

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

Department of Economics



Bachelor thesis

**Foreign trade commodity structure: Case study of the
Czech Republic's exports during the years 2000 - 2010**

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

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Faculty of Economics and Management

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Agricultural Economics and Management

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Foreign trade commodity structure: Case study of the Czech Republic's exports during the years 2000 - 2010

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The main aim is to evaluate development in the Czech Republic's exports and its comparison with the other states and even its influence to the national economy.

Methodology

Methodology is mainly based on scientific literature study, internet resources and comparative analysis

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Benášek, V. and Prokop, L. and Víšek, J. Ā.: Determining Factors of the Czech Foreign Trade Balance: Structural Issues in Trade, the Czech National Bank, Prague, 2003, ISBN 80 239 1701 3

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Declaration

I hereby declare that I have worked on the bachelor thesis titled Foreign trade commodity structure: Case study of the Czech Republic's exports during the years 2000 – 2010 completely on my own under supervising of Ing. Mansoor Maitah, Ph.D. et Ph.D. and that literature and other information sources I used or cited are listed in the References section and cited in the text.

In Prague, March 23th, 2012.

.....

Ondřej Terš

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Foreign trade commodity structure: Case study of the Czech Republic's exports during the years 2000 – 2010

Komoditní struktura zahraničního obchodu: Případová studie exportů České republiky během let 2000 - 2010

Summary

This work deals with the economic theories related to foreign trade. Based on them are determined the main economic factors that shape the international trade and also on the other side consequences, which are shaped by trade. This way are defined e.g. the balance of payments, exchange rate, trade policy or basic economic principles such as the theory of comparative advantage. These theoretical findings are used for analysis of trade potential of the Czech Republic, where thesis is focused on the analysis of its exports. Particularly it specializes in commodity structure, its composition, volumes and development. Observed period is the decade 2000 - 2010. This period is characterized mainly by Czech entrance to the European Union, which is actually a milestone offering a comparison of development before joining the EU and after. Further is significant by economic affected especially by the world economic recession in 2008, or, for example, by terrorist attack on the World Trade Centre in 2001. This paper tries not only to detailed analyze trends of Czech exports, but also to find connection between its various elements. It also brings economic theory adaptation to the reality and tries to explain occurred phenomenon.

Keywords

Foreign trade, export, commodity structure, exchange rate, balance of payments, comparative advantage, openness of economy, trade policies, the Czech Republic.

Souhrn

Tato práce se zabývá ekonomickými teoriemi souvisejícími se zahraničním obchodem. Na jejich základě jsou určeny hlavní ekonomické faktory, které mezinárodní obchod utváří a také naopak souvislosti, které jsou obchodem utvářeny. Definovány takto jsou např. platební bilance, měnový kurz, obchodní politika či základní ekonomické principy jako je teorie komparativní výhody. Tyto teoretické poznatky jsou využity k analýze obchodních možností České republiky, kdy se práce dále soustřeďuje na analýzu jejích exportů. Zvláště se specializuje na složení komoditní struktury, její složení, objemy a vývoj. Pozorovaným obdobím je dekáda 2000 – 2010. Toto období je příznačné hlavně vstupem ČR do Evropské unie, což je vlastně milník nabízející srovnání vývoje před připojením se k EU a po něm. Dále je význačné ekonomikou ovlivněnou hlavně světovou ekonomickou krizí v roce 2008 či například teroristickým útokem na Světové obchodní centrum v roce 2001. Práce se snaží nejen podrobně analyzovat vývojové tendence českého exportu, ale také nalézt souvislosti mezi jeho jednotlivými elementy. Zároveň přináší adaptaci ekonomických teorií na realitu a snaží se díky tomu vysvětlit vzniklé jevy.

Klíčová slova

Zahraniční obchod, export, komoditní struktura, měnový kurz, platební bilance, komparativní výhoda, ekonomická otevřenost, obchodní politika, Česká republika.

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1 Introduction

"Foreign trade is an exchange of goods and services or capital across international borders or territories. It is consisted from imports and exports".^[1] Its importance is mainly in expanding of consumable options of country. Trade enables country to consume more goods than would be possible if they are closed to products from different countries. For most of countries, it has significant share of GDP. Increasing international trade has even impact on development of industrialization, transportation, globalization, multinational corporations or outsourcing and vice versa, these effects have impact on foreign trade. For countries foreign trade is beneficial even from other reasons such as differences in manufacturing conditions (different natural resources, soil, labour, capital, technologies...), lower costs (specialization and large scale manufacturing, taking advantage of comparative or absolute advantages) or differences of "consumer tastes" (even if conditions for manufacturing of certain product are same in two countries, it does not mean there is same demand).^[2]

First part is consists of economic theories related to the foreign trade. It is necessary for understanding fundamental principles and according to them make possible to deduce factors, which influence perform of foreign trade and on the other side factors, which are affected by its impacts. These are introduced and defined here as well. On these foundations is created second practical part, where these indicators are involved to achieve demanded objectives. Theoretical knowledge is utilized in process of analyzing Czech foreign trade, respectively export and its commodity structure. Individual observations are synthesised for purpose to find mutual interactions between each other. Last part serves as discussion, where theoretical knowledge face to comparison with observed findings. On basis of obtained results, regarding even economic theories are determined conclusions, which are developed to suggestions and proposals.

2 Objectives of bachelor thesis, methodology

Objective of this thesis is to find out (based on economic theories), what are main factors determining foreign trade and one of its two parts – export. Then, thanks to these factors, define position and assumptions of the Czech Republic for foreign trade and analyze development of its exports, where research is focused on commodity structure, its development, composition, volume and factors that may affect it. Aim of this work is to analyze this process during the years 2000-2010 and explain all occurred changes. Related to objectives and observed period was determined hypothesis: The commodity structure of Czech exports was changed due to Czech Republic's entrance to the European Union in 2004. Part of the objectives is also detection if founded factors influence each other mutually and how.

For this bachelor thesis was chosen decade 2000 – 2010. It is period when the Czech Republic already passed to the floating exchange rate and was in preparation for entering the European Union, then was accepted and had to adapt for changes. This way can be observed period divided into two main parts – before and after entering the EU. These parts can be compared and enable to analyze, if joining of the EU was beneficial and how was Czech foreign trade changed. This decade is also interesting by facing to the world economic recession (started in 2008), which had influence even to Czech economy.

Methodological approach is as extensive as possible. Theoretical part is utilized as a background for later analyses, syntheses and on its basis is possible to process analogy. Theoretical part create logical framework of given topic and based on these knowledge, following research is established. To explain some basic principles are used methods of modelling and abstraction. Practical part is opened by analysis of assumption of the Czech Republic for foreign trade. There is utilized mainly method of comparative analysis which make possible to determine Czech position in relation to European and world markets. Upcoming part is analysis of Czech foreign trade, export, trade balance and all other indicators separately. It involves mainly statistical approach where collected data (gathered from statistical sources as the Czech statistical office, Eurostat, OECD) were divided and used for analysis and defining of Czech foreign trade development. For better visualisation and clarity were created charts and tables (using of Microsoft Excel). In some cases was necessary to use another statistical and mathematical methods to gain demanded results

(annual changes, relative percentage values, averages, rate of growth, differences...). These results were afterwards compared between each other. As other methodological tool was used SWOT analysis which was important for defining position, trade assumptions and potential advantages or disadvantages of Czech foreign trade and which was utilized as brief conclusion and highlighting of observed fact. All examined results are compared with others and based on analogy are found diverse correlations among individual parts. Thesis is concluded by synthesis of observed factors and found results.

Note: All calculations are in current prices. Use of relative prices might cause differences of some results.

3 Literature Review

3.1 Theories of foreign trade

3.1.1 Brief history of foreign trade theory

“The theory of international trade and commercial policy is one of the oldest branches of economic thought. From the ancient Greeks to the present, government officials, intellectuals, and economists have pondered the determinants of trade between countries, have asked whether trade bring benefits or harms the nation, and, more importantly, have tried to determine what trade policy is best for any particular country.”

^[14] According to Irwing Douglas, “Since the time of the ancient Greek philosophers, there has been a dual view of trade: a recognition of the benefits of international exchange combined with a concern that certain domestic industries (or labourers, or culture) would be harmed by foreign competition. Depending upon the weights put on the overall gains from trade or on the losses of those harmed by imports, different analysts have arrived at different conclusions about the desirability of having free trade. But economists have likened free trade to technological progress: although some narrow interests may be harmed, the overall benefits to society are substantial. Still, as evidenced by the intense debates over trade today, the tensions inherent in this dual view of trade have never been overcome.”^[14]

As the problem of foreign trade is almost same old as whole economy, many theories of foreign have been already developed. These theories were presented to help us understand difficult processes and mechanisms on markets, reasons of certain effects and teach us how to be the most efficient, flexible, understand how to make a profit. According to the books, to understand main philosophy of the foreign trade and macroeconomics principles, really important is Adam Smith’s theory of absolute advantage and mainly, later on stated David Ricardo’s theory of comparative advantage.

3.1.2 Mercantilism

In the 17th and 18th century (but begins even in 16th) the west feudal Europe is strongly influenced by the most significant way of thinking that time - mercantilism. It is

complex of economical doctrines. This era is connected to rising of centralized monarchies, colonial expansions and building of empires. No wonder it has the biggest boom in England and France. Mercantilist theories are based on economics nationalism, where the main goal is increase of national wealth (in compare to scholastics, who considered as the most important thing general welfare and happiness). Simply put they equate national welfare to money. Later mercantilists saw sense of money inflow in reducing of credit which was benefit for trade. Just these opinions make them to establish conclusion that the main source of the national welfare is the foreign trade. But they did not support imports as much as was needed and were focused only on active balance of foreign trade. That was their biggest mistake. They consider trade as package of playing cards, where only winner is that one, who has all. When one country earns, other must loose. Later classic economists (A. Smith, D. Ricardo, J. S. Mill) understood significance of labour redistribution and trade was for them a game with positive sum, in compare to null sum. Essential were not money inflows but just advantages of labour division. As was already written, "each government's primary economic objective was to command a sufficient quantity of hard currency to support a military that would deter attacks by other countries and aid its own territorial expansion."^[3]

Most of the mercantilist policies were the outgrowth of the relationship between the governments of the nation-states and their mercantile classes. In exchange for paying levies and taxes to support the armies of the nation-states, the mercantile classes induced governments to enact policies that would protect their business interests against foreign competition."^[18] These steps led to protectionism which was actually harming for international trade. They took policies which had consequences in high import tariffs, export subventions, export monopoles, navigation acts or foreign exchange regulations.

3.1.3 Classical economic theories (Classical political economy)

"The severe critics of mercantilist doctrine have generally been economic theorists of the English classical-school tradition, and they have usually relied on Adam Smith's account plus the vague mass of nineteenth-century tradition for their information as to the contents of mercantilist doctrine."^[19]

Classical political economy is dated to 18th and 19th century and thanks to these theories, economy began to be widely regarded as a science with given foundation – terms and theories. Mainly English philosophers John Locke and David Hume created philosophical frame. It was based on liberalism and their ideal was economic system the best characterised by laissez faire – free market competition and free trade and Smith’s imagination of invisible hand of the market. Classics considered political economy as science of creation and distribution of wealth. They were interested in national wealth and considered role of social classes – capitalistic, labour and landlords. They developed several basic theories: theory of comparative costs, theory of distribution (pensions of main social classis – wages, profits and rents). The main representatives are David Hume, founder Adam Smith, David Ricardo and John Stuart Mill. ^[3]

3.1.3.1 David Hume – Quantitative theory of money

(1711-1776)

Hume laid foundations of international trade theories by publishing his essay Of money. There he explains that economy with increasing money resources due to positive (active) trade balance has incidental effect of increasing prices which has impact on domestic entrepreneurs who are not able to compete in prices then. His other important work, essays Of the Jealousy of trade and Of the Balance of trade, prove, that each country participated in foreign trade can be profitable and that import barriers may be harming. Indirectly, he also formulated Adam Smith’s theory of the Absolute advantage. ^{[3][20][24]}

3.1.3.2 Adam Smith – The theory of absolute advantage

(1723-1790)

“Smith was the Scottish philosopher who became famous for his book, “The Wealth of Nations” written in 1776, which had a profound influence on modern economics and concepts of individual freedom. In 1759 he published his Theory of Moral Sentiments. This work was about those standards of ethical conduct that hold society together, with

emphasis on the general harmony of human motives and activities under a beneficent Providence.

Smith moved to London in 1776, where he published *An Inquiry into the Nature and Causes of the Wealth of Nations*, which examined in detail the consequences of economic freedom. It covered such concepts as the role of self-interest, the division of labour, the function of markets, and the international implications of a laissez-faire economy. “Wealth of Nations” established economics as an autonomous subject and launched the economic doctrine of free enterprise.” [28]

Indeed, he argued against mercantilists theories by claiming that all countries having mutual trade can profit at the same time.

“Smith argued that it was impossible for all nations to become rich simultaneously by following mercantilist prescriptions because the export of one nation is another nation’s import. However, all nations would gain simultaneously if they practiced free trade and specialized in accordance with their absolute advantage.” [31]

“Smith laid the intellectual framework that explained the free market and still holds true today. He is most often recognized for the expression “the invisible hand,” which he used to demonstrate how self-interest guides the most efficient use of resources in a nation's economy, with public welfare coming as a by-product. To underscore his laissez-faire convictions, Smith argued that state and personal efforts, to promote social good are ineffectual compared to unbridled market forces.” [28]

In his theories he sees nation’s welfare in goods and services available for everyone better than huge reserve of gold. National’s wealth is sum of individual wealth and richness. Self-interests and harmony with society interest is crucial and should be achieved without state interventions. These principles are described and known as laissez fair and invisible hand of market. According to Adam Smith foreign trade should be based on specialization on production with absolute advantage against other countries. These goods should be exported and imported should be products which are cheaper abroad. This point of view is de facto correct, but A. Smith’s values goods just by labour factor as only one indicator, which is too simplified for real situation. Later on his theory was improved by David Ricardo. [32][33]

3.1.3.3 David Ricardo – The theory of comparative advantage

(1772 – 1790)

David Ricardo continued in Adam Smith's theories and simultaneously determined new ways. His point of view was different from any other until his time. He published several important articles analyzing diverse economic topics such as stability of the currency or the national debt. He confirmed that economical growth is depended on distribution of nation's pension among rent, wages and profits. Therefore his economy is chiefly political economics of distribution. Even his methodological approach was something new – he was first economist who used abstract model to explain his knowledge.^[3] "Ricardo also opposed the protectionist Corn Laws, which restricted imports of wheat. In arguing for free trade, Ricardo formulated the idea of comparative costs, today called comparative advantage — a very subtle idea that is the main basis for most economists' belief in free trade today."^[34] It was published in his the most significant publication called *On the Principal Economy and Taxation* from the year 1817. "Comparative advantage explains why a country might produce and export something its citizens don't seem very skilled at producing when compared directly to the citizens of another country."^[36] Ricardo's ideas are valid until nowadays and even it may be somehow modified, foreign trade of all countries is based on these principles.

3.1.3.4 John Stuart Mill – International exchange value

(1806 -1873)

J.S. Mill was follower of David Ricardo. He worked with his economical theories, which he later on supplemented, developed, adjusted or extended. "In *Principles of Political Economy*, which became the leading economics textbook for forty years after it was written, Mill elaborated on the ideas of David Ricardo and Adam Smith. He helped develop the ideas of economies of scale, opportunity cost, and comparative advantage in trade."^[15] He extended theory of comparative advantage by using of reciprocal demand. He claimed that profit from foreign trade is directly depended elasticity of demanded goods.

Amount of reciprocal demand for imports is depended on several factors. It is mainly size of country and maturity of its economy. Based on theories about national exchange value he declares that foreign trade should be more profitable for smaller countries or countries with low demand for foreign goods. ^[3]

3.1.4 Foreign trade theories of neoclassical economy

Later on economists proceeded with many new theories of foreign trade which basically all came out from classical economy. Main difference is that they now extended observed indicators, involve more production factors than just labour force. For instance new upcoming is term of abundance. Nations with comparative advantage have abundance factor, which is inexpensive, and products made this way are usually cheap. These theories usually describe behaviour, reactions and tend of markets involved in foreign trade. ^[3] Significant representatives of this new wave are for instance Eli Heckscher and Bertil Ohlin with their Heckscher-Ohlin Model (known as proportions model) which determines the pattern of specialization and trade and works with assumption that it is not possible to exchange labour for capital and vice versa. It caused by endowment of production factors in trading region. "The idea is that a country with a high ratio of labour to capital will tend to export goods that are labour-intensive, and vice versa. The Ricardo and Heckscher-Ohlin theories tend to predict clear patterns of specialization in trade. A country will focus on one type of industry for exports and another type of industry for imports." ^[16] The capital-abundant country will export capital-intensive commodity and import labour-intensive commodity and the labour-abundant country will export labour-intensive commodity and import capital-intensive commodity. ^[17] There is more other theories formulated, which are de facto enlargements of Heckscher-Ohlin Model. Related to this topic is possible to hear for example about important theorems offered by American economist Paul Samuelson. It is mainly Stolper – Samuelson Theorem or Samuelson's Factor – price equalization theorem or Rybczynski Theorem. These theories, based on Heckscher-Ohlin Model, solve economic, market or trade influences and situations and describe and explain various price growths, capital movements, abundant, specializations, trends and so on. Of course there was published more related theories and even some

alternative theories of international trade (usually disagreement with classical theories), but still valid, the most important and significant, were already mentioned above. ^[2]

3.2 Ricardo's theory of comparative advantage

"If we are talking about exchanges of existing goods, we have to consider clear fact, that everything what we trade with must first be produced. Trade enables individuals and countries concentrate on what they produce best. Some countries—because they have more highly educated workers, more capital (plant and equipment), or more abundant natural resources—may be more efficient at producing almost all the different goods that their citizens wish to consume. The possession of superior production skills is called having an absolute advantage. The principle of comparative advantage is based on assumption, that countries or individuals specialize in production where they have relatively or absolutely best results, where they are the most efficient. These principles explain why countries which are less successful in some production can trade with better countries and everyone can take advantage of it. "^[1]

To explain how exactly comparative advantage works, let's use abstraction of USA and Japan. USA and Japan produce computers and wheat. The amount of labour needed to produce these goods is shown in Table 1. (These numbers are all hypothetical.) The United States is more efficient (spends fewer worker hours) at making both products. America can rightfully claim to have the most efficient computer industry in the world, and yet it imports computers from Japan. Why? The relative cost of making a computer (in terms of labour used) in Japan, relative to the cost of producing a ton of wheat, is low, compared with that in the United States. That is, in Japan, it takes 15 times as many hours ($120/8$) to produce a computer as a ton of wheat; in the United States, it takes 20 times as many hours ($100/5$) to produce a computer as a ton of wheat. While Japan has an absolute disadvantage in producing computers, it has a comparative advantage. The principle of comparative advantage applies to individuals as well as countries. The president of a company might type faster than her secretary, but it still pays to have the secretary type her letters, because the president may have a comparative advantage at bringing in new clients, while the secretary has a comparative (though not absolute) advantage at typing. ^{[1] [5]}

Table 3, Labour cost of producing computers and wheat

LABOR COST OF PRODUCING COMPUTERS AND WHEAT (WORKER HOURS)		
	United States	Japan
Labour required to make a computer	100	120
Labour required to make a ton of wheat	5	8

Source: own computing and processing

3.2.1 Production possibilities curves

It has to be considered, that each country has different production possibilities. If we are looking for comparative advantage of two different countries, it is useful to analyze production possibility curves, which determine how much can each country produce and to find optimal balance of what is better to buy and what to produce. It is based on assumption, that even if some country has production potential for example to manufacture 1000 airplanes or 5000 automobiles, it cannot be produced simultaneously. If 70% of its manufacturing potential is focused on one sort of good, for other remain only 30%. If we consider previously mentioned airplanes and automobiles, with this ratio country can produce 700 airplanes and 1500 car or 3500 cars and only 300 airplanes. Thanks to the production possibilities curves we can find how to maximize production of certain groups of goods if involved countries take advantage of labour division. This analysis depends on knowledge only about the production trade-offs. We do not need to know how much labour or capital is required in either country to produce either airplanes or cars. Though it pays countries to increase the production and export of goods in which they have a comparative advantage and to import goods in which they have a comparative disadvantage, doing so may not lead to complete specialization.^{[2][17]}

3.2.2 Comparative advantage and specialization

"Specialization increases productivity, thereby enhancing the benefits of trade, for three reasons. First, specializing eliminates the time it takes a worker to switch from one production task to another. Second, by repeating the same task, the worker becomes more skilled at it. And third, specialization creates a fertile environment for invention. Dividing jobs so that each worker can practice and perfect a particular skill (called the division of

labour) may increase productivity hundreds or thousands of times. Almost anyone who practices activities—cooking, writing, adding a column of numbers, and so on—will be quite a lot better at them than someone who has not practiced. Similarly, a country that specializes in producing sports cars may develop a comparative advantage in their manufacture. With its relatively large scale of production, it can divide tasks into separate assignments for different people; as each becomes better at his own tasks, productivity is increased. At the same time, the division of labour often leads to invention. As someone learns a particular job extremely well, she might figure out ways of doing it better—including devising a machine to do it. Specialization and invention reinforce each other. A slight initial advantage in the production of some good leads to greater production of that good, thence to more invention, and thence to even greater production and further specialization.”^{[1][2]}

3.2.3 Limits of specialization

“Comparative advantage determines the pattern of trade, but, as it is complex matter, there are some basic factors which determine comparative advantage.

Natural endowments - consist of geographical determinants such as land, natural resources, and climate

Acquired endowments - the physical capital and human skills a nation has developed

Superior knowledge - including technological advantages, which may be acquired either as an accident of history or through deliberate policies

Specialization - may create comparative advantages between countries that are similar in all other respects

Interactions - reinforce the other sources of comparative advantage”^[1]

3.3 Foreign trade policies of the Czech Republic

Every nation around the entire world uses some form of trade policy. It involves diverse rules, regulations, agreements, instruments or any other tools which help governments to control their foreign trade. Nations are able by this way regulate their trade balance, protect home traders, quality of goods or even solve problems with unemployment or inflation. Policies are not only external which profile country's relationship with other countries for example by joining international trade organisations but either internal which are connected to country's inner issues. All states try to find some compromise between two basic directions – liberalism and protectionism. Liberalistic policies are open to remove trade barriers and let foreign traders to operate freely on domestic market. However, this way are removed benefits of national economy. Protectionism has effect to protect domestic market against external influences and their negative effects, but as is mentioned in theories above, it can be harming for economies. Protective instruments have primal purpose to control import of goods, its quality, prices (dumping prices) or volume. For example, there can be bans for dangerous goods as military equipment, drugs or animals, flowers... As well are controlled technical and sanitary standards. Other protective instruments are related to exports where can be applied export tariffs for instance to avoid of excessive exports of raw materials. Anyway, trade policies are developed even to make country's export efficient and benefit. Foreign trade is supported by variety of subsidies, tax breaks, loans and insurances for exports, organisations or marketing and trade strategies. ^{[8][25]}

The Czech Republic as post-communist country relatively recently had change its trade orientation and become country with open economy. It was doing together with negotiation about bilateral and multilateral agreements that achieved better access to global market. Therefore the Czech Republic has became member of The General Agreement on Tariffs and Trade (GATT) and member of later on established World Trade Organisation (WTO) which were founded with purpose to liberalize trade and lower barriers within countries which are members and enable to realize international trade even to less powerful countries. After the Velvet Revolution the Czech Republic has began to prepare for integration to Europe and signed European Agreement which was first important step forward. Then the CR could enjoy advantages as free movement of persons, goods,

services and capital. Later should be accepted even mutual currency. The CR was even founding member of Central European Free Trade Agreement (CEFTA) which has purpose to integrate European countries which are not members of the EU and help them to prepare for joining. Removed barriers and fair conditions of competition among members achieved development in foreign trade. The CR is as well member of Organisation for Economic Co-operation and Development (OECD) which has purpose to achieve sustainable economic growth and increase living and employment standards or member of European Free Trade Association (EFTA) – promotion of free trade and economic integration. After joining of the European Union on May 1st, 2004 the Czech Republic had to change some policies which were against the EU policies and regulations. Trade relationships with some countries had to be limited or interrupted, some membership cancelled, for example CEFTA (with exception for WTO). Since the CR is member of the EU, trade within the EU borders is called intra-union, not foreign. ^{[25][26][27]}

3.4 The Balance of Payments

The Balance of payments is systematic statistical record of all payment transactions between our economy and foreign countries. It compares payments inflow from abroad with payments outflow abroad. It is based on territorial principle (residents of the CR paying to residents of foreign country are responsible for money outflow to abroad and vice versa). It is complex of accounts where are involved payments of import and export of goods, services and capital but even all tangible flows which are not necessary represented by cash (barter trades, tangible economics aid and gift). Balance of payments accounting uses the system of double-entry bookkeeping - final balance of credits and debits is always equal. This structure of balance of payments is called vertical. The balance of payments is also defined by residence status. Residents include individuals, corporations, government entities and financial institutions. When a corporation or financial institution has branch abroad or affiliate for balance of payments purposes, that abroad unit is a non-resident. To understand how transactions are classified is necessary to understand to receipts it generates. Transaction generates a receipt of a payment from foreigners is credit item recorded in account with + (plus) sign. This represents a supply of foreign exchange and demand for the local currency (CZK). If transaction comprises a payment to foreigners, it

is reported as a debit item and marked by - (minus) sign. This represents demand for foreign exchange and supply of the local currency (CZK). From the year 2003 Czech National Bank in regular time periods (monthly, quarterly and yearly) publish these statements. It is prove of country's economic situation, evidence of performance, external trade, development and specialization. ^[6]

Horizontal structure, according to recommendation of International Monetary Fund, is given by five accounts:

1. Current Account

- current account = changes in net foreign assets
- provides information on the balance of consumption, saving, investment and government taxes and spending
- as account surplus means we are purchasing less than we are earning, there is direct relationship between the current account and national income:

$$GDP = Y = C + I + G + X - M$$

Y – national income, C – consumption spending, I – investment spending on plant, equipment, etc, G – government spending on goods and services, X – exports (credit item of current account), M – imports (debit item in current account)

It is consisted of:

Trade balance – include import and export among countries (raw materials, food, machinery, electronics...)

Balance of services – import and export of services (transport, tourism, services...)

Income balance – comprise pensions from producing factors which are owned by state and are involved in foreign trade. Moreover, pensions from producing factors which are owned by foreign subjects and which are involved in national economy (in this case economy of the CR) – i.e. wages, profits, dividends, interests, coupon, royalties...

Current transfers – created by one-way transfers such as gifts, legacy, donations, alimony, international aid, remittances...

2. Capital Account

Transactions related to trade with intangible assets (registered trademarks, patents, copyrights), debt pardons, transfers of capital due to migration...

3. Financial Account

Direct investment, portfolio investment, financial derivatives, other investment

Direct investment consists of domestic direct investment abroad and either foreign direct investment in the domestic economy. It is that kind of investment where there is some possibility of business check and control. In the Czech Republic it is such defined if investor owns ten or more percents of share in business. Except this share are even included reinvested profit and other capital.

Portfolio investment is represented by debt securities and equity securities.

Financial derivatives are for instance for forwards, futures and options.

Other investments involve mainly taking and lending. In the balance of payments, other investments are further classified in terms of time (long-term and short-term) and by subjects (the central bank, commercial banks, government, and other sectors).

4. Net errors and omissions differences

As debit side and credit side must be equal to zero, the central bank is obligated to determine some values (e.g. tourism). Net errors and omissions include differences in the records of any inaccuracies, methodological problems, exchange rate differences, etc...

5. Change in reserves

International reserves include gold, special drawing rights, currency, etc. ^[21][6]

3.5 Exchange rate

Exchange rate – price of national currency expressed in foreign currencies.

Currencies can be either convertible or nonconvertible. Nonconvertible currencies cannot be traded on international exchange market, these are established by administration determination and their exchange rate is composed by market power. On the other side, convertible currencies are traded on global markets. Their prices called exchange rate. These prices are influenced mainly by record of financial flows on the balance of payments, interest rate or revenues and inflation. ^[5]

3.5.1 Supply and demand on exchange market

Exporters of national goods and services create supply of foreign currencies and demand of home currency – CZK. Importers of foreign goods and services on the other hand create supply of CZK and demand of foreign currencies. Other players on exchange market are investors. Those who are buying CZK assets create supply of foreign currencies and demand of CZK and vice versa.

Change in supply or demand on the exchange market causes change in exchange rate.

If demand of some certain currency overgrows its supply, currency goes to appreciation – appreciation in ration to foreign currencies. Contrarily if supply of currency gets higher against its demand, currency depreciates – it has lower value in compare to foreign currencies.

Nowadays exchange rate is more dependent on behaviour of investors than on foreign trade – when investors expect economic grow, they invest more to its currency and currency appreciate.

Even though the exchange market is not centralised market (like for example stock exchange is) and is spread everywhere around the world, its principles are similar like perfectly competitive market. It is ensured thanks to arbitrage. Therefore this market is one

complex global exchange market where participants can quickly buy and sell huge amounts of currency. ^[2]

3.5.2 Theory of parity

Exchange market fully correspond condition of interest rate parity – stabilize at such level where the expected rate of return from bank deposits is same in both countries.

Theory of absolute purchasing power parity – to explain level of exchange rates

Based on law of one price – exchange rate of two currencies will tend to such level which correspond to ratio of price levels in these countries. This level of exchange rate is called purchasing power parity – i.e. we can buy same amount of goods or services home or abroad, currency has same purchasing power in both involved countries.

Nevertheless, because of existence of untradeable assets exchange rate can be different from purchasing power parity. Purchasing power parity so determines level of exchange rate just approximately.

Relative version of theory of parity purchasing power – does not explain level of exchange rates, but only change in there. According to this theory, change in exchange rates is caused by change of price levels. If national price level increase more than foreign, currency depreciate. Rate of depreciation correlate to change in inflation. ^[7]

3.5.3 Types of exchange rate

Fixed exchange rate - "A country's exchange rate regime under which the government or central bank ties the official exchange rate to another country's currency (or the price of gold). The purpose of a fixed exchange rate system is to maintain a country's currency value within a very narrow band. Also known as pegged exchange rate. Fixed rates provide greater certainty for exporters and importers. This also helps the government maintain low inflation, which in the long run should keep interest rates down and stimulate increased trade and investment." ^[22]

Floating exchange rate - "A country's exchange rate regime where its currency is set by the foreign-exchange market through supply and demand for that particular currency relative to other currencies. Thus, floating exchange rates change freely and are determined by trading in the foreign market. This is in contrast to a "fixed exchange rate" regime. In some instances, if a currency value moves in any one direction at a rapid and sustained rate, central banks intervene by buying and selling its own currency reserves (i.e. Federal Reserve in the U.S.) in the foreign-exchange market in order to stabilize the local currency. However, central banks are reluctant to intervene, unless absolutely necessary, in a floating regime." [23]

3.5.4 Periods of the Czech koruna exchange rate

After establishing the Czech Republic on January 1st, 1993, currency Czech koruna – CZK, was created. Since that time it has experienced several stages.

Fixed exchange rate – 1993 -1997

Currency was fixed to five world currencies – German Mark, Austrian schilling, US Dollar and French and Swiss Franc. Later on it was substituted just by US Dollar and European German Mark.

Managed floating exchange rate – 1997-2004 (before entering the EU)

The Czech National Bank managed inflation rate to adapt easier for announced rate expected in future. Due to high FDI Czech koruna appreciated.

Floating exchange rate – from May 2004

By agreement of Maastricht Treaty the Czech Republic with entering of the EU has agreed to adopt common currency Euro. This exchange rate period is somehow run-up to adopting new currency.

3.6 Commodity trade

"A commodity is an article of commerce or trade that is in demand and sold by various suppliers without any qualitative differentiation. Generally, commodities are raw materials whose prices are based on market demand and supply. Commodities are of two types, hard and soft. Tea, coffee, sugar, sisal, cocoa, corn soya and pork bellies come under the category of soft commodities. Some examples of hard commodities are metals, such as aluminum and copper." [29] In the world of economics commodities are comprised even from services.

3.6.1 Commodity statistical systems

Recording of traded commodities is crucial for country's trade performance description. From statistics is obvious many important facts which are determining for country's trade profile. Nowadays are using two statistical systems: The Harmonized Commodity Description and Coding System (HS) and The Standard International Trade Classification (SITC).^[1]

HS is newer version of commodity classification and it involves new types of products. System of recording uses 6-digits system which are divided into sections and chapters. It is consist of around 5000 classes.

SITC system is older, in use since 1950 when United Nations Statistic Division developed it. It has hierarchical structure of 5-digit system. It is consisted of 3000 commodity groups. Even though this system is older and less detailed than HS, the Czech Republic uses SITC as it correspond with classification of the EU. Therefore with SITC data is worked even in this paper. Despite SITC 5-digit system (see below Table 2), the most of statistics use only Sections – one-digit code (Table 3).^[30]

Table 4: SITC 5-digit system

Sections	one-digit code
Divisions	two-digit code
Groups	three-digit code
Subgroups	four-digit code
Items	five-digit code

Source: [30]. own processing

Table 3: Sections of the SITC

0	Food and live animals
1	Beverages and tobacco
2	Crude materials, inedible, except fuels
3	Mineral fuels, lubricants and related materials
4	Animal and vegetable oils, fats and waxes
5	Chemical and related products
6	Manufactured goods classified chiefly by material
7	Machinery and transport equipment
8	Miscellaneous manufactured articles
9	Commodities and transactions not classified in the SITC

Source: [30], own processing

4 Case Study of the Czech Republic

4.1 Analysis of the openness of the Czech economy

Based on previous theories we can claim that foreign trade is important for every country and that foreign trade is significant for national's economies. Country's position in the international trade is dependent on size of country, development of economy and openness of economy (intensity of foreign trade). This is reason why foreign trade is not same significant for every country. Openness of economy shows us how much is each economy involved in the international labour division. Particularly small states as the Czech Republic is are on working labour division depended.

Openness of economy can be determined by two international factors. First indicator is share of exports in GDP and second one is share of volume of exports expressed in convertible currency (usually USD) per capita. Value of exports in both cases can be substituted by total foreign trade balance. According to many analyses was proved that openness of economy is directly depended on the economic development of the country and inversely depended on the economic dimension of the country. Therefore: "If the domestic economy is larger, its involvement in the international labour division is smaller." ^[9] Since the Czech economy is relatively small and developed, its intensity of foreign trade should be high. This assumption can be proven for example by comparison of openness of economy of the USA and the Czech Republic in the year 2007 (same year is used in the Table 4). The USA has 310 millions of habitants and share of export in the GDP is 8.4%, the CR with 10 millions of habitants has this share 70.1%. There is obvious that American economy is in comparison to the Czech relatively close and self-sufficient.

In the Table 4 are used both methods of determining of openness. Results are different. According to the first indicator Export/Capita we see, that openness of the Czech economy is relatively high, higher is only Belgium. In the year 2007 was firstly crossed border of 70% which rank the CR on the very top of the EU (average of the EU is 31.5% in 2007) or even all developed countries. On the other side indicator Export/GDP record only weak export performance in comparison to Belgium or Netherlands (similar economic and

development rate) and the CR stay only in average. (data for the EU and the USA were gathered from www.oecd.org)

Table 4: Intensity of involvement to the international labour division

	Export/Capita (in EUR)			Export/GDP (%)		
	2000	2006	2007	2000	2006	2007
Germany	7 268	10 710	11 699	29.0	38.0	39.8
France	5 863	6 268	6 391	24.6	21.8	21.2
Spain	3 120	3 886	4 220	19.8	17.3	17.6
Belgium	19 995	27 832	30 049	81.0	92.3	95.0
Netherlands	15 875	22 677	24 653	60.4	68.5	70.9
Austria	9 164	13 122	14 384	35.3	42.3	44.1
Poland	888	2 309	2 677	18.5	32.4	33.1
Czech Rep.	3 058	7 339	8 677	51.2	75.6	70.1
Hungary	2 992	5 935	6 892	38.7	66.6	68.9
Bulgaria	640	1 529	1 754	38.3	46.6	46.8

Source: Kubišta, V. a kol.: Mezinárodní ekonomické vztahy, [10]

“Reason of such condition is still existing difference between purchasing power parity of national currencies of countries of middle and east Europe and outer purchasing power of these currencies expressed by currency exchange rate. Since GDP is mainly sum of production in domestic currency and domestic prices, it is not relevant enough to compare it with export which is result of negotiation in foreign currency and foreign prices. This contradiction is not apparent for developed states where not big difference is between inner and outer purchasing power. ” [10] This is reason why more accurate is indicator Export/Capita.

4.2 Analysis of the Czech exports

From the Table 4 above and indicators determining openness rate is more than obvious, that export has crucial impact on openness of economy. That is even confirmation of the foreign trade economic theory. If we analyze Czech exports during the years 2000 –

2010, we can find correlation between increasing exports and rate of openness of domestic economy.

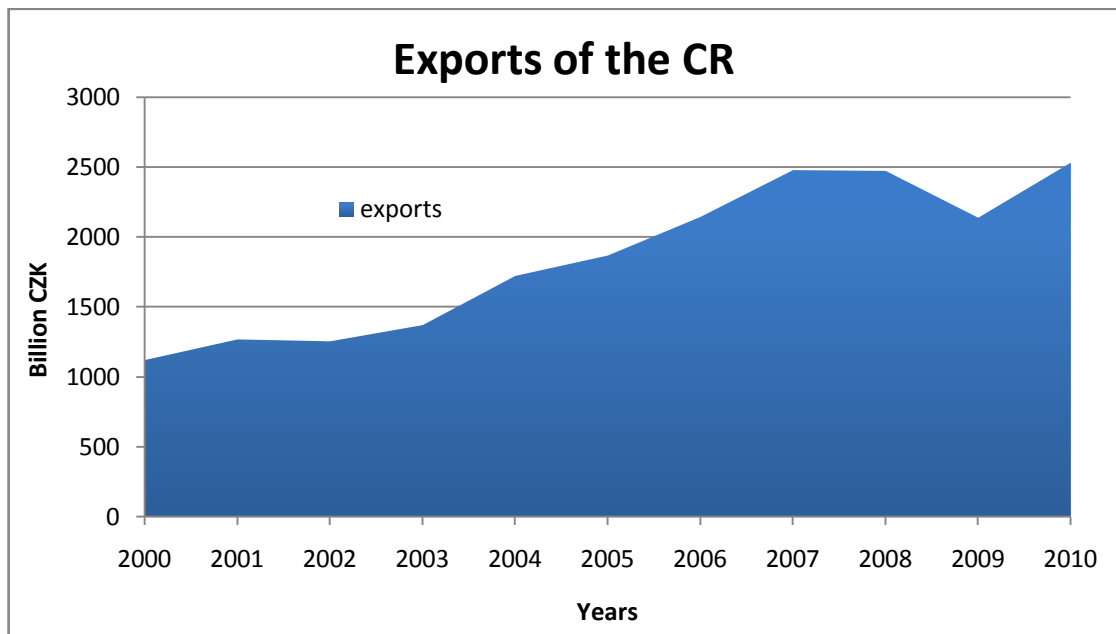
If we take a look into the Chart 1 or Table 5 we can see that development of export has relatively exponential and stable trend. Only exception is in the year 2002 where decrease was -1.2% in comparison to previous year. It was caused by instability of world economies after terroristic attack on September 11th 2001 and financial instability of the Czech economy. Another, more significant depreciation started by the year 2008, where decrease was -0.2% and follow by year 2009 where was the biggest slump recorded in this time period: -13.5% which was -335.1 billion CZK. This was impact of the world economic recession. But on the other side, year 2010 brought the biggest growth of this time period – absolute annual change of export was 394.2 billion CZK, which mean 18.4% of relative annual change. The biggest increase of relative annual change and one of the biggest of the absolute annual change in comparison with previous year was recorded after our entering to the European Union in 2004. Boost was 25.7% which represents 351.7 billion CZK. Increase of exports then exponentially continued up to the year 2007 where total value of export was 2479.2 billion CZK. In this period from the year 2000 up to the 2010, value of export growth almost 2.3 times, from 1121.1 billion CZK to 2532.8 billion CZK. One of the main reasons of increasing exports from 2004 to 2007 is enjoying of advantages from entering the EU - transformation to the new markets and change of some trade policies. This is evidence that correctly set trade policies can have positive impact on the economic growth.

Table 5: Absolute and relative change of exports

Year	Export (Billion CZK)	Relative annual change (in %)	Absolute annual change (Billion CZK)
2000	1 121.1	23.4	212.3
2001	1 268.6	13.2	147.5
2002	1 254.9	-1.2	-13.7
2003	1 370.9	9.3	116.0
2004	1 722.7	25.7	351.7
2005	1 868.6	8.5	145.9
2006	2 144.6	14.8	276.0
2007	2 479.2	15.6	334.7
2008	2 473.7	-0.2	-5.5
2009	2 138.6	-13.5	-335.1
2010	2 532.8	18.4	394.2

Source: Czech Statistical Office, own computing and processing

Chart 7: Exports of the CR 2000-2010

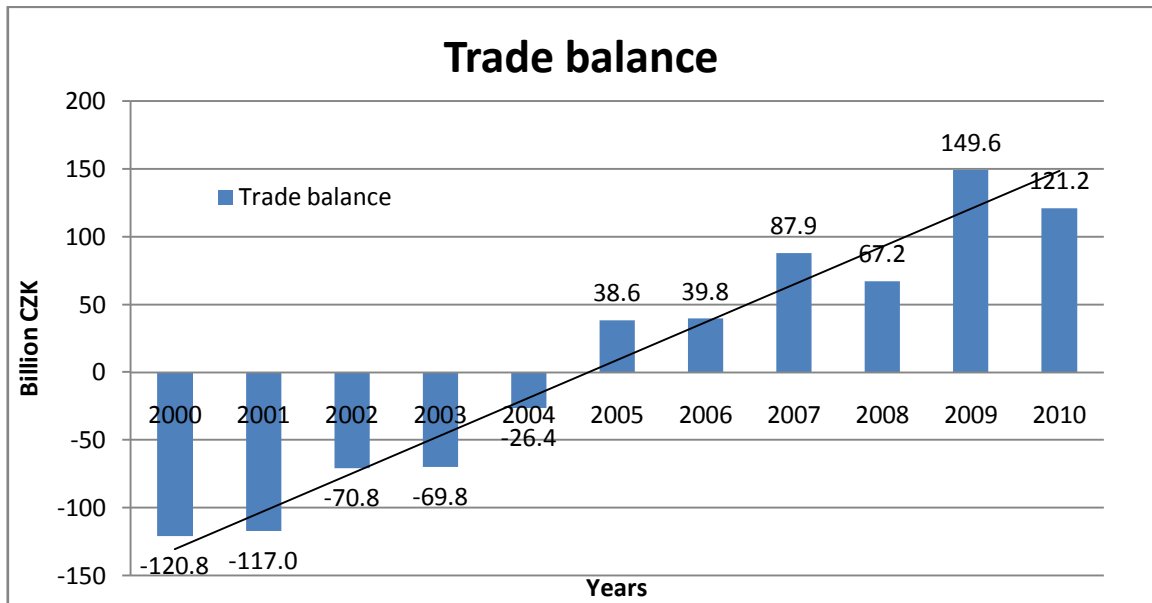


Source: Czech Statistical Office, own processing

4.3 Analysis of the trade balance of the Czech

As was mentioned in the first part of this paper, trade balance is difference between export and import between domestic and foreign economy. It is part of the current account of the balance of payments. It is significant indicator of economy performance as it expresses how much is given country able to cover its imports by exports. Trade balance is as well called net export (it is again given by difference between export and import). As was also written in the first part, net export is one of four factors used for GDP calculation and therefore even important indicator of national economy.

Chart 8: Trade balance of the CR

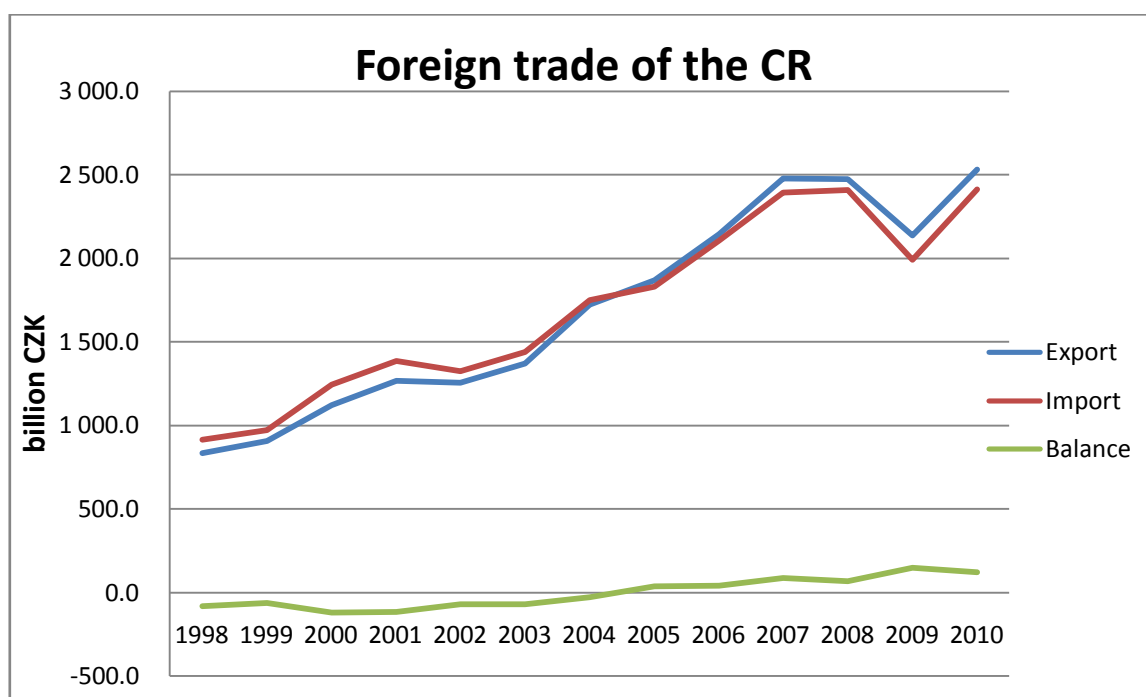


Source: Czech Statistical Office, own processing

In the Chart 2 you can see development of Czech trade balance. In years 2000 and 2001 balance was influenced by economic situation of that time. Negative balance this time was around 120 billion CZK. In the years 2002-2004 negative balance had decreasing trend and by the year 2005 was firstly in this decade in positive values. It was caused by joining the EU and consequent change in territorial orientation to the markets of the EU, incoming FDI or even by change of trade policies which enable these changes. Since the 2005, when these changes have shown, trade balance has surplus and if you check linear trend line, except years 2008 and 2010 it is under average. "Development of foreign trade was in the first year after entering the EU characterized mainly by rapid growth dynamic of export and import, which recorded increase in turnover 23.5% in comparison to the year 2003. Turnover had value of 3 471 753 billion CZK, where export represented 49.6% and import 50.4%. After slight slowdown in 2005, positive trend continued in period 2006-2007. Entering of the EU has good influence on long-term passive trade balance, which firstly in history turns active in 2005. Since that year, Czech trade balance has positive balance. ^[37] Period of permanent economic growth was interrupted by the world economic recession. Sequential slowdown began in second half of the year 2007 and in 2008 this slump increased, its peak was in 2009 when relative percentage slump was the strongest.

Consequences of high rate of openness of Czech economy and dependency on foreign demand, especially on markets within the EU (which decrease because of crisis), Czech foreign trade experienced recession. ^[38] Turnover in the year 2009 was 4 127 659 billions CZK and reached decrease of 25.4% which is in absolute values 752 566 billion CZK. Similar was even development of export and import where was rapid decrease as well. Even though ratio between export and import was improved by 1.1% and the Czech Republic in the year 2009 reached record in surplus of trade balance (active) which was approx. 149 587 billion CZK. Development of dynamic of the Czech foreign trade is complexly described in the Chart 3.

Chart 9: Foreign trade of the CR



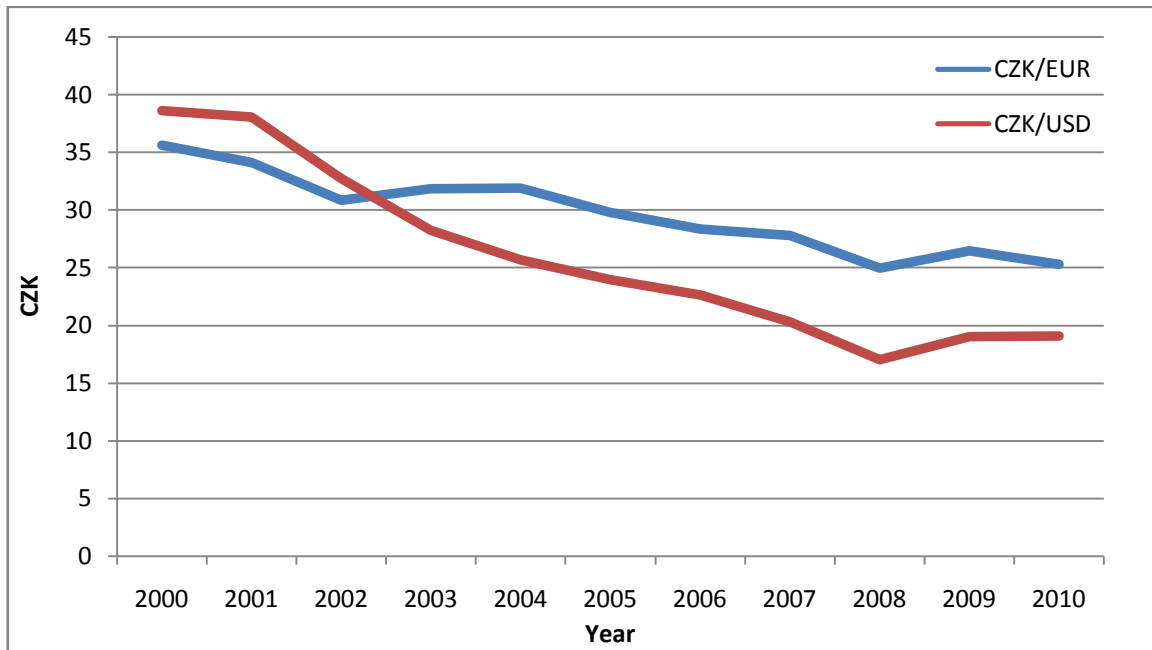
Source: Czech Statistical Office, own processing

4.4 Exchange rate of the Czech Republic

Other important factor, which can strongly influence performance of the foreign trade, is exchange rate. Once more from theory, generally, if domestic currency appreciates, import is getting cheaper and export more expensive. But if currency appreciates together with performance and competitiveness of domestic producers it has positive effect on trade balance. This is even reason why the Czech National Bank managed exchange rate before the entrance to the EU and then kept low interest rate – it helped companies to take advantage of appreciating CZK. Condition was only increasing competitiveness of companies, otherwise it could not work.

Following Chart 4 shows development of exchange rate of CZK/EUR and CZK/USD. CZK still has increasing trend. In the decade from 2000 to 2010 CZK recorded appreciation by 29% to the EUR (from 35.610 CZK/1 EUR in 2000 to 25.290 CZK/1 EUR in 2010) and to the USD appreciation was 50.5% (from 38.590 CZK/1 USD in 2000 to 19.111 CZK/1 USD in 2010). First strong slump of world currencies was recorded after the terroristic attack on September 11th, 2001. USD was affected logically more (decreasing from 38.038 CZK/ 1 USD in 2001 to 32.736 CZK/ 1 USD in 2002 – decline almost 14% within two years) and after massive slump, since half of 2002 it has had cheaper exchange rate than EUR. USD stayed cheaper until 2010 without any greater change in relationship to the EUR. Both currencies are on decreasing level together. Other significant depreciating (for both currencies together) was in 2008 due to the world economic crisis. Interesting is that when the CR joined the EU in 2004, it did not mean almost any change in linear depreciating of currencies. If we compare development of the exchange rate with Chart 3, focusing on balance of trade and on growth of import and export, we realize that effect of appreciating domestic currency did not have negative effect on exports. Therefore, it is true that exports were more expensive, but it is also prove that Czech producers and economy worked well and could take advantage of appreciating CZK because of their better competitiveness. Development of the exchange rate is very difficult to understand and it has influence to many factors. This is only simplified method for better explanation of economic interactions.

Chart 10: Exchange rate of the CZK



Source: Czech Statistical Office, own processing

4.5 Analysis of comparative advantages of the Czech Republic and SWOT analysis of the Czech export

"Analysis of each country's foreign trade commodity structure attest how much states take advantage of their potential comparative advantage. This analysis describes which resources, or rather production factors, given country has and which on the other side miss. Analysis of commodity structure answer question what is specialization of certain economy, or better how is this specialization relevant to its comparative advantages".^[11]

Analyses of comparative advantages are based on David Ricardo's Theory of comparative advantage. According to my resources, I made a list of comparative advantages and disadvantages of the Czech economy. When I checked what I got, I realized I just created SWOT analysis of the Czech Exports. Comparative advantages are written in the part Strengths.

Table 6: SWOT Analysis

Strengths	Weaknesses
<p>Macroeconomic factors</p> <p>High rate of economy openness</p> <p>Fast economic growth because of exports</p> <p>Low production costs</p> <p>Low inflation rate</p> <p>Long-term FDI</p> <p>Resources and natural conditions</p> <p>Relative qualification, adaptability and low labour costs</p> <p>Advantageous geographical position</p> <p>Historical and natural potential for tourism</p> <p>Microspheres</p> <p>Good adaptability of small and medium businesses to the changing market demands</p> <p>Traditional industry</p> <p>Attraction for foreign investors</p> <p>Good conditions for IT development</p> <p>Some FDI support development of own research centres</p> <p>System of export support - searching for export opportunities, information, educative and assist services, insurance of export credit risks, financing of export loans, financing of export production, legal entities abroad and all financial services related to the export</p>	<p>Macroeconomic factors</p> <p>Territorial export concentration</p> <p>Commodity export concentration</p> <p>High share of export with average value-added</p> <p>Low share of services in export</p> <p>Microspheres</p> <p>Limited ability of companies competitiveness on foreign markets</p> <p>Low export performance of small and medium businesses and low ability to participate on activity of FDI</p> <p>Scarcity of own investing possibilities for innovations of capital for export</p> <p>Insufficient development and transfer of new technologies and insufficient cooperation between companies and research institutions</p> <p>Insufficient creating of small and medium businesses networks</p> <p>Confusing information about markets</p> <p>Low knowledge about export</p> <p>Difficult administrative and unwilling clerks</p> <p>Low work productivity in comparison with the EU</p>

Opportunities	Threats
<p>Image</p> <p>Good image of export sector</p> <p>The CR appreciated in the EU</p> <p>Czech export appreciated on traditional markets</p> <p>Markets</p> <p>Increase of economic-trade activity on the EU inner market</p> <p>Increase of non-price competitiveness of products</p> <p>Attraction for foreign tourists</p> <p>Resources</p> <p>Utilizing of financial resources of the EU</p> <p>Continuing in FDI inflow</p> <p>Higher participation on development cooperation of the EU</p>	<p>Image</p> <p>Perception of the CR as country without innovative potential</p> <p>Perception of the CR as country with transit economy (east image of CR)</p> <p>Perception of the CR as country with higher corruption rate, difficult administrative and slow courts</p> <p>Markets</p> <p>Economic development of trade partners</p> <p>Economic recession in important parts of the world</p> <p>Transfer of trade and investment to countries with lower production costs</p> <p>Resources</p> <p>Increasing of wages and prices of imported inputs</p> <p>Progressive adjusting domestic prices to price level in the EU</p>

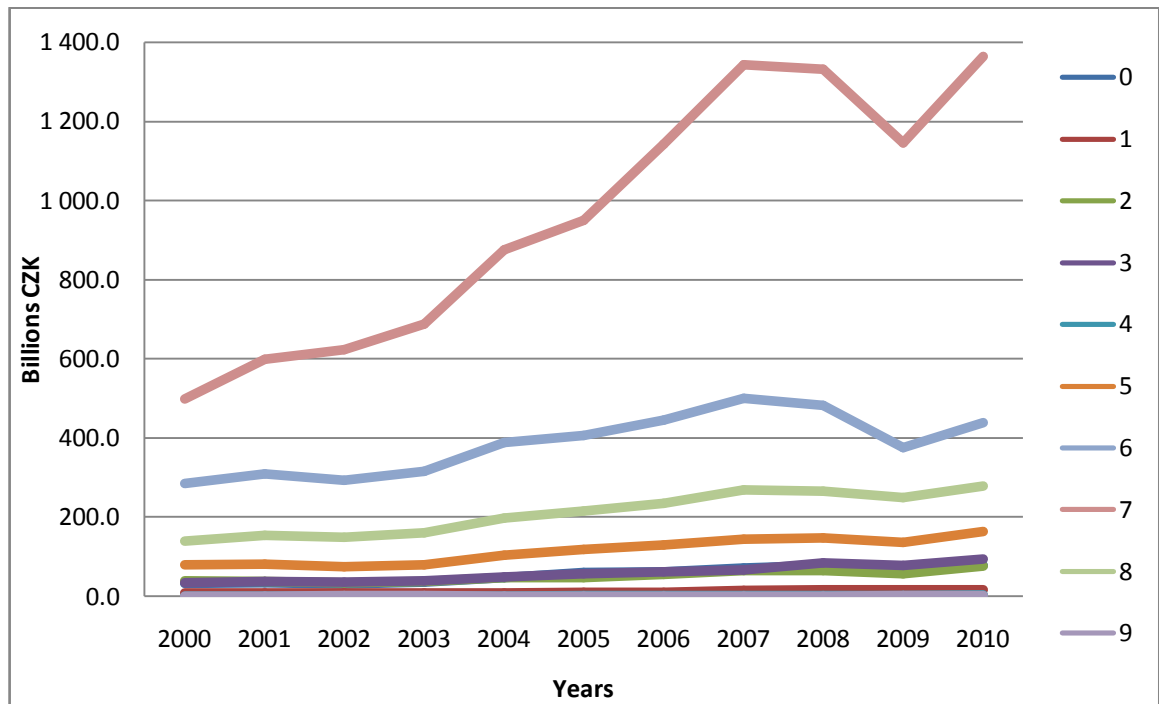
Source: [11][12][35][13], own processing

4.6 Commodity structure of the Czech foreign trade

We already proved by previous export observations that in given period 2000-2010 it has increasing trend which was boosted by Czech entrance to the EU. In the Chart 5 and Chart 6 we can see how is export structured (system SITC) and how significant is share of each commodity group in total sum. Definitely the most important group is for the entire time group SITC 7 – Machinery and transport equipment. Second crucial group is for our export SITC 6 - Manufactured goods classified chiefly by material. Here we consider especially steel and iron. Third the most important group is SITC 8 – Miscellaneous manufactured articles. Except group SITC 6 and especially SITC 7, where change is radical, all the other groups have similar, slightly growing, linear development.

During this research, were determined three basic factors, which always had more or less significant impact on economic development. Terroristic attack on the WTC, 2001, joining of the EU, 2004 and finally world economic recession 2008-2009. From Chart 5 is obvious, crucial event for Czech export was joining of EU in 2004. Since that time exports trends of all commodity groups have increased significantly, the most rapid progress record mainly SITC 7 and SITC 6. Also these two groups were on the other side mostly affected by world economic crisis in 2008/9. This decrease is relevant even to the strongest CZK of whole period, which correlate with theory, that if domestic currency is strong, exports are getting more expensive. But main reason of this slump is primarily decreasing demand on foreign markets due to the economic recession. Impacts of the terroristic attack in 2001 are not significant, almost none. Interesting is comparison of development of total exports (Chart 1) and SITC 7. Almost same shape of chart and high price values of the SITC 7 is prove that SITC is the most important sector of exports and our foreign trade is depended on this group.

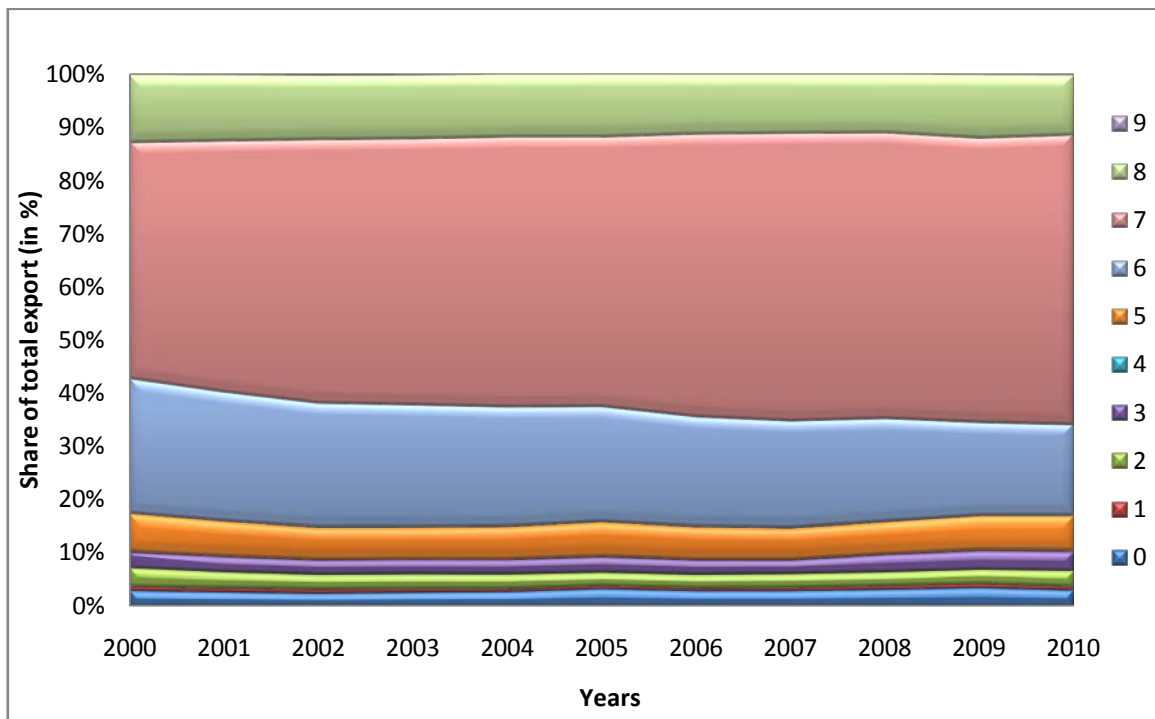
Chart 11: Export of SITC commodities, 2000-2010



Source: Czech Statistical Office, own processing

Previous Chart 5 recorded still increasing trend of all commodity groups. It is prove entering of the EU was starting aggregate for our economy and significantly helped to our economic development. In the Chart 6 we can compare all commodity groups and its percentage share in whole export. This is interesting chart which is showing us, that despite Czech export has dramatic development influenced by international effects, its commodity structure is almost without changes. Only there is decrease of SITC 6, about 8.5% which was substituted by the strongest group SITC 7. So even though our export was significantly affected by approach to the new markets within the EU and increased rapidly, commodity structure stayed almost same. Even effects of the world economic recession could not influence composition of the Czech export.

Chart 12: Share of SITC groups in total export



Source: Czech Statistical Office, own processing

4.6.1 SITC 7 – Machinery and transport equipment

The most important group of the Czech foreign trade has the largest share on exports and even imports of the CR. Machinery and transport equipment belong to goods with higher added value, therefore is very good that products of SITC 7 increase absolutely and even relatively during the entire observed period. Its share on exports increased from 44.5% in 2000 to 54.6% in 2010. It verifies optimal economy and ability of Czech businesses to manufacture even more sophisticated products. In comparison to previous years, the greatest growth was noticed in years 2001 and 2006, almost 3% per year. Trade balance is since the year 2000 in positive values. Surplus of trade balance is constantly increasing and in the year 2007 was 334.7 billion CZK and after huge slump in 2009 (-335.1 billion CZK) it has surplus in 2010 394.2 billion CZK. The most important part of SITC 7 are road vehicles (export leaders) and electronic devices and appliances (import).

4.6.2 SITC 6 – Manufactured goods classified chiefly by material

Despite its share in whole trade decreased from 2000 to 2010 by 8% (and it still have slightly decreasing trend) and its annual growth is not that significant as SITC 7 (2007-2009 even decrease), it is still second most important part of Czech foreign trade. Usually these are semi-finished product with lower added value then products of SITC 7 and SITC8. Trade balance of SITC 6 is entire period positive with surplus 20-30 billion CZK. However since 2005 its surplus decreases. The most important goods of this class are metal products and import is represented by iron and steel.

4.6.3 SITC 8 - Miscellaneous manufactured articles

Miscellaneous manufactured articles belong to goods with higher value-added. After SITC 6 and 8 it is third the most important commodity group, although its export share decreased from 12% to 11% (from 2000 to 2010). But in absolute values its exports slightly increases. Imports are constant around 10%. Trade balance is positive.

4.6.4 Other commodity groups

Chemicals and related products – SITC 5 is up to the year 2010 fourth the most significant commodity group. Its average share of exports is about 6% but imports are up to 11% which means deficit of trade balance. In 2000 it was 60 billion CZK, in 2010 even 93 billion CZK. The most imported are drugs, pharmaceuticals and plastics.

Strategically meaningful is SITC 0 – Food and live animals. Even though its share in the CR is not too high. Average of exports is about 3%, imports over 4%.

Relative decrease of export and import noticed between years 2000-2010 groups SITC 2 and SITC 3, groups of crude materials, fuels and lubricants. Difference between these groups is that SITC 2 was almost in balance, even in positive balance, SITC 3 has more than two times higher imports than exports – trade balance is negative. Deficit was about 80 billion CZK at the beginning of new millennium, in the 2010 it was already 130 billion CZK. The most imported is of course crude oil.

All other commodity groups do not have higher share in exports and imports than 1%. It is SITC 1 – Beverages and Tobacco, SITC 4 – Animal and vegetable oils, fats and waxes and SITC 9 - Commodities and transactions no classified in the SITC. All these groups show slight trade balance deficit.

5 Conclusion

Conclusions of this research are ordered gradually considering formulated objectives and logical framework.

According to the economical theories, foreign trade is definitely beneficial, but after all, there is no doubt about it. Nowadays it is not matter of discussion, but important for countries is right adjustment of their trade policies and utilizing of their production potential. Objective of this thesis was to define position of the Czech Republic in the foreign trade. The Czech Republic was accepted as member of the European Union 2004. That was crucial milestone in its modern history and actually this even indirectly divided observations in this research to two parts – before and after joining of the European Union. Even though trade policies were after Czech membership in some aspects changed, for whole observed period were adjusted to open market and could be characterized as very liberal. Proving is except membership in diverse world trade organizations (GATT, WTO, CEFTA, OECD, EFTA) even analysis of openness of the Czech economy. According to the two indicators was determined, that Czech economy is in openness rate somewhere between average and top of the world ranking. This proved economical theories claiming that developed countries with small inner market tend to have more open economies as well as it shows how much is Czech GDP growth depended on exports (indicator Exports/GDP).

From analysis of the trade balance followed how much acceptance to the European Union was crucial for the Czech Republic and its economy. In the year 2005 was balance of trade firstly in history active (positive) and kept growing trend until end of observed period (2010). It was achieved mainly by increasing export which, as was find out, after joining the EU started grow rapidly. By its analysis appeared other two important aspects having significant impact on Czech exports, hence to Czech foreign trade. It was terroristic attack on the World trade centre in 2001 and mainly incoming world economic recession in 2008. These factors caused stagnation in exports and even its decrease, which was the most significant in 2009. Interesting is that balance of trade shows that year the biggest surplus ever, active balance was 149.6 billion CZK. It was caused by simultaneously decreasing import and export, when import increased more. Because on the other side, year 2009

recorded the biggest slump in turnover (of whole period) in comparison to the previous year, which was -335.2 billion CZK.

Related to the theories, foreign trade, respectively import and export are influenced by exchange rate. Literally it says, that if domestic currency appreciates, import is getting cheaper and export more expensive. But if currency appreciates together with performance and competitiveness of domestic producers it has positive effect on trade balance. The Czech Republic experienced turn from fixed exchange rate to floating in 1997 when before entering of the EU exchange rate was managed and controlled by the Czech National Bank for better adaptation in future. From analysis of exchange rate of Czech koruna and two main world currencies US dollar and Euro is apparent, that CZK, except few slight changes, still appreciate. The biggest slump was determined in 2001 as effect of the terroristic attack. Interesting is that entering of the EU did not cause any change in trend of CZK growth. Since 2000 to 2010 CZK appreciated to the EUR by 29% and to the USD even by 50.5%. Nevertheless correlation between foreign trade and exchange rate cannot be proven. But according to the theory, we can assume that even though exports were more expensive, Czech producers and economy worked well and could take advantage of appreciating CZK because of their better competitiveness. This claiming can be supported by charts of appreciating CZK and improving trade balance.

From research of commodity structure follow several remarkable findings. Development of all commodity groups has similar trend as whole export. It increases annually excluding the year 2008 when it has significant slump caused due to the world economic recession in 2008 (actually impacts of crisis appeared mostly in 2009). Obviously, the strongest group which even react the most sensitively on economic interactions (World trade centre 2001, EU 2004, crisis 2008) is SITC 7 - Machinery and transport equipment. This group has percentage share between 45% -55% during decade 2000-2010. We can say that together with second biggest group SITC 6 - Manufactured goods classified chiefly by material, it has essential impact on Czech export profile, because annual turnover of these two groups together is about 70% of total export turnover. Evident is boost after joining of the European Union when mainly SITC 7 recorded dramatic growth. On the other side, there is interesting phenomenon in comparison of relative percentage share of all groups in export. Despite rapid grow after

Czech membership, commodity structure is almost without changes. Only there is decrease of SITC 6, about 8.5%, which was substituted by the strongest group SITC 7. This is even disproving of my hypothesis, because structure of export have not been change due to the EU.

As theories prove, well working foreign trade must be based on absolute or comparative advantages of given country. Absolute advantage cannot be proved, because there still exist countries, which are better at least in price competitiveness. To comparative advantages is relevant table of SWOT analysis. As comparative advantages are considered mainly position in the middle of Europe, long industrial history and high level of industrialization, low labour cost, but well educated and skilled labour, relatively stable economical environment, low inflation rate and (therefore) attractiveness for FDI and high rate of economy openness with good support of foreign trade.

Considering export SWOT analysis the Czech Republic enjoys of its comparative advantage and specialization and that is reason is such significance of SITC 7. On the other side, as was proven, the Czech Republic's economy is depended on exports and exports are depended on SITC 7. This narrow specialization could have negative consequences if there will appear problem with demand on markets of our traditional customers or generally problem in production of this sector. Therefore my suggestion is the Czech Republic should have focus more on diversification of commodity groups and thus create wider range of possibilities as well as focusing on the new markets. This could be achieved by improved competitiveness of Czech producers and encourage them to expand to foreign markets. Also should be pay attention about increasing level of services as a part of exports. This proposal is related even to new 2012-2020 Export strategy which was proposed by MIT and accepted by the government of the Czech Republic. [39]

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7 Appendix

Appendix 1: List of shortcuts:

CR – The Czech Republic

EU – the European Union

MIT – Ministry of Industry and Trade of the Czech Republic

GDP – Gross Domestic Product

FDI – Foreign direct investment

IT – Information Technology

GATT - The General Agreement on Tariffs and Trade

WTO - World Trade Organisation

CEFTA - Central European Free Trade Agreement

OECD - Organisation for Economic Co-operation and Development

EFTA - European Free Trade Association

CZK – currency Czech koruna

USD – currency US dollar

EUR – currency Euro

SITC - The Standard International Trade Classification

Appendix 2: Table of Czech foreign trade

Foreign trade of the Czech Republic								
	Turnover	Export	Import	Balance	Change in comparison to previous year, in %		Covering of import by export, in %	Average differentiation of export, in bil. CZK
	billions of CZK, current prices				export	import		
2000	2 363.0	1 121.1	1 241.9	-120.8	23.4	27.6	90.3	74.5
2001	2 654.2	1 268.6	1 385.6	-117.0	13.2	11.6	91.6	147.5
2002	2 580.6	1 254.9	1 325.7	-70.8	-1.2	-4.3	94.7	-13.7
2003	2 811.6	1 370.9	1 440.7	-69.8	9.3	8.7	95.2	116.0
2004	3 471.8	1 722.7	1 749.1	-26.4	25.7	21.4	98.5	351.7
2005	3 698.6	1 868.6	1 830.0	38.6	8.5	4.6	102.1	145.9
2006	4 249.4	2 144.6	2 104.8	39.8	14.8	15.0	101.9	276.0
2007	4 870.5	2 479.2	2 391.3	87.9	15.6	13.6	103.7	334.7
2008	4 880.2	2 473.7	2 406.5	67.2	-0.2	0.6	102.8	-5.5
2009	4 127.7	2 138.6	1 989.0	149.6	-13.5	-17.3	107.5	-335.1
2010	4 944.4	2 532.8	2 411.6	121.2	18.4	21.2	105.0	394.2

Source: Czech Statistical Office, own processing and computing

Appendix 3: Exchange rate of the CZK to EUR and USD

Exchange rate of CZK to EUR and to USD, in CZK											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
CZK/EUR	35.610	34.083	30.812	31.844	31.904	29.784	28.343	27.762	24.942	26.445	25.290
CZK/USD	38.590	38.038	32.736	28.227	25.701	23.947	22.609	20.308	17.035	19.057	19.111

Source: Czech Statistical Office, own processing

Appendix 4: Export of the Czech Republic

Groups SITC	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Export in billion CZK, current prices										
0	33.0	34.4	31.1	36.4	47.4	61.1	62.0	71.9	77.9	73.9	76.3
1	8.4	8.7	8.6	8.2	8.9	10.6	10.7	14.5	16.4	16.2	16.8
2	39.6	38.6	35.1	38.4	47.3	47.2	55.0	64.9	64.6	57.5	75.9
3	34.2	38.2	36.0	39.4	49.9	57.4	61.8	67.5	84.3	77.6	93.9
4	1.3	1.4	1.0	1.0	1.0	1.8	1.6	2.1	2.8	2.9	4.6
5	79.6	81.9	74.7	80.6	104.0	119.0	129.9	144.2	147.3	136.4	164.2
6	285.1	309.1	294.0	316.4	388.5	406.3	445.3	501.1	482.5	376.4	435.3
7	498.4	599.7	623.0	687.2	876.1	949.2	1 141.7	1 343.4	1 331.0	1 145.5	1 382.3
8	140.5	154.8	149.5	161.5	198.5	215.6	235.9	269.0	265.5	250.2	280.5
9	1.0	1.3	1.9	1.8	0.9	0.5	0.7	0.8	1.3	2.0	3.0
Sum	1121.1	1268.1	1254.9	1370.9	1722.5	1868.7	2144.6	2479.4	2473.6	2138.6	2532.8

Source: Czech Statistical Office, own processing and computing

Appendix 5: Import of the Czech Republic

Groups SITC		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Import in billion CZK, current prices												
0	Food and live animals	50.2	53.7	54.2	57.1	72.1	81.6	89.0	102.9	105.2	106.9	112.6
1	Beverages and tobacco	7.4	7.3	6.6	7.5	10.7	11.8	13.0	15.7	12.7	13.5	14.4
2	Crude materials, inedible, except fuels	39.4	40.0	38.2	41.0	52.9	51.4	57.3	58.3	64.1	44.8	64.6
3	Mineral fuels, lubricants and related materials	119.9	125.7	100.2	107.8	122.1	167.6	200.8	191.3	250.2	184.0	231.4
4	Animal and vegetable oils, fats and waxes	2.6	3.1	3.0	3.8	4.2	3.6	3.7	3.3	4.5	5.5	4.1
5	Chemical and related products	139.1	151.0	148.4	164.4	194.8	201.5	219.1	248.5	247.1	222.6	257.4
6	Manufactured goods classified chiefly by material	257.9	280.1	273.0	289.8	360.8	374.3	428.5	500.2	474.5	351.0	430.3
7	Machinery and transport equipment	496.7	584.4	561.7	616.3	739.9	736.9	870.7	1 028.0	994.8	821.2	1046.0
8	Miscellaneous manufactured articles	128.3	139.9	140.0	152.7	190.7	200.0	221.5	241.7	251.3	237.3	247.4
9	Commodities and transactions no classified in the SITC	0.4	0.3	0.3	0.4	0.8	1.3	1.1	1.3	2.0	2.3	3.4
	Sum	1241.9	1385.5	1325.6	1440.8	1749.0	1830.0	2104.7	2391.2	2406.4	1989.0	2411.6

Source: Czech Statistical Office, own processing and computing

Appendix 6: Annual growth of export

	Annual growth of export in compare to previous year, in %										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Groups SITC										
0	25.5%	4.2%	-9.6%	17.0%	30.2%	28.9%	1.5%	16.0%	8.3%	-5.1%	3.2%
1	7.7%	3.6%	-1.1%	-4.7%	8.5%	19.1%	0.9%	35.5%	13.1%	-1.5%	3.9%
2	15.5%	-2.5%	-9.1%	9.4%	23.2%	-0.2%	16.5%	18.0%	-0.5%	-10.9%	31.9%
3	29.1%	11.7%	-5.8%	9.4%	26.6%	15.0%	7.7%	9.2%	24.9%	-8.0%	21.0%
4	30.0%	7.7%	-28.6%	0.0%	0.0%	80.0%	-11.1%	31.3%	32.2%	5.8%	56.4%
5	19.0%	2.9%	-8.8%	7.9%	29.0%	14.4%	9.2%	11.0%	2.1%	-7.4%	20.4%
6	20.4%	8.4%	-4.9%	7.6%	22.8%	4.6%	9.6%	12.5%	-3.7%	-22.0%	15.7%
7	29.3%	20.3%	3.9%	10.3%	27.5%	8.3%	20.3%	17.7%	-0.9%	-13.9%	20.7%
8	14.2%	10.2%	-3.4%	8.0%	22.9%	8.6%	9.4%	14.0%	-1.3%	-5.8%	12.1%
9	11.1%	30.0%	46.2%	-5.3%	-50.0%	-44.4%	40.0%	14.3%	63.8%	54.6%	46.9%
	2.0	1.0	-0.2	0.6	1.4	1.3	1.0	1.8	1.4	-0.1	2.3
	Balance										

Source: Czech Statistical Office, own processing and computing

Appendix 7: Share of SITC Gross in total export

Groups SITC		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
		Share in the total export, in %										
0	Food and live animals	2.94%	2.71%	2.48%	2.66%	2.75%	3.27%	2.89%	2.90%	3.15%	3.46%	3.01%
1	Beverages and tobacco	0.75%	0.69%	0.69%	0.60%	0.52%	0.57%	0.50%	0.58%	0.66%	0.76%	0.66%
2	Crude materials, inedible, except fuels	3.53%	3.04%	2.80%	2.80%	2.75%	2.53%	2.56%	2.62%	2.61%	2.69%	3.00%
3	Mineral fuels, lubricants and related materials	3.05%	3.01%	2.87%	2.87%	2.90%	3.07%	2.88%	2.72%	3.41%	3.63%	3.71%
4	Animal and vegetable oils, fats and waxes	0.12%	0.11%	0.08%	0.07%	0.06%	0.10%	0.07%	0.08%	0.11%	0.14%	0.18%
5	Chemical and related products	7.10%	6.46%	5.95%	5.88%	6.04%	6.37%	6.06%	5.82%	5.95%	6.38%	6.48%
6	Manufactured goods classified chiefly by material	25.43%	24.38%	23.43%	23.08%	22.55%	21.74%	20.76%	20.21%	19.51%	17.60%	17.19%
7	Machinery and transport equipment	44.46%	47.29%	49.65%	50.13%	50.86%	50.79%	53.24%	54.18%	53.81%	53.56%	54.58%
8	Miscellaneous manufactured articles	12.53%	12.21%	11.91%	11.78%	11.52%	11.54%	11.00%	10.85%	10.73%	11.70%	11.08%
9	Commodities and transactions no classified in the SITC	0.09%	0.10%	0.15%	0.13%	0.05%	0.03%	0.03%	0.03%	0.05%	0.09%	0.12%
	Sum	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Source: Czech Statistical Office, own processing and computing