i>Food and live animals</i>	0,0	0,1	0,1	0,1	0,0	0,0	0,0	0,0
1	<b>Nápoje a tabák</b> <i>Beverages and tobacco</i>	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
2	<b>Suroviny nepoživatelné, s výjimkou paliv</b> <i>Crude materials, inedible, except fuels</i>	0,0	0,2	0,2	0,1	-0,1	0,2	0,1	0,0
3	<b>Minerální paliva, maziva a příbuzné materiály</b> <i>Mineral fuels, lubricants and related materials</i>	0,0	-0,2	-0,3	-0,2	-0,1	-0,3	-0,4	-0,4
4	<b>Živočišné a rostlinné oleje</b> <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	<b>Chemikálie a příbuzné výrobky</b> <i>Chemicals and related products</i>	-0,1	0,4	0,5	0,4	-0,1	0,1	0,1	0,0
6	<b>Tržní výrobky tříděné hlavně podle materiálu</b> <i>Manufactured goods classified chiefly by material</i>	0,1	0,7	0,9	1,1	0,0	0,4	0,3	0,2
7	<b>Stroje a dopravní prostředky - z toho:</b> <i>Machinery and transport equipment - thereof:</i>	0,7	1,2	2,1	3,0	0,1	0,0	0,2	0,3
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. <i>General industrial machinery and equipment, n.e.s.</i>	0,1	0,1	0,3	0,4	0,0	0,0	0,0	0,0
77	Elektrická zařízení, přístroje a spotřebiče, j.n. <i>Electrical machinery, apparatus and appliances, n.e.s.</i>	0,1	0,1	0,3	0,4	0,0	-0,1	0,0	0,0
78	Střniční vozidla <i>Road vehicles (including air-cushion vehicles)</i>	0,3	0,4	0,6	0,9	0,1	0,1	0,1	0,2
8	<b>Průmyslové spotřební zboží</b> <i>Miscellaneous manufactured articles</i>	0,1	0,3	0,5	0,6	0,0	0,1	0,1	0,2
<b>Rozklad přírůstků indexů dovozních cen</b> <i>Breakdown of import price indices</i>									
	<b>Celkem</b> <i>Total</i>	-0,1	4,5	6,1	6,6	-1,3	1,3	1,3	0,3
0	<b>Potraviny a živá zvířata</b> <i>Food and live animals</i>	0,0	0,2	0,3	0,5	0,0	0,1	0,2	0,2
1	<b>Nápoje a tabák</b> <i>Beverages and tobacco</i>	0,0	0,0	0,0	0,1	0,0	0,1	0,0	0,0
2	<b>Suroviny nepoživatelné, s výjimkou paliv</b> <i>Crude materials, inedible, except fuels</i>	0,0	0,1	0,0	0,0	0,0	0,0	-0,1	-0,2
3	<b>Minerální paliva, maziva a příbuzné materiály</b> <i>Mineral fuels, lubricants and related materials</i>	-0,8	2,6	2,9	2,1	-1,2	1,4	1,3	0,3
4	<b>Živočišné a rostlinné oleje</b> <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	<b>Chemikálie a příbuzné výrobky</b> <i>Chemicals and related products</i>	0,0	0,4	0,6	0,6	-0,1	0,2	0,2	0,1
6	<b>Tržní výrobky tříděné hlavně podle materiálu</b> <i>Manufactured goods classified chiefly by material</i>	0,2	0,0	0,3	0,6	0,0	-0,4	-0,4	-0,3
7	<b>Stroje a dopravní prostředky - z toho:</b> <i>Machinery and transport equipment - thereof:</i>	0,4	0,9	1,6	2,2	0,0	-0,1	0,1	0,2
74	Stroje a zařízení všeobecně užívané v průmyslu, j.n. <i>General industrial machinery and equipment, n.e.s.</i>	0,1	0,2	0,3	0,4	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	-0,1	-0,1	0,2	0,0	-0,3	-0,3	-0,1
77	Elektrická zařízení, přístroje a spotřebiče, j.n. <i>Electrical machinery, apparatus and appliances, n.e.s.</i>	0,1	0,3	0,5	0,7	0,0	0,0	0,0	0,1
78	Střniční vozidla <i>Road vehicles (including air-cushion vehicles)</i>	0,0	0,1	0,2	0,3	0,0	0,0	0,0	0,0
8	<b>Průmyslové spotřební zboží</b> <i>Miscellaneous manufactured articles</i>	0,1	0,3	0,4	0,5	0,0	0,0	0,0	0,0

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

Tabulka 2: Indexy cen vývozu a dovozu ve 2. čtvrtletí 2012

Table 2: Export and Import Price Indices in Q2 2012

SITC	Název Name	Stejně období předchozího roku = 100 Corresponding period of previous year = 100				
		1Q/2012	4/2012	5/2012	6/2012	2Q/2012
<b>Indexy vývozních cen</b> Export Price Indices						
	<b>Celkem</b> <i>Total</i>	104,0	102,7	104,0	105,1	103,9
0	<b>Potraviny a živá zvířata</b> <i>Food and live animals</i>	103,1	101,9	102,1	103,0	102,4
1	<b>Nápoje a tabák</b> <i>Beverages and tobacco</i>	106,6	107,7	105,8	106,1	106,5
2	<b>Suroviny nepoživatelné, s výjimkou paliv</b> <i>Crude materials, inedible, except fuels</i>	101,7	106,1	106,7	103,0	105,2
3	<b>Minerální paliva, maziva a příbuzné materiály</b> <i>Mineral fuels, lubricants and related materials</i>	106,1	95,6	93,6	94,6	94,6
4	<b>Živočišné a rostlinné oleje</b> <i>Animal and vegetable oils, fats and waxes</i>	100,5	97,9	98,6	100,4	99,0
5	<b>Chemikálie a příbuzné výrobky</b> <i>Chemicals and related products</i>	105,8	105,6	106,5	106,5	106,2
6	<b>Tržní výrobky tříděné hlavně podle materiálu</b> <i>Manufactured goods classified chiefly by material</i>	105,7	103,3	103,7	104,8	103,9
7	<b>Stroje a dopravní prostředky</b> <i>Machinery and transport equipment</i>	102,7	102,4	104,4	106,3	104,4
8	<b>Průmyslové spotřební zboží</b> <i>Miscellaneous manufactured articles</i>	105,1	103,6	104,8	106,3	104,9
<b>Indexy dovozních cen</b> Import Price Indices						
	<b>Celkem</b> <i>Total</i>	105,7	104,5	106,1	106,6	105,7
0	<b>Potraviny a živá zvířata</b> <i>Food and live animals</i>	104,2	103,8	106,4	108,8	106,3
1	<b>Nápoje a tabák</b> <i>Beverages and tobacco</i>	111,2	110,6	109,4	110,8	110,3
2	<b>Suroviny nepoživatelné, s výjimkou paliv</b> <i>Crude materials, inedible, except fuels</i>	103,9	102,3	99,4	99,0	100,2
3	<b>Minerální paliva, maziva a příbuzné materiály</b> <i>Mineral fuels, lubricants and related materials</i>	126,0	118,4	121,2	115,4	118,3
4	<b>Živočišné a rostlinné oleje</b> <i>Animal and vegetable oils, fats and waxes</i>	105,4	103,5	102,2	103,7	103,1
5	<b>Chemikálie a příbuzné výrobky</b> <i>Chemicals and related products</i>	103,9	103,5	105,1	105,8	104,8
6	<b>Tržní výrobky tříděné hlavně podle materiálu</b> <i>Manufactured goods classified chiefly by material</i>	101,6	100,1	101,2	102,8	101,4
7	<b>Stroje a dopravní prostředky</b> <i>Machinery and transport equipment</i>	101,9	102,5	104,5	106,3	104,4
8	<b>Průmyslové spotřební zboží</b> <i>Miscellaneous manufactured articles</i>	103,4	103,2	104,3	106,0	104,5

Developed by: Vladimír Klimeš, Price Statistics Department  
Director of the Department: Jiří Mrázek, telephone: (+420) 274 052 533

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