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**THE IMPACT ANALYSIS OF THE EU-
KOREA FTA ON THE CZECH
SENSITIVE SECTORS WITH SPECIAL
ATTENTION TO THE AUTOMOTIVE
INDUSTRY**

diplomová práce

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Prohlašuji na svou čest, že jsem diplomovou práci vypracoval samostatně a s použitím uvedené literatury.

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The abstract

Strong objections appeared in the Czech Republic, especially in the automotive industry, against the EU-Korea Free Trade Agreement right after its adoption in October 2009. There were fears that the Agreement would endanger Czech competitiveness in the European market while new opportunity for Czech exporters in the Korean market would be limited. The thesis aims to analyze the impacts of the Agreement on the Czech sensitive sectors as the author does not agree with the results of the very first Czech country specific analysis made by the Association for International Affairs (AMO) that neglects any important endangering effects of the Agreement. The crucial difference between this paper and the study made by AMO is that the author considers Czech competitiveness in the European market as a decisive criterion while AMO analysts analyze the impacts on the Czech market only. They do not consider Czech exports to the EU member states and potentially strengthening competition in the European market for Czech producers. In the thesis the sensitive sectors are defined using the data from the International Trade Centre (ITC), the Czech statistical office, and the UN COMTRADE. Hariss index is used to measure restrictiveness of the rules of origin for the very first time in the EU-Korean FTA context, the methodology of the European Commission is utilized to estimate potential savings in effect of duty drawback, and a qualitative analysis of the non-tariff barriers is applied. The author points at a decisive function of non tariff barriers that plays even more important role in terms of liberalization than tariff reduction itself. Regarding the automotive industry, the thesis shows that Czech competitiveness within heading 8703 (cars) will not be endangered in effect of the Agreement while there might be some difficulties within heading 8708 (parts & accessories for motor vehicles). The Czech Republic does not perform any revealed competitive advantage in trade of services. The arguments of Czech car makers against the Agreement about the trade within heading 8703 are not admitted. However further research is needed to analyze if the Agreement will have harmful effects on Czech competitiveness in the European market within heading 8708. The Agreement will not bring up any notable opportunity for Czech exporters in the Korean market.

Keywords:

free trade agreement, EU-Korea Free trade agreement, Czech competitiveness, duty drawback, rules of origin

JEL Classification:

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INTRODUCTION

The thesis is intended to find out if the EU-Korea free trade agreement (“Agreement”) can jeopardize Czech competitiveness in sensitive sectors (especially the automotive industry). The thesis is the second analysis of the impacts of the Agreement on the Czech sensitive sectors. It is a complementary document prepared for the representatives of the Czech automotive industry who have expressed strong objections. Although the first Czech country specific study presented by the Association for International Affairs (AMO) in July 2010 came with some arguments that neglect a threat for Czech automotive industry, the author of the thesis points at few potentially endangering issues. Even though the Agreement has been ratified by the Czech Parliament, the thesis comes up with some disputable aspects that can be relevant in upcoming European FTAs with India, Japan or China. The author performed a detailed analysis of the automotive industry and sketched the impacts in machinery and services.

As compared to the AMO study, the researcher omits using the CGE model to quantify the exact numerical impacts of the Agreement on the Czech economy since the output of the model is at least disputable (see literature review). The thesis focuses on the European market as a relevant market in terms of Czech and Korean competitiveness while AMO analysts pay attention to the Czech market only. The author uses for the very first time (even internationally) Hariss’s methodology in order to measure restrictiveness of the EU-Korea FTA’s rules of origin and the ROOs are matched to duty drawback analysis. In more detail the thesis scrutinizes the impacts of the Agreement on Czech competitiveness within headings 8708 (parts and accessories for motor vehicles), and 8703 (cars). It also brings an analysis and comparison on non-tariff barriers that are considered even more important trade barrier than tariffs themselves but almost ignored in the AMO study. The experts say that non-tariff barriers are at least as important as simple tariff reduction in case of the EU-Korea FTA. Even if a duty on cars and other products were equal to zero, it would be problematic to

export products into the Republic of Korea (“KR”) in some sectors. The most important non-tariff barriers in context of the Agreement are technical barriers, granted export subsidies (duty drawback mechanism), and the security certification. In the research the author pay attention to non-tariff barriers elimination and the restrictiveness of the preferential rules of origin in sensitive headings, beside a frequently discussed topic of duty drawback is scrutinized.

Comparing to the studies that were presented internationally, the thesis scrutinizes some controversial aspects that have not been studied, i.e. duty drawback mechanism. The EU-Korea FTA is historically the very first European free trade agreement with a developed partner where a duty drawback mechanism (DDB) was fully and permanently allowed. There are fears that DDB in such an extent could be an endangering precedent and barrier for future trade liberalization. Czech car producers are worried that it will enable Korean low-cost imports of parts & accessories for motor vehicles from China and consequent Korean exports of cheap cars to the EU.

After a two year long negotiation, the free trade agreement between the European Union and the Republic of Korea (EU-Korea FTA) was signed on October 15th 2009 in Brussels. Before its adoption, the possible impacts of the Agreement on the European and Korean economy had been analyzed while no impact analysis on the Czech economy was realized. In 2007, Professor J. Francois from the Copenhagen Economics Institute (Francois & Economics, 2007) created two possible scenarios using a computable general equilibrium model (CGE). This very sophisticated and complex econometric model analyzed possible impacts on the EU as one single region. Nevertheless, non-tariff barriers (NTBs) have been ignored in the model although they are considered by most of the experts as the key issue in the EU-Korea context. Some say that NTBs are far more important measures than tariffs reduction itself. In 2007, an

analysis of the Centre for European Policy studies (CEPS) and Korean Institute for International and Economic Policy (KIEP) was presented, too. As compared with Francois's clearly econometric analysis, the CEPS & KIEP study took non-tariff barriers into consideration as the core presumption for effective liberalization within European-Korean trade. The study scrutinized particular sensitive sectors on the European and Korean level. However, the EU was considered as a single unit, thus, the authors ignored different country-specific effects. The only international study that has presented some country specific implications of the Agreement was the Trade sustainability Impact Assessment of the EU-Korea FTA: Final Report (Smith, 2008). It provided some analysis on the Czech automotive industry. It said that many well-known automotive companies had established their factories in the Czech Republic or Slovakia. The authors presented a case study on the Hyundai Motor Manufacturing Czech's strategy in the Czech Republic and brought out strategic cooperation between Hyundai plant in the CR and Kia factory in Slovakia. Among others, the authors pointed at some limitations of Francois's CGE model. The authors made many workshops, took the discussion out of academic environment, and opened the topic for the representatives of companies, too.

All the aforementioned international analyses say that the Republic of Korea will benefit more than the EU from the Agreement in absolute values. KR will benefit in sectors where it holds a revealed competitive advantage, such as the automotive industry and electronics. The experts say that the European automotive industry will be the industry loosing the most in effect of the Agreement. However, Czech economy has traditionally had the highest level of competitive advantage (RCA) in an automotive industry and machinery and KR has revealed competitive advantages in the same sectors. In effect there is a threat that Korean companies will attain a lot from the EU market opening in effect of the Agreement while Czech

producers may face stronger competition of domestically supported Korean companies in the European market and have a limited opportunity in terms of Korean market opening. As a trade-off, the Korean services sector is supposed to lose as a consequence of the Agreement. On the other hand, the EU's benefit from the Agreement is supposed to come from trade in services and agriculture.

Based on her own analysis and on previous studies the author of the thesis presents the major hypothesis as follows:

1. In effect of the Agreement, competition in the European market within the Czech sensitive sectors will be strengthened with regard to similarities between Czech and Korean trade structure, especially in the automotive industry. Czech competitiveness will be endangered.
2. An allowance of the mechanism of duty drawback ("DDB") under the Agreement will be beneficial only for Korean carmakers since the MFN tariffs on parts and accessories are higher on the Korean side. In addition, the allowance of DDB will be a harmful precedence for future European FTA partners.
3. Such preferential rules of origin will be applied to protect the Czech sensitive products in the European market, especially those where DDB may advantage Korean exporters.
4. The CR will not take an advantage of the expected liberalization of trade in services as Netherland, Belgium or other service-oriented member states will do. In effect, the Agreement will not bring any notable opportunity for Czech exporters.

Few steps have been accomplished in order to confirm or reject the aforementioned hypothesis. In Chapter I the author summarizes the most significant studies that have been

made internationally on the impacts of the Agreement on European and Korean economy. Secondly the methodology used is explained in Chapter II. After specifying the Czech sensitive sectors in Chapter III, certain key measures embraced in the Agreement will be analyzed. Subchapter 3.1 presents country profile of the Czech Republic and the Republic of Korea and shows significant similarities in their competitiveness structure. Lastly, in Subchapter 3.2 the author presents detail analysis of the impacts of the Agreement on automotive sector.

I. LITERATURE REVIEW

This section explains in further detail the existing studies on the impacts of the Agreement.

1.1 SUMMARY OF THE PREVIOUS STUDIES

Some studies on the EU-Korea level had already been conducted on the impacts of the Agreement. However, these international studies were accomplished before the negotiation was completed. That is why most of them dealt with more potential scenarios since the final Agreement had not been available. Additionally, until July 2010 there has been no Czech country specific analysis. The authors of international studies started from the assumption that the EU is a single homogenous unit; they did not consider the different industry structure of member states. The exception is the *Trade sustainability Impact Assessment of the EU-Korea FTA: Final Report* prepared by the IBM Belgium that brought some country specific analysis and went far beyond theoretical modeling. The very first, and the only one so far, Czech country specific analysis was initiated in May 2010 by the Czech Ministry of Trade and Industry and accomplished by the Association for International affairs (AMO) in July 2010 just few weeks before the ratification process in the Czech Parliament.

Before presenting the international studies we focus in little more detail on the AMO's analysis. At the time when the AMO's Czech country specific analysis was presented, the Agreement had been signed at the European level for more than 8 months. It means that no country specific analysis had been made before the signature on the EU level. Unfortunately, the AMO study has some crucial limitations. Basically it stands and falls with the Francois' CGE model from 2007 and did not pay enough attention to the non tariff barriers and liberalization of the rules of origin. The authors from AMO simply quantified the impacts of the Agreement using the CGE model. However, firstly, the CGE model in general takes into consideration only the tariff changes. It ignores any non-tariff barriers and changes in rules of origin. Secondly, due to the complexity of the model, the last data available for the model came from 2006. It means that years 2007-2010, that are the most relevant in terms of Czech-Korean trade could not be included in the model. Using the date from 2000-2006, when the total volume of Czech-Korean trade was negligible, the model not surprisingly calculated that there would be no significant impact on Czech macroeconomic data in effect of the Agreement. Although there is an enormous trade deficit of the Czech Republic with the Republic of Korea in absolute numbers, the model came up with politically nice 25.9% growth in Czech exports and only 15.1% growth in imports (Savovová & Baladová, 2010). In terms of sectoral structure, the model indicated that the Agreement would positively affect Czech exports namely in other machinery, telecommunication and other food. On the other hand, the Republic of Korea would benefit in freight, production of live animals and other services. Nevertheless, the credibility of such a model is disputable since services such as telecommunication or other food are not typically strong Czech exports items. It is not very probable that exports to the Republic of Korea vary significantly from Czech traditional export structure. Except the CGE model, AMO analyst parsed some horizontal topics such as property rights for human capital, government purchases, labor market and foreign direct

investments. The AMO study presented some analysis on the automotive industry, however, they only sketched a trend in exports and imports within heading 8707 (cars). Even more importantly, AMO analysts made mistake as they studied Czech automotive market as the final market for Korean cars instead of European markets. Korean imports to the Czech Republic and sales of Korean cars in the Czech markets cannot be considered as a decisive criterion in terms of the impact of the Agreement on the sensitive sectors. In order to define the impact on Czech sensitive sectors (especially automotive) Czech target markets (such as Germany, United Kingdom) should be analyzed instead of limited and export oriented Czech market. The author do not think that the Czech Republic could be a specific target market for Korean carmakers as presented in the AMO study. In addition, AMO analyst totally ignored even more important heading 8708 (parts and accessories for motor vehicles) that play crucial role in terms of duty drawback that is to be allowed under the EU-Korea FTA.

Internationally, the first studies on the Agreement were accomplished in 2007 when professor Francois presented his analysis using a GCE model (Francois & Economics, 2007), and the Centre for European Policy studies (CEPS) with Korean Institute for International and Economic Policy (KIEP) published their work. The IBM Belgium analysis took place in 2008 (Smith, 2008). Consecutive few paragraphs briefly summarize the results of the studies.

Professor Francois was the very first who studied the impacts of a potential agreement. He presented a theoretical study based on a computable general equilibrium model (CGE). This econometrical model enables to analyze the impacts of tariff reduction on all parts of the economy. It can estimate the impacts on GDP, unemployment, wages in given sectors and changes in trade balance in effect of tariff reduction. However it is not possible to put non-tariff barriers into a model. Since Francois's analysis was a starting point for the AMO study, the author found it necessary to mention the results. The results of the study are summarized

as follows (Centre for European Policy Studies (CEPS), Korean Institute for international and Economic Policy (KIEP), 2009):

- KR stands to make significant gains in real income, which will increase up to 2.4% of GDP in the most ambitious liberalization scenario considered.
- The effect on European incomes is marginal, but generally positive.
- The biggest income gains in Europe come from services liberalization. This is mainly because the barriers to trade are assumed to be real resource costs (whereas the tariffs and quotas applied in other sectors at least generate tariff revenue or quota rent). Services liberalization raises real incomes in the Republic of Korea by up to 2%.
- Services liberalization leads to a rise in services exports from the EU to the Republic of Korea, and lowers prices, raises choice and increases competition within Korean services sectors.
- Trade volumes increase more due to services liberalization than to the other forms of liberalization, although manufactures liberalization also benefits Korean exports to Europe.
- KR and the EU are not natural trading partners in agricultural products, with a few exceptions.
- The big beneficiaries of manufacturing liberalization are Korean car-makers, with output of electrical goods, iron and steel, non-ferrous metals and machinery also as 'gains'. The growth of these sectors in KR is mirrored by a (proportionately smaller) decline in Europe.
- European exports to the Republic of Korea only grow if there is significant services liberalization. In this case, business services, communication, transport

and finance all increase exports, taking a good share of the Korean market. Other business services in Korea are the most vulnerable to imports from Europe.

- Real wages in the EU barely change. Real wages in KR rise, with the unskilled faring better than skilled wage-earners.

The second study, published by the CEPS (2007), came up with some new important aspects. Firstly, the authors said that: “Deep FTA with Korea that successfully eliminates not only the tariff barriers but also the non-tariff barriers as well as securing investments and service liberalization is the only option to maximize the economic benefits for the EU”. Saying this, the authors brought up new topics that have not been covered in Professor Francois’s study. They realized that in case of the Republic of Korea, non-tariff barriers played the key role. Even if tariffs were eliminated, there would be no guarantee that European producers would be able to entry Korean market more easily. Apart from liberalization of trade in good, the authors said that liberalization of trade in services and improvements in investment were inevitable to get the maximum from the Agreement. They recommended that an agreement should have gone beyond a regular WTO free trade agreements template. The EU is the key world services exporter and the recently closed Korean market would represent many opportunities, if liberalization in this sector were agreed on. As the EU is the biggest investor in KR, the authors claimed that an agreement should come up with significant improvement and facilitation to invest in the Republic of Korea. They pointed at a need to assure a strong and functioning dispute settlement mechanism to resolve problematic issues in the future about implementing the measures agreed on in the Agreement. No concrete recommendations were given on the rules of origin since the specific rules had not yet been decided on at the time the study was published.

The only study that presented some country specific implications of the Agreement was the *Trade sustainability Impact Assessment of the EU-Korea FTA: Final Report* (Smith, 2008). The report provided some analysis on the CR in context of the automotive industry. It said that many well known automotive companies had established their plants in the Czech Republic and Slovakia. The authors presented a case study on the Hyundai Motor Manufacturing Czech's strategy in the Czech Republic. They brought out a strategic cooperation between Hyundai plant in the CR and Kia factory in Slovakia. The authors assumed a close cooperation in terms of suppliers network since the distance from the Kia site to the Hyundai location was less than 100 km. Both Korean investments in the Central Europe were made on the investment incentives by the host country. The study underlined delivery time saving and import taxes saving as the most significant reasons to place in these regions, although there could have been some recruitment-related difficulties and "the infrastructure [in the region] is under strain". The authors concluded that "the Czech plant is the final link in the chain providing Hyundai with the full range of local capabilities to serve the European market from design and engineering, to production, marketing, sales and after-service". The aforementioned quota signals the long-term strategic nature of Korean investment in the Czech Republic.

The study also came up with some criticism on the CGE model and pointed at its limitations. Regardless the well known fact that it is hardly possible to comprehend non-tariff barriers into the model, the authors added that the model "underestimates intra-industry trade while it exaggerates the significance of the inter-industry adjustments" (Smith, 2008). This argument plays the key role especially in the automotive industry where intra-industry trade of parts and accessories for motor vehicles represents the significant part.

Despite the fact that the last study went further in terms of practical implications than the previous two, a further analysis of rules of origin and potential impacts of duty drawback (DDB), that cause the most of worries on the Czech side, is missing. In terms of rules of origin, the study only recommended to keep higher local content requirement where the external MFN tariffs are high (automotive) and relax the rules where they are low (i.e. telecommunication technologies). The authors advised to give in cumulation of content in order to facilitate intra-industry trade between the Republic of Korea and the EU.

II. METHODOLOGY

This section will demonstrate the methods used by the researcher. The qualitative analysis will be utilized to define the Czech sensitive sectors. Some critical issues, namely, non-tariff barriers, rules of origin and a mechanism of duty drawback will be clarified. The author explain Hariss's methodology in terms of rules of origin and in order to better understand a mechanism of duty drawback European commission's methodology will be demonstrated since it plays a critical role in the EU-Korea FTA context the. Lastly, a qualitative comparison of non tariff barriers in the situations before and after the Agreement will be presented as it cannot be quantified.

2.1 SENSITIVE SECTOR ANALYSIS

A quantitative research was completed in order to define the Czech sensitive sectors in context of the Agreement. The sensitive sectors are those where the highest Czech-Korean, Korea-European and Czech-European bilateral trade volume occurred between 2004 and 2009. The secondary data of the International Trade Centre (ITC, Trade map), the Czech statistical office, and the UN COMTRADE were utilized.

The analysis took two steps. Firstly, the top 10 sectors by volume of Czech-Korean bilateral trade were defined, and consequently the Top 5 Czech-European and Korean-European sectors were specified. Secondly, the researcher utilized the coefficient of variation (“CV”) to define sensitive sectors regarding the relatively low Czech-Korean bilateral trade volume in order to avoid exaggeration in the sectors where business had ad hoc nature. The coefficient of variation made it possible to figure out relatively stable sectors over a given period of time. The general rule is as follows: the smaller the coefficient for a given sector, the lower volatility over a period. In our case, the coefficient was utilized to make out the sectors where bilateral trade volumes were relatively high over the period from 2004 to 2009. Those sectors where the CV exceeded 2 were not defined as sensitive; the sectors where an extreme value in some year has occurred, while in other years it was close to zero were eliminated.

The formula of the CV is given bellow:

$$CV = \frac{s}{\bar{X}}, \text{ where}$$

$$CV = \text{coefficient on variatin}; s = \text{standard deviation}; \bar{X} = \text{mean}$$

The Lafay index was utilized to measure Czech and Korean revealed competitive advantage in the sensitive sectors. The higher the index the higher revealed competitive advantage a given country has in a given product. The European Central Bank defines the index as follows (Zaghini, 2003):

$$LFI_j^i = 100 \left(\frac{x_j^i - m_j^i}{x_j^i + m_j^i} - \frac{\sum_{j=1}^n x_j^i - m_j^i}{\sum_{j=1}^n x_j^i + m_j^i} \right) \frac{x_j^i + m_j^i}{\sum_{j=1}^n x_j^i + m_j^i}, \text{ where}$$

i = a given country;

j = a given product;

x_j^i = export of product j of country i toward the rest the world;

m_j^i = import of product j of country i from the rest of the world

2.2 NON-TARIFF BARRIERS ("NTBs")

A qualitative analysis was carried out to analyze non-tariff barriers liberalization. The author compared the situation before the Agreement came into force with the improvements given in the Agreement. The analysis was accomplished in chosen sensitive sectors only, because NTBs are important only in some sectors.

2.3 RULES OF ORIGIN ("ROOs")

In order to better understand the core of ROO it is important to know the linkage in between rules of origin, duty drawback and tariffs. Liberalized rules of origin create ground for further usage of the duty drawback mechanism that is one of the most significant export subsidies for domestic producers. With regard to Korean geography and the nature of Korean trade it plays a decisive role in case of the EU-Korea FTA. Once, the European rules of origin for a specific intermediate product (in this case parts and accessories for motor vehicles) are relaxed in effect of the FTA, than Korean domestic producers will import more parts from China since they will still be allowed to drawback the import duties on Chinese intermediate and they will export the final product (i.e. car in our case) at zero or very low tariff into the European market. Although European producers would be allowed to do the same visa versa in effect of the Agreement, their advantage will be much limited due to initially very low both export and import tariffs.

In order to quantify the change and liberalization of ROOs in effect of the Agreement, non-preferential and preferential rules of origin were compared. The preferential rules of origin were taken from the *Annex II of the Protocol of the rules of origin* of the Agreement while the DG TAXUD of the European Commission was the source for the non-preferential product specific rules (European Commission, 2010). The restrictiveness of the rules was measured by the Hariss index. The index evaluates the rules of origin using 3+1 criteria. Refer Chapter II to

find a detailed methodology and the full restrictiveness point schedule. Hariss (2007) has defined the criteria as follows:

1. Change of tariff classification: “[it] specifies a required change in tariff classification from the inputs imported from a non-member country to the final good output of the member country. All the rules of this form are defined using a national or regional tariff nomenclatures based on the Harmonized System (HS). Restrictiveness of the rule then depends on the magnitude of the required change”. Additionally, there is a system of exception “minus points” and addition “plus points”.
 2. Value test: “[it] specifies either a minimum fraction of the value of the final good accounted for by value added within member country, or a maximum fraction of the value of the final good accounted for by the value inputs imported from non-member countries. Restrictiveness of this form of rule then varies with the level or regional content”. Higher local content or lower maximum foreign content is required for a given product, higher the restrictiveness.
 3. Technical criterion: “[it] may require that one or more inputs be originating in a member country or that one or more parts of the production process take place in a member country, or both.... The primary difference is the absence of reference to a standard product nomenclature”.
- + Alternative rule points: Sometimes there are two coexisting options in order to meet preferential rules of origin. For example a producer can follow the rule to change of tariff classification on a heading level (4-digit HS) or he can follow the 50 % value added requirement. The restrictiveness of the product is less if the producer can choose which rule to follow.

There is a simplified schedule of restrictiveness points. The general rule says that the higher the score the tougher is to obtain an originating status of a given product.

Change of classification points:

ΔI (item, 8-digit HS)	+2
ΔS (sub-heading, 6-digit HS)	+4
ΔH (heading, 4-digit HS)	+6
ΔC (chapter, 2-digit HS)	+8

Value Test points:

>0 % and \leq 40 %	+5
>40 % and \leq 50 %	+6
>50 % and \leq 60 %	+7
>60 %	+8

Technical requirement points: +4

Alternative rule points: -2

The researched chose the Hariss index to measure restrictiveness in view of empirical studies on the effects of rules of origin around the world (i.e. (Estevadeordal A. , 2000), (Tapp, 2007)).

2.4 DUTY DRAWBACK (“DDB”)

Despite duty drawback mechanism is frequently used in context of the EU-Korea FTA, it is often misunderstood. The mechanism as defined in the Agreement on Subsidies and Countervailing Measures under the WTO (WTO, 1994) given a definition.

Duty drawback is a granted export subsidy under the WTO. The Agreement on Subsidies and Countervailing Measures (ASCM) describes it as follows: “Drawback systems can allow for the refund or drawback of import charges on inputs which are consumed in the production process of another product and where the export of this

latter product contains domestic inputs having the same quality and characteristics as those substituted for the imported inputs” (WTO, 1994). The maximum amount to be recharged equals the amount paid on duties applied on imported material and intermediates. Governments who provide with DDB are obliged to monitor the total refunded amount. The authorities within the WTO inspect, if the DDB is used in “reasonable” and effective matters and if it meets its goals.

The goals behind DDB are (1) to compensate costs originating from existing protectionist measures for domestic exporters (import duties, quotas, etc.) and (2) to allow domestic exporters to get materials and intermediates from abroad for the world price while the protectionist measures are maintained.

The following example helps us to better understand its use. In the Republic of Korea, there is an 8 % MFN tariff on parts and accessories for motor vehicles. In case a Korean exporter imports parts from China in the amount of 1000 EUR and he proceeds the parts in production of a new product that is consequently exported to the EU, than the exporter can claim to call back the duty he has paid for Chinese parts. In this case, he would get back 80 EUR (0.08×1000).

There is a review of the measure as defined in the Agreement on Subsidies and Countervailing Measures:

- The mechanism of duty drawback (DDB) is a subvention reducing and eliminating the tariffs that domestic producers pay for imports of material or intermediates that are used in production for exports.
- DDB is defined as a granted export subsidy. Other subsidies for domestic producer are prohibited under the WTO.

- There is no link between DDB and the rules of origin in the definition under the agreement on subsidies and countervailing measures.
- The ASCM does not refer to DDB within free trade agreements. It is up to the partner countries to decide if DDB will be allowed in an FTA or not.

The methodology used to calculate the possible impacts of DDB on sensitive sectors comes from the document *the future of Duty drawback in the rules of origin of EU's Free Trade Agreements* European Commission (2010). The methodology enables to calculate possible savings that Czech and Korean producers might enjoy after the Agreement come into force or during the transition period comparing with the situation before the Agreement. The author used the methodology as the only official, qualitative, EU's approach to deal with the effects of DDB in effect of the Agreement.

Total custom duties (TCD) are defined as follows:

TCD = duty paid to import parts & acces. to KR – DDB + duty paid to export a final product into the EU, where

*Duty paid to imports = foreign content*average price of final product*MFN on parts & accessories*

DDB= Duty paid to imports

*Duty paid to export a final product = average price of a final product*MFN tariff on a final product*

Savings from the Agreement are calculated by the following formula:

$$savings = TCD_{before\ the\ Agreement} - TCD_{after\ the\ Agreement}$$

III. SENSITIVE SECTORS ANALYSIS AND COUNTRY

PROFILE

The purpose of this section is to confirm or reject the hypothesis that the Republic of Korea and the Czech Republic indicate similar sensitive sectors, and that Czech competitiveness in the European market might be endangered after the Agreement takes effects. After the country profiles are presented, the Czech sensitive sectors will be analyzed on bilateral trade basis and based on Czech-EU and Korean-EU bilateral trade. Lastly, the effects of the ROOs, DDB, and NTBs in sensitive sectors will be scrutinized.

3.1 COUNTRY PROFILES & BILATERAL TRADE

The Czech sensitive sectors will be defined on the 2-digit harmonized system level. After the country profiles are analyzed with respect to the IMD Competitiveness Yearbook 2009, the Czech-Korean, Korean-European and Czech-European bilateral trade will be scrutinized.

3.1.1 THE CZECH REPUBLIC

In accordance with the International Trade Centre, the Czech Republic is a small, open, and export oriented economy. In 2008 GDP reached 216 485 million USD in 2008, while trade per capita for the last three years equals 26 063 USD. The trade to GDP ratioⁱ equaled for 151.8 %. This number shows the country's extreme dependence on international trade. It stems from the limited size of Czech domestic market, thus an insufficient domestic demand for domestic goods. In terms of share in total world merchandise exports, Czech exports represent 0.91 %; in world trade in services, Czech exports count only for 0.59 %. On the topic of the Czech exports structure, exports in merchandise represent 86 %, while exports in services take only 14 %. Czech exports are characterized by manufacturing. This sector stands

for 77 % of all exports. Within the frame of manufacturing, the automotive industry and related industries produce 45 % of GDP. Agriculture products generate merely 4.7 % of total exports. Czech exporters benefit significantly from the presence on the EU internal market. Far the most (85.25 %) Czech products flow into the EU member statesⁱⁱ. Other key destinations are the Russian Federation, the United States, Switzerland and Ukraine.

The Czech Republic as a previously spoke countryⁱⁱⁱ took an advantage of the “unbundling of the manufacturing process” (Baldwin, Evenett, & Low, Beyond Tariffs: Multilateralizing non-tariff RTA commitments, 2008). It indicates that Czech companies or foreign companies established in the Czech Republic can produce at lower costs and take advantage of the European internal market. Not only the old European states^{iv} encouraged their firms to invest in the Czech Republic, but the Czech government has launched investment incentives to create a positive investment environment for foreign companies. Czech government set up flexible rules for foreign investors to acquire control in domestic companies and invested in creating industrial parks and infrastructure. Foreign direct investment represented a very important item for the overall picture of the economy. There was an enormous surplus in terms of inward-outward investment over outward. While the inward investments added up to 40204 million USD in 2006, outward investments counted for only 3135 USD (International Trade Centre). This tendency appears to be maintained.

The IMD Year book 2009 summarizes Czech competitiveness as follows. Exports in goods as a percentage of GDP were revealed as the core competences. The real short-term interest rate is set to provide companies with sufficient resources to finance their projects. The unemployment rate is very low as compared with other tested countries. Low unit labor costs in manufacturing, foreign investors’ freedom to acquire control in domestic companies and an

access to the European internal market create an incentive for massive inward FDIs. Low tariffs imposed on imports open the country to world trade.

In terms of weaknesses, the Czech Republic performs very low exports in commercial services. In spite of the fact that the volume increased slightly in the 2008, the country took the 35th position among 57 countries tested within the IMD analysis. It is not surprising that direct investment flows abroad as a percentage of the GDP stands as a threat for the Czech economy saying that the outward/inward FDIs ratio^v in services equals 7.8 % (International Trade Centre) and saying that the services-oriented FDIs count for more than 50 % of the world trade (Fink & Jansen, 2008). The country took the 43th position among 57 tested countries in this criterion. The IMD Yearbook specified government subsidies and pension funding as twofold problematic issues. The first refers to the volume of subsidies given to companies, private and public, as a percentage of GDP. Public money is not used appropriately and corruption distorts economic efficiency. The second issue is the inadequate pension funding system. As the population is getting older, an outdated and nonfunctional system will not be able to provide with sufficient expense coverage for the next generations. Lastly, in terms of infrastructure, the Czech Republic faces problems of low higher education achievement as a percentage of population that has attained at least tertiary education for persons aged 25-34. The lack of high skilled and educated experts may cause serious problems in achieving sustainable development. The stringent environment laws and regulations raise cost of production and decrease competitiveness of Czech firms.

3.1.2 THE REPUBLIC OF KOREA

According to the International Trade Centre, the Republic of Korea is the 11th largest economy in the world (Guerin, et al., 2007). The country reached GDP of 929 121 million USD in 2008, while trade per capita was 18 249 USD. The trade to GDP ratio amounted for 90.5 %. This high percentage refers to a bigger domestic market as compared with the CR,

but still strong dependence on international trade. Korean share in world exports of merchandise equaled 2.63 %. In case of world trade in services, Korean exports represented 1.96 %. In terms of domestic export structure, manufacturing created 81 % of all the exports. The major industries were ship building, automotive and electronics. Agriculture products counted only for 1.6 % of total Korean exports. Services took only for 6.7 % of total trade where transportation created more than 50 % (58.8 %).

The final markets for Korean products are more diverse compared to the Czech Republic. China is the biggest importer with 22.1 %, followed by the EU-27^{vi} (15.1 %), the United States (12.4 %) and Japan with 7.1 % (Garelli, 2009). Big Korean companies have more global strategies and they diversify their products and compete on geographically very distant markets. Some Korean companies even aspire for the global number one position in their fields.

The Republic of Korea was a traditionally very protectionist economy. Close government and business ties, import restrictions, and government encouragement for saving over consumption (CIA) had been the key characteristics of its economic miracle since the 1960s. KR joined the WTO in 1995. However, the tariff reduction within the Uruguay round was not satisfactory, especially in agriculture where 10 % of tariffs remained higher than 100 % (OECD, 1999). Although we could observe much more marked success in industry than in agriculture and any other sectors, the non-tariff barriers were adopted to protect given industries and interest groups' concerns. After the stern economic crisis in 1997, the country changed its commercial policy significantly. In order to recover the economic turmoil, KR liberalized imports and got engaged in some free trade agreements.

The authors of the IMD Yearbook 2009 present Korea's competitiveness as follows. Exports in goods are the major part of Korean international trade. Manufacturing plays the key role in

the domestic market but KR invests in manufacturing abroad too. Korean trade is effectively diversified and responds to a world demand. In general, businesses and government invest in R&D and promote innovations. Six percent of GDP goes to R&D. Central government foreign debt as a percentage of GDP is low. Korean economy is strongly export-oriented and some protectionist trade barriers measures remain. Trade index refers to a strong exports surplus over imports and relatively high tariffs that disable trade partners to entry the market easily. In terms of customer behavior the IMD experts claim that domestic culture is not very open to foreign ideas. It takes time for consumers to replace domestic products by those made abroad. A significant part of the economy is created by giant semi-government companies (chaebols). Small and medium-size enterprises do not operate efficiently by international standards.

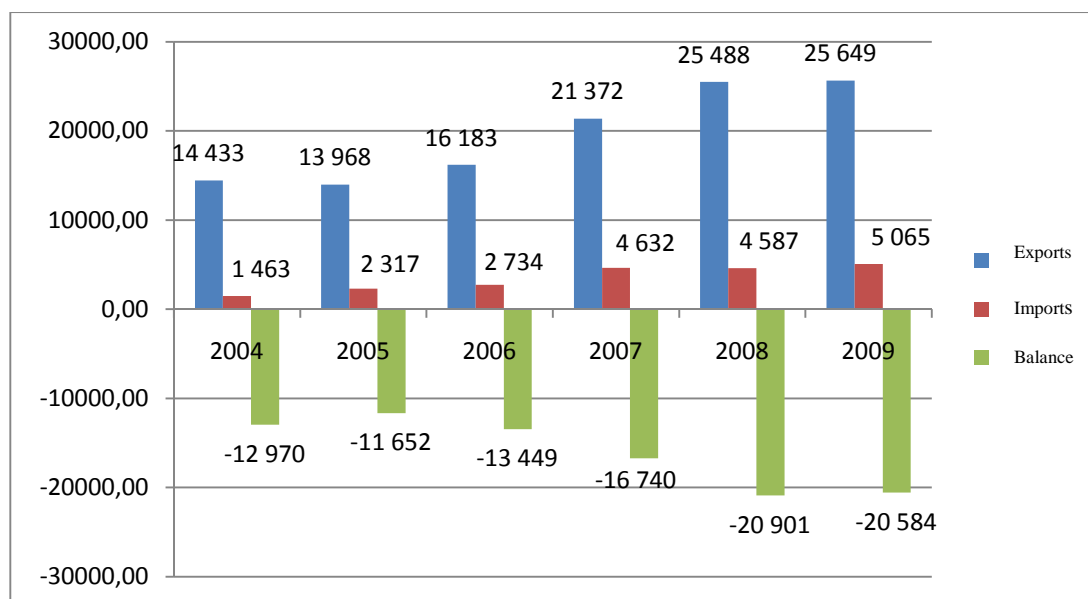
3.1.3 BILATERAL TRADE

The Czech Republic and the Republic of Korea are not traditional or “natural” trade partners. The explanation is threefold: geographical distance, different cultural characteristics, and nature of transition economies. The Czech-Korea trade volume was traditionally far behind the trade volume with Japan and China, although geographic distance is practically the same. The EU represents the most important trade partner and the final market for the CR. There is no non European country in the Top 10 list of Czech trade partners in terms of exports. The Republic of Korea takes the 35th position while Japan is not in the first twenty (Czech statistical office). In terms of imports, the Republic of Korea takes the 16th position while China is the second biggest importer and Japan takes the 10th position (Czech statistical office). This gap proves that distance alone is not a satisfactory explanation for the relatively low Czech-Korean bilateral trade volume. In addition, the researcher claims that the difference in between Chinese or Japanese and Czech culture is not much more marked than

Korea-Czech dissimilarity. That is why cultural divergence might be an important condition but not the decisive one to vindicate low volume and trade deficit.

The third condition needs to be added. The Republic of Korea has transformed from a transition economy to one of the world largest economies. As Korean companies got entry the European market, they were looking for appropriate locations to place their investments and production facilities. They found it among others in the CR. The Czech-Korean bilateral trade volume has an increasing tendency since 2007, when Hyundai Motor Manufacturing Czech (HMMC) established its production facilities in Eastern Moravia in Nosovice industrial park. Chart 1 on bilateral trade volume from 2004 to 2009 supports this argument.

Chart 1: Czech-Korean bilateral trade (millions CZK, 2004-2009)

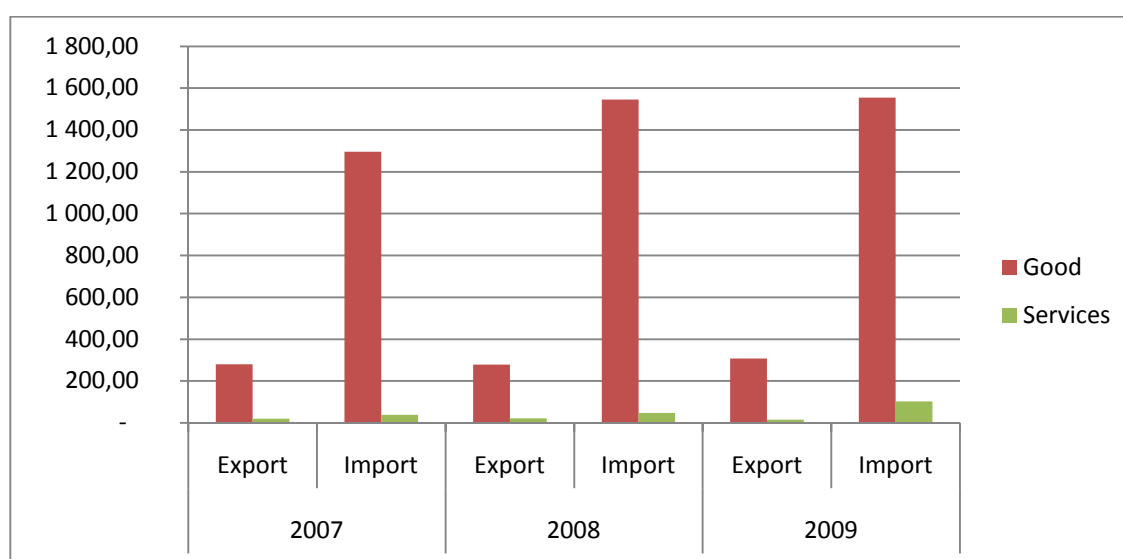


Source: (Savovová & Baladová, 2010), translated from the Czech version

Chart 2 refers present Korean imports in goods and services to the Czech Republic, and Czech exports in goods and services to KR between 2004 and 2009. From the Czech point of view, the imports exceed dramatically the exports. These numbers correspond to the hypothesis on final markets defined in the country profiles. Czech firms focus on the EU market while

Korean geographical trade structure is diverse. The bilateral trade is dominated by trade in goods. The imports from KR jumped between 2006 and 2008. Trade in services plays a marginal role in both imports and exports. The Czech Republic imports more services from KR then exports therein. Trade deficit in trade of services signals a potential problem since the EU, as a unit, should benefit the most from the trade in services as a consequence of the Agreement.

Chart 2: Czech exports to the Republic of Korea and imports from the Republic of Korea (million USD)



Source: Czech Statistical office

The presented data demonstrates the fact about Czech trade deficit with the Republic of Korea. Korean exports overbear the Czech in both goods and services. Czech exporters do not make much business in KR due to two reasons: geographic distance and cultural differences while Korean firm have overcome these burdens and have entered the European, thus, Czech market.

The sector structure of bilateral trade is analyzed in accordance with the 2-digits WTO harmonized system (HS). Table 1 shows the structure of Czech exports to KR from 2004 to 2009. Three chapters (HS 84, HS 85 and HS 95) created about 60 % of total exports while

none of remaining chapters reached more than 5 %. Chapter 84 (boilers, machinery, nuclear reactors etc.) represented almost 40 % of Czech exports to KR. It was the key sector for Czech exporters. Chapter 85 (electrical, electronical equipment) took the second position with 11.51 %. The last chapter that had exceeded 5 % was chapter 95 (toys, games, sports requisites). Chapter 87 (motor vehicles), the leading sector in terms of the Czech total exports to the world, represented only 3.67 % of the total exports. It means that cars produced in the Czech Republic were not as successful in the Korean market as they are elsewhere.

Table 1: Structure of Czech exports to KR (2004-2009)

HS description	Product label	Share on exports to KR
Chapter 84	Boilers, machinery, nuclear reactors etc.	39,87%
Chapter 85	Electrical, electronical equipment	11,51%
Chapter 95	Toys, games, sports requisites	7,83%
Chapter 90	Optical, photo, technical, medical apparatus	4,98%
Chapter 73	Articles of iron and steel	3,98%
Chapter 87	Vehicles other than railway, tramway	3,67%
Chapter 27	Mineral fuels, oils, distillation products	2,97%
Chapter 70	Glass and glassware	2,62%
Chapter 72	Iron & Steel	2,46%
Chapter 39	Plastics and articles thereof	1,72%
Chapter 86	Railway, tramway locomotives, rolling stock, equipment	1,68%
Chapter 29	Organic chemicals	0,95%
	Other	15,75%

Source: Czech Statistical Office (2010)

The author found it meaningless to investigate Korean exports to the Czech Republic with regard to the fact that Korean producers do not target the limited Czech market uniquely, but the European market as a unit. Instead, Korean exports to the EU were analyzed in order to specify the sensitive sectors. Table 2 shows Korean and Czech exports to the EU in 2007-2009. Chapters 84, 85, and 87 are in the Top 5 exported product labels in both cases. Czech exports in chapter 87 reached the peak in 2008 while decreased below the level of 2007 in 2009. However, Czech exports in this chapter significantly exceed Korean exports. Korean exports in chapter 87 dropped to a half from 10 990.5 million USD in 2007 to 4 468.6 million USD in 2009. Since chapter 87 is represented by automotive industry, the significant decline

in Korean exports in HS 87 was caused by huge Korean investment in the EU (i.e. Kia and Hyundai established its production facilities in these countries to be closer to the final market. More details can be founded in the section IV.b.). The exports in chapter 84 indicate the very same tendency. In 2009, KR exports to the EU in chapter 85 dropped by one quart to 10 630.2 million USD. Czech exports in 2009 got a value of 16 612.2 million USD.

The author found it interesting that chapter 95 (Toys, games, sports requisites) that plays an important role in Czech-Korea bilateral trade represents a marginal part in terms of Czech exports to the EU. These circumstances signal a potential opportunity for Czech producers in effect of the Agreement since Korean exports in this chapter into the European market are fractional.

Table 2: Czech and Korean exports to the European Union-EU 27 (thousand, USD)

Exports from the Czech Republic to the European Union -EU 27				
Product code	Product label	Czech Republic's exports to European Union (EU 27)		
		Value in 2007	Value in 2008	Value in 2009
'TOTAL	All products	102 816 167,00	124 477 508,00	95 577 711,00
'87	Vehicles other than railway, tramway	18 036 210,00	20 200 311,00	17 581 807,00
'84	Nuclear reactors, boilers, machinery, etc	19 881 816,00	23 163 086,00	16 688 225,00
'85	Electrical, electronic equipment	17 349 658,00	22 796 731,00	16 612 243,00
'73	Articles of iron or steel	5 039 184,00	6 264 756,00	4 084 645,00
'27	Mineral fuels, oils, distillation products, etc	3 093 263,00	4 778 701,00	3 942 876,00
Exports from the Republic of Korea to the European Union -EU 27				
Product code	Product label	Republic of Korea's exports to European Union (EU 27)		
		Value in 2007	Value in 2008	Value in 2009
'89	Ships, boats and other floating structures	7 321 609,00	10 130 933,00	12 212 930,00
'85	Electrical, electronic equipment	15 159 121,00	14 257 298,00	10 630 217,00
'90	Optical, photo, technical, medical, etc apparatus	4 616 217,00	5 867 171,00	5 065 793,00
'87	Vehicles other than railway, tramway	10 990 627,00	7 705 090,00	4 468 546,00
'84	Nuclear reactors, boilers, machinery, etc	7 798 046,00	6 874 161,00	4 374 062,00

Source: ITC

3.2 AUTOMOTIVE

The automotive industry is the only industry where Czech stakeholders expressed serious fears in connection with the Agreement. They said that it would endanger Czech producers' competitiveness in the European market, and Czech producers would not be able to overcome

non-tariff barriers whose elimination under the Agreement was not satisfactory. The arguments of the automotive industry are as follows:

1. Korean firms will replace production in the Czech Republic with duty free imports
2. Korean car makers producing in KR will utilize the liberalized preferential rules of origin with the purpose of dramatic increase of imports of parts and accessories from China and consecutively they will export unfairly cheap cars into the EU.
3. Korean exporters will benefit endlessly from DDB.
4. DDB will be a harmful precedent for future European FTAs with developed partners.

The purpose of this section is to analyze if such arguments are substantial.

3.2.1 BILATERAL TRADE ANALYSIS

Two headings within chapter 87 have been defined as “sensitive” using the ITC data. These are the headings: heading 8703 (cars incl. station wagon, “cars”) and heading 8708 (parts & accessories of motor vehicles, “parts and accessories”). Table 3 shows Czech and Korean exports to the EU in the aforementioned headings in 2008. KR exported cars (heading 8703) a worth of 5.26 billion USD while the Czech volume was about 9.5 billion USD. Czech dynamics of exports was stronger. The data indicates the per annum growth in share of world exports in cars by 16 % in case of the Czech Republic but the decline by 5 % in case of KR. The Lafay index confirmed better perspectives for Czech exports of cars over Korean. The revealed competitive advantage is higher Czech exports within heading 8703.

The experts from the International Trade Centre indicated dynamically growing Czech exports in heading 8703 (cars incl. station wagon) as “emerging product” while in case of KR they talked about “snail” as the result of relatively low annual growth. Better evaluation for Czech exports refers to good perspectives within the heading. Korean production in heading 8703 is said to be mature, and experts do not expect intensive growth. The reason is that Korean companies have been relocating production facilities closer to their final markets.

They have established their plants in the Czech Republic, Slovakia, China, India or Uzbekistan.

The Agreement brings up the following transition periods to remove the tariffs within heading 8703. In case of the EU, an initial 10 % tariffs will be gradually eliminated within the period of 5 years. On the other hand, KR imposed 8 % tariffs, and the transition period will take only 3 years. In other words, Czech producers will be allowed to export duty free cars into KR in 3 years after the Agreement comes into force while Korean producers will have to wait for 5 years.

The absolute Korean export volume of parts and accessories for motor vehicles (heading 8708) into the EU reached 2.24 billion USD in 2008 while the CR exported a worth of 8.66 billion USD. Czech exports within the heading noticed much higher revealed competitive advantage according to the Lafay index whereas it refers about a relatively low advantage in case of KR. However, higher dynamics in Korean exports into the EU refers to good perspectives for future, too. The experts from the International Trade Centre specified heading 8708 as “emerging product” in CR and KR. Trade figures and structural performance are shown in table 3.

Table 3: Competitiveness comparison: Chapter 87 (in 2008)

Czech exports to the EU and its competitiveness					
	Exports in value (thousand USD)	Growth of share in world exports (% p.a.)	Structural Performance	Net trade (thousand USD)	Specialization (Lafay Index)
8703 Cars (incl. station wagon)	9,586,699	16,00	Emerging product	6,834,592	34,00
8708 Parts & access of motor vehicles	8,668,865	11,00	Emerging product	3,498,148	17,00
Korean exports to the EU and its competitiveness					
	Exports in value (thousand USD)	Growth of share in world exports (% p.a.)	Structural Performance	Net trade (thousand USD)	Specialization (Lafay Index)
8703 Cars (incl. station wagon)	5,258,408	- 5,00	Snail	3,714,632	21,00
8708 Parts & access of motor vehicles	2,240,783	16,00	Emerging product	1,207,623	4,00

Source: ITC

In 2009, the Republic of Korea hold the 5th position on the Czech top importers list within heading 8708, while in 2005, the country was not in the top 20 (International Trade Centre). Table 4 shows data on Czech imports from the Republic of Korea in heading 8708 from 2004 to 2009. In 2006, 2007, and 2009 the annual growth reached more than 100 %. In 2008, it dropped to 57 % in effect of the financial crisis. The imports grew by an extreme value of 4020 % during the period. It is evident that imports started rocketing in 2007 due to the investment of Hyundai Motor Manufacturing Czech. The author claims that tariff elimination in effect of the Agreement can support this trend, however, the Agreement is not a starting gear of any new tendency given that Korean production of cars in the CR started in 2007, and Korean firms have been importing huge amounts of parts & accessories (8708) since then.

Table 4: Czech imports from KR: heading 8708

	2004	2005	2006	2007	2008	2009
Imports from KR production in the CR	5%	4.2 %	7%	37%	60%	N/A
Growth of imports from KR (base line 2004)	0	-10%	83%	906%	1482%	4020%
Annual growth of imports from KR	N/A	-10%	103%	450%	57%	161%
Balance (in thousand USD)	1 787,64	2 368,62	- 2 927,22	- 49 860,47	- 82 663,99	- 227 351,47

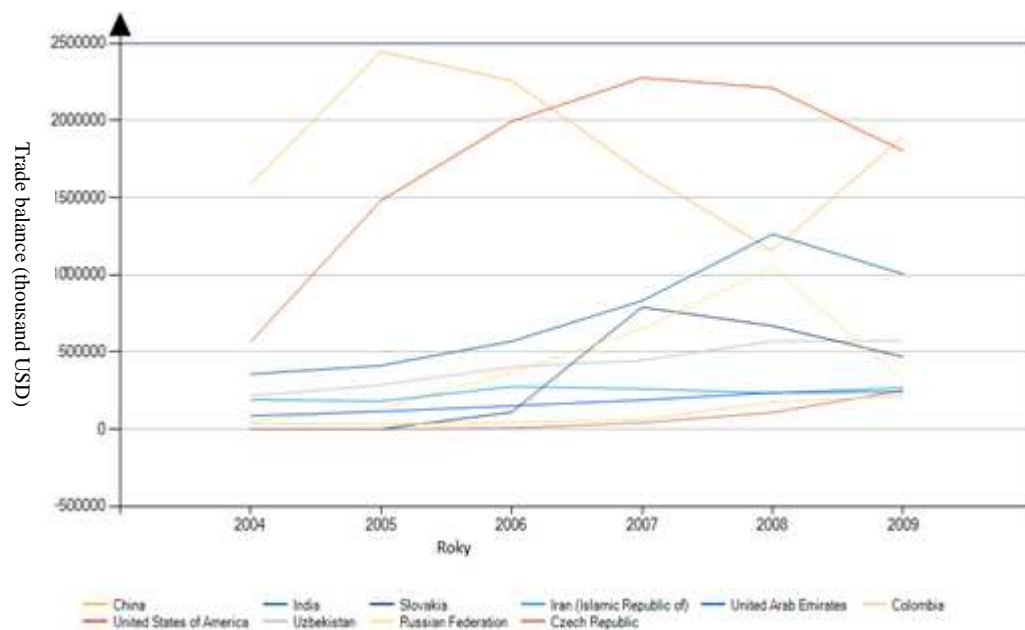
Source: Czech Statistic office & the Ministry of Trade and Industry of the Czech Republic, own analysis

While Korean exports of parts and accessories for motor vehicles grew more dynamically than the Czech exports in 2008, the net trade data indicated lower imports. Put differently, Czech producers imported more products within the heading, in an absolute value, than Koreans. The CR imported parts and accessories in amount of 5.6 billion USD and KR imports were 3.41 billion USD. Additionally, the Korean-Chinese trade balance was analyzed in order to reject or support the argument of Czech automotive industry about a threat of increasing Chinese imports into KR and consecutive exports of cars into the EU in effect of the Agreement. Chart 3 indicates that KR kept an active trade balance with China in heading 8708 from 2004 to 2009. Despite the fact that the surplus dropped in 2007 and 2008, there was reflation in 2009. Only the fact of an active trade balance with China itself is surprising. If there is an active trade balance in a long term, the threat of a sudden change in sourcing pattern in effect of the Agreement is not considered as likely.

In terms of tariff reduction within heading 8708, KR committed to remove the 8 % tariff on parts & accessories on the date the Agreement comes into force. In case of the EU, the same date for full elimination is agreed on as the initial tariffs varied from 3 % to 4.5 %. It seems likely that Korea will export more parts & accessories in effect of the Agreement due to tariff elimination and relating to even recently high import volume into the Czech Republic and

other member states.

Chart 3: Korean trade balance with the key traded partners: heading 8708



Source: ITC

3.2.2 RULES OF ORIGIN

The non preferential and preferential rules of origin are compared in order to reject or accept the hypotheses that preferential rules of origin applied after the Agreement will provide with higher protection for the sensitive headings. Table 5 summarizes an analysis on the preferential and non-preferential rules of origin for chapter 87 and the sensitive headings 8703 and 8708. The author analyzed two situations: firstly the circumstances before the Agreement when non preferential rules of origin were applied, secondly, the after-Agreement situation with respect to preferential rules of origin.

In context of the ROOs, the Agreement represents overall liberalization within Chapter 87. Sixty-two percent of the headings will be liberalized, 38 % will keep the same restrictiveness, and no heading will be more protected in effect of the Agreement. An average restrictiveness within the chapter measured by the Hariss index (HI) will drop from 6.75 (non-preferential

ROOs) to 5.0 (preferential ROOs), and standard deviation signals relatively high volatility among headings before and after the Agreement. It means that Korean exporters will be allowed to export more final products made with non-origin intermediated to the EU as initially required domestic content will be weakened.

Heading 8703 (cars) indicates above average restrictiveness in both analyzed situations. The non-preferential rules of origin reached a worth of 8; the Agreement will reduce it to a value of 7^{vii}. Put differently, the European market will keep strong restrictiveness although the product specific rules will be slightly liberalized under the Agreement. It will not be much easier to get an originating status for cars produced in the partner country.

The worth of Hariss index for parts and accessories refers to low restrictiveness before and after the Agreement. There were the very flexible non-preferential rules of origin, and the Agreement just keeps up the trend. The Hariss index in a value of 3.0 indicates an easy procedure to get an originating status in both analyzed situations, thus, the product specific preferential rules for parts and accessories for motor vehicles do not represent any turning point in the European strategy of ROOs. The preferential ROOs follow the trend of ROOs liberalization since European producers have been importing parts and accessories from abroad.

Table 5: Preferential and non-preferential ROOs: Chapter 87

Non – preferential ROOs				Preferential ROOs			
HI		HI		HI		HI	
Mean (HS 87)	6,75	Standard deviation	3,11	Mean (HS 87)	5,00	Standard deviation	2,00
Maximum	10			Maximum	7		
Minimum	3,00			Minimum	3,00		
HS 8703	8			HS 8703	7		
HS 8708	4,00			HS 8708	3,00		
Share of liberalized ROOs		Share of more restrictive ROOs		Share of "same" ROOs			
62%		0%		38%			

Source: Annex II of the Protocol of the ROOs, European Commission (2010), own analysis

3.2.3 DUTY DRAWBACK

Duty drawback is a granted export subsidy under the WTO. Serious objections were revealed against it right after the Agreement was signed in October 2009. The complainants, representatives of Czech and European automotive industry, claimed that DDB would advantage Korean car makers over Czechs and Europeans. They said that their competitiveness will be unfairly jeopardized. The purpose of this section is to show possible impacts of DDB in effect of the Agreement on Czech and Korean exporters on an illustrative example. The researcher presents the following illustrative example to address existing fears.

Let's suppose that a Korean producer in KR exports cars (heading 8703) into the EU and vice versa. The same firm imports parts and accessories (heading 8708) from a third country. In case of the EU, there is the 10 % MFN tariff on cars while the 3 % tariff on parts and accessories is applied. KR imposes the 8 % tariff on imported cars and the 8 % tariff on parts and accessories. The Agreement changes the tariffs during the transition period as follows: (1) the European import duty on cars will drop to 5 % and Korean to 3 %. The MFN tariffs on imports of parts and accessories from a third country are not covered under the Agreement. They remained unchanged on 3 % and 8 %, respectively. The maximum allowed foreign content in cars to get an originating status according to the non-preferential rules of origin

(before the Agreement) is 40 % whereas the maximum level in case of the preferential rules of origin (after the Agreement) is 45 %. An average car price is 15 000 EUR per unit in both cases. The last presumption is that DDB was allowed in the situation before the Agreement and an exporter could have used it in full extent and for unlimited time. With the purpose of calculation potential savings, the author used the methodology given in the document the *Future of Duty drawback in the rules of origin of EU's free trade agreements* (European Commission, 2010) .

Table 6 shows the savings coming from an illustrative example for a Korean exporter in two different situations: (1) the Agreement is ratified, (2) a hypothetical situation when an agreement where DDB is not allowed is ratified. With accordance to the methodology, the total custom duties (TCD) that ought to be paid in given situations are presented, and the saving comparing the TCDs with the situation before the Agreement are calculated.

Before the Agreement, the EU imposed the 10 % MFN tariff on imported cars, and the non preferential rule of origin allowed 40 % of non-originating material to get an originating status. Korean exporter's total custom duties were 1500 EUR per unit (see below).

$$TCD = (0.4 * 15000 * 0.08) - (0.4 * 15000 * 0.08) + 0.1 * 15\ 000 = 1\ 500$$

In effect of the Agreement, the tariffs on imported cars will be reduced, thus, total custom costs will drop. Since DDB is allowed, costs on parts & accessories will be fully refunded. The preferential rules of origin enable 45 % of non originating material to get an originating status. In this case a Korean exporter will pay 750 EUR per unit after the Agreement.

$$TCD = (0.45 * 15000 * 0.08) - (0.45 * 15000 * 0.08) + 0.05 * 15000 = 750$$

An exporter will pay 1290 EUR per unit in the hypothetical situation where DDB is not allowed under the Agreement. He will lose a claim to be repaid for the duties on the imports of parts & accessories. His total custom duties to be paid are given below.

$$TCD = (0.45 * 15000 * 0.08) - 0 + (0.05 * 15000) = 1290$$

To conclude, a Korean exporter will save 750 EUR per unit (1500-750) if the Agreement is ratified. On the other hand, his savings will drop to only 210 EUR per unit (1500-1290) in the hypothetical situation where DDB is not allowed. This is the reason why KR pushed through an allowance of DDB as a breakpoint during the negotiation. The benefits for Korean producers from the Agreement would be fundamentally reduced if the DDB was forbidden.

Table 6: Savings in effect of the DDB allowance under the Agreement: Korean exporter

	Before the Agreement	After the Agreement	Hypothetic situation (DDB denied)
EU import tariff on cars	10%	5%	5%
Korean import tariff on parts & accessories	8%	8%	8%
Rule of origin	40%	45%	45%
Car price (EUR/unit)	15000	15000	15000
Custom costs on parts & Access. imported to KR	480	480	480
Custom costs on cars exported to the EU	1500	750	750
DDB	480	540	0
Total custom costs	1500	750	1290
Savings from the Agreement	-	750	210

Source: own analysis

Table 7 shows the same example from the point of view of a Czech producer. Before the Agreement he paid the total custom duties to export cars into KR in a value of 1200 EUR per unit. In case that the Agreement is ratified (“after the Agreement”) his total custom costs will reach 450 EUR per unit. It corresponds to the savings in a value of 750 EUR per unit. On the other hand, he will pay 653 EUR per unit in the hypothetical situation where DDB is forbidden under the FTA. His savings will drop to 547 EUR per unit. Duty drawback does not represent

such a huge difference for a Czech producer since the MFN tariffs on parts & accessories are low in the EU. A Czech producer will save relatively less in effect of the allowance of duty drawback than a Korean car maker.

Table 7: Savings in effect of the DDB allowance under the Agreement: Czech exporter

	Before the Agreement	After the Agreement	Hypothetic situation (DDB denied)
KR import tariff on cars	8%	3%	3%
EU's import tariff on parts & accessories	3%	3%	3%
Rules of origin	40%	45%	45%
Car price (EUR/unit)	15000	15000	15000
Custom costs on parts & Access. imported to the EU	180	203	203
Custom costs on cars exported to KR	1200	450	450
DDB	180	203	0
Total custom costs	1200	450	653
Savings from the Agreement	-	750	547

Source: own analysis

The author presents few arguments in order to reject or accept the hypothesis that an allowance of DDB will be beneficial only for Korean exporters since the MFN tariffs are higher on the Korean side:

- Duty drawback represents savings for both Korean and Czech exporters, however Korean exporters will perform higher savings due to the higher MFN tariffs on parts & accessories.
- Hyundai Motor Manufacturing Czech, encouraged by Czech government investment incentives, has invested in production facilities in the Czech Republic. This behavior clearly evokes the changing strategy of the Korean company to relocate production in heading 8703 closer to the final market. A duty drawback mechanism will not bring much benefit to car makers in KR if Korean cars for the EU's market are produced in the CR instead of being imported. The author claims that Korean imports of cars (heading 8703) will not replace

production in the Czech Republic and, thus, Czech competitiveness within the heading will not be endangered.

- Korean growth in exports of parts & accessories (heading 8708) to the EU are more dynamic than the Czech, and bilateral trade figures show an extreme increase even before the Agreement was signed. Duty drawback in connection with very flexible ROOs within heading 8708 could bring significant savings on the Korean side and it might endanger Czech competitiveness if parts and accessories of any HS heading used in production of product of heading 8708 were imported from China to KR and if the final product - parts and accessories for motor vehicles (heading 8708) were exported to the EU.
- In case that KR and the EU contracted free trade agreements with new partners in future (ASEAN, India, Japan, China etc.) the advantage on Korean side would disappear as the MFN tariffs on the Korean side would be reduced.

The hypothesis that an allowance of DDB is beneficial only for Korean producers is rejected. Duty drawback will bring saving on both sides, and it will not be the cause of some extreme growth in Korean exports of cars to the EU's market. There is some threat that the Agreement can endanger Czech producers of parts and accessories for motor vehicles, thus their competitiveness, considering the trend in Korean exports into the European market within the heading.

3.2.4 NON TARIFF BARRIERS

The experts say that NTBs would create serious difficulty to entry the Korean market even if the tariffs were eliminated. This section deals with non-tariff barriers in the automotive industry. The purpose is to briefly explain the existing NTBs before the Agreement comes

into force, to analyze the improvement in effect of the Agreement, and to evaluate the impacts of NTBs elimination on Czech competitiveness in the Korean market.

Korean producers govern majority of the domestic market. The data from the Korean statistical agency shows that Korean carmakers possess 95 % of the market while foreign importers take only 5 %. European producers have to face three groups of problems in order to do business in KR: (1) forenamed nature of the market, (2) customer behavior characterized by certain aversion against foreign products, and (3) the non-tariff barriers. Some controversial protectionist non-tariff barriers and technical requirements practically disallow to trade in KR. There is a list of the most obvious examples of these protectionist measures.

- Regulation on the maximum noise level: In Korea, the international measurement standards are officially valid, however, local regulations prescribe special requirements for cars to undergo a local testing procedure. The testing procedure is more stringent than the international standards. European cars face regular problems to meet this special regulations.
- Width of car: Korean requirements are incompatible with the international standards.
- Ownership status: special purchase fees or registration fees are charged in some cases.
- Special Korean certification and safety standards are required with personal cars: i.e. foreign technical innovations are not allowed to be launched in the market despite of proved good functioning based on international experience. While some American standards on innovative technologies, although less strict than the European, are allowed, the European do not meet Korean requirements. The regulations often do not reflect fast going technical advancement in the field.

- OBD (on board diagnostic devices): the American standards are gradually accepted while the European are still ignored. This practice raises European producers' costs comparing with their American competitors and seems to be discriminatory.

The Agreement will help to overcome some of these burdens via the following actions:

1. Parties will recognize that NTBs limit significantly bilateral trade. They have agreed on NTBs mutual elimination.
2. World Forum for Harmonization of Vehicle Regulations within the framework of the United Nations Economic Commission for Europe (UN ECE) will be equivalent and sufficient with the Korean local regulations.
3. Another 29 Korean standards will be integrated and harmonized into the UN ECE standards within the transition period of 5 years.
4. These Korean standard that will not be harmonized or integrated will only be implemented in such extent that does not create any new barrier to entry the Korean market.
5. KR will recognize an on-coming European regulation on on-board diagnostic device (EWO-6) as the equivalent regulation with Korean standards.
6. European exporters will have an opportunity to decide if they will accept the Korean emission standards or not. Korean producers will not be obliged to implement the European Ultra Low Emission vehicle regulation (ULEV).
7. Each product that meets the standards and regulations specified in the list in the Annexes 2-C-2 and 2-C-3 of the Agreement will be allowed to entry the market in the EU and KR.
8. All the regulations specified in the list in the Annexes 2-C-2 and 2-C-3 of the Agreement will be revised and up-dated periodically once in 3 years.

The 8 % tariff applied by the Republic of Korea will be eliminated in 3 years. However, the tariff cut is not a sufficient action to facilitate European producer to entry the Korean market. Under the Agreement the Republic of Korea committed to proceeding improvement as listed above, particularly to accept the European safety standards and to harmonize other local regulation in order to avoid discrimination. The NTBs elimination in effect of the Agreement opens the door for European car producers to entry the Korean market. Nonetheless European producers will go on to face costumer behavior characteristics that refer about strong support for domestic products over foreign ones, but his issue is out of the scope of the thesis.

3.3 OTHER SECTORS

The purpose of this section is to analyze the other sensitive sectors. The author concentrates on new opportunities that the Agreement will bring to Czech exporters. Since Czech representatives of the sectors did not express any objections, the author assumes that the Agreement will not represent any serious threat for Czech exporters in the European market.

3.3.1 *MACHINERY (CHAPTER 84)*

Machinery performed far the highest Czech export volume to KR. It took 39.9 % (Table 1). This figure signals some perspective for future. Table 8 shows the sensitive headings within chapter 84. Notwithstanding, heading 8483 indicates the highest volume among the headings in 2009, the value was the lowest in the last three years. Headings 8413 and 8481 performed stable figures during the analyzed period. Heading 8466 rocketed in 2009 when the volume reached a value of 9.8 million USD. Some growth was carried out in heading 8426.

Table 8: Czech exports to KR: Chapter 84 (thousand USD)

Heading	Product label	Czech Republic's exports to Republic of Korea		
		Value in 2007	Value in 2008	Value in 2009
'8483	Transmission shafts & cranks, bearing housing; gearing; etc	48905	60532	36887
'8413	Pumps for liquids; liquid elevators	15779	13137	16108
'8481	Tap, cock, valve for pipe, tank for the like incl. pressure reducing valve	11205	11981	11805
'8466	Machinery parts & acces. (machinery of heading 84.56 to 84.65)	225	190	9837
'8426	Derricks; cranes; straddle carriers & works trucks fitted with a crane	631	1138	2728

Source: ITC

Table 9 shows the effects of the Agreement on the sensitive headings within chapter 84. The 8 % tariff will be reduced to 0 % in all the headings except heading 8426 where the 0 % MFN tariff has been imposed. The transition period will take from 0 to 3 years. In case of heading 8481, the transition period will be 7 years.

Table 9: Effects of the Agreement: Sensitive headings within chapter 84

Heading	Tariff reduction	Transition period
8413	8 % -> 0 %	0 - 3 years
8426	0 % -> 0%	
8466	8 % -> 0 %	0 - 3 years
8481	8 % -> 0 %	0 - 7 years
8483	8 % -> 0 % or 3 % -> 0 % respectively	0 - 3 years

Source: own analysis

The NTBs do not represent any significant barrier in contrast with the case of the automotive industry. The Agreement will contribute to export facilitations for Czech exporters with regards to the tariff reduction however the extent of the opportunity will be limited by the low absolute export volumes.

3.3.2 *ELECTRONICS (CHAPTER 85)*

Table 10 defines the sensitive headings, and Table 11 analyzes the effects of the Agreement. The absolute value of Czech exports to KR is very low in all the headings in spite of the fact that the coefficient of variance has indicated relatively stable exports since 2004. The Korean

market has been relatively open. Trade in the three out of five sensitive headings had been liberalized before the Agreement was signed. The MFN tariffs had been already fully eliminated in these three headings. The remaining tariffs will be reduced within the transition period of 3 years, and no important non tariff barriers exist. The exports to the Republic of Korea played a marginal role in context of the total Czech exports although the market has been remarkable open before the Agreement. That is why the Agreement will not have any notable impacts on the industry.

Table 10: Czech exports to KR: Chapter 85 (thousand USD)

Heading	Product label	Czech Republic's exports to Republic of Korea		
		Value in 2007	Value in 2008	Value in 2009
'8502	Electric generating sets and rotary converters	298	125	7573
'8526	Radar apparatus, radio navigational app. & radio remote control apparatus	3344	2173	4168
'8536	Electrical app for switching (ex fuse, switches, etc) not exceeding 1000 volt	4249	3084	2764
'8504	Electric transformer, static. converter (for example rectifiers)	6923	2247	2249
'8501	Electric motors and generators (excluding generating sets)	4911	7446	2078

Source: ITC

Table 11: Effects of the Agreement: Sensitive headings within chapter 85

Headings	Tariff reduction	Transition period
'8502	8 % -> 0 % or 0 % -> 0 % respectively	0 - 3 years
'8526	8 % -> 0 %	0 years
'8536	8 % -> 0 % or 0 % -> 0 % respectively	0 - 3 years
'8504	8 % -> 0 %	0 years
'8501	8 % -> 0 % or 0 % -> 0 % respectively	0 - 3 years

Source: own analysis

3.3.3 SERVICES

The industry is the pillar of the Czech economy. In contrast, trade in services takes only 14 % of the total Czech exports. Having no revealed competitive advantage, the Czech Republic has no significant interests in liberalization of trade in services under the Agreement while trade in services counts for the European priority. In terms of bilateral trade, the Czech Republic exported to KR services in a value of 16.6 million USD in 2007 and there is a trade

deficit. To compare with other European countries, in 2009, Germany exports were 2.4 billion USD, the United Kingdom exported 1.8 billion USD and the Netherlands exported 731.1 million USD (International Trade Centre). Concerning these numbers, in-depth liberalization in trade in services under the Agreement will bring significant opportunity for European exporters in the sector, but Czech exporters will hardly be competitive.

SUMMARY AND RECOMMENDATIONS

The purpose of the thesis was to present the Czech country specific analysis of the effects of the EU-Korea FTA and to analyze if the Agreement could endanger Czech competitiveness in the European market. The thesis is the second analysis of the impacts of the Agreement on the Czech sensitive sectors. Notwithstanding some analyses on the EU level have been accomplished, they ignored country specific needs of the Czech Republic. The representatives of the Czech automotive sector expressed strong objections against the Agreement. Additionally, there were fears that Korean firms would replace production in the Czech Republic with duty free exports in effect of “zero tariffs”, would utilize the liberalized preferential rules of origin with the purpose of dramatic increase in imports of parts and accessories from China, and would benefit endlessly from duty drawback. As the Agreement is the first European FTA with a developed trade partner, it might be a harmful precedent for future agreements with other developed countries.

The research question was if the EU-Korea FTA could endanger Czech competitiveness in the European market. In order to answer it, the researcher used the following methods. Quantitative research was conducted to define the sensitive sectors. The coefficient of variance was utilized in order to eliminate the sectors that showed an ad hoc nature and the Lafay index was used to specify a revealed competitive advantage. The restrictiveness of the

preferential and non preferential rules of origin was analyzed by the Hariss index. The methodology calculating potential savings from duty drawback was taken from the official documents of the European Commission. Finally, the author used a qualitative analysis to compare non-tariff barriers before and after the Agreement.

The Czech-Korean bilateral trade volume is very low, and there is a high trade deficit on the Czech side. The deficit does not perform only in trade in goods but in trade in services too. Both countries the Czech Republic and the Republic of Korea, strongly depend on international trade. Exports in goods represent more than 85 % of the total exports where manufacturing is the key sector. Trade in services plays a marginal role. The exports of agricultural products count for less than 5 % of total exports in both cases. The Czech government has created very investment friendly environment for foreign investors and Korean investors in automotive industry have placed the strategic production facilities in the Czech Republic to be closer to the final – European - market. Korean companies have global strategies and they have been expanding to new markets. Czech trade depends on the European market. Eighty-five percent of the products and services go therein while Korean geographical structure of exports is more diverse.

Based on the analysis, chapters 84 (machinery), 85 (electronics), and 87 (motor vehicles) were defined as the sensitive sectors. These are the pillars of Czech and Korean exports to the EU. While the Czech exports to KR in chapter 87 are marginal, the EU represents a key final market for the products. Korean exports to the EU in chapter 87 were relatively high over the years but there has been a decreasing tendency since 2007. It perfectly fits with a changing strategy of some Korean companies that stands on replacement relatively expensive exports by production close to or in a final market. The Czech Republic does not perform any notable exports to KR in agriculture, services, and other sectors where the EU should benefit as a

consequence of the Agreement. To conclude, the researcher accepted the hypothesis that Korean and Czech economy structure are very similar while the CR can hardly benefit from either liberalization in trade of services or automotive and other manufacturing.

To summarize the effects in automotive, KR performs lower absolute volume of exports to the EU in heading 8703 (cars) than the Czech Republic. With accordance to the experts, Korean domestic production of cars is mature and the products within the heading are indicated like “snails”. It corresponds to the fact that Korean producers have replaced production facilities closer to the final markets. Korean brands have already been producing out of the country, i.e. in the Czech Republic, Slovakia, India, Uzbekistan etc. The preferential rules of origin within heading 8703 will keep up its protectionist nature. The Hariss index refers to persisting difficulties to get an originating status despite of slight liberalization comparing with the non preferential rules. Duty drawback will not endanger Czech competitiveness within heading 8703 in the European market in view of deceleration in Korean imports, Korean active trade balance with China within heading 8708, and the production in the Czech Republic. With regard to duty drawback, the analysis rejected the hypothesis that only Korean firms will benefit from it. In reality, Czech producers can take advantage of DDB however the absolute extent is limited by initial lower European MFN (most-favored nation) tariffs.

Czech exports within heading 8703 show strong dynamics in the European market, and the Lafay index refers about a sturdy revealed competitive advantage. The experts talk about Czech exports within the heading like “emerging products”. Czech producer will be allowed to export to the Republic of Korea duty free in 3 years in effect of the Agreement while in case of KR the transition period will take 5 year. The NTBs in the Korean market will be reduced however functional dispute mechanism is crucial presumption for expected benefits.

The Republic of Korea is neither a traditional nor a perspective market for Czech car makers. In 2008, Czech exports to KR within chapter 87 counted only for 3.67 % of total exports and there are some customer behavior burdens that go beyond the scope of the Agreement. Among others, the presented data point at the fact of Czech trade deficit with the Republic of Korea. Korean exports overbear the Czech in both goods and services. Czech exporters do not do much business in Korea due to geographic distance and cultural differences while Korean firm have overcome these burdens and have entered the European and Czech market. To conclude, the Agreement represents only limited opportunity for Czech carmakers to make business in KR

In 2009, the Korean export volume in parts and accessories for motor vehicles (8708) to the EU counted for one quart of the Czech export volume. The Lafay index showed that Czech revealed competitive advantage was higher however the data indicated much stronger growth dynamics on the Korean side. The experts specify the exports from both countries like “emerging products”. There is a good growth perspective for KR and the CR.

There was an enormous increase in Korean exports within heading 8708 to the CR in last few years. Korean exports rocketed by 4020 % in between 2004 and 2009. An annual growth rate in 2006, 2007 and 2009 reached more than 100 %. The tendency of growing Korean exports has been lasting since 2007 when Hyundai Motor Manufacturing Czech established its plant in the Czech Republic. The 3 % tariffs on imports within the heading to the Czech Republic will be eliminated on the date when the Agreement comes into force. Both preferential rules of origin and non-preferential rules of origin indicate very low level of restrictiveness. The hypothesis that preferential rules of origin will bring stronger protection for the sensitive heading was rejected.

The Czech Republic imported, in the absolute value, more parts and accessories for motor vehicles from third countries than KR. It is the very surprising finding with respect to the Czech fear about duty drawback and potentially growing Korean imports from China in effect of the Agreement. Additionally, KR holds an active trade balance with China within heading 8708. In other words, Korean exports to China exceed imports. Duty drawback may endanger Czech competitiveness in the heading in case that the final products - parts & accessories for motor vehicles - will be produced in KR, using the parts of any other HS headings from a third country, and consequently exported to the EU.

The author summarizes that Korean exports in cars (heading 8703) to the EU will not replace production in the Czech Republic in effect of the Agreement. The Czech Republic holds a higher revealed competitive advantage, and the Republic of Korea will achieve cost effectiveness from the factory established in the final market. The impact of DDB is limited due to the decline in volume of cars (8703) imported from Korea to the EU and Korean active trade balance with China in heading 8708. An immediate removal of the 3 % tariff on parts and accessories to zero in effect of the Agreement may increase already high Korean imports into the EU market in this heading. Czech exporters of the products within the heading may partially lose its competitiveness in the EU's market.

The researcher rejects the hypotheses that Korean firms will replace production in heading 8703 (cars) by imports, and claims that there might be some negative effects on Czech producers exporting in heading 8708 (parts & accessories). The preferential rules of origin will not bring higher protection for the sensitive headings. The restrictiveness within heading 8703 will stay relatively high while the product specific preferential rules of origin within heading 8708 will keep its flexibility.

Czech exporters will not get any strong opportunity from the Agreement. The Czech Republic possesses no revealed competitive advantage in trade in services where the EU should benefit the most. There are some limited perspectives in machinery since it represents almost 40 % of Czech exports to KR. The author accepts the hypothesis that the Agreement will not bring any remarkable opportunity for Czech exporters.

The limitation of this paper is that a computable general equilibrium model (CGE) was not used to estimate changes of macroeconomic data in effect of the Agreement. Usage of the model is missing because (1) it is not possible to get a sufficiently complex set of data for years 2007-2010. Put differently, the effects of financial crisis and the changes in bilateral trade caused by Korean foreign direct investments ("FDI") in the Czech Republic could not be taken into consideration in the model, (2) the author found it impossible to put professor Francois's model into the Czech conditions. Nevertheless there are some general limitations of the model. It works only with tariff barriers reduction and ignores non-tariff barriers and underestimates intra-industry effects of the Agreement and exaggerates inter-industry trade (Smith, 2008). It is justifiable to omit the usage of the model in the analysis since these aspects are crucial in context of the EU-Korea FTA.

The analysis showed that Czech competitiveness within heading 8708 in the European market may be endangered as a consequence of the Agreement but an in-depth analysis is needed to prove this hypothesis. Firstly, it is fundamental to get the data on volume and structure of foreign sourcing pattern of Korean producers within the heading. Subsequently, a detailed analysis on product specific rules of origin and calculation of the potential saving from duty drawback should be conducted.

Additionally, the author did not scrutinize the impacts on chapter 95 (toys, games, sports requisites) that stands for more than 5 % of Czech exports to KR and took the third position in

Czech exports to KR in 2008. There might be some perspectives for future. The product specific rules of origin and transition periods for tariff elimination should be analyzed in order to define the potential opportunities. The existing non-tariff barriers should be compared with the improvements given in the Agreement.

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ⁱ “Trade to GDP ratio is estimated as an economy’s total trade of good and commercial services (balance of payment basis) divided by GDP, on the basis of data for the three latest years available. GDP is measured in nominal terms and with market exchange rates” (International Trade Centre)

ⁱⁱ Czech Republic became a member state of the EU in 2004.

ⁱⁱⁱ The term “spoke country” comes from the theory of hub & spoke system. In brief, the theory represents two types of countries. A hub country had a leading position in international trade and traditionally took advantage from its privilege position. To become a hub country, the country has to possess at least three dependent spoke countries. A spoke country’s international trade is strongly concentrated into its hub country. In fact, it has to follow the commercial policy given by the hub country.

^{iv} The EU-15, before the enlargement in 2004

^v The ratio is computed as follows:

$$\text{ratio} = \frac{\text{outward FDI in services} - \text{Stocks(in mill. USD)}}{\text{inward FDI in services} - \text{Stocks(in mill. USD)}}$$

^{vi} The EU after the enlargement in 2007, incl. Romania and Bulgaria

^{vii} Empirical studies say that the Hariss index higher than 6 refers to relatively protective rules of origin, while a value below this border represent liberal rules.