

Foreign trade between China and the Czech Republic

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Abstract

International trade is based on the mutual exchange of goods and services in which one country has a comparative advantage over another. The advantage may relate to the availability of raw materials, knowledge of technologies or the lower cost of production of a certain article. The advantage of such transactions is clear. Each country acquires goods or services that are too expensive or cannot be produced in their own country. However, despite the advantages, there are also a number of obstacles to this trade. These obstacles are not only in the form of transport distances, but also customs barriers and administration.

In spite of the fact that China and Europe are relatively distant from each other, they have been trading together for hundreds of years. In this time, the structure and the amount of goods and services which are traded has changed quite substantially. The aim of this article is to analyse the structure of foreign trade between China and the Czech Republic.

Keywords: foreign trade, China, Czech Republic, balance of payments, GDP

Introduction

The economy of the Czech Republic is export focused (Český statistický úřad 2015). The primary destination for those exports are the countries of European Union, which relates to their regional proximity and the principles on which the EU functions. Due to the implementation of certain measures, exporting to other EU member states has been simplified for swathes of companies and even supported (e.g. cross border co-operation (Dotační info 2016)).

The People's Republic of China is also export oriented (BusinessInfo.cz 2016c). Due to the country's size and position it is logical that those exports are distributed over the whole world.

The distance between Prague and Beijing is 7,456 km (Vzdálenost měst 2016). In spite of this, both countries actively communicate and trade with each other. The co-operation is not purely based on the exports of particular commodities, but also involves the sharing of know-how in the fields of science and research and development. Examples of the importance of the cooperation between both countries are the recent state visit of the Chinese president to the Czech Republic (SMÍŠENÁ ČESKO ČÍSNKÁ KOMORA VZÁJEMNÉ SPOLUPRÁCE, 2016a) and the establishment of a Chinese Centre in České Budějovice (Chinese Centre of VŠTE 2016). The centre was founded by and is run by the Institute of Technology and Business in České Budějovice in co-operation with Chinese universities and institutions.

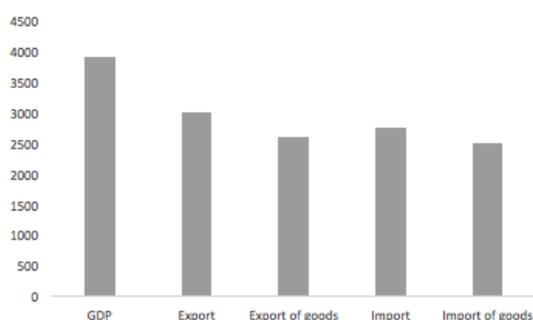
The activities of the entrepreneurial sector are also visible within this context. Various hi-tech technologies from China, especially in the form of mobile technologies, are now available on the Czech market. At the same time, large Czech companies, such as the PPF Group, have been doing successful business in China for several years. Home Credit China, a company owned by the PPF Group, is the largest provider of consumer credit on the Chinese market (SMÍŠENÁ ČESKO ČÍSNKÁ KOMORA VZÁJEMNÉ SPOLUPRÁCE 2016b).

Analysis of Chinese-Czech foreign trade

Czech Republic

As previously stated, the Czech Republic is an open economy. In 2013, the foreign trade turnover participated in GDP with 150 % (Czech National Bank 2014). The share of exports in GDP is visible in Figure 1.

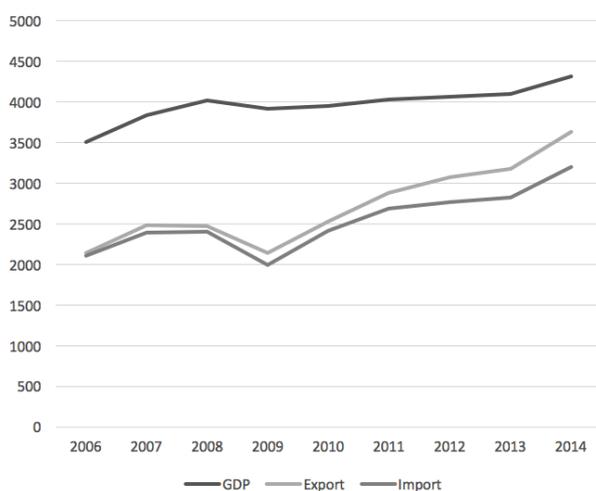
Figure 1: Export share in GDP (in CZK billions)



Source: Česká národní banka 2014.

It is clear from Figure 1 that a substantial part of GDP growth is driven by the import and export of goods. The development of Czech foreign trade and GDP over time is visible in Figure 2.

Figure 2: Development of GDP, exports and imports (in CZK billions)



Source: Český statistický úřad 2016a

GDP was calculated on the basis of the production method at normal prices, i.e. as the sum of the gross added values of the individual institutional sectors or branches and net taxes on products which were not split into sectors and branches.

In Figure 2 it is visible that there is a relationship between export growth and GDP growth. This assumption can be verified by the Pearson r correlation coefficient:

$$r = \frac{\sum(x - \bar{x})(y - \bar{y})}{\sqrt{\sum(x - \bar{x})^2 \sum(y - \bar{y})^2}}$$

where \bar{x} is the arithmetic average of exports and \bar{y} is the arithmetic average of GDP.

The results of the performed analysis are given in Table 1.

Table 1: Correlation analysis of GDP and exports

	GDP	Export
GDP	1	
Export	0.833494228	1

Source: Author

The results show that there is a relatively strong correlation between GDP and exports; the dependence is over 80%. It is highly probable that this dependence is the result of the small size of the economy relative to the large share of exports in the total GDP.

Soukop (2012), states that the relatively large share of exports in GDP is also influenced by the currency rate. Figure 3 shows the development of the EUR-CZK exchange rate in the period 2000 – 2016.

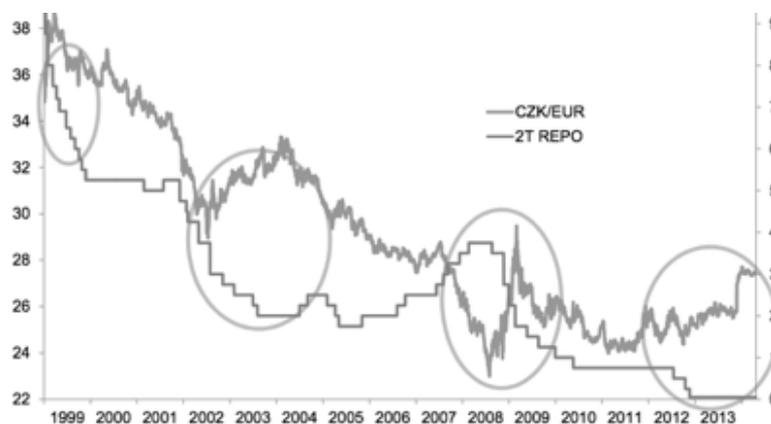
Figure 3: Development of EUR-CZK exchange rate



Source: Exchange Rate/Kurzy CZ (2016)

It is clear that, with the exception of a few short periods, the Czech Crown has strengthened over time. However, since 2014, the exchange rate has visibly stabilized (SCALIA 2008) due to the intervention of the Czech National Bank (Peníze.cz 2013). The reason behind the intervention was the fact that the repo rate stood at 0 for a certain period of time (see Figure 4), which brought with it the threat of deflation and the subsequent reduction in the potential growth of economy that that would bring (Česká národní banka 2014).

Figure 3: Repo rates and currency rate -2T REPO (right axis)



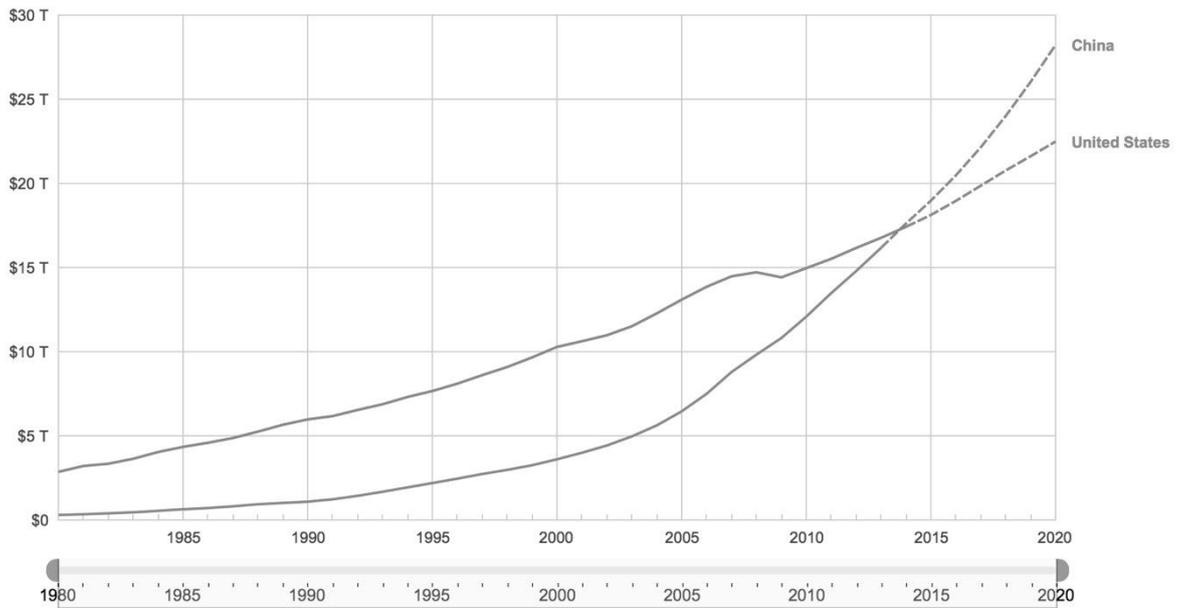
Source: Česká národní banka (2014)

The successful intervention of the Czech National Bank has stabilized the currency rate; the long-term trend towards a strengthening Czech crown has been temporarily halted. However, it is assumed that the currency will eventually be released, which may result in the currency strengthening once again. This is not expected to happen before the end of 2017 (Česká národní banka 2013).

People's Republic of China

In 2014, the People's Republic of China became the largest economy in the world (International Monetary Fund 2015). This was the result of the exceptionally large growth in GDP in recent years (Higgins et al. 2016). Figure 5 compares GDP development for China and the world's second largest economy, the USA.

Figure 4: GDP based on PPP valuation (2016 - 2019 prediction)

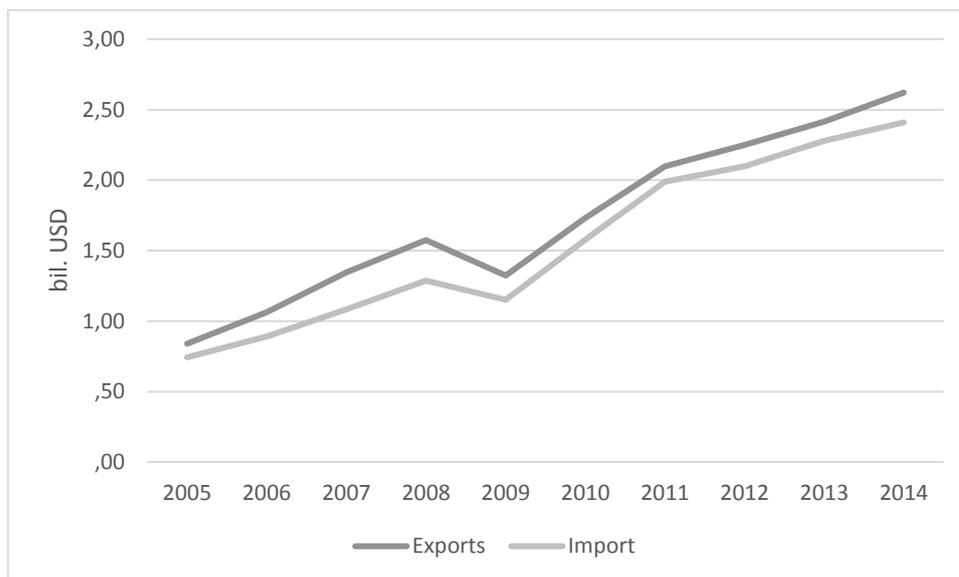


Source: International Monetary Fund (2015)

The growth in Chinese GDP has been dramatic in recent years (National Bureau of Statistic of China 2016), sometimes achieving double-digit figures (Google Public Data 2016). In contrast, the second largest economy grew at a much slower pace. The last time American growth approached that of the Chinese economy was back in 1989 (Google Public Data 2016).

The Chinese economy is a very open economy, which is also supported by its politics (Julien Gourdon et al. 2016). It is the largest exporter and the second largest importer in the world, with a share of 12.4% and 10.3% respectively (World Trade Organization 2015). The development of foreign trade of the People's Republic of China is visible in Figure 6. The growth trend is evident for both imports and exports, which almost run in parallel with each other. In some cases, the total exports of China are so significant that a change in its export policy can result in price increases of any given commodity (Nabeel 2015).

Figure 5: Development of the exports and imports of goods and services of the People's Republic of China



Source: World Trade Organization, 2016.

China's most important business partners are (IMBRUNO 2016), from the point of view of exports, the world's largest economies. The size of the economy is decisive, not territorial proximity (MANCHERI 2015). The most important export market is the USA (Junwook 2016, CHI 2016), followed by the EU. China's five most important export markets are indicated in Figure 7.

Figure 6: China's most important export partners in 2014



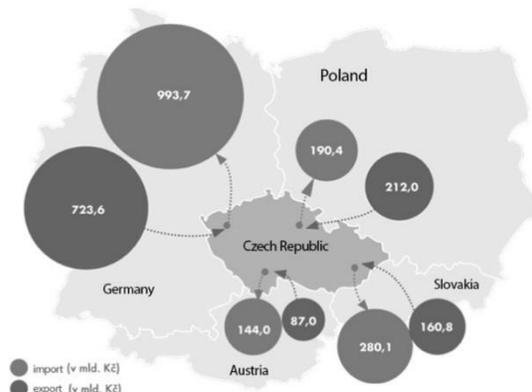
Source: World Trade Organization, 2016.

Mutual relationships between the People's Republic of China and the Czech Republic

The location of the Czech Republic in Europe means that its exports and imports of goods and services are focused on and drawn from those economies which are located in its

direct proximity. More than half of Czech exports are destined for neighbouring states (STATISTIKA&MY 2014 – the values are given in Figure 8).

Figure 8: Exports and imports into neighbouring countries 2013 (in CZK billions)



Source: STATISTIKA&MY 2014

The exception in this regard is the co-operation with China (Stverkova 2016), which, in spite of the fact of the distance, is one of the Czech Republic's top export markets (18th largest) and the second largest importer of goods to the country (BusinessInfo.cz 2016a). This is extremely positive, at the regional and political levels, in light of the fact that the country's main export and import partners are first of all from the EU.

In view of the decelerating growth of the EU, the Czech Republic has begun to diversify its foreign policy and identify priority countries with which to develop closer business cooperation. Among these countries are Brazil, China, India, Iraq, Kazakhstan, Mexico, Russia, Serbia, Turkey, Ukraine, USA and Vietnam (National Trade Promotion Agency Trade/CzechTrade 2015). China is by far the most important partner among these countries, with a total share of more than 40 %.

The structure of the exports and imports is given in Table 2. It is evident from the data that imports from China are considerably higher than exports to China. It is also clear that the most important items have a technical character.

Table 2: Structure of the most important imports to the Czech Republic and exports to the People's Republic of China

Export		Import	
EUR mill.	Item	EUR mill.	Item
153.6	Parts of motor vehicles, cars and tractors	3 594.8	Phone appliances, other appliances for broadcasting, voice and data receiving
89.3	Three-wheelers, scooters, prams for dolls, other toys, models, puzzles	3 392.0	Machines for automatic processing, data units, sensors
82.6	Pumps with measuring device, elevators for fluids	1 329.9	Parts of typewriters, computers, automatic data processors
68.2	Wood pulp, chemicals for chemical treatment	662.3	Monitors, projectors without TV, televisions
58.0	Microscopes other than optical diffractographs	490.0	Parts of broadcasting, receivers, televisions
54.8	El. equipment for protection, switching el. circuits, connectors for optical fibres	299.7	Transformers, el. converters, static inductors
52.3	Machine tools for grinding, lapping, polishing etc.	261.5	Integrated circuits, electronic circuits
48.8	Parts of appliances for the protection of circuits of switchboards etc.	239.8	Three-wheelers, scooters, prams for dolls, other toys, models, puzzles
47.8	Phone appliances, other devices for broadcasting, voice and data receiving	220.9	Machines, appliances for printing with aids HS8442 (including copies and faxes), parts
37.0	Pumps, exhausters, air compressors etc.	187.4	Discs, bands, etc., media for recording sound, images, etc. not HS 37

Source: BusinessInfo.cz 2016b.

In the past, Czech exports within the services sector were primarily focused on transport. However, there has recently been rapid growth in the area of proprietary rights to science and research results. In 2014, this item represented more than 40% of the total volume of exported services (BusinessInfo.cz 2016b).

Conclusion

Both the Czech and Chinese economies are export oriented. For the People's Republic of China, the share of foreign trade with the Czech Republic in total GDP is much smaller than the share in total GDP of the Czech Republic's foreign trade with China. For this reason, China is much less dependent on exports to the Czech Republic. In contrast, the Czech Republic must look for and diversify its range of foreign partners as a means of limiting its exposure to decreases in economic effectiveness being transferred to the inland economy. In this respect, the Chinese market represents the greatest potential for growth (Liu 2016), which makes it one of the most important areas for diversification (Wu 2016).

Of growing interest is the current growth in the mutual exchange of the results of intellectual research and development. This area offers great prospects for the future and is clearly supported by the government representatives of both countries. An example of this cooperation is the second round of Technological Agency DELTA (Technologický agentura České republiky 2015).

At the same time, the Czech Republic provides interesting opportunities for the Chinese. These opportunities will become even more interesting as soon as the Czech currency is gradually released and the currency starts to strengthen.

References

SCALIA, A., 2008. Is foreign exchange intervention effective? Some microanalytical evidence from the Czech Republic. *Journal of International Money and Finance*. **27**(4), 529-546, ISSN 0261-5606.

BusinessInfo.cz, 2016a. *Čína*. [online]. [accessed: 2016-08-31]. Available at: <http://www.businessinfo.cz/cs/zahranicni-obchod-eu/teritorialni-informace-zeme/cina.html>.

BusinessInfo.cz, 2016b. *Čína: Obchodní a ekonomická spolupráce s ČR*. [online]. [accessed: 2016-08-31]. Available at: <http://www.businessinfo.cz/cs/clanky/cina-obchodni-a-ekonomicka-spoluprace-s-cr-19054.html#sec2>.

BusinessInfo.cz, 2016c. *Čína: Zahraniční obchod a investice*. [online]. [accessed: 2016-08-31]. Available at: <http://www.businessinfo.cz/cs/clanky/cina-zahranicni-obchod-a-investice-19052.html>.

Česká národní banka, 2014. *Export, motivace tuzemské ekonomiky* [online]. [accessed: 2016-08-31]. Available at: http://www.cnb.cz/cs/verejnost/pro_media/konference_projevy/vystoupeni_projevy/download/lizal_20140414_zofin.pdf.

Česká národní banka, 2013. *Měnový kurz jako nástroj měnové politiky – nejčastější otázky a odpovědi*. [online]. [accessed: 2016-08-31]. Available at: <http://www.penize.cz/makroekonomika/275985-ocima-expertu-menova-intervence-cnb-komu-pomuze-a-komu-ublizi>.

Česká agentura na podporu obchodu/CzechTrade, 2015. *Vývoj zahraničního obchodu České republiky za první čtvrtletí roku 2015*. [online]. [accessed: 2016-08-31]. Available at: https://www.businessinfo.cz/app/content/files/zpravodajstvi-pro-export/ctvrtletni-analyzy-ZO/Ctvrtletni_prehled_01_2015.pdf.

Český statistický úřad, 2015. *Zahraniční obchod ČR - roční údaje - 2014*. [online]. [accessed: 2016-08-31]. Available at: <https://www.czso.cz/csu/czso/zahranicni-obchod-cr-rocni-udaje-2014>.

Český statistický úřad, 2016a. *Česká republika v mezinárodním srovnání (vybrané údaje) - 2015*. [online]. [accessed: 2016-08-31]. Available at: <https://www.czso.cz/csu/czso/zahranicni-obchod-vr3io5zzra>.

Dotační info, 2016. *Program přeshraniční spolupráce Česká republika – Svobodný stát Bavorsko*. [online]. [accessed: 2016-08-31]. Available at: <http://www.dotacni.info/tag/dotace-na-preshranicni-spolupraci/>.

Google Public data, 2016. *Růst HND (roční, v %)*. [online]. [accessed: 2016-08-31]. Available at: https://www.google.com/publicdata/explore?ds=d5bncppjof8f9_#!ctype=l&strail=false&bc=d&nselm=h&met_y=ny_gnp_mktp_kd_zg&scale_y=lin&ind_y=false&rdim=region&idim=country:CHN:USA&ifdim=region&hl=cs&dl=cs&ind=false.

HIGGINS, P., T. THA and W. ZHONG, 2016. Forecasting China's economic growth and inflation. *China Economic Review*. ISSN 1043-951X.

CHINESE CENTRE OF VŠTE, 2016. *O nás* [online]. [accessed: 2016-08-31]. Available at: <http://cinskecentrum.vstecb.cz>.

International Monetary Fund, 2015. *World Economic and Financial Surveys World Economic Outlook Database*. [online]. [accessed: 2016-08-31]. Available at: <http://www.imf.org/external/pubs/ft/weo/2015/01/weodata/index.aspx>.

GOURDON, J., S. MONJON and S. PONCET, 2016. Trade policy and industrial policy in China: What motivates public authorities to apply restrictions on exports? *China Economic Review*. **40**, 105-120. ISSN 1043-951X.

CHI, J., 2016. Exchange rate and transport cost sensitivities of bilateral freight flows between the US and China, *Transportation Research Part A: Policy and Practice*. **89**, 1-13, ISSN 0965-8564.

KURZY CZ, 2016. *Graf EUR / Kč od 4.1.1993 do 2.9.2016, ČNB, grafy kurzů měn* [online]. [accessed: 2016-08-31]. Available at: <http://www.kurzy.cz/kurzy-men/grafy/nr/CZK-EUR/od-4.1.1993/>.

MANCHERI, N. A, 2015. World trade in rare earths, Chinese export restrictions, and implications, *Resources Policy*, Volume 46, Part 2, December 2015, Pages 262-271, ISSN 0301-4207.

National Bureau of Statistic of China, 2016. *Annual GDP Accounting Instructions of China* [online]. [accessed: 2016-08-31]. Available at: http://www.stats.gov.cn/english/understanding/201311/t20131118_463791.html.

SIGNORELLI, M., 2016. Human capital investment and inequality of opportunities in China. *China Economic Review*. **38**, A1. ISSN 1043-951X.

IMBRUNO, M. 2016. China and WTO liberalization: Imports, tariffs and non-tariff barriers. *China Economic Review*. **38**, 222-237, ISSN 1043-951X.

Peníze.cz, 2013. *Očima expertů: Měnová intervence ČNB. Komu pomůže a komu ublíží?* [online]. [accessed: 2016-08-31]. Available at: <http://www.penize.cz/makroekonomika/275985-ocima-expertu-menova-intervence-cnb-komu-pomuze-a-komu-ublizi>.

SMÍŠENÁ ČESKO ČÍSNKÁ KOMORA VZÁJEMNÉ SPOLUPRÁCE, 2016a. *Čínský prezident navštívil Českou republiku* [online]. [accessed: 2016-08-31]. Dostupné z: <http://www.czechchina.com/?p=7968>.

SMÍŠENÁ ČESKO ČÍSNKÁ KOMORA VZÁJEMNÉ SPOLUPRÁCE, 2016b. *Členové – PPF. Čínský výrobce představil mobil pojmenovaný po české metropoli* [online]. [accessed: 2016-08-31]. Available at: http://www.czechchina.com/?page_id=1766.

STATISTIKA&MY, 2014. *Fakta o obchodě Česka se zahraničím*. [online]. [accessed: 2016-08-31]. Available at: <http://www.statistikaamy.cz/2014/09/fakta-o-obchode-ceska-se-zahranicim/>

STVERKOVA, H., 2016. The current economic situation in China and its impact on the Czech Republic. *Perspectives in Science*. **7**, 39-44. ISSN 2213-0209.

Technologická agentura České republiky, 2015. *MOŽNOSTI SPOLUPRÁCE S PARTNERY V ČÍNSKÉ LOKALITĚ ZHEJIANG*. [online]. [accessed: 2016-08-31]. Available at: <https://www.tacr.cz/index.php/cz/novinky/577-moznosti-spoluprace-s-partnery-v-cinske-lokalite-zhejiang.html>.

The World Trade Organization, 2016. *Trade and tariff indicators*. [online]. [accessed: 2016-08-31]. Available at: https://www.wto.org/english/res_e/statis_e/statis_maps_e.htm.

The World Trade Organization, 2015. *World Trade Report 2015*. [online]. [accessed: 2016-08-31]. ISBN 978-92-870-3985-9. Available at: https://www.wto.org/english/res_e/booksp_e/world_trade_report15_e.pdf

Vzdálenosti měst, 2016. *VZDÁLENOST PRAHA - PEKING*. [online]. [accessed: 2016-08-31]. Available at: http://cz.vzdalenosti-mesty.himmera.com/silnicnich_vzdalenosti-praha-pekings-cestovni_mapa_km-10388.html

LIU, X., X. LI and H. LI, 2016. R&D subsidies and business R&D: Evidence from high-tech manufacturing firms in Jiangsu. *China Economic Review*. **41**, 1-22, ISSN 1043-951X.

WU, Y. and N. HEERINK, 2016. Foreign direct investment, fiscal decentralization and land conflicts in China. *China Economic Review*. **38**, 92-107, ISSN 1043-951X.

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