

# CHINA-V4 TRADE RELATIONS A CZECH PERSPECTIVE

*Current Trends and Perspectives in Development of China-V4  
Trade and Investment.*

12-14 March 2014

Bratislava

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  - Czech-China commodity trade composition
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5. Trade in services
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  - Czech-China services trade composition
  - Services with trade potential
6. Conclusions

# 1. Current Situation – Why to Investigate

- China is the most important trade partner of the Czech Republic outside the EU.
- Extremely strong position mainly in Czech imports.
- The Czech Republic runs a huge (and constantly growing) trade deficit with China.
- China among Priority Markets for the Czech Republic
  - The Export Strategy of the Czech Republic 2012-2020

## 2. The Aim of the Research

To evaluate the past development of trade patterns between the Czech Republic and China and to identify trade potential between the two countries on the basis of the Revealed Comparative Advantage Index (RCA) and Trade Complementarity Index (TCI) analysis.

# 3. Methodology

Revealed Comparative Advantage - Balassa's index (Balassa, 1965)

$$RCA_{xj}^i = \frac{\frac{x_{ij}}{x_j}}{\frac{x_{wi}}{x_w}}$$

where:

- $x_{ij}$  - export of commodity  $i$  by country  $j$ ;
- $x_j$  - total export of country  $j$ ;
- $x_{wi}$  - export of commodity  $i$  by the world;
- $x_w$  - total export of the world.

RCA=0-1.....comparative disadvantage

RCA=1.....neutrality

RCA= > 1.....comparative advantage

Further modifications e.g.: Kunimoto (1997), Yeats (1997), or Lapadre (2001)

# 3. Methodology

Trade Complementarity Index (Shuai and Wang, 2011)

$$TCI = RCA_{xj}^i \times RCA_{mk}^i$$

where:

$RCA_{xj}^i$  - export comparative advantage of country  $j$  in commodity  $i$ ;

$RCA_{mk}^i$  - import comparative disadvantage of country  $k$  in commodity  $i$ .

Proposed by Kojima (1964), further modified by Drysdale (1967), Drysdale and Garnanout (1982) or Michaely (1996).

- 
- $TCI > 1$ .....trade complementarity in commodity  $i$  in which exporting country has the comparative advantage and in which importing country has the comparative disadvantage
- $TCI < 1$ .....low complementarity

# 3. Data

- Data from UN-COMTRADE statistics at SITC rev. 3, one-digit and three-digit categories
- Calculations based on import data
- Czech Statistical Office (CZSO), Ministry of Industry and Trade of the Czech Republic (MIT), Czech National Bank (CNB)

# 4. Czech Trading Partners

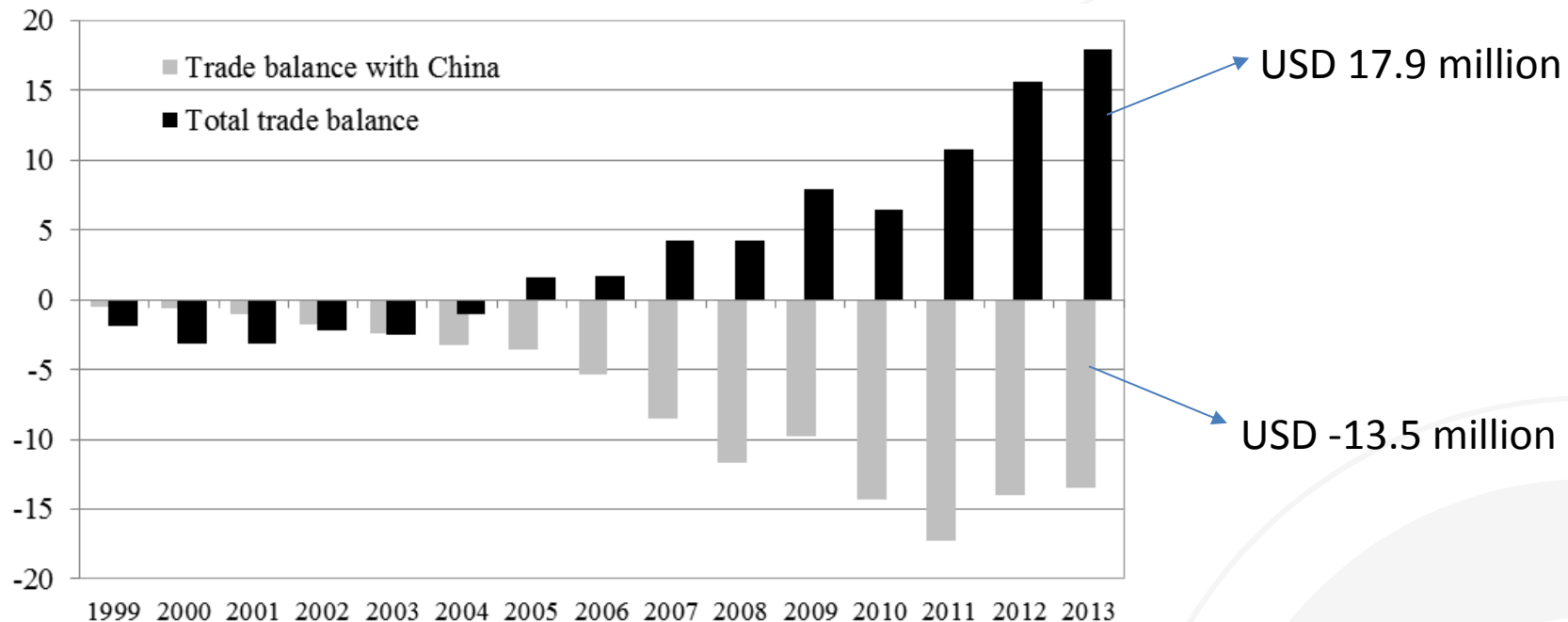
Top trading partners of the Czech Republic, 2012-2013  
(in the order given by the trade turnover in 2013, in % of total)

<i>Partner</i>		<i>Turnover</i>		<i>Exports</i>		<i>Imports</i>	
		<i>2012</i>	<i>2013</i>	<i>2012</i>	<i>2013</i>	<i>2012</i>	<i>2013</i>
1.	Germany	28.5	28.6	31.4	31.3	25.3	25.6
2.	Slovakia	7.6	7.4	9.0	8.9	6.0	5.8
3.	Poland	6.6	6.6	6.1	5.9	7.1	7.4
<b>4.</b>	<b>China</b>	<b>5.8</b>	<b>5.7</b>	<b>1.1</b>	<b>1.2 (18.)</b>	<b>11.1</b>	<b>10.7</b>
5.	Russia	4.7	4.6	3.8	3.7	5.6	5.5
6.	France	4.1	4.1	5.0	4.9	3.1	3.2
7.	Austria	3.9	3.9	4.6	4.6	3.2	3.1
8.	Italy	3.7	3.8	3.6	3.6	3.9	4.0
9.	United Kingdom	3.4	3.4	4.8	4.8	1.9	1.9
10.	Netherlands	3.3	3.0	3.2	2.8	3.5	3.3
	Total	71.7	71.7	72.7	71.7	70.6	70.5



# 4. Trade Balance of the CR

Trade Balance of the CR, 1999-2013 (Mio USD)



## 4. Chinese EU Trade Partners and CR

- Chinese exports to the EU go primarily to:
  - Germany, the Netherlands, the United Kingdom, France and Italy
- Chinese imports from the EU come from:
  - Germany, France and the United Kingdom
- All EU member states, except Germany and Finland, registered deficits in trade with China in ½ of 2013 (Eurostat 2013)
- CR is not an important trading partner
- Trade with the CR accounts for less than 0.5% of China's trade

## 4. CR-China Trade Flows (1999-2013)

Year	Imports from China		Exports to China		Balance	Turnover
	USD	% of total	USD	% of total	USD	USD
1999	563,464	2.0	58,435	0.2	-505,029	621,899
2000	690,575	2.2	65,944	0.2	-624,631	756,519
2001	1,073,259	2.9	80,554	0.2	-992,705	1,153,813
2002	1,896,405	4.7	151,063	0.4	-1,745,342	2,047,468
2003	2,681,348	5.2	243,341	0.5	-2,438,007	2,924,689
2004	3,547,233	5.2	271,635	0.4	-3,275,598	3,818,868
2005	3,912,167	5.1	298,487	0.4	-3,613,680	4,210,654
2006	5,711,359	6.1	400,770	0.4	-5,310,589	6,112,129
2007	9,252,271	7.8	698,724	0.6	-8,553,547	9,950,995
2008	12,447,064	8.8	777,518	0.5	-1,1669,546	13,224,582
2009	10,591,490	10.1	843,886	0.7	-9,747,604	11,435,376
2010	15,554,218	12.3	1,215,560	0.9	-14,338,658	16,769,778
2011	18,918,779	12.4	1,668,645	1.0	-17,250,134	20,587,424
2012	15,685,145	11.1	1,674,741	1.1	-14,010,404	17,359,886
2013	15,401,631	10.7	1,918,495	1.2	-13,483,136	17,320,126

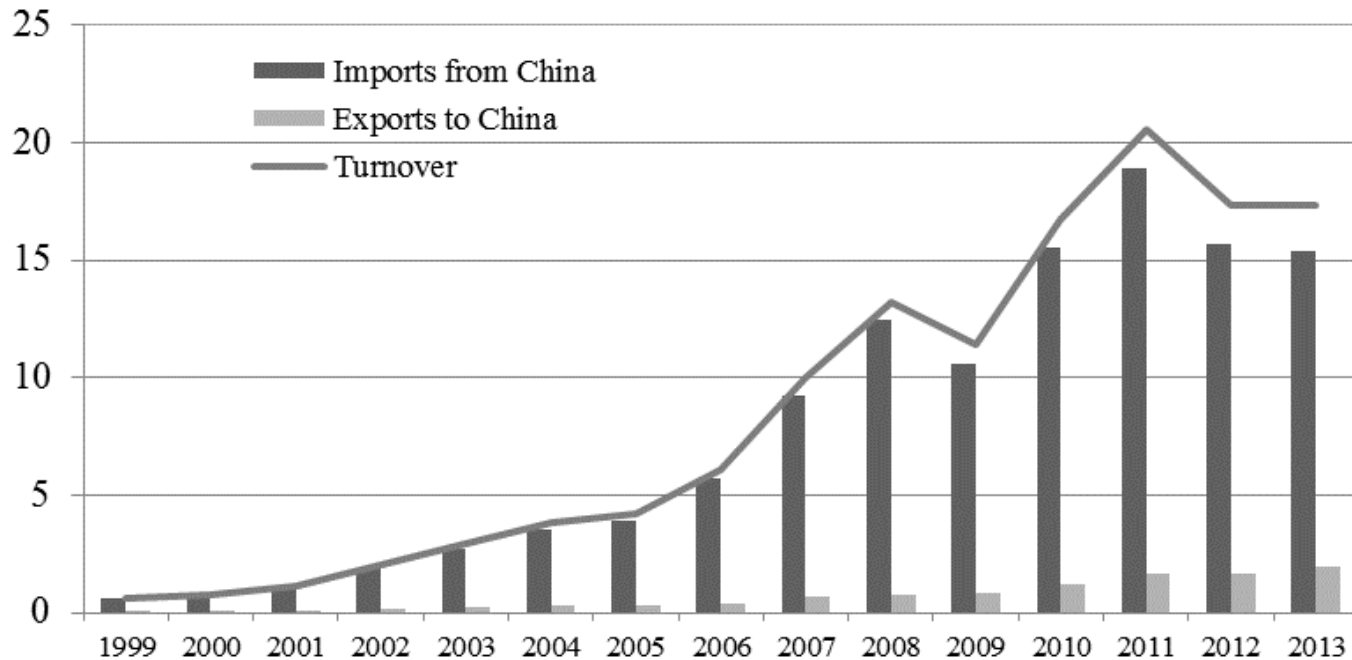
Source: CZSO (2014); own calculation.

EU28 average 16.2%

EU28 average 8.6%

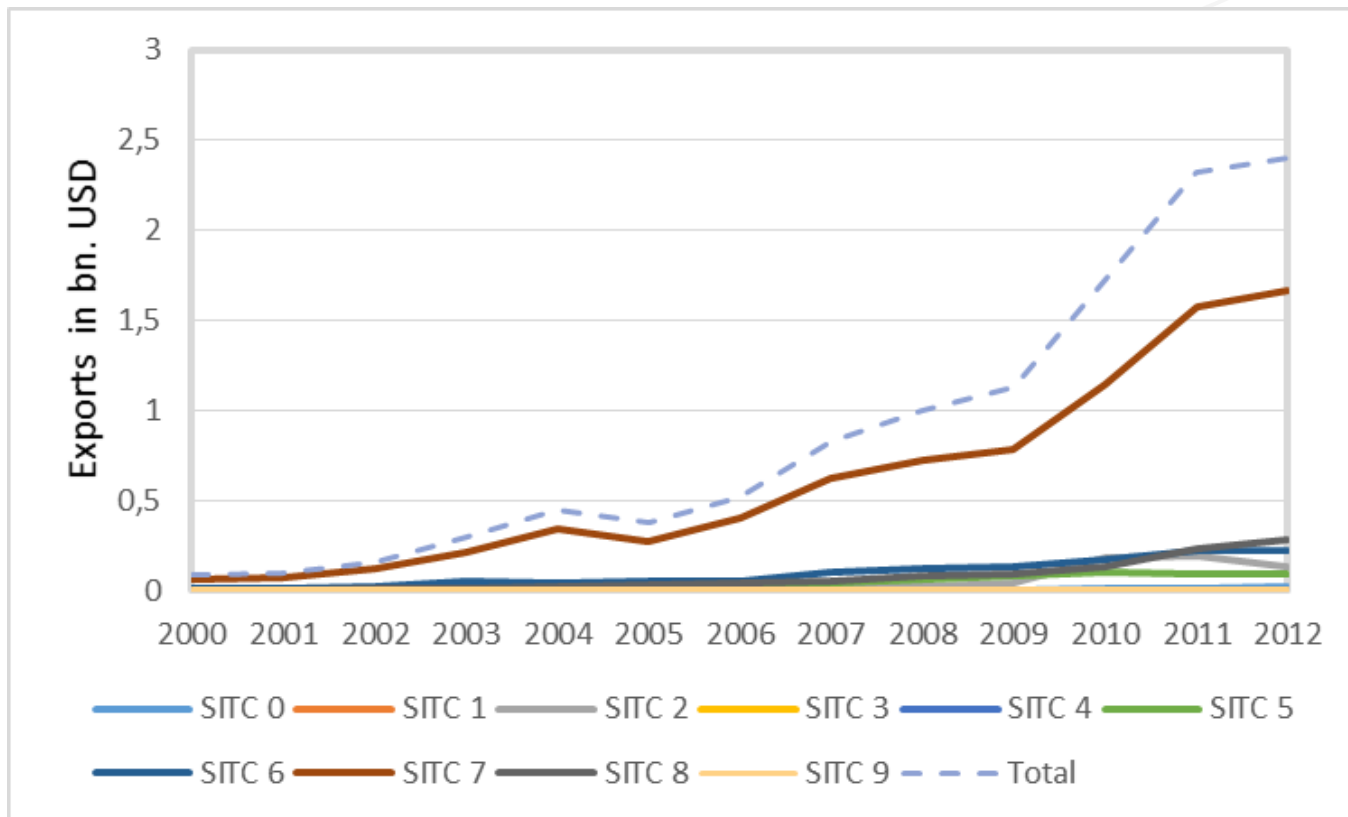
## 4. CR-China Trade Flows (1999-2013)

The CR-China trade flows, annual data, 1999-2013 (Mio USD)



# 4. CR-China Commodity Trade Composition

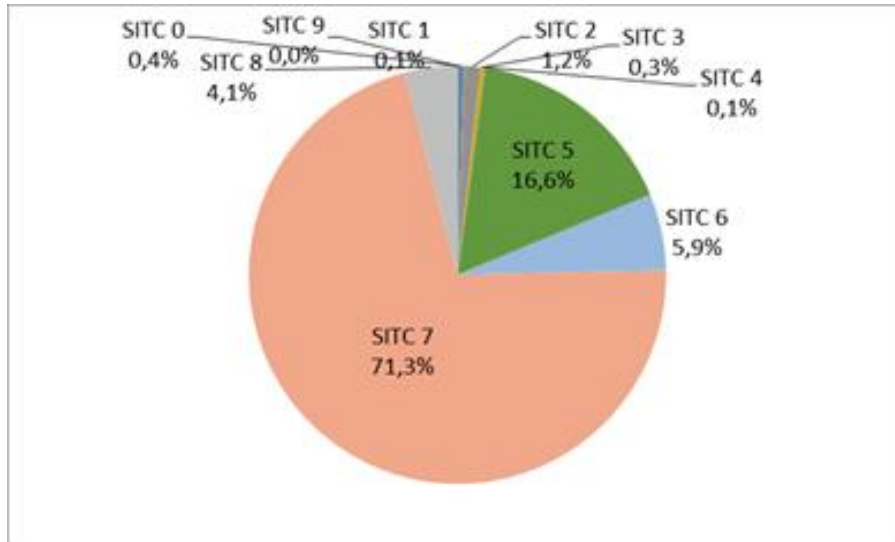
Czech SITC 0-9 Exports to China, 2000-2012 (bn. USD)



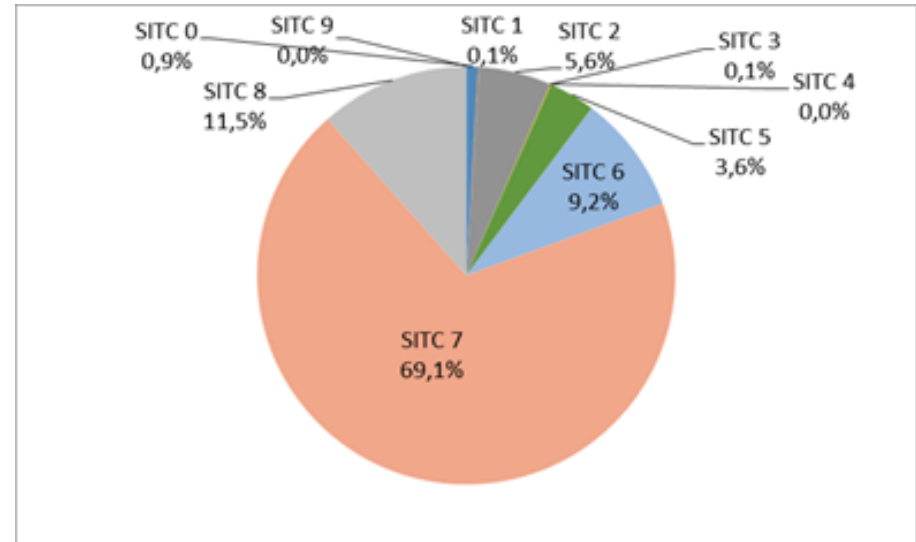
Source: UN Comtrade (2014); own calculation and construction.

# 4. CR-China Commodity Trade Composition

Czech SITC 0-9 Exports to China, 2000 and 2012 (in %)



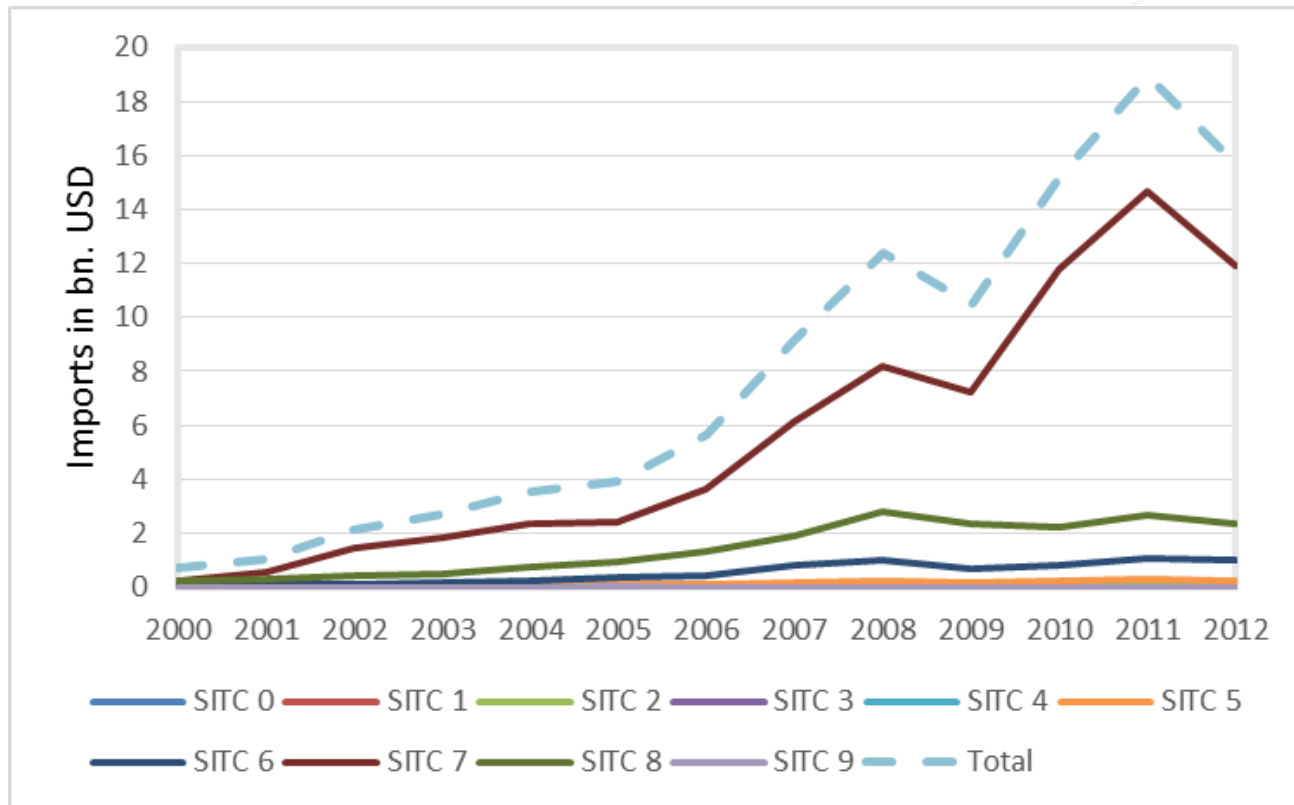
SITC 0 Food and live animals  
 SITC 1 Beverages and tobacco  
 SITC 2 Crude materials, inedible, except fuels  
 SITC 3 Mineral fuels, lubricants and related materials



SITC 4 Animal and vegetable oils, fats and waxes  
 SITC 5 Chemicals and related products, n.e.s.  
 SITC 6 Manufactured goods classified chiefly by material  
 SITC 7 Machinery and transport equipment  
 SITC 8 Miscellaneous manufactured articles  
 SITC 9 Commodities and transactions not classified elsewhere

# 4. CR-China Commodity Trade Composition

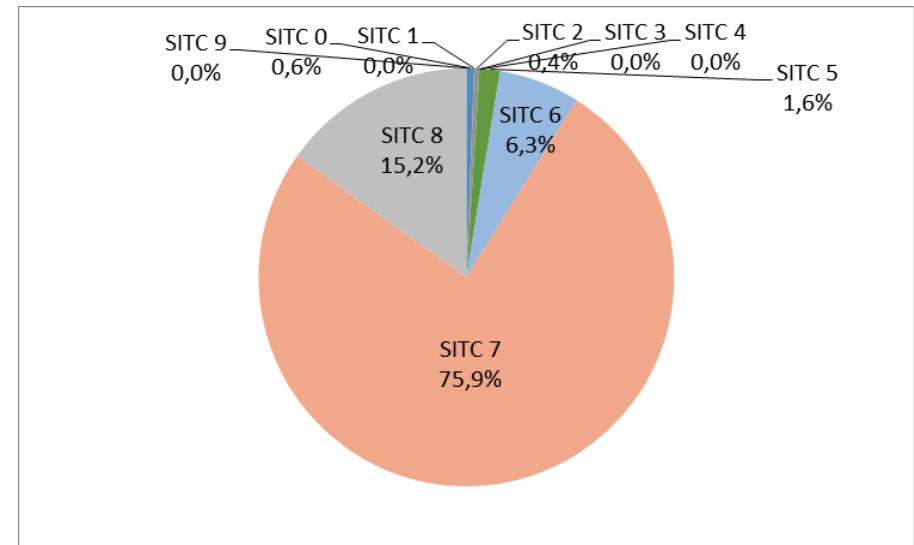
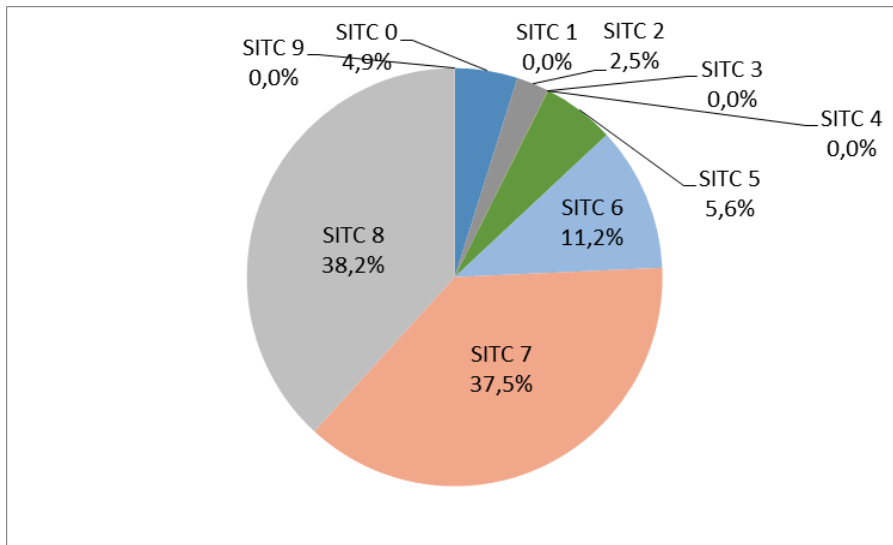
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Source: UN Comtrade (2014); own calculation and construction.



# 4. Major Export and Import Commodities

Top 10 Exports from the CR to China for the Years 2000, 2006 and 2012 (in 1000 USD and %)

<i>SITC</i>	<i>Group name</i>	<i>2000</i>		<i>2006</i>		<i>2012</i>	
		<i>USD</i>	<i>% of total</i>	<i>USD</i>	<i>% of total</i>	<i>USD</i>	<i>% of total</i>
S772*	Electrical apparatus	843	1.02	55,450	10.73	229,293	9.53
S784	Parts etc. for motor vehicles	2,328	2.81	27,400	5.3	201,822	8.39
S778*	Electrical machinery and app. n.e.s.	12,054	14.53	90,694	17.55	180,658	7.51
S712*	Steam turbines and parts n.e.s.	32	0.04	9,082	1.76	165,684	6.88
S764	Telecom. equipment and parts n.e.s.	194	0.23	4,433	0.86	97,150	4.04
S874	Measuring/checking instrum. n.e.s.	890	1.07	7,633	1.48	85,191	3.54
S742	Pumps for liquids; liquid elevators	497	0.6	2,050	0.4	80,213	3.33
S871*	Optical instruments n.e.s.	515	0.62	11,483	2.22	70,566	2.93
S718*	Power generators; parts n.e.s.	29	0.04	859	0.17	67,354	2.8
S762	Radio-broadcast receivers	0	0	13	0	64,752	2.69
Total 10		17,383	20.96	209,098	40.47	1,242,686	51.64

\* Commodities exported from the Czech Republic with a comparative advantage by which China has the comparative disadvantage.

# 4. Major Export and Import Commodities

Top 10 Imports to the CR from China for the Years 2000, 2006 and 2012 (in 1000 USD and %)

<i>SITC</i>	<i>Group name</i>	<i>2000</i>		<i>2006</i>		<i>2012</i>	
		<i>USD</i>	<i>% of total</i>	<i>USD</i>	<i>% of total</i>	<i>USD</i>	<i>% of total</i>
S752*	Computers and units thereof	54,699	7.87	857,717	15.11	4,290,052	27.37
S764*	Telecom. equipment and parts n.e.s.	16,631	2.39	394,223	6.95	2,208,007	14.09
S759*	Parts for office mach. and computers	34,716	5.0	1,008,055	17.76	1,989,883	12.7
S778*	Electrical machinery and app. n.e.s.	24,110	3.47	121,694	2.14	405,662	2.59
S894*	Baby prams, toys, sporting goods	51,318	7.39	191,763	3.38	386,718	2.47
S776	Electronic equipment and parts	6,658	0.96	243,366	4.25	350,728	2.24
S772*	Electrical apparatus	7,212	1.04	140,688	2.48	340,680	2.17
S851	Footwear	39,809	5.73	166,952	2.94	308,279	1.97
S771*	Electric power machinery and parts	9,353	1.35	82,238	1.45	306,095	1.95
S775*	Household equipm. electr. & non-electr.	27,508	3.96	116,899	2.06	257,388	1.64
Total 10		272,015	39.16	3,321,593	58.52	10,843,491	69.19

\* Commodities exported from China with a comparative advantage by which Czech Republic has the comparative disadvantage.

## 4. Commodities with Trade Potential Based on TCI

- In 2000 CR exported 40 SITC 3-digit groups with the comparative advantage where China had the comparative disadvantage. In 2012 only 23 groups.
- On the contrary, China increased its exports of groups with the comparative advantage where the Czech Republic has the comparative disadvantage from 39 in 2000 to 61 in 2012.

## 4. Groups with High TCI

SITC Groups with the Highest TCI for Czech Exports to China, 2012

<i>SITC</i>	<i>Group name</i>	<i>TCI</i>	<i>% of total exports to China</i>
268	Wool; other animal hair; wool tops	16.52	0.23
247	Wood, rough or roughly squared	12.31	0.15
322	Briquettes, lignite and peat	7.15	0
621	Materials of rubber	7.05	0.46
731	Machine tools working by removing metal or other material	5.22	1.85

## 4. Groups with High TCI

SITC Groups with the Highest TCI for Czech Imports from China, 2012

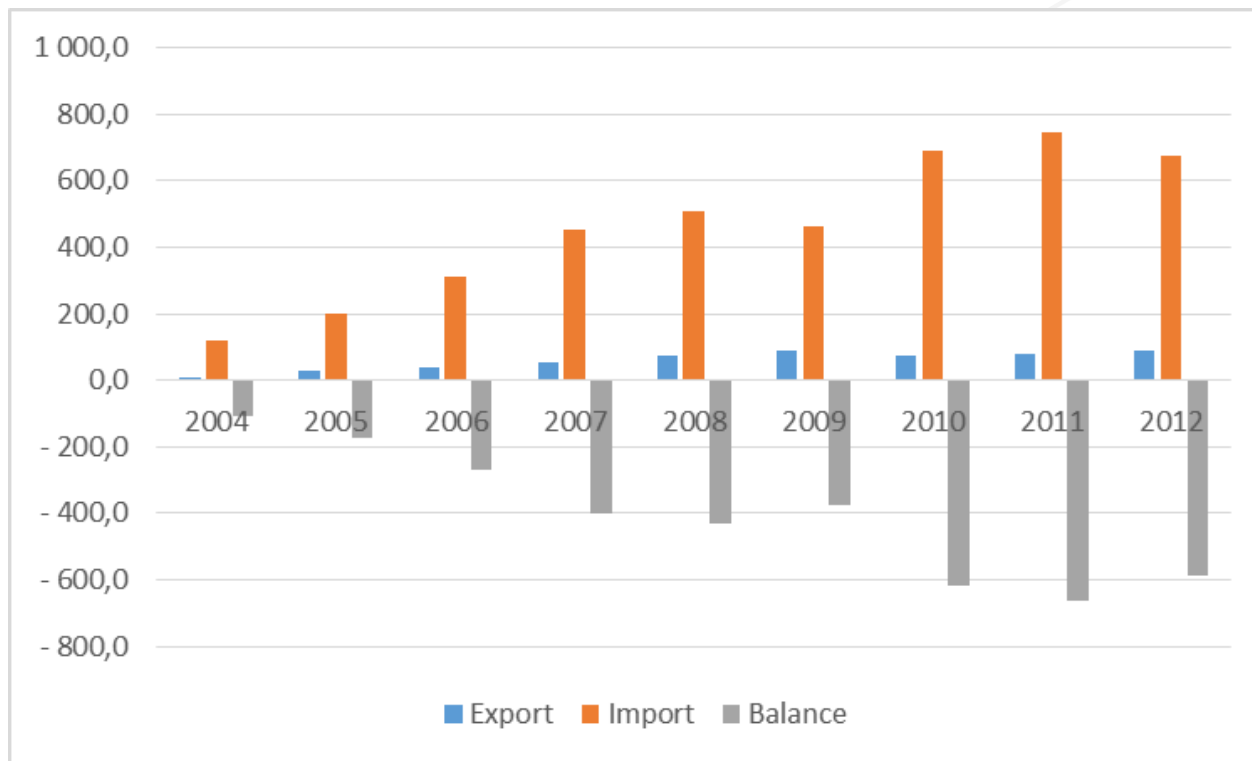
<i>SITC</i>	<i>Group name</i>	<i>TCI</i>	<i>% of total imports from China</i>
752	Computers and units thereof	10.07	27.37
612	Manufactures of leather or composition leather	8.98	0.02
894	Baby prams, toys, sporting goods	7.6	2.47
759	Parts for office mach. and computers	7.37	12.7
268	Wool; other animal hair; wool tops	5.74	0.11

## 4. Commodities with potential for Czech exports to China

- Commodity groups not traded with China but the Czech Republic has a comparative advantage in them and China disadvantage.
  - S043 - Barley, un milled
  - S246 - Wood chips, particles or waste
  - S322 - Briquettes, lignite and peat
  - S654 - Other textile fabrics, woven.
- export possibilities for Czech producers
- Reversely, there were not identified any imports from China to the Czech Republic that would have a trade potential and were not traded.
    - China fully utilizes its export possibilities to the Czech Republic.

# 5. CR-China Trade in Services

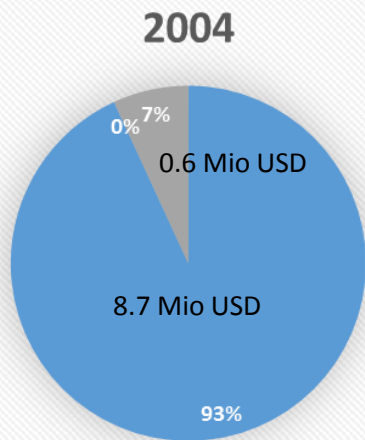
CR-China Trade in Services 2004-2012 (in Mio USD)



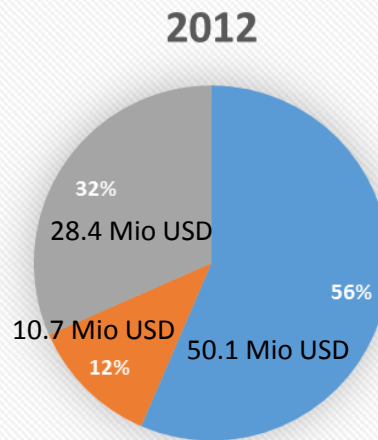
Source: CNB (2014); own calculation and construction.

# 5. Services Trade Composition

CR's Services Export to China 2004 and 2012 (in % of Total)



■ Transport ■ Travel ■ Other Services



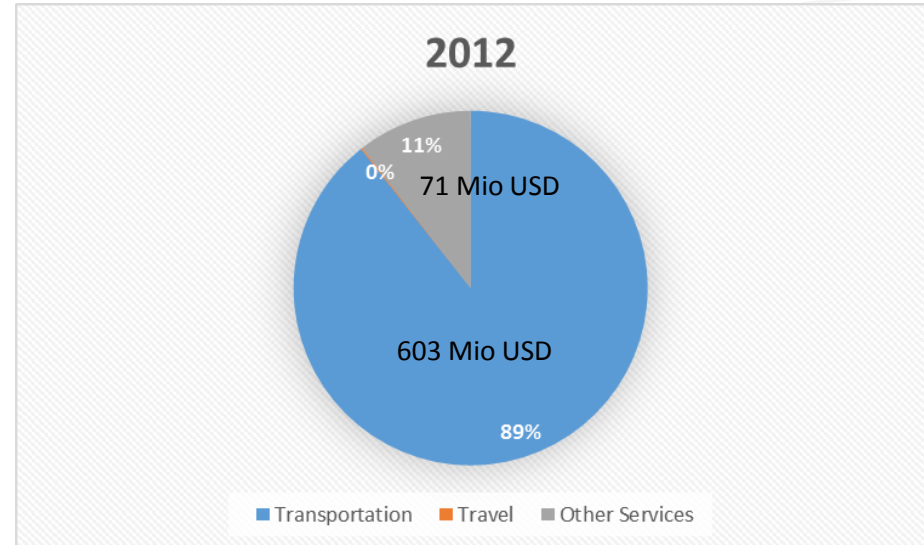
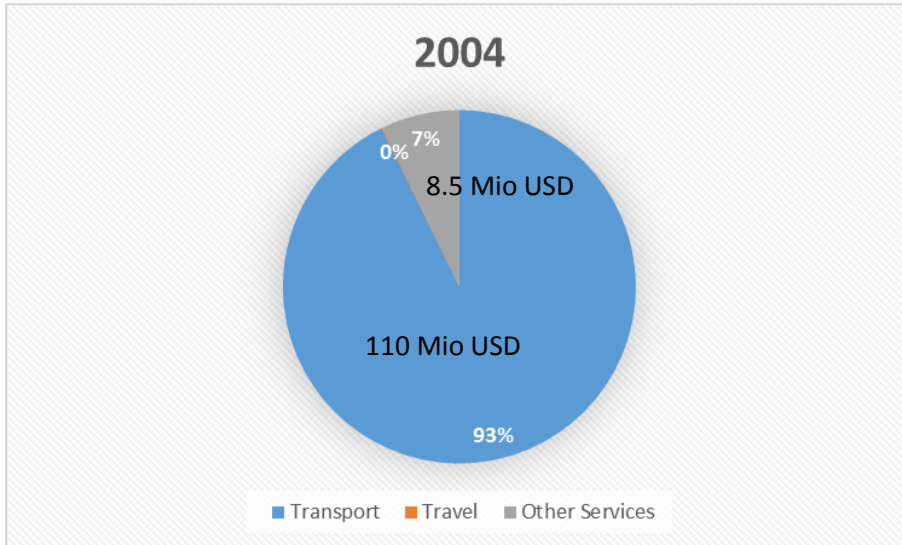
■ Transportation ■ Travel ■ Other Services

Selected other services (in Mio USD)	2004	2012
Communications services	0.1	1.3
Insurance	0	2.1
Financial services	0.1	0
Computer and information services	0.2	3.4
Royalties and licenses fees	0.02	3.8
Other business services	0.2	16.7
Personal, cultural and recreational services	0.01	0.02



# 5. Services Trade Composition

CR's Services Import from China 2004 and 2012 (in % of Total)



Selected Other services (in Mio USD)	2004	2012
Construction	2.3	0.02
Insurance	0	26.6
Financial services	0.7	0.19
Computer and information services	0.48	0.81
Royalties and licenses fees	0.21	0.1
Other business services	4.62	41.3
Personal, cultural and recreational services	0.08	0.07

# 5. Potential in Trade in Services

- Trade in services between the CR and China is rather limited today
- Export Strategy of the Czech Republic 2012-2020 (MIT 2012) set a goal to increase the total export volume of services by 20% by 2020
- Services with high added value (such as in ICT, creative industry, consulting, science and research services or tourism)
- Further potential for Czech exporters to enter the Chinese market

## 6. Conclusions

- China is a key country and very important market for the Czech Republic.
  - strong mainly in Czech imports, while Czech exports to China remain very low on a long term basis
- The CR tends to have a large trade deficit with China both in goods and services
- Czech goods' exports to China remain constantly growing with a short decline in 2005 affected by the Czech Republic's accession to the EU.
- On the contrary, Czech imports from China were more crisis sensitive.

## 6. Conclusions

- The prevailing traded groups are SITC 7, SITC 8 and SITC 6.
- The top ten exported and imported groups at the SITC 3-digit level belong to the groups SITC 7 and SITC 8.
- While Czech exports are comprised of more groups with smaller shares in total exports, imports from China consists of especially three large groups covering about 54% of all imports.

## 6. Conclusions

- China is more successful in exporting products with high complementarity between the two countries than the Czech Republic.
- We identified four SITC 3-digit groups that are not being exported but the Czech Republic has a comparative advantage in them and China the disadvantage. This provides space for further research and potential for Czech exporters to enter the Chinese market.

## 6. Conclusions

- Most traded are Transport services followed by Other services
- Potential in trade in services with high added value

# Q & A

**Thank you for your attention!**

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